EXAM

BBG Prüf- und Zertifizier GmbH

Translation

(1) # EC-Type Examination Certificate

(2) ## - Directive 94/9/EC -

**Equipment and protective systems intended for use
in potentially explosive atmospheres**

(3) # BVS 06 ATEX E 045 X

(4) **Equipment:** Sensor type CMF**********Z****

(5) **Manufacturer:** Micro Motion, Inc.

(6) **Address:** Boulder, Co. 80301, USA

(7) The design and construction of this equipment and any acceptable variation thereto are specified in the schedule to this type examination certificate.

(8) The certification body of EXAM BBG Prüf- und Zertifizier GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.
The examination and test results are recorded in the test and assessment report BVS PP 06.2035 EG.

(9) The Essential Health and Safety Requirements are assured by compliance with:
EN 50014:1997+A1-A2   General requirements
EN 50020:2002   Intrinsic safety 'i'
EN 50281-1-1:1998 +A1 Dust explosion protection

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to Directive 94/9/EC.
Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate

(12) The marking of the equipment shall include the following:

⟨Ex⟩ II 2 (see 15.1)

EXAM BBG Prüf- und Zertifizier GmbH
Bochum, dated 04. April 2006

Signed: Dr. Jockers

Signed: Dr. Eickhoff

_____
Certification body

_____
Special services unit

(13)   Appendix to

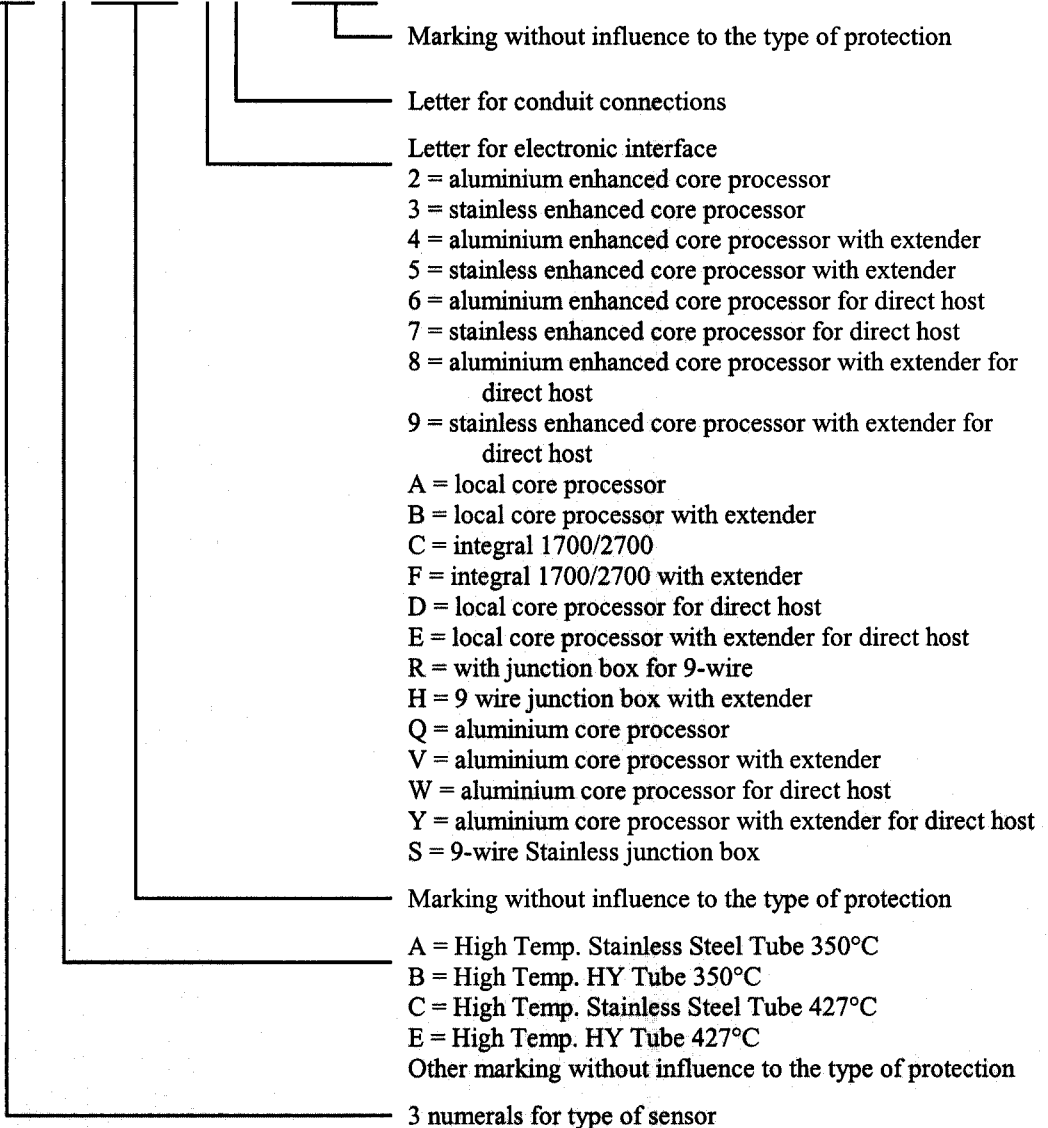(14)   # EC-Type Examination Certificate

BVS 06 ATEX E 045 X

(15)   15.1 Subject and type

Sensor type CMF**********Z****

Instead of the *** in the complete denomination letters and numerals will be inserted which characterize the following variations:

C M F * * * * * * * * * * Z * * * *

— Marking without influence to the type of protection

— Letter for conduit connections

Letter for electronic interface
2 = aluminium enhanced core processor
3 = stainless enhanced core processor
4 = aluminium enhanced core processor with extender
5 = stainless enhanced core processor with extender
6 = aluminium enhanced core processor for direct host
7 = stainless enhanced core processor for direct host
8 = aluminium enhanced core processor with extender for direct host
9 = stainless enhanced core processor with extender for direct host
A = local core processor
B = local core processor with extender
C = integral 1700/2700
F = integral 1700/2700 with extender
D = local core processor for direct host
E = local core processor with extender for direct host
R = with junction box for 9-wire
H = 9 wire junction box with extender
Q = aluminium core processor
V = aluminium core processor with extender
W = aluminium core processor for direct host
Y = aluminium core processor with extender for direct host
S = 9-wire Stainless junction box

Marking without influence to the type of protection

A = High Temp. Stainless Steel Tube 350°C
B = High Temp. HY Tube 350°C
C = High Temp. Stainless Steel Tube 427°C
E = High Temp. HY Tube 427°C
Other marking without influence to the type of protection

3 numerals for type of sensor

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Marking of sensors

Type	type of protection gas	type of protection dust
CMF010*****[1)]*Z****	II 2 G EEx ib IIC T1-T6	II 2 D IP65 T [3)] °C
CMF025*****[1)]*Z****	II 2 G EEx ib IIC T1-T6	II 2 D IP65 T [3)] °C
CMF050*****[1)]*Z****	II 2 G EEx ib IIC T1-T6	II 2 D IP65 T [3)] °C
CMF200*****[1)]*Z****	II 2 G EEx ib IIB T1-T6	II 2 D IP65 T [3)] °C
CMF200*****[1)]*Z**** C.I.C A4	II 2 G EEx ib IIC T1-T6	II 2 D IP65 T [3)] °C
CMF200[4)]*****[1)]*Z****	II 2 G EEx ib IIB T1-T6	II 2 D IP65 T [3)] °C
CMF300*****[1)]*Z****	II 2 G EEx ib IIB T1-T6	II 2 D IP65 T [3)] °C
CMF300*****[1)]*Z**** C.I.C A4	II 2 G EEx ib IIC T1-T6	II 2 D IP65 T [3)] °C
CMF300[4)]*****[1)]*Z****	II 2 G EEx ib IIBT1-T6	II 2 D IP65 T [3)] °C
CMF010*****[2)]*Z****	II 2 G EEx ib IIC T1-T5	II 2 D IP65 T [3)] °C
CMF025*****[2)]*Z****	II 2 G EEx ib IIC T1-T5	II 2 D IP65 T [3)] °C
CMF050*****[2)]*Z****	II 2 G EEx ib IIC T1-T5	II 2 D IP65 T [3)] °C
CMF100*****[2)]*Z****	II 2 G EEx ib IIC T1-T5	II 2 D IP65 T [3)] °C
CMF100*****[2)]*Z**** C.I.C A4	II 2 G EEx ib IIC T1-T5	II 2 D IP65 T [3)] °C
CMF200*****[2)]*Z****	II 2 G EEx ib IIB T1-T5	II 2 D IP65 T [3)] °C
CMF200*****[2)]*Z**** C.I.C A4	II 2 G EEx ib IIC T1-T5	II 2 D IP65 T [3)] °C
CMF200[4)]*****[2)]*Z****	II 2 G EEx ib IIB T1-T6	II 2 D IP65 T [3)] °C
CMF300*****[2)]*Z****	II 2 G EEx ib IIB T1-T5	II 2 D IP65 T [3)] °C
CMF300*****[2)]*Z**** C.I.C A4	II 2 G EEx ib IIC T1-T5	II 2 D IP65 T [3)] °C
CMF300[4)]*****[2)]*Z****	II 2 G EEx ib IIB T1-T6	II 2 D IP65 T [3)] °C
CMF400*****[2)]*Z****	II 2 G EEx ib IIB T1-T5	II 2 D IP65 T [3)] °C
CMF400*****[2)]*Z**** C.I.C A4	II 2 G EEx ib IIC T1-T5	II 2 D IP65 T [3)] °C
CMF400[4)]*****[2)]*Z****	II 2 G EEx ib IIB T1-T6	II 2 D IP65 T [3)] °C

For sensors with J-box connected to non-MVD transmitters (i. e. 9739) is valid:

Type	type of protection gas	min. ambient /fluid temp. gas	type of protection dust
CMF010*****[1)]*Z****	II 2 G EEx ib IIC T1-T6	-240 °C	II 2 D IP65 T [3)] °C
CMF025*****[1)]*Z****	II 2 G EEx ib IIC T1-T6	-240 °C	II 2 D IP65 T [3)] °C
CMF050*****[1)]*Z****	II 2 G EEx ib IIC T1-T6	-240 °C	II 2 D IP65 T [3)] °C
CMF100*****[1)]*Z****	II 2 G EEx ib IIC T1-T6	-40 °C	II 2 D IP65 T [3)] °C
CMF100*****[1)]*Z**** C.I.C A4	II 2 G EEx ib IIC T1-T6	-240 °C	II 2 D IP65 T [3)] °C
CMF200*****[1)]*Z****	II 2 G EEx ib IIB T1-T6	-55 °C	II 2 D IP65 T [3)] °C
CMF200*****[1)]*Z**** C.I.C A4	II 2 G EEx ib IIC T1-T6	-240 °C	II 2 D IP65 T [3)] °C
CMF200[4)]*****[1)]*Z****	II 2 G EEx ib IIB T1-T6	-50 °C	II 2 D IP65 T [3)] °C
CMF300*****[1)]*Z****	II 2 G EEx ib IIB T1-T6	-55 °C	II 2 D IP65 T [3)] °C
CMF300*****[1)]*Z**** C.I.C A4	II 2 G EEx ib IIC T1-T6	-240 °C	II 2 D IP65 T [3)] °C
CMF300[4)]*****[1)]*Z****	II 2 G EEx ib IIB T1-T6	-50 °C	II 2 D IP65 T [3)] °C

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For sensors with J-box connected to MVD transmitters is valid:

Type	type of protection gas	min. ambient /fluid temp. gas	type of protection dust
CMF010*****[1)]*Z****	II 2 G EEx ib IIC T1-T6	-240 °C	II 2 D IP65 T[3)] °C
CMF025*****[1)]*Z****	II 2 G EEx ib IIC T1-T6	-240 °C	II 2 D IP65 T[3)] °C
CMF050*****[1)]*Z****	II 2 G EEx ib IIC T1-T6	-240 °C	II 2 D IP65 T[3)] °C
CMF100*****[1)]*Z****	II 2 G EEx ib IIC T1-T6	-60 °C	II 2 D IP65 T[3)] °C
CMF100*****[1)]*Z**** C.I.C A4	II 2 G EEx ib IIC T1-T6	-240 °C	II 2 D IP65 T[3)] °C
CMF200*****[1)]*Z****	II 2 G EEx ib IIB T1-T6	-55 °C	II 2 D IP65 T[3)] °C
CMF200*****[1)]*Z**** C.I.C A4	II 2 G EEx ib IIC T1-T6	-240 °C	II 2 D IP65 T[3)] °C
CMF200[4)]****[1)]*Z****	II 2 G EEx ib IIB T1-T6	-50 °C	II 2 D IP65 T[3)] °C
CMF300*****[1)]*Z****	II 2 G EEx ib IIB T1-T6	-55 °C	II 2 D IP65 T[3)] °C
CMF300*****[1)]*Z**** C.I.C A4	II 2 G EEx ib IIC T1-T6	-240 °C	II 2 D IP65 T[3)] °C
CMF300[4)]****[1)]*Z****	II 2 G EEx ib IIB T1-T6	-50 °C	II 2 D IP65 T[3)] °C
CMF400*****[1)]*Z****	II 2 G EEx ib IIB T1-T6	-68 °C	II 2 D IP65 T[3)] °C
CMF400*****[1)]*Z**** C.I.C A4	II 2 G EEx ib IIC T1-T6	-240 °C	II 2 D IP65 T[3)] °C
CMF400[4)]****[1)]*Z****	II 2 G EEx ib IIB T1-T6	-50 °C	II 2 D IP65 T[3)] °C

[1)]   At this place the letter R, H or S will be inserted.
[2)]   At this place the numeral 2, 3, 4, 5, 6, 7, 8 or 9 or the letter A, B, D, E, Q, V, W or Y will be inserted.
[3)]   Max. surface temperature T for dust see temperature graphs and manufacturer's instructions. Min. ambient and process temperature for dust is -40 °C.
[4)]   At this place the letter A, B, C or E will be inserted.

15.2 Description

The flow sensor in combination with a transmitter is used for flow measurement.
The flow sensor, which consists of magnetically excited oscillating tubes, contains as electrical components coils, resistors, temperature sensors and terminals and connectors.

Instead of the junction box (CMF********(R, H, S)*Z****) an enclosure with an integral mounted signal processing device type 700 can be used; this variation gets the denomination type CMF********(A, B, D, E)*Z**** for a steel enclosure and CMF********(Q, V, W, Y)*Z**** for an aluminium enclosure.

When used with an integral mounted enhanced signal processing device type 800; the variation gets the denomination type CMF********(3, 5, 7, 9)*Z**** for a steel enclosure and CMF********(2, 4, 6, 8)*Z**** for an aluminium enclosure.

The high temperature version CMF*** (A, B, C, E)******Z**** can be executed with a junction box, or transmitter, or core processor, or enhanced core processor.

Alternatively a transmitter type *700********** can be mounted directly to the sensor CMF********(C, F)*Z****; the use of the unit will be modified according to the following table:

Transmitter type	CMF010*****(C, F)*Z**** CMF025*****(C, F)*Z**** CMF050*****(C, F)*Z**** CMF100*****(C, F)*Z**** CMF100*****(C, F)*Z**** C.I.C. A4 CMF200*****(C, F)*Z**** C.I.C A4 CMF300*****(C, F)*Z**** C.I.C A4 CMF400*****(C, F)*Z**** C.I.C A4	CMF200*****(C, F)*Z**** CMF300*****(C, F)*Z**** CMF400*****(C, F)*Z**** CMF200(A, B, C, D)*****(C or F)*Z**** CMF300(A, B, C, D)*****(C or F)*Z**** CMF400(A, B, C, D)*****(C or F)*Z****
*700*1[1)]*******	EEx ib IIB+H$_2$ T1-T5 IP65 T[3)] °C	EEx ib IIB T1-T5 IP65 T[3)] °C
*700*1[2)]*******	EEx ib IIC T1-T5 IP65 T[3)] °C	EEx ib IIB T1-T5 IP65 T[3)] °C

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[1] At this place the numeral 1 or 2 will be inserted.

[2] At this place the numeral 3, 4 or 5 will be inserted.

[3] Max. surface temperature T for dust see temperature graphs and manufacturer's instructions.

15.3 Parameters

15.3.1   Type CMF********(R, H, S)*Z**** inclusive Construction Identification Code (C.I.C) A4 except type CMF(A, B, C, E)****(R, H,S)*Z****

15.3.1.1   Drive circuit (connections 1 - 2 or red and brown)

Voltage	Ui	DC	11,4	V
Current	Ii		2,45	A
Power	Pi		2,54	W
effective internal capacitance	Ci	negligible		

Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
CMF010*****(R, H, S)*Z****	2,51	78,7 0	948,9 945,1	-40 -240
CMF025*****(R, H, S)*Z****	2,51	78,7 0	948,9 170,1	-40 -240
CMF050*****(R, H, S)*Z****	2,51	78,7 0	948,9 170,1	-40 -240
CMF100*****(R, H, S)*Z****	6,7	58,4 52,4	89	-40 -60
CMF100*****(R,H,S)*Z**** CIC A4	6,7	0	177,0	-240
CMF200*****(R, H, S)*Z****	9,5	92,9 85,8	0	-40 -55
CMF200*****(R, H, S)*Z**** CIC A4	9,5	0	177,0	-240
CMF300*****(R, H, S)*Z****	9,5	92,9 85,8	0	-40 -55
CMF300*****(R, H, S)*Z**** CIC A4	9,5	0	177,0	-240
CMF400 *****(R, H, S)*Z****	11,75	83,5 71,4	19,8	-40 -68
CMF400 *****(R, H, S)*Z**** CIC A4	11,75	0	187,1	-240

15.3.1.2   Pick-Off coil (Terminals 5/9 and 6/8 or wires green/white and blue/grey)

Voltage	Ui	DC	30	V
Current	Ii		101	mA
Power	Pi		750	mW
effective internal capacitance	Ci	negligible		

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Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
CMF010*****(R, H, S)*Z****	2,51	78,7 0	0	-40 -240
CMF025*****(R, H, S)*Z****	2,51	78,7 0	0	-40 -240
CMF050*****(R, H, S)*Z****	2,51	78,7 0	0	-40 -240
CMF100*****(R, H, S)*Z****	0,441	11,1 9,9	0	-40 -60
CMF100*****(R, H, S)*Z**** CIC A4	0,441	0	0	-240
CMF200*****(R, H, S)*Z****	2,0	41,9 38,7	0 bis - to 567,9	-40 -55
CMF200*****(R, H, S)*Z**** CIC A4	2,0	0	0 bis - to 567,9	-240
CMF300*****(R, H, S)*Z****	2,0	41,9 38,7	0 bis - to 567,9	-40 -55
CMF300*****(R, H, S)*Z**** CIC A4	2,0	0	0 bis - to 567,9	-240
CMF400*****(R, H, S)*Z****	12,4	128,3 109,8	0 bis - to 566,4	-40 -68
CMF400*****(R, H, S)*Z**** CIC A4	12,4	0	0 bis - to 566,4	-240

15.3.1.3 temperature circuits (terminals 3, 4 and 7 or wires orange, yellow and violet)

Voltage	U_i	DC	30	V
Current	I_i		101	mA
Power	P_i		750	mW
effective internal capacitance	C_i	negligible		
effective internal inductance	L_i	negligible		

15.3.1.4 Temperature class/ max. surface temperature T
The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graph:

15.3.1.4.1 For types CMF010*****(R, H, S)*Z****, CMF025*****(R, H, S)*Z**** and CMF050*****(R, H, S)*Z**** with J-box
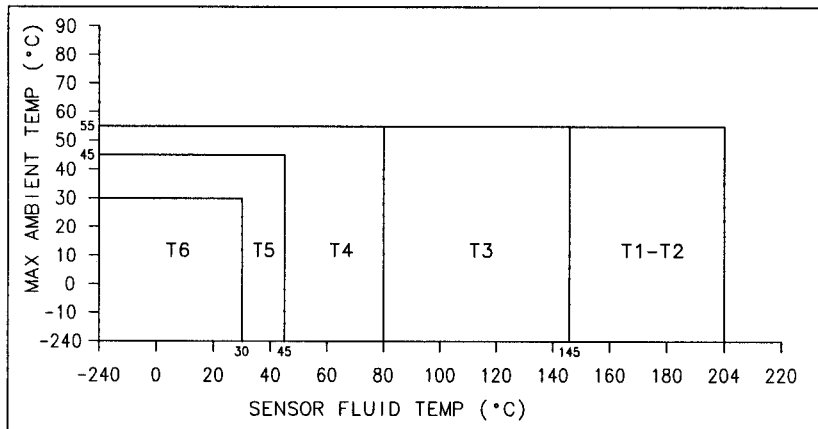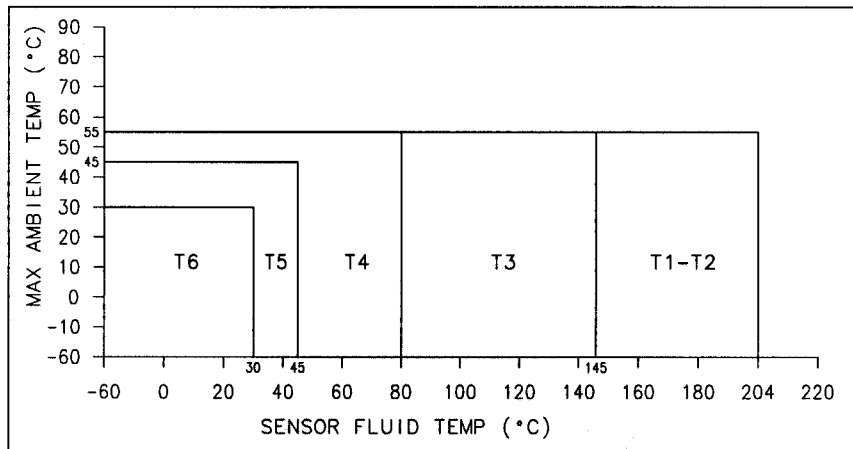
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
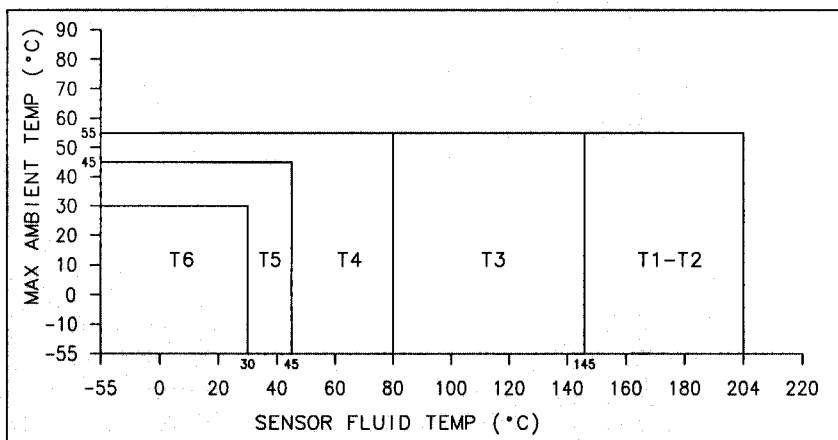The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 254 °C. The minimum ambient and process fluid temperature allowed for dust is -40°C.

Ambient temperature range   Ta   -240 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

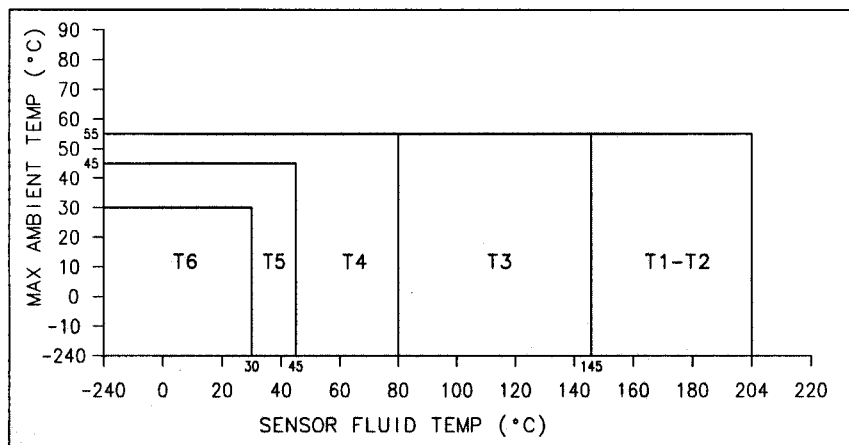15.3.1.4.2 For type CMF100*****(R,H,S)*Z**** with J-box connected to non-MVD transmitters (i. e. 9739)
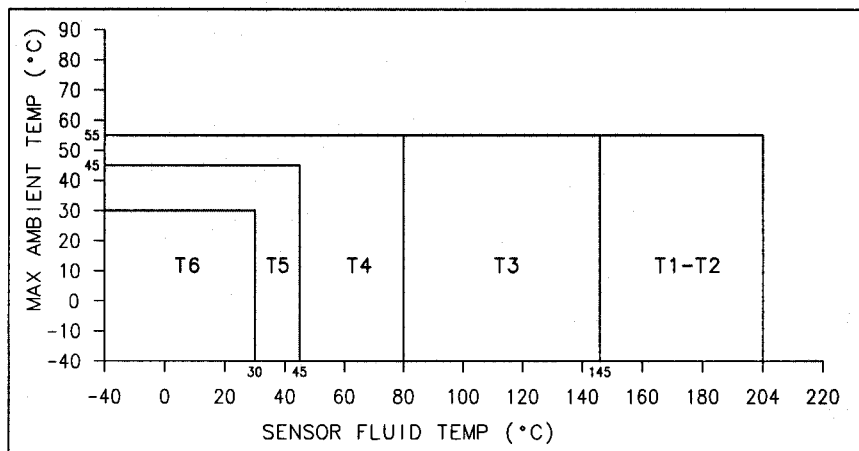
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 254 °C. The minimum ambient and process fluid temperature allowed for dust is -40°C.

Ambient temperature range   Ta   -40 °C up to +55 °C

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The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

15.3.1.4.3 For type CMF100*****(R, H, S)*Z**** with J-box connected to MVD transmitters
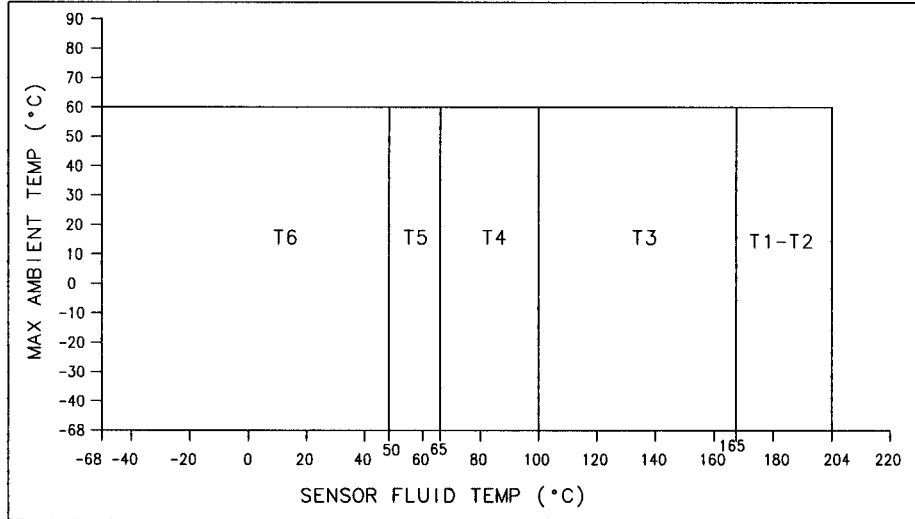

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 254 °C. The minimum ambient and process fluid temperature allowed for dust is -40°C.

Ambient temperature range   Ta   -60 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

15.3.1.4.4 For types CMF200*****(R, H, S)*Z**** and CMF300*****(R, H, S)*Z**** with J-box

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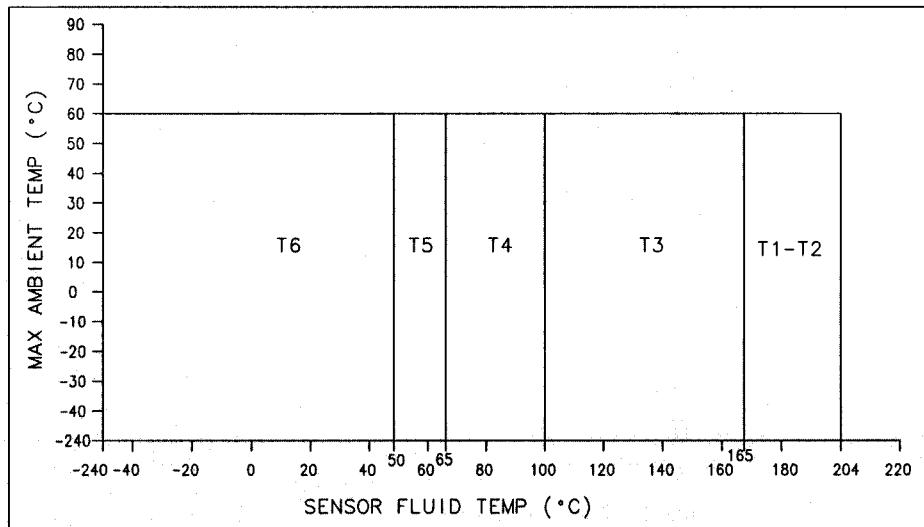Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 254 °C. The minimum ambient and process fluid temperature allowed for dust is -40°C.

Ambient temperature range   Ta   -55 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

15.3.1.4.5 For types CMF100*****(R, H, S)*Z****, CMF200*****(R, H, S)*Z**** and CMF300*****(R, H, S)*Z**** with Construction Identification Code (C.I.C) marking A4 with J-box

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 254 °C. The minimum ambient and process fluid temperature allowed for dust is -40°C.

Ambient temperature range   Ta   -240 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

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15.3.1.4.6 For type CMF400***(R, H, S)*Z**** with J-box connected to MVD transmitters**

MAX AMBIENT TEMP (°C) vs SENSOR FLUID TEMP (°C)

T6 | T5 | T4 | T3 | T1-T2

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 234 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -68 °C up to +60 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

15.3.1.4.7 For types CMF400***(R, H, S)*Z**** with Construction Identification Code (C.I.C) marking A4 with J-box**

MAX AMBIENT TEMP (°C) vs SENSOR FLUID TEMP (°C)

T6 | T5 | T4 | T3 | T1-T2

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Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 234 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -240 °C up to +60 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

15.3.2   Type CMF***(A, B, C, E)****(R, H, S)*Z**** with J-box

15.3.1.1   Drive circuit (connections 1 - 2 or red and brown)

Voltage	U_i	DC	11,4	V
Current	I_i		2,45	A
Power	P_i		2,54	W
effective internal capacitance	C_i	negligible		

Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
CMF200(A, B, C, E)****(R, H, S)*Z****	4,01	32,3	19,8	-50
CMF300(A, B, C, E)****(R, H, S)*Z****	4,01	32,3	19,8	-50
CMF400(A, B, C, E)****(R, H, S)*Z****	7,75	54,3	19,8	-50

15.3.2.2   Pick-Off coil (Terminals 5/9 and 6/8 or wires green/white and blue/grey)

Voltage	U_i	DC	30	V
Current	I_i		101	mA
Power	P_i		750	mW
effective internal capacitance	C_i	negligible		

Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
CMF200(A, B, C, E)****(R, H, S)*Z****	1,25	15,4	569,2	-50
CMF300(A, B, C, E)****(R, H, S)*Z****	1,25	15,4	569,2	-50
CMF400(A, B, C, E)****(R,H, S)*Z****	6,5	41,1	569,2	-50

15.3.2.3   temperature circuits (terminals 3, 4 and 7 or wires orange, yellow and violet)

voltage	U_i	DC	30	V
current	I_i		101	mA
power	P_i		750	mW
effective internal capacitance	C_i	negligible		
effective internal inductance	L_i	negligible		

15.3.2.4   Temperature class/ max. surface temperature T
The classification into a temperature class/determination of the maximum surface temperature T dependss on the temperature of the medium taking into account the maximum operating temperature of the sensor and are shown in the following graph:

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15.3.2.4   Temperature class/ max. surface temperature T
The classification into a temperature class/determination of the maximum surface temperature T dependss on the temperature of the medium taking into account the maximum operating temperature of the sensor and are shown in the following graph:

15.3.2.4.1 For types CMF200(A, B)****(R, H, S)*Z**** and CMF300(A, B)****(R, H, S)*Z**** with J-box and CMF400(A, B)****(R, H, Z)*Z**** with J-box connected to MVD transmitters
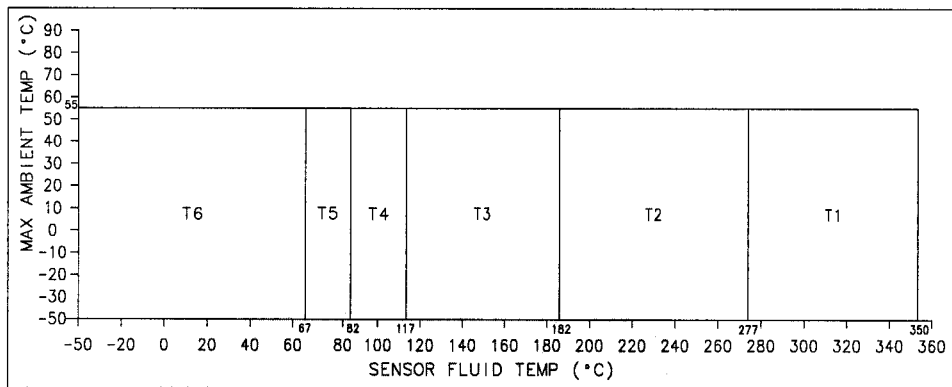
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2: 290 °C and T1: 363 °C. The minimum ambient and process fluid temperature allowed for dust is -40°C.

15.3.2.4.2 For types CMF200(C, E)****(R, H, S)*Z**** and CMF300(C, E)****(R, H, S)*Z**** with J-box and CMF400(C, E)****(R, H, Z)*Z**** with J-box connected to MVD transmitters
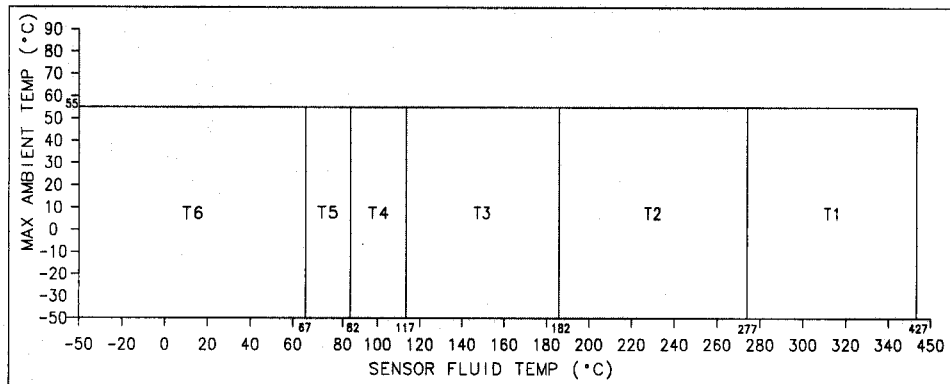
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2: 290 °C and T1: 440 °C. The minimum ambient and process fluid temperature allowed for dust is -40°C.

Ambient temperature range   Ta   -50 °C up to +55 °C

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The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

15.3.3 For types CMF********(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z**** inclusive Construction Identification Code (C.I.C) A4

15.3.3.1 Input circuits (terminals 1 - 4)

voltage	U_i	DC	17,3	V
current	I_i		484	mA
power	P_i		2,1	W
effective internal capacitance	C_i		2200	pF
effective internal inductance	L_i		30	μH

(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)

15.3.3.2 Temperature class/ max. surface temperature T
except types CMF***(A,B,C,E)****(2, 3, 4, 5, 6, 7, 8, 9, A,B,D,E,Q,V,W,Y)*Z****
The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graph:

15.3.3.2.1 For types CMF010*****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z****,
CMF025*****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z****,
CMF050*****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z****,
CMF100*****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z****,
CMF200*****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z****,
CMF300*****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z**** and
CMF100*****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z****,
CMF200*****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z**** and
CMF300*****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z**** with Construction Identification Code (C.I.C) A4 and with integrally mounted core processor
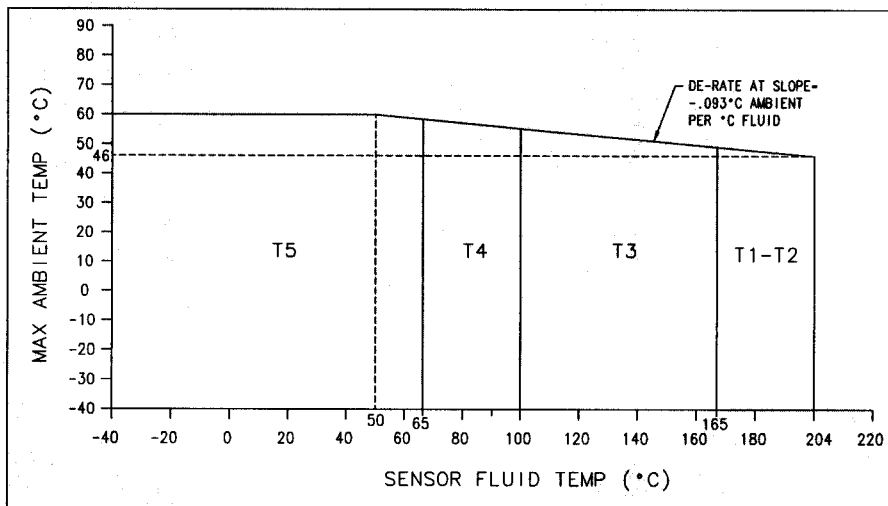

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 254 °C.
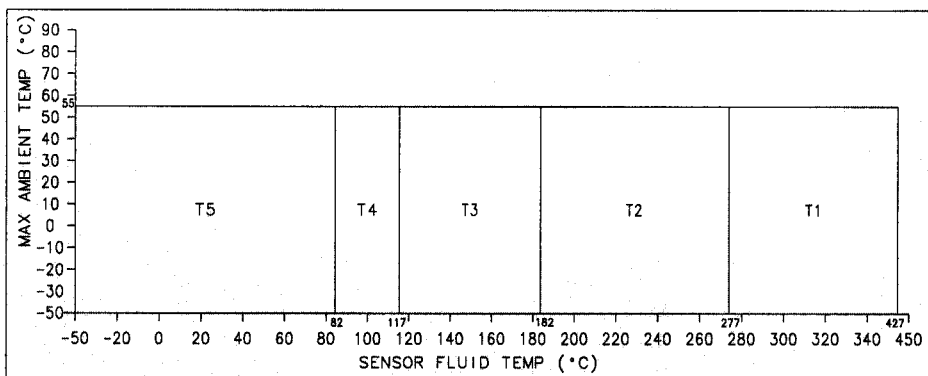
15.3.3.2.2 For type CMF400*****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z***** with Construction Identification Code (C.I.C) marking A4 and with integrally mounted core processor
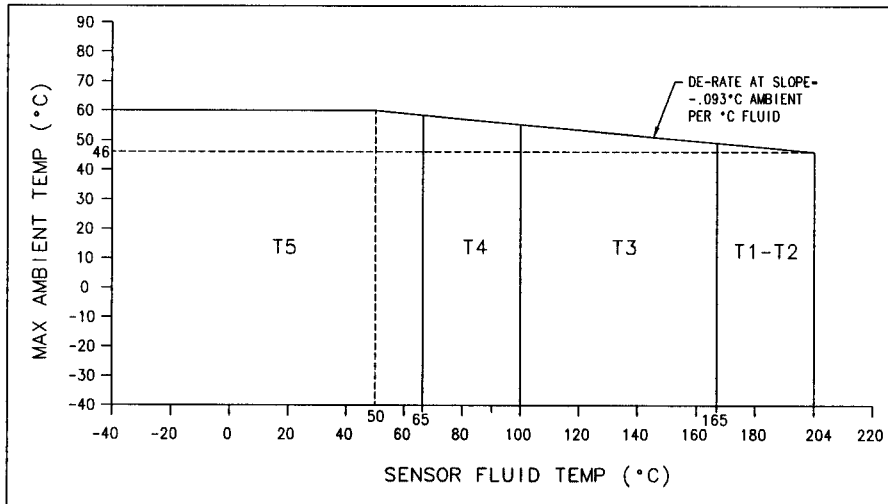
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 234 °C.

Ambient temperature range   Ta   -40 °C up to +60 °C

15.3.3.2.3 For type CMF400*****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z**** inclusive Construction Identification Code (C.I.C) marking A4 with integrally mounted core processor

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 234 °C.

Ambient temperature range   Ta   -40 °C up to +60 °C

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15.3.3.3   Temperature class/ max. surface temperature T
for types CMF***(A, B, C, E)**** (2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z****

The classification into a temperature class/determination of the maximum surface temperature
T depends on the temperature of the medium taking into account the maximum operating
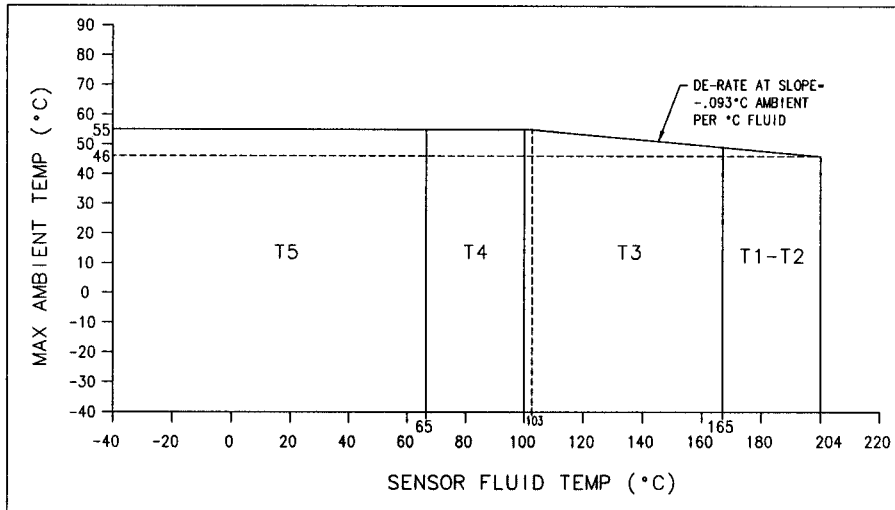temperature of the sensor and ais shown in the following graph:

15.3.3.3.1 For types CMF200(A, B)**** (2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z****,
CMF300(A, B)**** (2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z**** and
CMF400(A, B)**** (2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z**** with integrally mounted
core processor
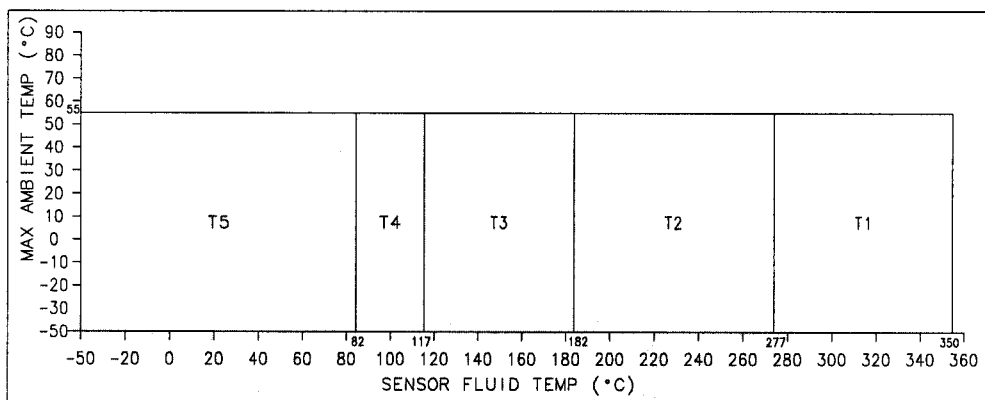
Note: Use the above graph to determine the temperature class for a given fluid and ambient
temperature.
The maximum surface temperature T for dust is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2:
290 °C and T1: 363 °C. The minimum ambient and process fluid temperature allowed for dust is
-40 °C.

15.3.3.3.2 For types CMF200(C, E)**** (2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z****,
CMF300(C, E)**** (2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z**** and
CMF400(C, E)**** (2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z**** with integrally mounted
core processor

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Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.

The maximum surface temperature T for dust is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2: 290 °C and T1: 440 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

15.3.4   Type CMF*******(C, F)*Z****

15.3.4.1   Electrical parameters see BVS 01 E 082 X for the transmitter type *700**********

15.3.4.2   Temperature class/ max. surface temperature T
except types CMF***(A, B, C, E)****(C, F)*Z****
The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graph:

15.3.4.2.1 For types CMF010*****(C, F)*Z****, CMF025*****(C, F)*Z****, CMF050*****(C, F)*Z****, CMF100*****(C, F)*Z****, CMF200*****(C, F)*Z****, CMF300*****(C, F)*Z**** and CMF100*****(C, F)*Z****, CMF200*****(C, F)*Z**** and CMF300*****(C, F)*Z**** with Construction Identification Code (C.I.C) A4 and with integrally mounted core processor

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.

The maximum surface temperature T for dust is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 254 °C.
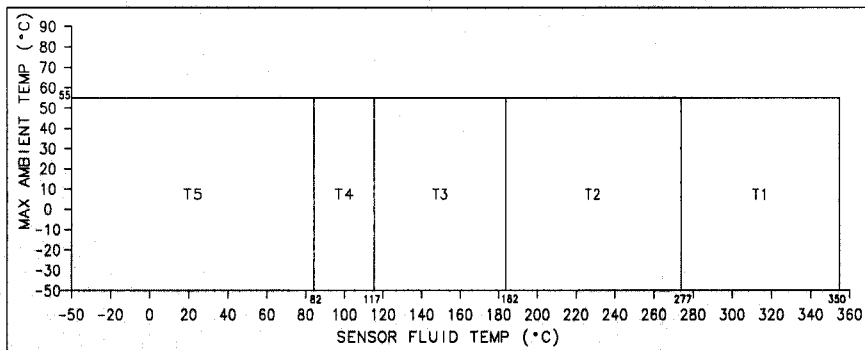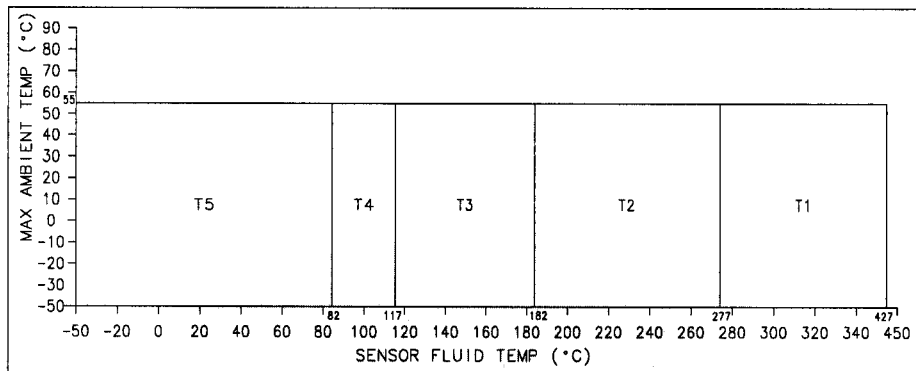
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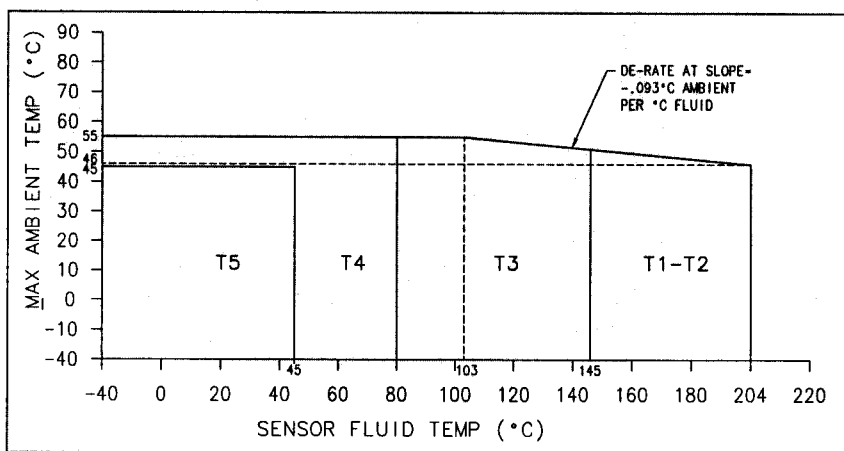
15.3.4.2.2 For type CMF400*****(C, F)*Z**** inclusive Construction Identification Code (C.I.C) marking A4
mounted to a transmitter

Note: Use the above graph to determine the temperature class for a given fluid and ambient
temperature.
The maximum surface temperature T for dust is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2
and T1: 234 °C.

Ambient temperature range   Ta   -40 °C up to +55 °C

15.3.4.3   Temperature class/ max. surface temperature T
           for types CMF***(A,B,C,E)****(C,F)*Z****
           The classification into a temperature class/determination of the maximum surface temperature
           T depends on the temperature of the medium taking into account the maximum operating
           temperature of the sensor and is shown in the following graph:

15.3.4.3.1 For types CMF200(A, B)****(C, F)*Z****, CMF300(A, B)****(C, F)*Z**** and
           CMF400(A, B)****(C, F)*Z**** mounted to a transmitter

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Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2: 290 °C and T1: 363 °C. The minimum ambient and process fluid temperature allowed for dust is -40°C.

15.3.4.3.2 For types CMF200(C, E)****(C, F)*Z****, CMF300(C, E)****(C, F)*Z**** and CMF400(C, E)****(C, F)*Z**** mounted to a transmitter

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2: 290 °C and T1: 440 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

(16)   Test and assessment report
       BVS PP 06.2035 EG as of 04.04.2006

(17)   Special conditions for safe use

By mounting the sensor type CMF********(C, F)*Z**** directly to the transmitter *700********** the use of the unit will be modified according to the following:

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Transmitter type	CMF010*****(C, F)*Z**** CMF025*****(C, F)*Z**** CMF050*****(C, F)*Z**** CMF100*****(C, F)*Z**** CMF100*****(C, F)*Z**** C.I.C A4 CMF200*****(C, F)*Z**** C.I.C A4 CMF300*****(C, F)*Z**** C.I.C A4 CMF400*****(C, F)*Z**** C.I.C A4	CMF200*****(C, F)*Z**** CMF300*****(C, F)*Z**** CMF400*****(C, F)*Z**** CMF200(A, B, C, D)*****(C or F)*Z**** CMF300(A, B, C, D)*****(C or F)*Z**** CMF400(A, B, C, D)*****(C or F)*Z****
*700*1[1) *******]	EEx ib IIB+H_2 T1-T5 IP65 T [3)] °C	EEx ib IIB T1-T5 IP65 T [3)] °C
*700*1[2) *******]	EEx ib IIC T1-T5 IP65 T [3)]°C	EEx ib IIB T1-T5 IP65 T [3)] °C

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 04.04.2006
BVS-Schu/Mi   A 20050692

EXAM BBG Prüf- und Zertifizier GmbH

_____
Certification body

_____
Special service unit

EXAM

BBG Prüf- und Zertifizier GmbH

EXAM · Postfach 10 27 48 · 44727 Bochum

Emerson Process Management Flow BV
Wiltonstraat 30
3905 KW Veenendaal
Niederlande

Ihr Zeichen	H. van Holland
Ihre Nachricht	19.06.2006
Unser Zeichen	BVS-Schu/Mi A 20060402
Durchwahl	Tel.: (0234) 3696 105 Fax: (0234) 3696 110
e-mail	Schumann@bg-exam.de
Datum	12.07.2006

Ladies and Gentlemen,

we added the Revision Report as of 12.07.2006 to the Test and Assessment Report
BVS PP 06.2035 EG.

We confirm, that the Certificate

BVS 06 ATEX E 045 X as of 04.04.2006

is still valid.

Kind regards
BBG Prüf- und Zertifizier GmbH

(Migenda)   (Dr. Wittler)

Enclosures: Revision Report
Descriptive Documents

EXAM

BBG Prüf- und Zertifizier GmbH

EXAM · Postfach 10 27 48 · 44727 Bochum

Emerson Process Management Flow BV
Mr. Henk van Holland
Neonstraat 1
6718 WX Ede
Nederland

Ihr Zeichen	Henk van Holland
Ihre Nachricht	17.01.2007
Unser Zeichen	BVS-Hk/Mi A 20070033
Durchwahl	Tel.: (0234) 3696 105 Fax: (0234) 3696 110
e-mail	Hauke@bg-exam.de
Datum	24.01.2007

Ladies and Gentlemen,

we added the Revision Report as of 24.01.2007 to the Test and Assessment Report
BVS PP 06.2035 EG.

We confirm, that the Certificate

BVS 06 ATEX E 045 X as of 04.04.2006

is still valid.

Kind regards
BBG Prüf- und Zertifizier GmbH

(Dr. Jockers)

i.V. (Dr. Eickhoff)

Enclosures: Revision Report

DEKRA
Translation

1st Supplement

(Supplement in accordance with Directive 94/9/EC Annex III number 6)

to the EC-Type Examination Certificate
BVS 06 ATEX E 045 X

Equipment:	**Sensor type CMF**********Z****
Manufacturer:	**Micro Motion, Inc.**
Address:	**Boulder, Co. 80301, USA**

Description

The sensor can be modified according to the descriptive documents as mentioned in the pertinent test and assessment report.

The high temperature version CMF*** (A,B,C,E)******Z**** can be manufactured with other coils and get therefore the additional marking with C.I.C. A5.

Also for testing of the sensors the standards EN 60079-* and EN 61241-* have been taken as basis; a modified marking is the result.

The Essential Health and Safety Requirements of the modified equipment are assured by compliance with:

EN 60079-0:2006   General requirements
EN 60079-11:2007   Intrinsic safety 'i'
EN 61241-0 2006   General requirements
EN 61241-1 2004   Protection by enclosures 'tD'

Modified Parameters

1   Type CMF***(A, B, C, E)****(R, H, S)*Z**** with J-box

1.1   Drive circuit (connections 1 - 2 or red and brown)

Voltage	U_i	DC	11.4	V
Current	I_i		2.45	A
Power	P_i		2.54	W

Effective internal capacitance   negligible

Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
CMF200(A, B, C, E)****(R, H, S)*Z****	4.01	32.3	19.8	-50
CMF200(A, B, C, E)****(R, H, S)*Z**** C.I.C. A5	1.1	15.4	9.6	
CMF300(A, B, C, E)****(R, H, S)*Z****	4.01	32.3	19.8	-50
CMF300(A, B, C, E)****(R, H, S)*Z**** C.I.C. A5	1.1	15.4	9.6	
CMF400(A, B, C, E)****(R, H, S)*Z****	7.75	54.3	19.8	-50
CMF400(A, B, C, E)****(R, H, S)*Z**** C.I.C. A5	3.4	35.2	12.8	

1.2 Pick-Off coil (Terminals 5/9 and 6/8 or wires green/white and blue/grey)

Voltage	U_i	DC	30	V
Current	I_i		101	mA
Power	P_i		750	mW

Effective internal capacitance $\quad\quad\quad\quad\quad\quad\quad\quad\quad$ negligible

Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
CMF200(A, B, C, E)****(R, H, S)*Z****	1.25	15.4	569.2	-50
CMF200(A, B, C, E)****(R, H, S)*Z**** C.I.C. A5	0.5	8.0		
CMF300(A ,B, C, E)****(R, H, S)*Z****	1.25	15.4	569.2	-50
CMF300(A, B, C, E)****(R, H, S)*Z**** C.I.C. A5	0.5	8.0		
CMF400(A, B, C, E)****(R, H, S)*Z***	6.5	41.1	569.2	-50
CMF400(A, B, C, E)****(R, H, S)*Z**** C.I.C. A5	1.1	15.4		

1.3 Temperature circuits (terminals 3, 4 and 7 or wires orange, yellow and violet)

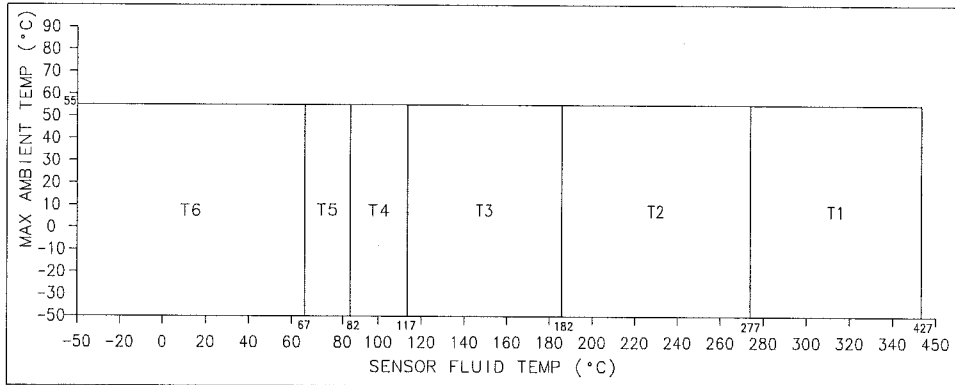|				
Voltage	U_i	DC	30	V
Current	I_i		101	mA
Power	P_i		750	mW
Effective internal capacitance	C_i	negligible		
Effective internal inductance	L_i	negligible		

1.4 Temperature class/ max. surface temperature T

The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graph:

1.4.1 For types CMF200(A, B)****(R, H, S)*Z**** C.I.C. A5 or no marking, CMF300(A, B)****(R, H, S)*Z**** C.I.C. A5 or no marking with J-box and CMF400(A, B)****(R, H, S)*Z**** C.I.C. A5 or no marking with J-box connected to MVD transmitters only
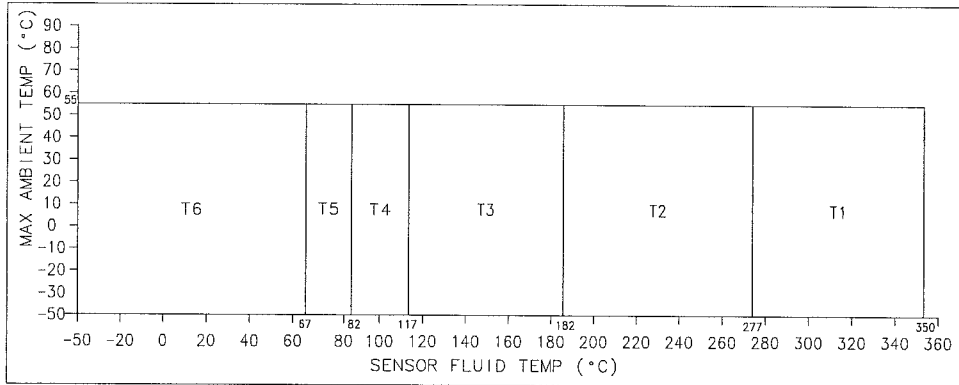
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2: 290 °C and T1: 363 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

1.4.2 For types CMF200(C, E)****(R, H, S)*Z**** C.I.C. A5 or no marking, CMF300(C, E)****(R, H, S)*Z**** C.I.C. A5 or no marking with J-box and CMF400(C, E)****(R, H, S)*Z**** C.I.C. A5 or no marking with J-box connected to MVD transmitters only

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2: 290 °C and T1: 440 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

▶ DEKRA

2   For types CMF***(A,B,C,E)****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z**** inclusive Construction
   Identification Code (C.I.C) A5 or no marking

2.1   Input circuits (terminals 1 - 4)

Voltage	U_i	DC	17.3	V
Current	I_i		484	mA
Power	P_i		2.1	W
Effective internal capacitance	C_i		2200	pF
Effective internal inductance	L_i		30	µH

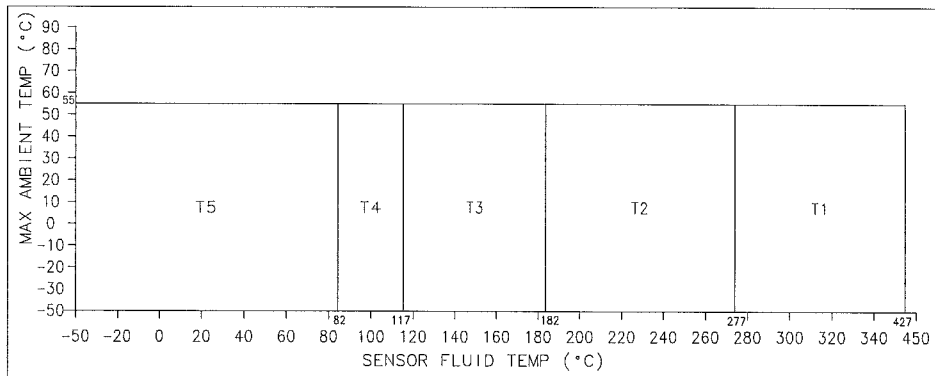2.2   Temperature class/ max. surface temperature T
      for types CMF***(A,B,C,E)****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z**** C.I.C. A5 or no marking
      The classification into a temperature class/determination of the maximum surface temperature T depends on the
      temperature of the medium taking into account the maximum operating temperature of the sensor and is shown
      in the following graph:

2.2.1 For types CMF200(A,B)****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z**** C.I.C. A5 or no marking,
       CMF300(A,B)****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V,W, Y)*Z**** C.I.C. A5 or no marking and
       CMF400(A,B)****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z**** C.I.C. A5 or no marking
       with integrally mounted core processor
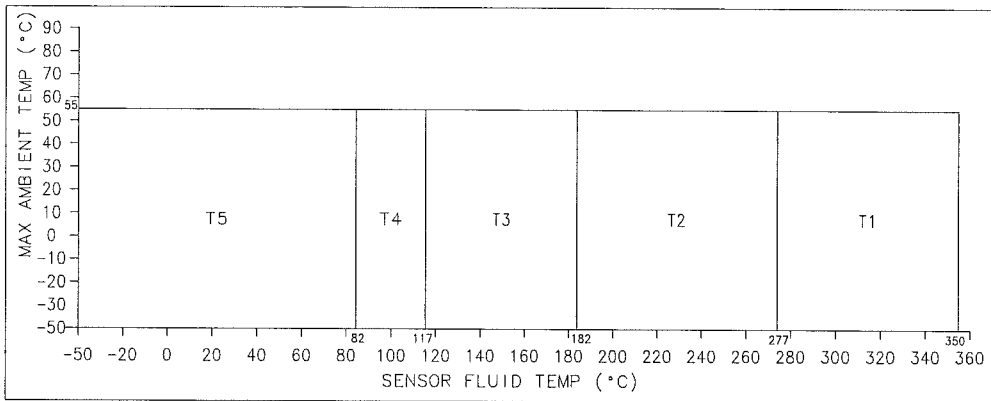
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: 95°C, T4: 130°C, T3: 195°C, T2: 290 °C and
T1: 363 °C. The minimum ambient and process fluid temperature allowed for dust is -40°C.

2.2.2   For types CMF200(C,E)****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z**** C.I.C. A5 or no marking,
CMF300(C,E)****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z**** C.I.C. A5 or no marking and
CMF400(C,E)****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z**** C.I.C. A5 or no marking
with integrally mounted core processor

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2: 290 °C and
T1: 440 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range	Ta	-50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter
away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does
not exceed the maximum temperature of the medium taking into account the temperature classification and the
maximum operating temperature of the sensor.


3   Type CMF***(A,B,C,E)****(C,F)*Z****

3.1   Electrical parameters see DMT 01 ATEX E 082 X for the transmitter type *700**********

3.2   Temperature class/ max. surface temperature T
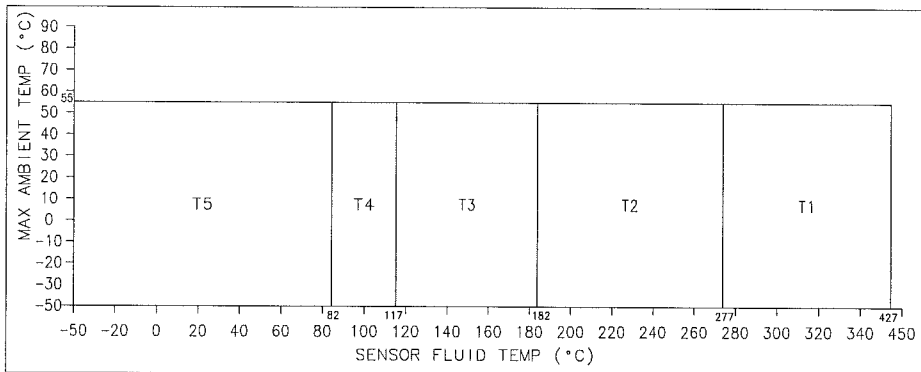for types CMF***(A,B,C,E)****(C, F)*Z**** C.I.C. A5 or no marking
The classification into a temperature class/determination of the maximum surface temperature T depends on the
temperature of the medium taking into account the maximum operating temperature of the sensor and is shown
in the following graph:

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(until 31.03.2007 EXAM BBG Prüf- und Zertifizier GmbH)

3.2.1 For types CMF200(A, B)****(C, F)*Z**** C.I.C. A5 or no marking, CMF300(A, B)****(C, F)*Z**** C.I.C. A5 or no marking and CMF400(A, B)****(C, F)*Z**** C.I.C. A5 or no marking mounted to a transmitter
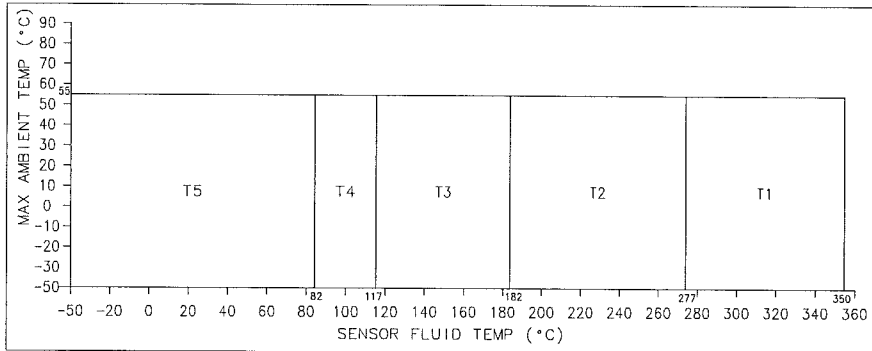
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2: 290 °C and T1: 363 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

3.2.2 For types CMF200(C, E)****(C, F)*Z**** C.I.C. A5 or no marking, CMF300(C, E)****(C, F)*Z**** C.I.C. A5 or no marking and CMF400(C, E)****(C, F)*Z**** C.I.C. A5 or no marking mounted to a transmitter

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2: 290 °C and T1: 440 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

▶ DEKRA

The marking of the equipment shall include the following:

⟨Ex⟩ **II 2G** with additional marking required by the standards mentioned in the following tables:
II 2D Ex tD A21 IP 65 T $^{3)}$ °C

Type	Type of protection gas
CMF010*****$^{1)}$*Z****	Ex ib IIC T1-T6
CMF025*****$^{1)}$*Z****	Ex ib IIC T1-T6
CMF050*****$^{1)}$*Z****	Ex ib IIC T1-T6
CMF100*****1)*Z****	Ex ib IIB T1-T6
CMF200*****$^{1)}$*Z****	Ex ib IIB T1-T6
CMF200*****$^{1)}$*Z**** C.I.C A4	Ex ib IIC T1-T6
CMF200$^{4)}$*****$^{1)}$*Z****	Ex ib IIB T1-T6
CMF200$^{4)}$*****$^{1)}$*Z**** C.I.C A5	Ex ib IIB T1-T6
CMF300*****$^{1)}$*Z****	Ex ib IIB T1-T6
CMF300*****$^{1)}$*Z**** C.I.C A4	Ex ib IIC T1-T6
CMF300$^{4)}$*****$^{1)}$*Z****	Ex ib IIB T1-T6
CMF300$^{4)}$*****$^{1)}$*Z**** C.I.C A5	Ex ib IIB T1-T6
CMF010*****$^{2)}$*Z****	Ex ib IIC T1-T5
CMF025*****$^{2)}$*Z****	Ex ib IIC T1-T5
CMF050*****$^{2)}$*Z****	Ex ib IIC T1-T5
CMF100*****$^{2)}$*Z****	Ex ib IIC T1-T5
CMF100*****$^{2)}$*Z**** C.I.C A4	Ex ib IIC T1-T5
CMF200*****$^{2)}$*Z****	Ex ib IIB T1-T5
CMF200*****$^{2)}$*Z**** C.I.C A4	Ex ib IIC T1-T5
CMF200$^{4)}$*****$^{2)}$*Z****	Ex ib IIB T1-T5
CMF200$^{4)}$*****$^{2)}$*Z**** C.I.C A5	Ex ib IIB T1-T6
CMF300*****$^{2)}$*Z****	Ex ib IIB T1-T5
CMF300*****$^{2)}$*Z**** C.I.C A4	Ex ib IIC T1-T5
CMF300$^{4)}$*****$^{2)}$*Z****	Ex ib IIB T1-T5
CMF300$^{4)}$*****$^{2)}$*Z**** C.I.C A5	Ex ib IIB T1-T6
CMF400*****$^{2)}$*Z****	Ex ib IIB T1-T5
CMF400*****$^{2)}$*Z**** C.I.C A4	Ex ib IIC T1-T5
CMF400$^{4)}$*****$^{2)}$*Z****	Ex ib IIB T1-T5
CMF400$^{4)}$*****$^{2)}$*Z**** C.I.C A5	Ex ib IIB T1-T6

For sensors with J-box connected to non-MVD transmitters (i. e. 9739) is valid:

Type	Type of protection gas	Min. ambient/fluid temperature gas
CMF010*****[1]*Z****	Ex ib IIC T1-T6	-240 °C
CMF025*****[1]*Z****	Ex ib IIC T1-T6	-240 °C
CMF050*****[1]*Z****	Ex ib IIC T1-T6	-240 °C
CMF100*****[1]*Z****	Ex ib IIC T1-T6	-40 °C
CMF100*****[1]*Z**** C.I.C A4	Ex ib IIC T1-T6	-240 °C
CMF200*****[1]*Z****	Ex ib IIB T1-T6	-55 °C
CMF200*****[1]*Z**** C.I.C A4	Ex ib IIC T1-T6	-240 °C
CMF200[4]****[1]*Z****	Ex ib IIB T1-T6	-50 °C
CMF200[4]****[1]*Z**** C.I.C A5	Ex ib IIB T1-T6	-50 °C
CMF300*****[1]*Z****	Ex ib IIB T1-T6	-55 °C
CMF300*****[1]*Z**** C.I.C A4	Ex ib IIC T1-T6	-240 °C
CMF300[4]****[1]*Z****	Ex ib IIB T1-T6	-50 °C
CMF300[4]****[1]*Z**** C.I.C A5	Ex ib IIB T1-T6	-50 °C

For sensors with J-box connected to MVD transmitters is valid:

Type	Type of protection gas	Min. ambient/fluid temperature gas
CMF010*****[1]*Z****	Ex ib IIC T1-T6	-240 °C
CMF025*****[1]*Z****	Ex ib IIC T1-T6	-240 °C
CMF050*****[1]*Z****	Ex ib IIC T1-T6	-240 °C
CMF100*****[1]*Z****	Ex ib IIC T1-T6	-60 °C
CMF100*****[1]*Z**** C.I.C A4	Ex ib IIC T1-T6	-240 °C
CMF200*****[1]*Z****	Ex ib IIB T1-T6	-55 °C
CMF200*****[1]*Z**** C.I.C A4	Ex ib IIC T1-T6	-240 °C
CMF200[4]****[1]*Z****	Ex ib IIB T1-T6	-50 °C
CMF200[4]****[1]*Z**** C.I.C A5	Ex ib IIB T1-T6	-50 °C
CMF300*****[1]*Z****	Ex ib IIB T1-T6	-55 °C
CMF300*****[1]*Z**** C.I.C A4	Ex ib IIC T1-T6	-240 °C
CMF300[4]****[1]*Z****	Ex ib IIB T1-T6	-50 °C
CMF300[4]****[1]*Z**** C.I.C A5	Ex ib IIB T1-T6	-50 °C
CMF400*****[1]*Z****	Ex ib IIB T1-T6	-68 °C
CMF400*****[1]*Z**** C.I.C A4	Ex ib IIC T1-T6	-240 °C
CMF400[4]****[1]*Z****	Ex ib IIB T1-T6	-50 °C
CMF400[4]****[1]*Z**** C.I.C A5	Ex ib IIB T1-T6	-50 °C

[1] At this place the letter R, H or S will be inserted.

[2] At this place the numeral 2, 3, 4, 5, 6, 7, 8 or 9 or the letter A, B, D, E, Q, V, W or Y will be inserted.

[3] Max. surface temperature T for dust see temperature graphs and manufacturer's instructions. Min. ambient and process temperature for dust is -40 °C.

[4] At this place the letter A, B, C or E will be inserted.

Special conditions for safe use
Not changed

Test and assessment report
BVS PP 06.2035 EG as of 31.07.2007

DEKRA EXAM GmbH
Bochum, dated 31. July 2007

Signed: Dr. Jockers

Signed: Dr. Wittler

Certification body

Special services unit

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 31. July 2007
BVS-Schu/Sz A 20070256

DEKRA EXAM GmbH

Certification body

Special services unit

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DEKRA

2nd Supplement

(Supplement in accordance with Directive 94/9/EC Annex III number 6)

to the EC-Type Examination Certificate
BVS 06 ATEX E 045 X

Equipment: **Sensor type CMF*********Z****

Manufacturer: **Micro Motion, Inc.**

Address: **Boulder, Co. 80301, USA**

Description

The sensor can be modified:
New versions type CMF********T*Z**** (Electronics Interface for Extended Stainless Steel Junction Box),
type CMF800*******Z**** and type CMFCH3*******Z**** are possible.

The Essential Health and Safety Requirements of the modified equipment are assured by compliance with:

EN 60079-0:2006   General requirements
EN 60079-11:2007   Intrinsic safety 'i'
EN 61241-0:2006   General requirements
EN 61241-1:2004   Protection by enclosures 'tD'

Modified Parameters
1   Type CMF********(R,H,S,T)*Z**** with J-box, inclusive Construction Identification Code (CIC) A4 except type
    CMF***(A,B,C,E)****(R,H,S,T)*Z****

1.1   Drive circuit (connections 1 - 2 or red and brown)

Voltage	U_i	DC	11.4	V
Current	I_i		2.45	A
Power	P_i		2.54	W

Effective internal capacitance   negligible

Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
CMF010*****(R,H,S,T)*Z****	2.51	78.7	948.9	-40
CMF010*****(R,H,S,T)*Z****	2.51	0	945.1	-240
CMF025*****(R,H,S,T)*Z****	2.51	78.7	170.8	-40
CMF025*****(R,H,S,T)*Z****	2.51	0	170.1	-240
CMF050*****(R,H,S,T)*Z****	2.51	78.7	170.8	-40
CMF050*****(R,H,S,T)*Z****	2.51	0	170.1	-240
CMF100*****(R,H,S,T)*Z****	6.7	58.4	89.0	-40

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Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
CMF100*****(R,H,S,T)*Z****	6.7	52.4	89.0	-60
CMF100*****(R,H,S,T)*Z**** CIC A4	6.7	0	177.0	-240
CMF200*****(R,H,S,T)*Z****	9.5	92.9	0	-40
CMF200*****(R,H,S,T)*Z****	9.5	85.8	0	-55
CMF200*****(R,H,S,T)*Z**** CIC A4	9.5	0	177.0	-240
CMF300*****(R,H,S,T)*Z****	9.5	92.9	0	-40
CMF300*****(R,H,S,T)*Z****	9.5	85.8	0	-55
CMF300*****(R,H,S,T)*Z**** CIC A4	9.5	0	177.0	-240
CMF400*****(R,H,S,T)*Z****	11.75	83.5	19.8	-40
CMF400*****(R,H,S,T)*Z****	11.75	71.4	19.8	-68
CMF400 *****(R,H,S,T)*Z**** CIC A4	11.75	0	187.1	-240
CMF800*****(R,H,S,T)*Z****	5.0	19.5	38.5	-50
CMF800*****(R,H,S,T)*Z**** CIC A4	5.0	0	126.0	-240
CMFHC3*****(R,H,S,T)*Z****	5.0	19.5	38.5	-50
CMFHC3*****(R,H,S,T)*Z**** CIC A4	5.0	0	126.0	-240

1.2   Pick-Off coil (Terminals 5/9 and 6/8 or wires green/white and blue/grey)

Voltage	U_i	DC	30	V
Current	I_i		101	mA
Power	P_i		750	mW

Effective internal capacitance   negligible

Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
CMF010*****(R,H,S,T)*Z****	2.51	78.7	0	-40
CMF010*****(R,H,S,T)*Z****	2.51	0	0	-240
CMF025*****(R,H,S,T)*Z****	2.51	78.7	0	-40
CMF025*****(R,H,S,T)*Z****	2.51	0	0	-240
CMF050*****(R,H,S,T)*Z****	2.51	78.7	0	-40
CMF050*****(R,H,S,T)*Z****	2.51	0	0	-240
CMF100*****(R,H,S,T)*Z****	0.441	11.1	0	-40
CMF100*****(R,H,S,T)*Z****	0.441	9.9	0	-60
CMF100*****(R,H,S,T)*Z**** CIC A4	0.441	0	0	-240
CMF200*****(R,H,S,T)*Z****	2.0	41.9	0 to 567.9	-40
CMF200*****(R,H,S,T)*Z****	2.0	38.7	0 to 567.9	-55
CMF200*****(R,H,S,T)*Z**** CIC A4	2.0	0	0 to 567.9	-240
CMF300*****(R,H,S,T)*Z****	2.0	41.9	0 to 567.9	-40
CMF300*****(R,H,S,T)*Z****	2.0	38.7	0 to 567.9	-55
CMF300*****(R,H,S,T)*Z**** CIC A4	2.0	0	0 to 567.9	-240
CMF400*****(R,H,S,T)*Z****	12.4	128,3	0 to 566.4	-40
CMF400*****(R,H,S,T)*Z****	12.4	109.8	0 to 566.4	-68
CMF400*****(R,H,S,T)*Z**** CIC A4	12.4	0	0 to 566.4	-240
CMF800*****(R,H,S,T)*Z****	2.8	49.2	42.6 to 566.4	-50
CMF800*****(R,H,S,T)*Z**** CIC A4	2.8	0	198.4 to 566.4	-240
CMFHC3*****(R,H,S,T)*Z****	2.8	49.2	42.6 to 566.4	-50
CMFHC3*****(R,H,S,T)*Z**** CIC A4	2.8	0	198.4 to 566.4	-240

1.3   Temperature circuits (terminals 3, 4 and 7 or wires orange, yellow and violet)

Voltage	U_i	DC	30	V
Current	I_i		101	mA
Power	P_i		750	mW
Effective internal capacitance	C_i		negligible	
eEfective internal inductance	L_i		negligible	

1.4   Temperature class/ max. surface temperature T
The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graph:

1.4.1   For types CMF010*****(R,H,S,T)*Z**** , CMF025*****(R,H,S,T)*Z**** and CMF050*****(R,H,S,T)*Z**** with J-box
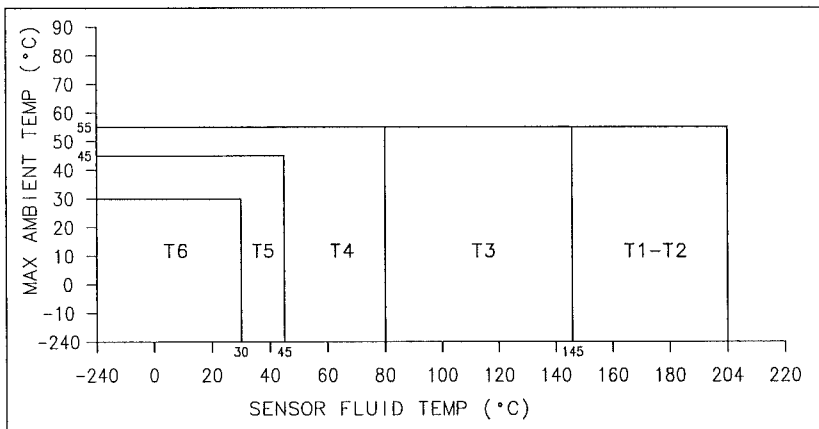
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature for dust is as follows: T6:T 80°C, T5:T 95°C, T4:T 130°C, T3:T 195°C, T2 to T1:T 254°C. The minimum ambient and process fluid temperature allowed for dust is -40°C.

Ambient temperature range	Ta	-240 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

1.4.2   For types CMF100*****(R,H,S,T)*Z**** with J-box connected to non-MVD transmitters (i.e. 9739)
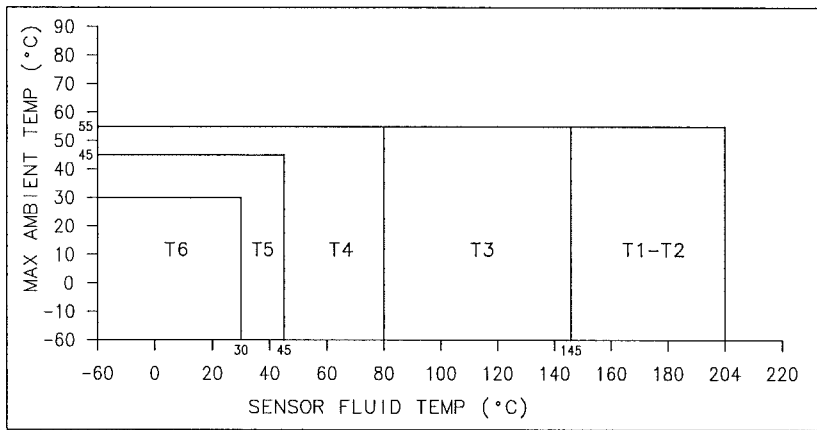
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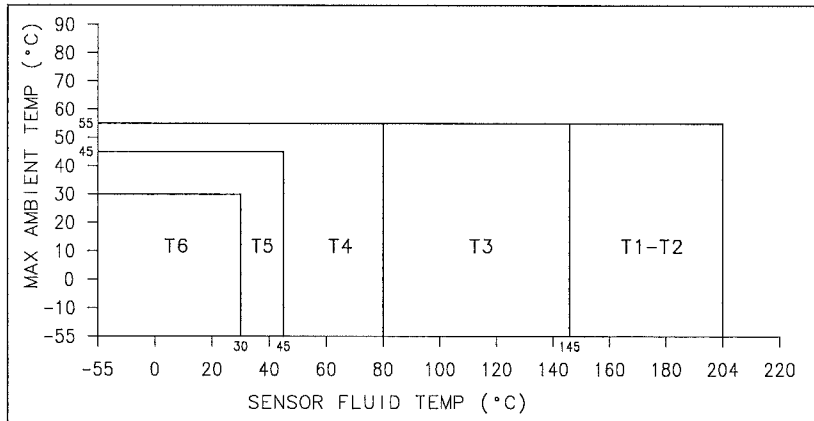
![DEKRA logo]

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 254 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -40 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

1.4.3   For types CMF100*****(R,H,S,T)*Z**** with J-box connected to MVD transmitters
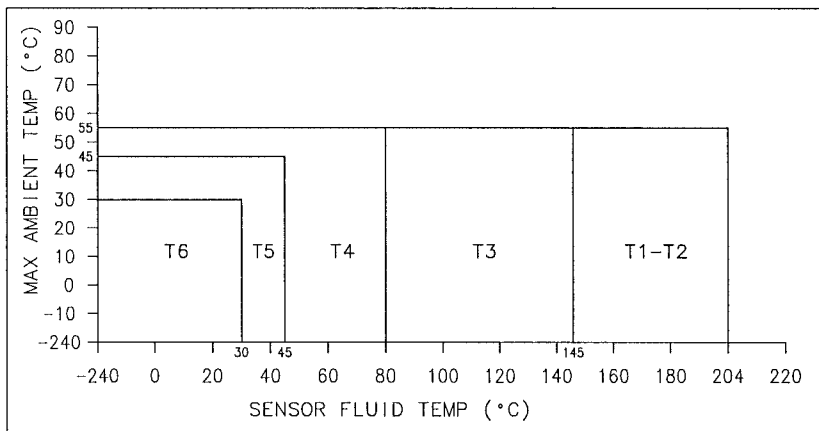

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 254 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -60 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

1.4.4   For types CMF200*****(R,H,S,T)*Z**** and CMF300*****(R,H,S,T)*Z**** with J-box

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and
T1: 254 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -55 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not
exceed the maximum temperature of the medium taking into account the temperature classification and the
maximum operating temperature of the sensor.

1.4.5   For types CMF100*****(R,H,S,T)*Z****, CMF100*****(R,H,S,T)*Z****, and CMF300*****(R,H,S,T)*Z****
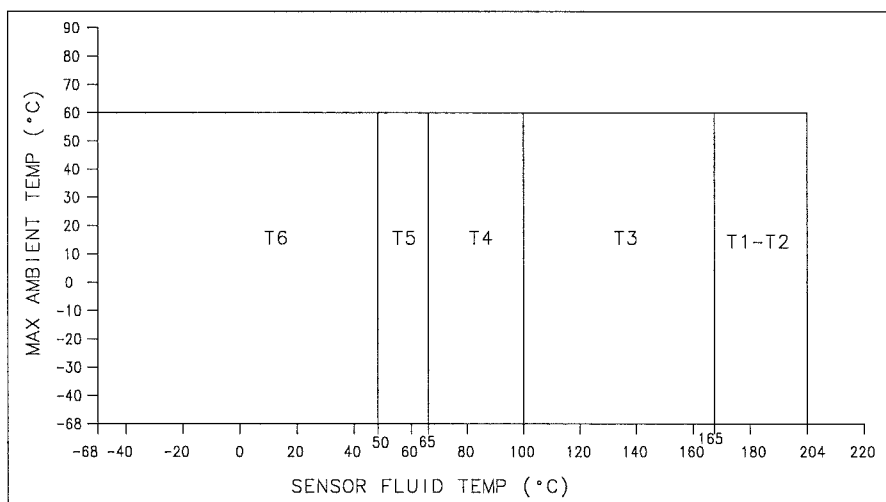with Construction Identification Code (CIC) marking A4 with J-box

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and
T1: 254 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -240 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not
exceed the maximum temperature of the medium taking into account the temperature classification and the
maximum operating temperature of the sensor.

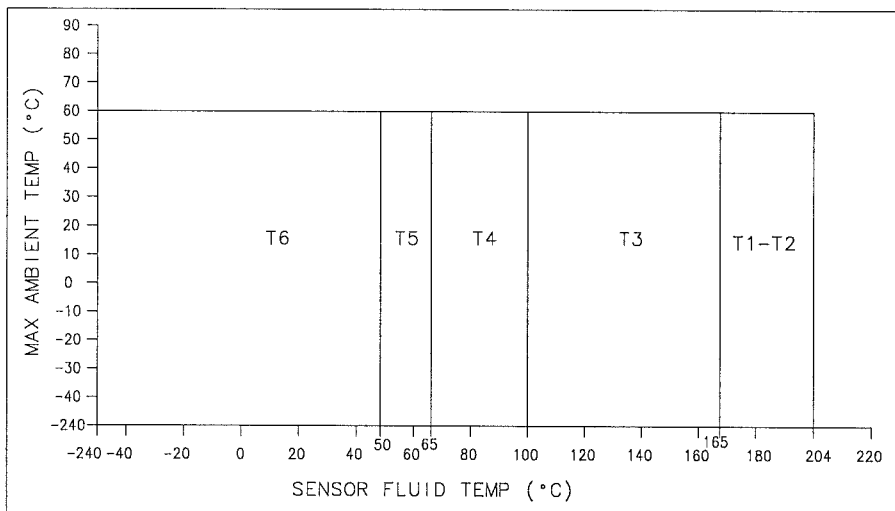1.4.6   For types CMF400*****(R,H,S,T)*Z**** with J-box connected to MVD transmitters

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 234 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -68 °C up to +60 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

1.4.7   For types CMF400*****(R,H,S,T)*Z**** with Construction Identification Code (CIC) marking A4 with J-box connected to MVD transmitters
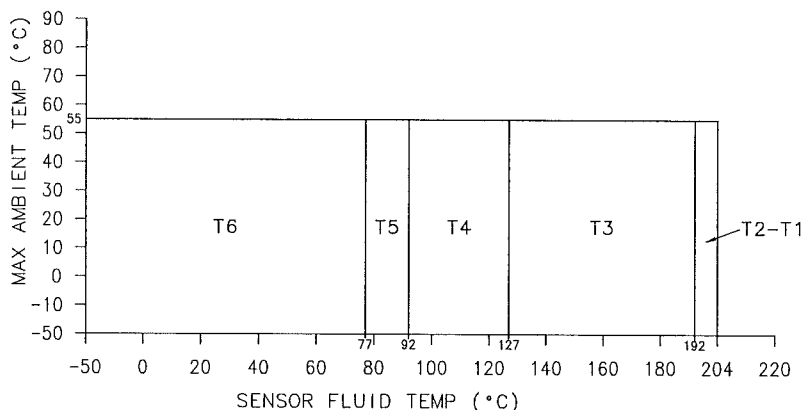

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 234 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -240 °C up to +60 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

1.4.8   For types CMF800*****(R,H,S,T)*Z**** and CMFHC3*****(R,H,S,T)*Z**** with J-box connected to MVD transmitters
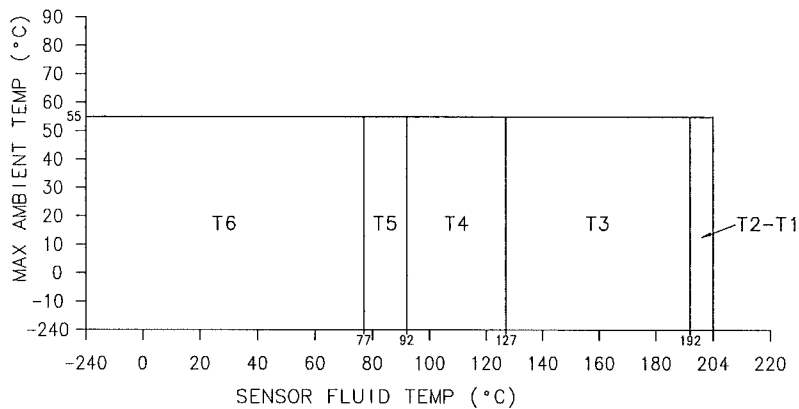
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 207 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

1.4.9   For types CMF800*****(R, H, S, T)*Z**** and CMFHC3*****(R, H, S, T)*Z**** with Construction Identification Code (CIC) marking A4 with J-box connected to MVD transmitters

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 207 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -240 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

2   Type CMF***(A, B, C, E)****(R, H, S, T)*Z**** with J-box

2.1   Drive circuit (connections 1 - 2 or red and brown)
         Voltage   Ui   DC   11.4   V
         Current   Ii   2.45   A
         Power   Pi   2.54   W

Effective internal capacitance   negligible

Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
CMF200(A,B,C,E)****(R,H,S,T)*Z****	4.01	32.2	19.8	-50
CMF200(A,B,C,E)****(R,H,S,T)*Z**** CIC A5	1.1	15.4	9.6	-50
CMF300(A,B,C,E)****(R,H,S,T)*Z****	4.01	32.3	19.8	-50
CMF300(A,B,C,E)****(R,H,S,T)*Z**** CIC A5	1.1	15.4	9.6	-50
CMF400(A,B,C,E)****(R,H,S,T)*Z****	7.75	54.3	19.8	-50
CMF400(A,B,C,E)****(R,H,S,T)*Z**** CIC A5	3.4	35.2	12.8	-50

Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
CMF800(A,B,C,E)****(R,H,S,T)*Z****	5.95	51.3	12.8	-50
CMF800(A,B,C,E)****(R,H,S,T)*Z**** CIC A4	5.95	51.3	88.9	-50
CMFHC3(A,B,C,E)****(R,H,S,T)*Z****	5.95	51.3	12.8	-50
CMFHC3(A,B,C,E)****(R,H,S,T)*Z**** CIC A4	5.95	51.3	88.9	-50

2.2 Pick-Off coil (Terminals 5/9 and 6/8 or wires green/white and blue/grey)

Voltage	U_i	DC	30	V
Current	I_i		101	mA
Power	P_i		750	mW

Effective internal capacitance   negligible

Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
CMF200(A,B,C,E)****(R,H,S,T)*Z****	1.25	15.4	569.2	-50
CMF200(A,B,C,E)****(R,H,S,T)*Z**** CIC A5	0.50	8.0	569.2	-50
CMF300(A,B,C,E)****(R,H,S,T)*Z****	1.25	15.4	569.2	-50
CMF300(A,B,C,E)****(R,H,S,T)*Z**** CIC A5	0.50	8.0	569.2	-50
CMF400(A,B,C,E)****(R,H,S,T)*Z****	6.50	41.1	569.2	-50
CMF400(A,B,C,E)****(R,H,S,T)*Z**** CIC A5	1.10	15.4	569.2	-50
CMF800(A,B,C,E)****(R,H,S,T)*Z****	0.85	9.1	42.6	-50
CMF800(A,B,C,E)****(R,H,S,T)*Z**** CIC A4	0.85	9.1	42.6	-50
CMFHC3(A,B,C,E)****(R,H,S,T)*Z****	0.85	9.1	42.6	-50
CMFHC3(A,B,C,E)****(R,H,S,T)*Z**** CIC A4	0.85	9.,1	42.6	-50

2.3 Temperature circuits (terminals 3, 4 and 7 or wires orange, yellow and violet)

Voltage	U_i	DC	30	V
Current	I_i		101	mA
Power	P_i		750	mW
Effective internal capacitance	C_i		negligible	
Effective internal inductance	L_i		negligible	

2.4 Temperature class/ max. surface temperature T

The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graph:

2.4.1 For types CMF200(A,B)****(R,H,S,T)*Z**** CIC A5 or no marking and CMF300(A,B)****(R,H,S,T)*Z**** CIC A5 or no marking with J-box and CMF400(A,B)****(R,H,S,T)*Z**** CIC A5 or no marking, CMF800(A,B)****(R,H,S,T)*Z**** CIC A4 or no marking and CMFHC3(A,B)****(R,H,S,T)*Z**** CIC A4 or no marking with J-box connected to MVD transmitter only
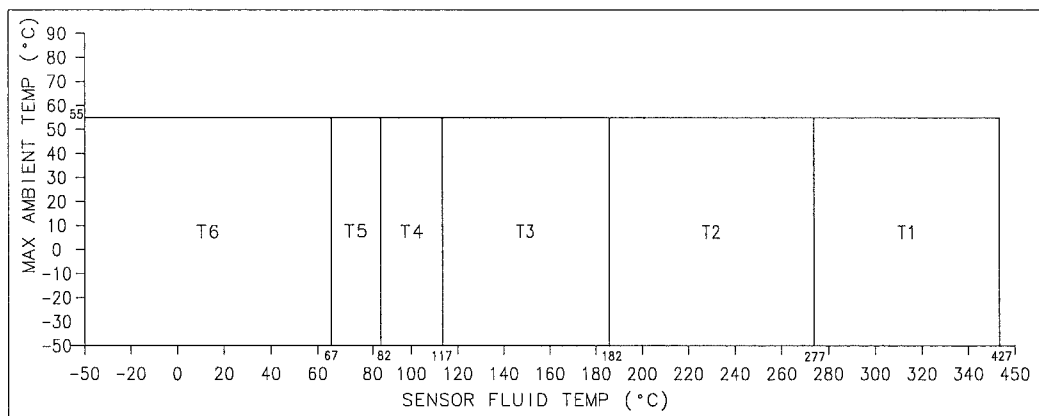

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2: 290 °C and T1: 363 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

2.4.2 For types CMF200(C,E)****(R,H,S,T)*Z**** CIC A5 or no marking and CMF300(C,E)****(R,H,S,T)*Z**** CIC A5 or no marking with J-box and CMF400(C,E)****(R,H,S,T)*Z**** CIC A5 or no marking, CMF800(C,E)****(R,H,S,T)*Z**** CIC A4 or no marking and CMFHC3(C,E)****(R,H,S,T)*Z**** CIC A4 or no marking with J-box connected to MVD transmitter only.

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2: 290 °C and T1: 440 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

3   Type CMF********(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** with Core Processor, inclusive Construction Identification Code (CIC) A4 except type CMF***(A,B,C,E)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****

3.1 Input circuits (terminals 1 - 4)
   Voltage   Ui   DC   17.3 V
     Current   Ii   484   mA
     Power   Pi   2.1   W
     Effective internal capacitance   Ci   2200 pF
     Effective internal inductance   Li   30   µH

3.2 Temperature class/ max. surface temperature T
     The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and are shown in the following graph:

3.2.1 For types CMF010*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****,
       CMF025*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****,
       CMF050*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****,
       CMF100*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****,
       CMF200*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****,
       CMF300*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****,
       CMF100*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****,
       CMF200*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** and
       CMF300*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A4 with integrally mounted core processor
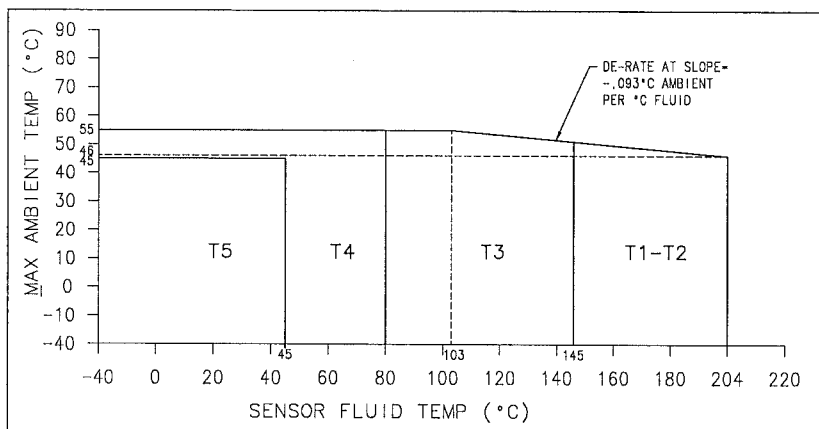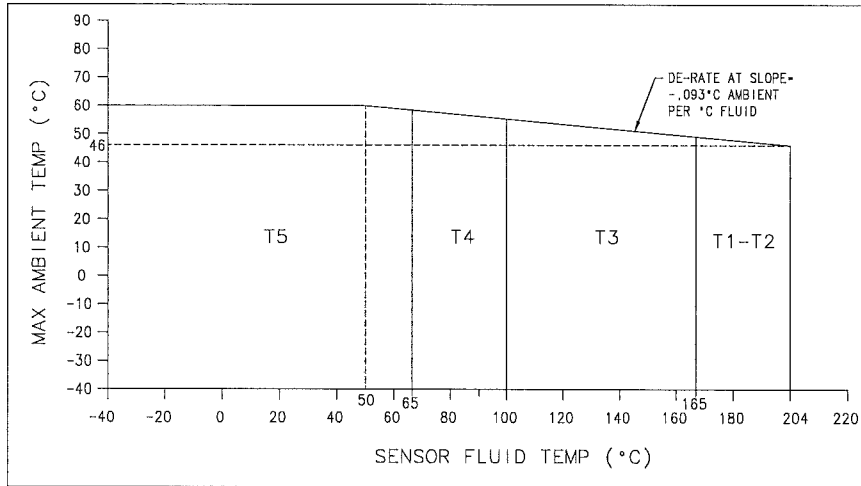

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 to T1: 254 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -40 °C up to +55 °C

3.2.2 For type CMF400*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** with CIC A4 with integrally mounted core processor

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 to T1: 234 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -40 °C up to +60 °C

3.2.3 For type CMF800*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** and CMFHC3*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** with CIC A4 or no marking with integrally mounted core processor

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 to T1: 207 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -40 °C up to +55 °C

▷ DEKRA
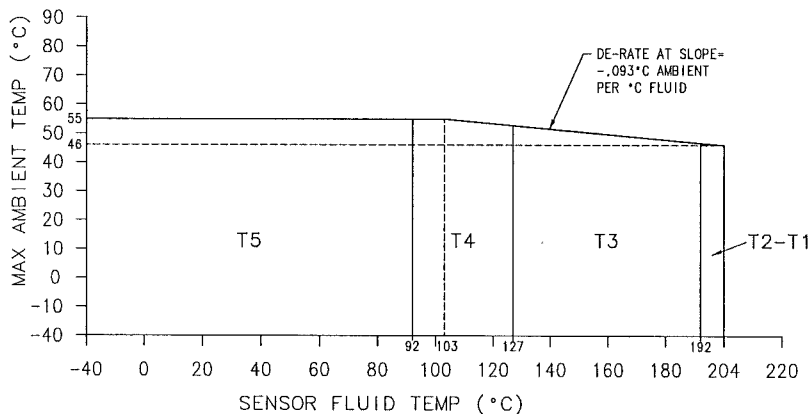
4   Type CMF********(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** with J-box, inclusive Construction Identification Code (CIC) A4 or no marking
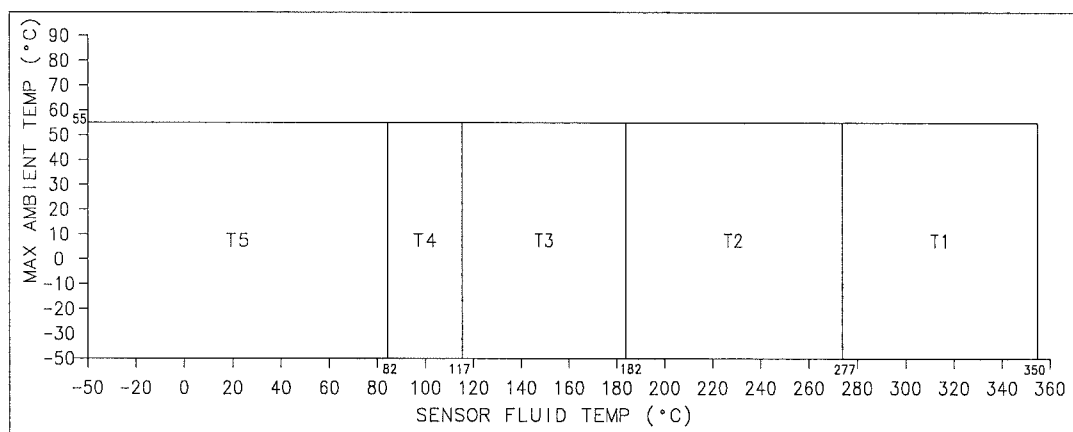
4.1   Input circuits (terminals 1 - 4)

Voltage	U_i	DC	17,3	V
Current	I_i		484	mA
Power	P_i		2,1	W
Effective internal capacitance	C_i		2200	pF
Effective internal inductance	L_i		30	µH

4.2   Temperature class/ max. surface temperature T
The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and are shown in the following graph:

4.2.1 For types CMF200(A,B)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A5 or no marking ,
CMF300(A,B)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A5 or no marking ,
CMF400(A,B)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A5 or no marking ,
CMF800(A,B)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** and
CMFHC3(A,B)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** with integrally mounted core processor
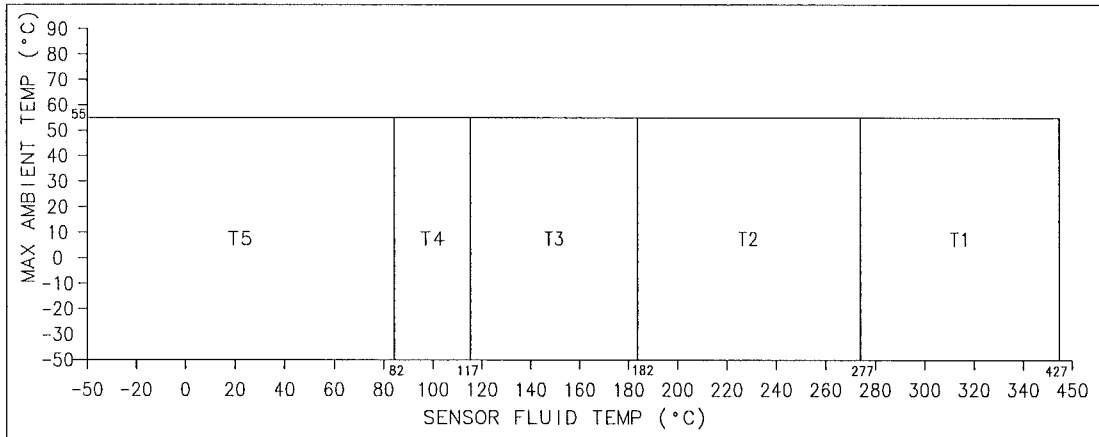

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2: 290 °C and T1: 363 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range	T_a	-50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

4.2.2 For types CMF200(C,E)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A5 or no marking ,
CMF300(C,E)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A5 or no marking ,
CMF400(C,E)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A5 or no marking ,
CMF800(C,E)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** and
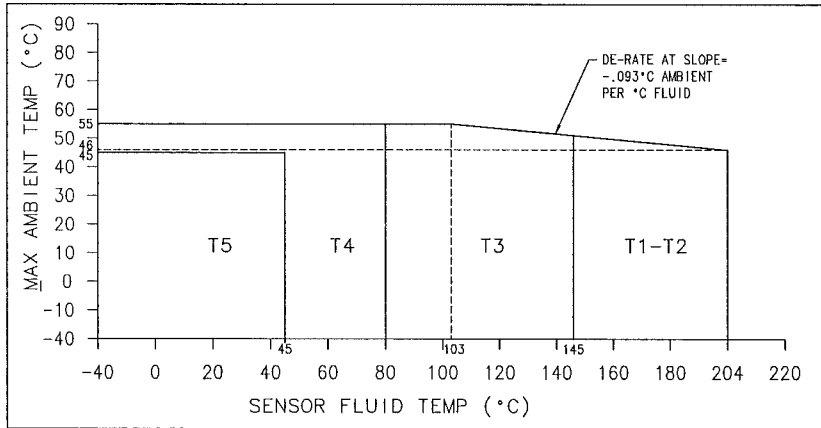CMFHC3(C,E)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** with integrally mounted core processor

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2: 290 °C and T1: 440 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

5   Type CMF********(C,F)*Z**** inclusive Construction Identification Code (CIC) A4 or no marking, except CMF***(A,B,C,E)****(C,F)*Z****

5.1   Electrical parameters see DMT 01 ATEX E 082 X for the transmitter type *700**********

5.2   Temperature class/ max. surface temperature T
The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and are shown in the following graph:

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5.2.1 For types CMF010*****(C,F)*Z****, CMF025*****(C,F)*Z****, CMF050*****(C,F)*Z****,
CMF100*****(C,F)*Z****,CMF200*****(C,F)*Z****,CMF300*****(C,F)*Z****,
CMF100*****(C,F)*Z****, CMF200*****(C,F)*Z**** and
CMF300*****(C,F)*Z**** C.I.C. A4 with integrally mounted transmitter

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 254 °C.
The minimum ambient and process fluid temperature allowed for dust is -40 °C.

5.2.2 For types CMF400*****(C,F)*Z**** CIC A4 or no marking with integrally mounted transmitter

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 234 °C.
The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -40 °C up to +55 °C

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5.2.3 For types CMF800*****(C,F)*Z**** CIC A4 or no marking and CMFHC3*****(C,F)*Z**** CIC A4 or no marking with integrally mounted transmitter
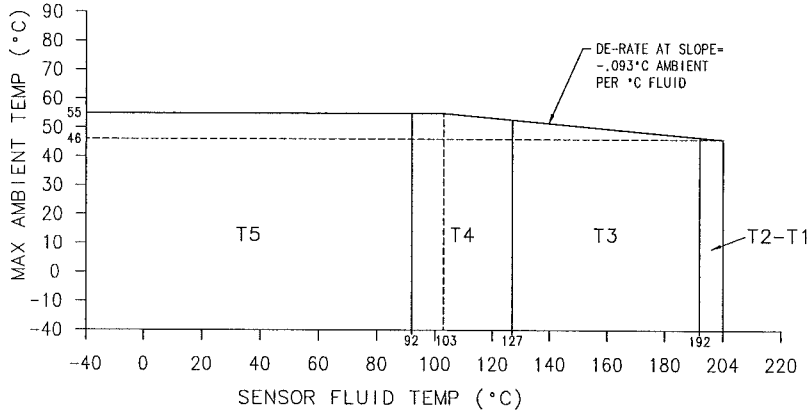

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 207 °C.
The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range	Ta	-40 °C up to +55 °C

6 Type CMF***(A,B,C,E)****(C,F)*Z**** inclusive Construction Identification Code (CIC) A5 or no marking

6.1 Electrical parameters see DMT 01 ATEX E 082 X for the transmitter type *700**********

6.2 Temperature class/ max. surface temperature T
The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and are shown in the following graph:

6.2.1 For types CMF200(A,B)****(C,F)*Z**** CIC A5 or no marking, CMF300(A,B)****(C,F)*Z**** CIC A5 or no marking, CMF400(A,B)****(C,F)*Z**** CIC A5 or no marking and CMF800(A,B)****(C,F)*Z**** and CMFHC3(A,B)****(C,F)*Z**** with integrally mounted transmitter
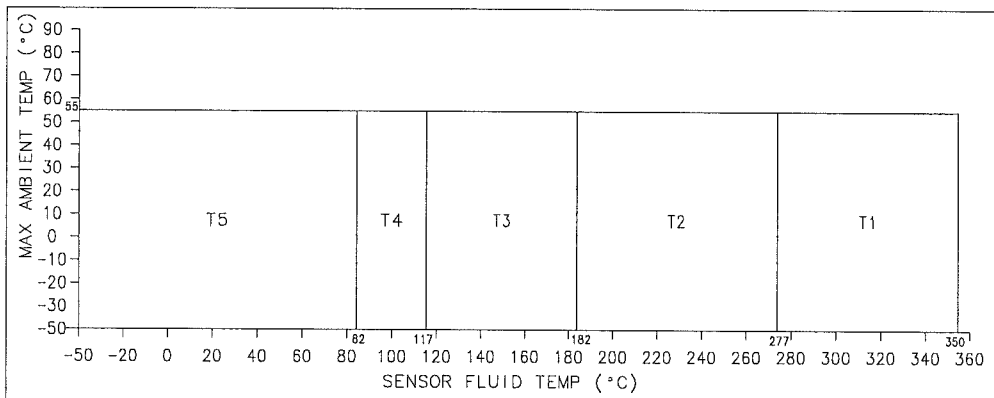
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2: 290 °C and T1: 363 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

6.2.2 For types CMF200(C,E)****(C,F)*Z**** CIC A5 or no marking,
CMF300(C,E)****(C,F)*Z**** CIC A5 or no marking, CMF400(C,E)****(C,F)*Z**** CIC A5 or no marking,
CMF800(C,E)****(C,F)*Z**** and CMFHC3(C,E)****(C,F)*Z**** with integrally mounted transmitter

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2: 290 °C and T1: 440 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

The marking of the equipment shall include the following:

⟨Ex⟩ **II 2G** with additional marking required by the standards mentioned in the following tables:
II 2D **Ex tD A21 IP65 T [3) °C**

Type	Type of protection gas
CMF010*****[1)]*Z****	Ex ib IIC T1-T6
CMF025*****[1)]*Z****	Ex ib IIC T1-T6
CMF050*****[1)]*Z****	Ex ib IIC T1-T6
CMF100*****[1)]*Z****	Ex ib IIC T1-T6
CMF200*****[1)]*Z****	Ex ib IIB T1-T6
CMF200*****[1)]*Z**** CIC A4	Ex ib IIC T1-T6
CMF200[4)]****[1)]*Z****	Ex ib IIB T1-T6
CMF200[4)]****[1)]*Z**** CIC A5	Ex ib IIB T1-T6
CMF300*****[1)]*Z****	Ex ib IIB T1-T6
CMF300*****[1)]*Z**** CIC A4	Ex ib IIC T1-T6
CMF300[4)]****[1)]*Z****	Ex ib IIB T1-T6
CMF300[4)]****[1)]*Z**** CIC A5	Ex ib IIB T1-T6

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Type	Type of protection gas
CMF800*****1)*Z**** CIC A4	Ex ib IIC T1-T6
CMF8004)****1)*Z****	Ex ib IIB T1-T6
CMF8004)****1)*Z**** CIC A4	Ex ib IIC T1-T6
CMFHC3*****1)*Z****	Ex ib IIB T1-T6
CMFHC3*****1)*Z**** CIC A4	Ex ib IIC T1-T6
CMFHC34)****1)*Z****	Ex ib IIB T1-T6
CMFHC34)****1)*Z**** CIC A4	Ex ib IIC T1-T6
CMF010*****2)*Z****	Ex ib IIC T1-T5
CMF025*****2)*Z****	Ex ib IIC T1-T5
CMF050*****2)*Z****	Ex ib IIC T1-T5
CMF100*****2)*Z****	Ex ib IIC T1-T5
CMF100*****2)*Z**** CIC A4	Ex ib IIC T1-T5
CMF200*****2)*Z****	Ex ib IIB T1-T5
CMF200*****2)*Z**** CIC A4	Ex ib IIC T1-T5
CMF2004)****2)*Z****	Ex ib IIB T1-T5
CMF2004)****2)*Z**** CIC A5	Ex ib IIB T1-T5
CMF300*****2)*Z****	Ex ib IIB T1-T5
CMF300*****2)*Z**** CIC A4	Ex ib IIC T1-T5
CMF3004)****2)*Z****	Ex ib IIB T1-T5
CMF3004)****2)*Z**** CIC A5	Ex ib IIB T1-T5
CMF400*****2)*Z****	Ex ib IIB T1-T5
CMF400*****2)*Z**** CIC A4	Ex ib IIC T1-T5
CMF4004)****2)*Z****	Ex ib IIB T1-T5
CMF4004)****2)*Z**** CIC A5	Ex ib IIB T1-T5
CMF800*****2)*Z****	Ex ib IIB T1-T5
CMF800*****2)*Z**** CIC A4	Ex ib IIC T1-T5
CMF8004) ****2)*Z****	Ex ib IIB T1-T5
CMFHC3*****2)*Z****	Ex ib IIB T1-T5
CMFHC3*****2)*Z**** CIC A4	Ex ib IIC T1-T5
CMFHC34)****2)*Z****	Ex ib IIB T1-T5

For sensors with J-box connected to non-MVD transmitters (i. e. 9739) is valid:

Type	Type of protection gas	Min. ambient/fluid temp. gas
CMF010*****1)*Z****	Ex ib IIC T1-T6	-240 °C
CMF025*****1)*Z****	Ex ib IIC T1-T6	-240 °C
CMF050*****1)*Z****	Ex ib IIC T1-T6	-240 °C
CMF100*****1)*Z****	Ex ib IIC T1-T6	-40 °C
CMF100*****1)*Z**** CIC A4	Ex ib IIC T1-T6	-240 °C
CMF200*****1)*Z****	Ex ib IIB T1-T6	-55 °C
CMF200*****1)*Z**** CIC A4	Ex ib IIC T1-T6	-240 °C
CMF2004)****1)*Z****	Ex ib IIB T1-T6	-50 °C
CMF2004)****1)*Z**** CIC A5	Ex ib IIB T1-T6	-50 °C
CMF300*****1)*Z****	Ex ib IIB T1-T6	-55 °C
CMF300*****1)*Z**** CIC A4	Ex ib IIC T1-T6	-240 °C
CMF3004)****1)*Z****	Ex ib IIB T1-T6	-50 °C
CMF3004)****1)*Z**** CIC A5	Ex ib IIB T1-T6	-50 °C

For sensors with J-box connected to MVD transmitters is valid:

Type	Type of protection gas	Min. ambient/fluid temp. gas
CMF010*****[1]*Z****	Ex ib IIC T1-T6	-240 °C
CMF025*****[1]*Z****	Ex ib IIC T1-T6	-240 °C
CMF050*****[1]*Z****	Ex ib IIC T1-T6	-240 °C
CMF100*****[1]*Z****	Ex ib IIC T1-T6	-60 °C
CMF100*****[1]*Z**** CIC A4	Ex ib IIC T1-T6	-240 °C
CMF200*****[1]*Z****	Ex ib IIB T1-T6	-55 °C
CMF200*****[1]*Z**** CIC A4	Ex ib IIC T1-T6	-240 °C
CMF200[4]****[1]*Z****	Ex ib IIB T1-T6	-50 °C
CMF200[4]****[1]*Z**** CIC A5	Ex ib IIB T1-T6	-50 °C
CMF300*****[1]*Z****	Ex ib IIB T1-T6	-55 °C
CMF300*****[1]*Z**** CIC A4	Ex ib IIC T1-T6	-240 °C
CMF300[4]****[1]*Z****	Ex ib IIB T1-T6	-50 °C
CMF300[4]****[1]*Z**** CIC A5	Ex ib IIB T1-T6	-50 °C
CMF400*****[1]*Z****	Ex ib IIB T1-T6	-68 °C
CMF400*****[1]*Z**** CIC A4	Ex ib IIC T1-T6	-240 °C
CMF400[4]****[1]*Z****	Ex ib IIB T1-T6	-50 °C
CMF400[4]****[1]*Z**** CIC A5	Ex ib IIB T1-T6	-50 °C
CMF800*****[1]*Z****	Ex ib IIB T1-T6	-50 °C
CMF800*****[1]*Z**** CIC A4	Ex ib IIC T1-T6	-240 °C
CMF800[4]****[1]*Z****	Ex ib IIB T1-T6	-50 °C
CMF800[4]****[1]*Z**** CIC A4	Ex ib IIC T1-T6	-50 °C
CMFHC3*****[1]*Z****	Ex ib IIB T1-T6	-50 °C
CMFHC3*****[1]*Z**** CIC A4	Ex ib IIC T1-T6	-240 °C
CMFHC3[4]****[1]*Z****	Ex ib IIB T1-T6	-50 °C
CMFHC3[4]****[1]*Z**** CIC A4	Ex ib IIC T1-T6	-50 °C

[1]   At this place the letter R, H, S or T will be inserted.

[2]   At this place the numeral 2, 3, 4, 5, 6, 7, 8 or 9 or the letter A, B, D, E, Q, V, W or Y will be inserted.

[3]   Max. surface temperature T for dust see temperature graphs and manufacturer's instructions. Min. ambient and process temperature for dust is -40 °C.

[4]   At this place the letter A, B, C or E will be inserted.

Special conditions for safe use

By mounting the sensor type CMF********(C,F)*Z**** directly to the transmitter *700********** the use of the unit will be modified according to the following:

	Sensor type	
Transmitter type	CMF010*****(C,F)*Z**** CMF025*****(C,F)*Z**** CMF050*****(C F)*Z**** CMF100*****(C,F)*Z**** CMF100*****(C,F)*Z**** CIC A4 CMF200*****(C,F)*Z**** CIC A4 CMF300*****(C,F)*Z**** CIC A4 CMF400*****(C,F)*Z**** CIC A4 CMF800*****(C,F)*Z**** CIC A4 CMFHC3*****(C,F)*Z**** CIC A4	CMF200*****(C,F)*Z**** CMF300*****(C,F)*Z**** CMF400*****(C,F)*Z**** CMF200(A,B,C,E)*****(C,F)*Z**** CMF200(A,B,C,E)****(C,F)*Z**** CIC A5 CMF300(A,B,C,E)*****(C,F)*Z**** CMF300(A,B,C,E)****(C,F)*Z**** CIC A5 CMF400(A,B,C,E)*****(C,F)*Z**** CMF400(A,B,C,E)****(C,F)*Z**** CIC A5 CMF800(A,B,C,E)*****(C,F)*Z**** CMFHC3(A,B,C,E)*****(C,F)*Z****
*700*1[1]*******	Ex ib IIB+H$_2$ T1-T5 Ex tD A21 IP65 T [3] °C	Ex ib IIB T1-T5 Ex tD A21 IP65 T [3] °C
*700*1[2]*******	Ex ib IIC T1-T5 Ex tD A21 IP65 T [3] °C	Ex ib IIB T1-T5 Ex tD A21 IP65 T [3] °C

[1]   At this place the numeral 1 or 2 will be inserted.

[2]   At this place the numeral 3, 4 or 5 will be inserted.

[3]   Max. surface temperature T for dust see temperature graphs and manufacturer's instructions.

Test and assessment report
BVS PP 06.2035 EG as of 23.10.2007

DEKRA EXAM GmbH
Bochum, dated 23. October 2007

Signed: **Dr, Jockers**
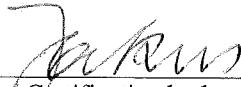
Signed: **Dr. Eickhoff**

_____
Certification body

_____
Special services unit

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 23. 10. 2007
BVS-Schu/Mi   A 20070575

DEKRA EXAM GmbH

_____
Certification body

_____
Special services unit

DEKRA

Translation

3rd Supplement

(Supplement in accordance with Directive 94/9/EC Annex III number 6)

to the EC-Type Examination Certificate
BVS 06 ATEX E 045 X

Equipment: **Sensor type CMF**************

Manufacturer: **Micro Motion, Inc.**

Address: **Boulder, Co. 80301, USA**

Description

The sensor can be modified according to the descriptive documents as mentioned in the pertinent test and assessment report. Versions type CMF800*******Z**** have been removed.
New versions type CMF**********6**** (CMF100/200/300/400/HC2/HC3 for gas group IIC),
type CMF********J****** and type CMF********U******, type CMFHC2************ and
CMFHC3************ with Construction Identification Code CIC A6 have been added.

The Essential Health and Safety Requirements of the modified equipment are assured by compliance with:

EN 60079-0:2006   General requirements
EN 60079-11:2007   Intrinsic safety 'i'
EN 61241-0 2006   General requirements
EN 61241-1 2004   Protection by enclosures 'tD'

Modified Parameters

1   Type CMF********(R,H,S,T)****** with J-box, inclusive Construction Identification Code (CIC) A4 except type CMF***(A,B,C,E)****(R,H,S,T)******

1.1   Drive circuit (connections 1 - 2 or red and brown)

Voltage	U_i	DC	11.4	V
Current	I_i		2.45	A
Power	P_i		2.54	W
Internal capacitance	C_i	negligible		

Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
CMF010*****(R,H,S,T)*Z****	2.51	78.7	948.9	-40
CMF010*****(R,H,S,T)*Z****	2.51	0	945.1	-240
CMF025*****(R,H,S,T)*Z****	2.51	78.7	170.8	-40
CMF025*****(R,H,S,T)*Z****	2.51	0	170.1	-240
CMF050*****(R,H,S,T)*Z****	2.51	78.7	170.8	-40
CMF050*****(R,H,S,T)*Z****	2.51	0	170.1	-240
CMF100*****(R,H,S,T)*Z****	6.7	58.4	89.0	-40
CMF100*****(R,H,S,T)*Z****	6.7	52.4	89.0	-60
CMF100*****(R,H,S,T)*Z**** CIC A4	6.7	0	177.0	-240
CMF100*****(R,H,S,T)*6****	6.7	0	177.0	-240
CMF200*****(R,H,S,T)*Z****	9.5	92.9	0	-40
CMF200*****(R,H,S,T)*Z****	9.5	85.8	0	-55
CMF200*****(R,H,S,T)*Z**** CIC A4	9.5	0	177.0	-240
CMF200*****(R,H,S,T)*6****	9.5	0	177.0	-240
CMF300*****(R,H,S,T)*Z****	9.5	92.9	0	-40
CMF300*****(R,H,S,T)*Z****	9.5	85.8	0	-55
CMF300*****(R,H,S,T)*Z**** CIC A4	9.5	0	177.0	-240
CMF300*****(R,H,S,T)*6****	9.5	0	177.0	-240
CMF400*****(R,H,S,T)*Z****	11.75	83.5	19.8	-40
CMF400*****(R,H,S,T)*Z****	11.75	71.4	19.8	-68
CMF400 *****(R,H,S,T)*Z**** CIC A4	11.75	0	187.1	-240
CMF400 *****(R,H,S,T)*6****	11.75	0	187.1	-240
CMFHC2*****(R,H,S,T)*Z****	5.0	19.5	38.5	-50
CMFHC2*****(R,H,S,T)*Z**** CIC A4	5.0	0	126.0	-240
CMFHC2*****(R,H,S,T)*6****	5.0	0	126.0	-240
CMFHC3*****(R,H,S,T)*Z****	5.0	19.5	38.5	-50
CMFHC3*****(R,H,S,T)*Z**** CIC A4	5.0	0	126.0	-240
CMFHC3*****(R,H,S,T)*6****	5.0	0	126.0	-240

1.2   Pick-Off coil (Terminals 5/9 and 6/8 or wires green/white and blue/grey)

Voltage	U_i	DC	30	V
Current	I_i		101	mA
Power	P_i		750	mW
Internal capacitance	C_i	negligible		

Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
CMF010*****(R,H,S,T)*Z****	2.51	78.7	0	-40
CMF010*****(R,H,S,T)*Z****	2.51	0	0	-240
CMF025*****(R,H,S,T)*Z****	2.51	78.7	0	-40
CMF025*****(R,H,S,T)*Z****	2.51	0	0	-240
CMF050*****(R,H,S,T)*Z****	2.51	78.7	0	-40
CMF050*****(R,H,S,T)*Z****	2.51	0	0	-240
CMF100*****(R,H,S,T)*Z****	0.441	11.1	0	-40
CMF100*****(R,H,S,T)*Z****	0.441	9.9	0	-60
CMF100*****(R,H,S,T)*Z**** CIC A4	0.441	0	0	-240
CMF100*****(R,H,S,T)*6****	0.441	0	0	-240
CMF200*****(R,H,S,T)*Z****	2.0	41.9	0 to 567.9	-40
CMF200*****(R,H,S,T)*Z****	2.0	38.7	0 to 567.9	-55
CMF200*****(R,H,S,T)*Z**** CIC A4	2.0	0	0 to 567.9	-240
CMF200*****(R,H,S,T)*6****	2.0	0	0 to 567.9	-240
CMF300*****(R,H,S,T)*Z****	2.0	41.9	0 to 567.9	-40
CMF300*****(R,H,S,T)*Z****	2.0	38.7	0 to 567.9	-55
CMF300*****(R,H,S,T)*Z**** CIC A4	2.0	0	0 to 567.9	-240
CMF300*****(R,H,S,T)*6****	2.0	0	0 to 567.9	-240
CMF400*****(R,H,S,T)*Z****	12.4	128.3	0 to 566.4	-40
CMF400*****(R,H,S,T)*Z****	12.4	109.8	0 to 566.4	-68
CMF400*****(R,H,S,T)*Z**** CIC A4	12.4	0	0 to 566.4	-240
CMF400*****(R,H,S,T)*6****	12.4	0	0 to 566.4	-240
CMFHC2*****(R,H,S,T)*Z****	2.8	49.2	42.6 to 566.4	-50
CMFHC2*****(R,H,S,T)*Z**** CIC A4	2.8	0	198.4 to 566.4	-240
CMFHC2*****(R,H,S,T)*6****	2.8	0	198.4 to 566.4	-240
CMFHC3*****(R,H,S,T)*Z****	2.8	49.2	42.6 to 566.4	-50
CMFHC3*****(R,H,S,T)*Z**** CIC A4	2.8	0	198.4 to 566.4	-240
CMFHC3*****(R,H,S,T)*6****	2.8	0	198.4 to 566.4	-240

1.3   Temperature circuits (terminals 3, 4 and 7 or wires orange, yellow and violet)

Voltage U_i DC   30   V
Current I_i 101   mA
Power P_i 750   mW

Internal capacitance C_i negligible
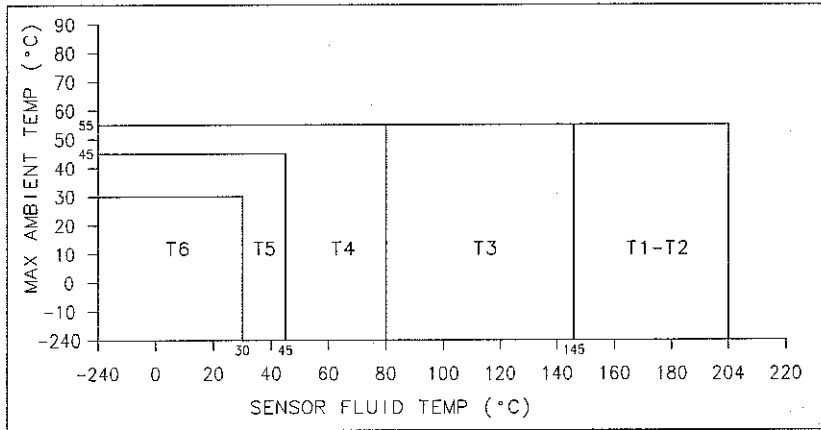Internal inductance L_i negligible

1.4   Temperature class / max. surface temperature T

The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graph:

1.4.1 For types CMF100*****(R,H,S,T)****** with J-box connected to non-MVD transmitters (i.e. 9739)
for types CMF100*****(R,H,S,T)****** with J-box connected to MVD transmitters,
for types CMF200*****(R,H,S,T)****** and CMF300*****(R,H,S,T)*Z**** with J-box and
for types CMF400*****(R,H,S,T)****** with J-box connected to MVD transmitters

Not changed

1.4.2 For types CMF100*****(R,H,S,T)*Z****, CMF100*****(R,H,S,T)*Z**** and CMF300*****(R,H,S,T)*Z**** with Construction Identification Code (CIC) marking A4 and for types CMF100*****(R,H,S,T)*6****, CMF200*****(R,H,S,T)*6**** and CMF300*****(R,H,S,T)*6*** with J-box

Note: Use the graph above to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust for types CMF*********Z****is as follows: T6: 80 °C,
T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 254 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -240 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

1.4.3 For types CMF400*****(R,H,S,T)*Z**** with Construction Identification Code (CIC) marking A4 and type CMF400*****(R,H,S,T)*6**** with J-box connected to MVD transmitters
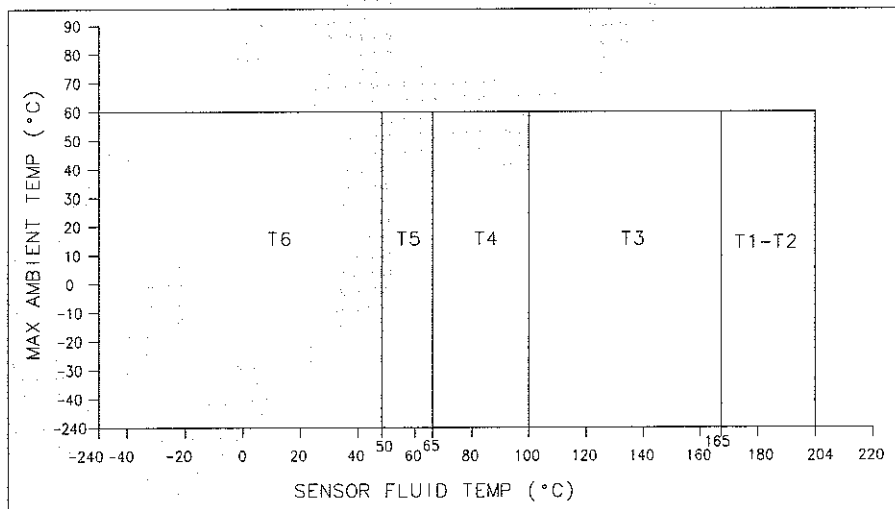
Note: Use the graph above to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust for type CMF400*****Z**** is as follows: T6: 80 °C, T5: 95 °C,
T4: 130 °C, T3: 195 °C, T2 and T1: 234 °C. The minimum ambient and process fluid temperature allowed for
dust is -40 °C.

Ambient temperature range   Ta   -240 °C up to +60 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not
exceed the maximum temperature of the medium taking into account the temperature classification and the
maximum operating temperature of the sensor.

1.4.4   For types CMFHC2*****(R,H,S,T)*Z**** and CMFHC3*****(R,H,S,T)*Z**** with J-box connected to
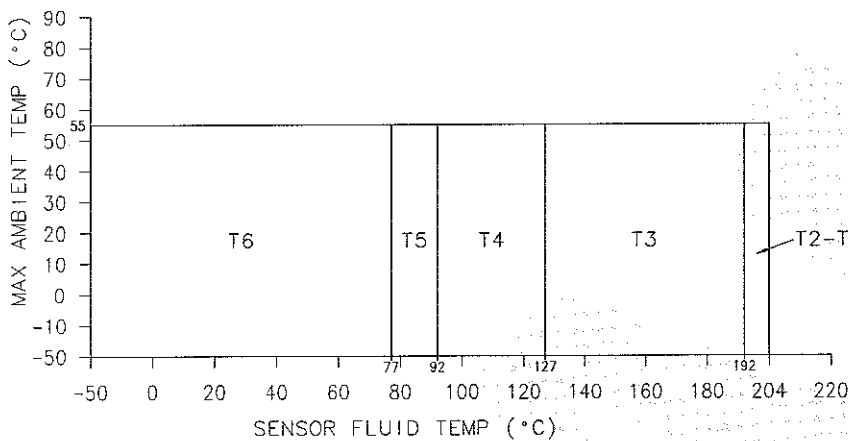   MVD transmitters

Note: Use the graph above to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C,
T2 and T1: 207 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not
exceed the maximum temperature of the medium taking into account the temperature classification and the
maximum operating temperature of the sensor.

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DEKRA EXAM GmbH   Dinnendahlstrasse 9   44809 Bochum   Germany   Phone +49 234/3696-105   Fax +49 234/3696-110   E-mail zs-exam@dekra.com
(until 31.03.2007 EXAM BBG Prüf- und Zertifizier GmbH)

1.4.5 For types CMFHC2*****(R,H,S,T)*Z**** and CMFHC3*****(R,H,S,T)*Z**** with Construction Identification Code (CIC) marking A4 and types CMFHC2*****(R,H,S,T)*6**** and CMFHC3*****(R,H,S,T)*6****with J-box connected to MVD transmitters
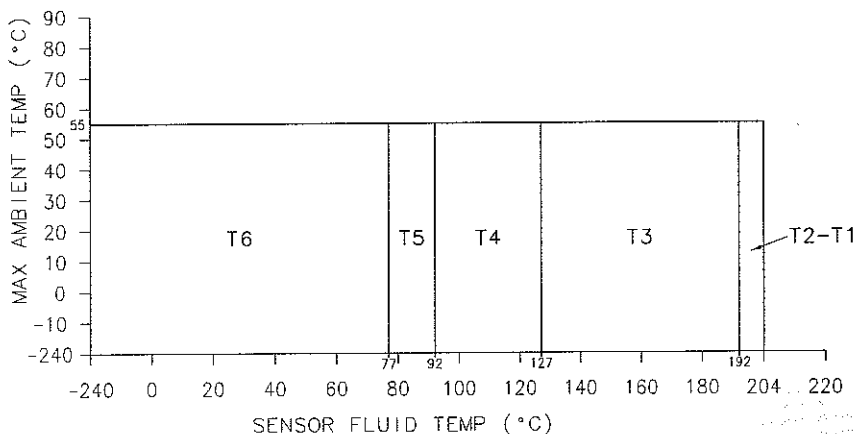

Note: Use the graph above to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust for types CMF*********Z**** is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 207 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -240 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

2   Type CMF***(A,B,C,E)****(R,H,S,T)****** with J-box

2.1   Drive circuit (connections 1 - 2 or red and brown)

Voltage	U_i	DC	11.4	V
Current	I_i		2.45	A
Power	P_i		2.54	W
effective internal capacitance	C_i	negligible		

▷ DEKRA

Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
CMF200(A,B,C,E)****(R,H,S,T)*Z****	4.01	32.2	19.8	-50
CMF200(A,B,C,E)****(R,H,S,T)*Z**** CIC A5	1.1	15.4	9.6	-50
CMF200(A,B,C,E)****(R,H,S,T)*Z**** CIC A4	1.1	15.4	41	-50
CMF200(A,B,C,E)****(R,H,S,T)*6****	1.1	15.4	41	-50
CMF300(A,B,C,E)****(R,H,S,T)*Z****	4.01	32.3	19.8	-50
CMF300(A,B,C,E)****(R,H,S,T)*Z**** CIC A5	1.1	15.4	9.6	-50
CMF300(A,B,C,E)****(R,H,S,T)*Z**** CIC A4	1.1	15.4	41	-50
CMF300(A,B,C,E)****(R,H,S,T)*6****	1.1	15.4	41	-50
CMF400(A,B,C,E)****(R,H,S,T)*Z****	7.75	54.3	19.8	-50
CMF400(A,B,C,E)****(R,H,S,T)*Z**** CIC A5	3.4	35.2	12.8	-50
CMF400(A,B,C,E)****(R,H,S,T)*Z**** CIC A4	3.4	35.2	63.2	-50
CMF400(A,B,C,E)****(R,H,S,T)*6****	3.4	35.2	63.2	-50
CMFHC2(A,B,C,E)****(R,H,S,T)*Z****	5.95	51.3	12.8	-50
CMFHC2(A,B,C,E)****(R,H,S,T)*Z**** CIC A4	5.95	51.3	88.9	-50
CMFHC2(A,B,C,E)****(R,H,S,T)*6****	5.95	51.3	88.9	-50
CMFHC2(A,B,C,E)****(R,H,S,T)*Z**** CIC A6	7.75	54.3	24.7	-50
CMFHC2(A,B,C,E)****(R,H,S,T)*6**** CIC A6	7.75	54.3	106.7	-50
CMFHC3(A,B,C,E)****(R,H,S,T)*Z****	5.95	51.3	12.8	-50
CMFHC3(A,B,C,E)****(R,H,S,T)*Z**** CIC A4	5.95	51.3	88.9	-50
CMFHC3(A,B,C,E)****(R,H,S,T)*6****	5.95	51.3	88.9	-50
CMFHC3(A,B,C,E)****(R,H,S,T)*Z**** CIC A6	7.75	54.3	24.7	-50
CMFHC3(A,B,C,E)****(R,H,S,T)*6**** CIC A6	7.75	54.3	106.7	-50

2.2   Pick-Off coil (Terminals 5/9 and 6/8 or wires green/white and blue/grey)

Voltage U_i DC   30   V
Current I_i 101   mA
Power P_i 750   mW

Internal capacitance C_i negligible

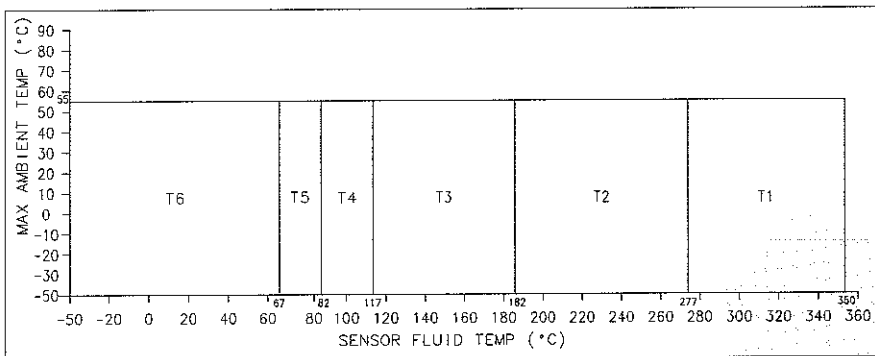| Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
CMF200(A,B,C,E)****(R,H,S,T)*Z****	1.25	15.4	569.2	-50
CMF200(A,B,C,E)****(R,H,S,T)*Z**** CIC A5	0.50	8.0	569.2	-50
CMF200(A,B,C,E)****(R,H,S,T)*Z**** CIC A4	0.50	8.0	569.2	-50
CMF200(A,B,C,E)****(R,H,S,T)*6****	0.50	8.0	569.2	-50
CMF300(A,B,C,E)****(R,H,S,T)*Z****	1.25	15.4	569.2	-50
CMF300(A,B,C,E)****(R,H,S,T)*Z**** CIC A5	0.50	8.0	569.2	-50
CMF300(A,B,C,E)****(R,H,S,T)*Z**** CIC A4	0.50	8.0	569.2	-50
CMF300(A,B,C,E)****(R,H,S,T)*6****	0.50	8.0	569.2	-50
CMF400(A,B,C,E)****(R,H,S,T)*Z****	6.50	41.1	569.2	-50
CMF400(A,B,C,E)****(R,H,S,T)*Z**** CIC A5	1.10	15.4	569.2	-50
CMF400(A,B,C,E)****(R,H,S,T)*Z**** CIC A4	1.10	15.4	569.2	-50
CMF400(A,B,C,E)****(R,H,S,T)*6****	1.10	15.4	569.2	-50
CMFHC2(A,B,C,E)****(R,H,S,T)*Z****	0.85	9.1	42.6	-50
CMFHC2(A,B,C,E)****(R,H,S,T)*Z**** CIC A4	0.85	9.1	42.6	-50
CMFHC2(A,B,C,E)****(R,H,S,T)*6****	0.85	9.1	42.6	-50
CMFHC2(A,B,C,E)****(R,H,S,T)*Z**** CIC A6	0.85	9.1	42.6	-50
CMFHC2(A,B,C,E)****(R,H,S,T)*6**** CIC A6	0.85	9.1	42.6	-50
CMFHC3(A,B,C,E)****(R,H,S,T)*Z****	0.85	9.1	42.6	-50
CMFHC3(A,B,C,E)****(R,H,S,T)*Z**** CIC A4	0.85	9.1	42.6	-50
CMFHC3(A,B,C,E)****(R,H,S,T)*6****	0.85	9.1	42.6	-50
CMFHC3(A,B,C,E)****(R,H,S,T)*Z**** CIC A6	0.85	9.1	42.6	-50
CMFHC3(A,B,C,E)****(R,H,S,T)*6**** CIC A6	0.85	9.1	42.6	-50

2.3   Temperature circuits (terminals 3, 4 and 7 or wires orange, yellow and violet)

Voltage U_i DC   30   V

Current I_i 101   mA

Power P_i 750   mW

Internal capacitance C_i negligible

Internal inductance L_i negligible

2.4   Temperature class / max. surface temperature T

The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graph:

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2.4.1

For types CMF200(A,B)****(R,H,S,T)*Z**** CIC A4 or CIC A5 or no marking and
CMF300(A,B)****(R,H,S,T)*Z**** CIC A4 or CIC A5 or no marking with J-box and
CMF400(A,B)****(R,H,S,T)*Z**** CIC A4 or CIC A5 or no marking,
CMFHC2(A,B)****(R,H,S,T)*Z**** CIC A4 or CIC A6 or no marking and
CMFHC3(A,B)****(R,H,S,T)*Z**** CIC A4 or CIC A6or no marking with J-box connected to MVD
transmitter only and
for types CMF200(A,B)****(R,H,S,T)*6**** and CMF300(A,B)****(R,H,S,T)*6**** with J-box and
CMF400(A,B)****(R,H,S,T)*6****, CMFHC2(A,B)****(R,H,S,T)*6**** CIC A6 or no marking and
CMFHC3(A,B)****(R,H,S,T)*6**** CIC A6or no marking with J-box connected to MVD transmitter only

Graph: MAX AMBIENT TEMP (°C) on vertical axis (from -50 to 90), SENSOR FLUID TEMP (°C) on horizontal axis (from -50 to 360). Temperature class regions: T6, T5, T4, T3, T2, T1. Horizontal line at 55. Vertical boundaries at 67, 82, 117, 182, 277, 350.
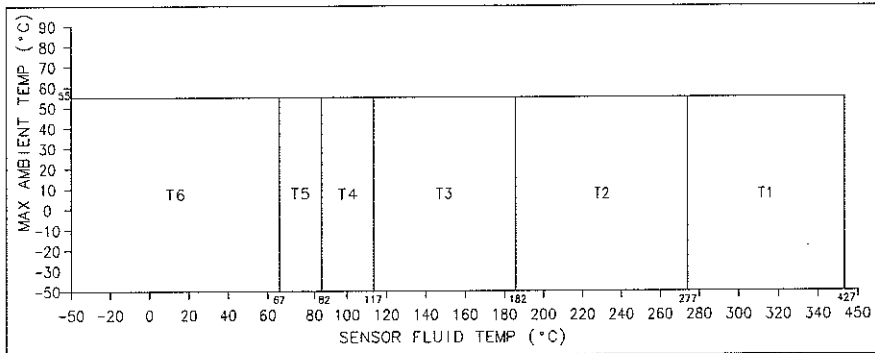
Note: Use the graph above to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust for types CMF*********Z****is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2: 290 °C and T1: 363 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

| Ambient temperature range | Ta | -50 °C up to +55 °C |

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

2.4.2

For types CMF200(C,E)****(R,H,S,T)*Z**** CIC A4 or CIC A5 or no marking and
CMF300(C,E)****(R,H,S,T)*Z**** CIC A4 or CIC A5 or no marking wih J-box and
CMF400(C,E)****(R,H,S,T)*Z**** CIC A4 or CIC A5 or no marking,
CMFHC2(C,E)****(R,H,S,T)*Z**** CIC A4 or CIC A6 or no marking and
CMFHC3(C,E)****(R,H,S,T)*Z**** CIC A4 or CIC A6 or no marking with J-box connected to MVD
transmitter only and
for types CMF200(C,E)****(R,H,S,T)*6**** and CMF300(C,E)****(R,H,S,T)*6**** wih J-box and
CMF400(C,E)****(R,H,S,T)*6****, CMFHC2(C,E)****(R,H,S,T)*6**** CIC A6 or no marking and
CMFHC3(C,E)****(R,H,S,T)*6**** CIC A6 or no marking with J-box connected to MVD transmitter only

Note: Use the graph above to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust for types CMF*********Z****is as follows: T6: 80 °C,
T5: 95 °C, T4: 130 °C, T3: 195 °C, T2: 290 °C and T1: 440 °C. The minimum ambient and process fluid
temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not
exceed the maximum temperature of the medium taking into account the temperature classification and the
maximum operating temperature of the sensor.

3   Type CMF********(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)****** with J-box, inclusive Construction
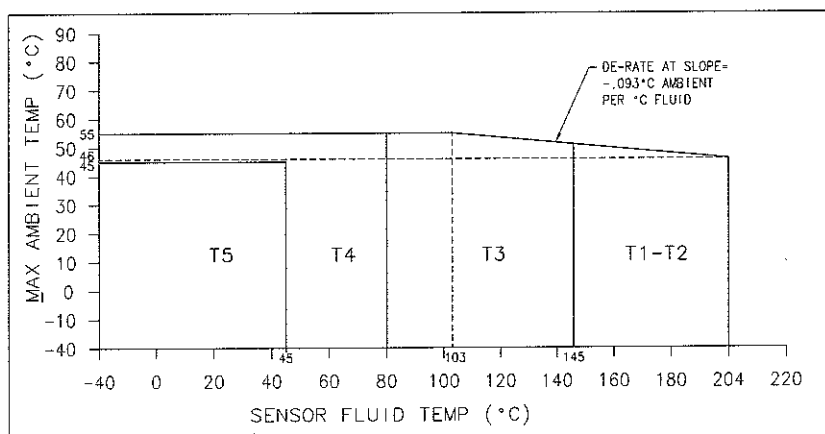   Identification Code (CIC) A4 except type CMF***(A,B,C,E)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)******

3.1   Input circuits (terminals 1 - 4)
        Voltage U_i DC   17.3   V
        Current I_i 484   mA
        Power P_i 2.1   W

        Internal capacitance C_i 2200   pF
        Internal inductance L_i 30   µH

3.2   Temperature class/ max. surface temperature T
        The classification into a temperature class/determination of the maximum surface temperature T depends
        on the temperature of the medium taking into account the maximum operating temperature of the sensor
        and are shown in the following graph:

3.2.1   For types CMF010*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****,
        CMF025*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****,
        CMF050****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****,
        CMF100*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****,
        CMF200*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****,
        CMF300*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** and
        CMF100*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****,
        CMF200*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****,
        CMF300*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A4 and
        CMF200*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6****,
        CMF300*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6**** with integrally mounted core processor
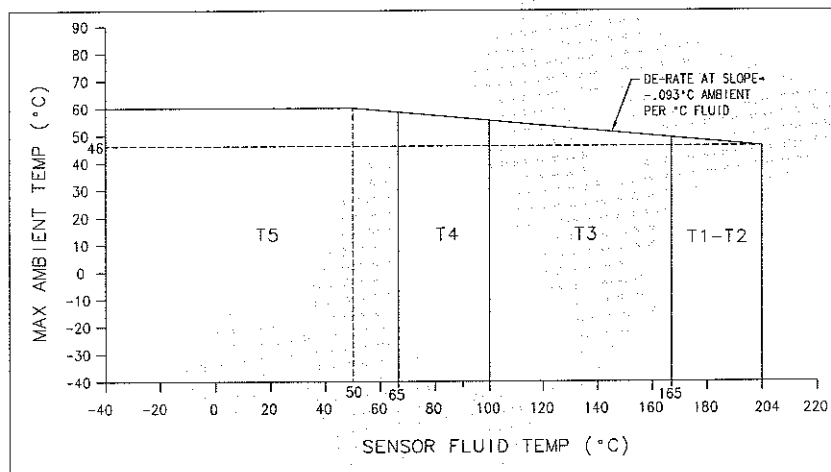
Note: Use the graph above to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust for types CMF*********Z**** is as follows: T5: 95 °C,
T4: 130 °C, T3: 195 °C, T2 to T1: 254 °C. The minimum ambient and process fluid temperature allowed for dust
is -40 °C.

Ambient temperature range   Ta   -40 °C up to +55 °C

3.2.2   For type CMF400*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** with CIC A4 and
        CMF400*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6**** with integrally mounted core processor
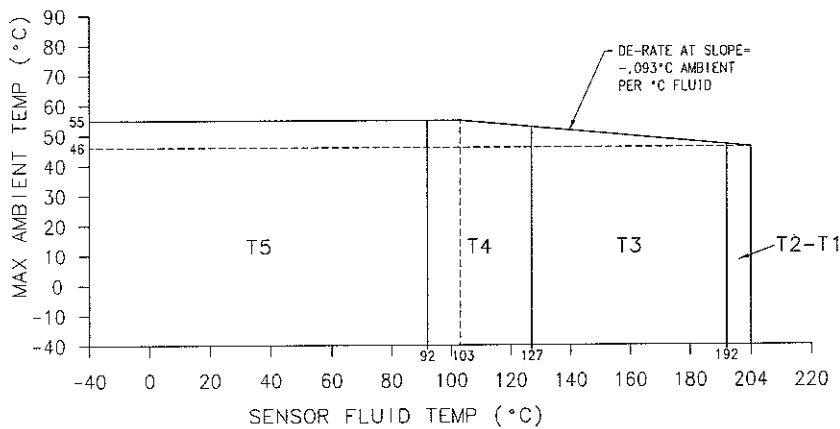

Note: Use the graph above to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust for types CMF*********Z**** is as follows: T5: 95 °C,
T4: 130 °C, T3: 195 °C, T2 to T1: 234 °C. The minimum ambient and process fluid temperature allowed for dust
is -40 °C.

Ambient temperature range   Ta   -40 °C up to +60 °C

3.2.3   For type CMFHC2*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** and
        CMFHC3*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** with CIC A4 or no marking and
        CMFHC2*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6**** and
        CMFHC3*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6**** with integrally mounted core processor

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Note: Use the graph above to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust for types CMF*********Z**** is as follows: T5: 95 °C,
T4: 130 °C, T3: 195 °C, T2 to T1: 207 °C. The minimum ambient and process fluid temperature allowed for dust
is -40 °C.

Ambient temperature range	Ta		-40 °C up to +55 °C

4 Type CMF********(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)******

4.1 Input circuits (terminals 1 - 4)

Voltage	U_i	DC	17.3	V
Current	I_i		484	mA
Power	P_i		2.1	W
Internal capacitance	C_i		2200	pF
Internal inductance	L_i		30	µH

4.2 Temperature class / max. surface temperature T

The classification into a temperature class/determination of the maximum surface temperature T depends
on the temperature of the medium taking into account the maximum operating temperature of the sensor
and are shown in the following graph:

4.2.1 For types CMF200(A,B)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A4 or CIC A5 or no marking,
CMF300(A,B)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A4 or CIC A5 or no marking,
CMF400(A,B)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A4 or CIC A5 or no marking,
CMFHC2(A,B)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A4 or CICA6 or no marking and
CMFHC3(A,B)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A4 or CICA6 or no marking with integrally
mounted core processor and
CMF200(A,B)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6****,
CMF300(A,B)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6****,
CMF400(A,B)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6****,
CMFHC2(A,B)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6**** CICA6 or no marking and
CMFHC3(A,B)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6**** CICA6 or no marking with integrally mounted
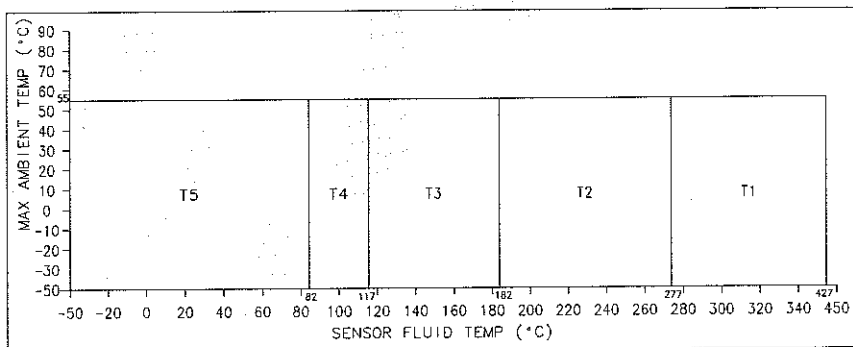core processor

Note: Use the graph above to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust for types CMF*********Z**** is as follows: T5: 95 °C,
T4: 130 °C, T3: 195 °C, T2: 290 °C and T1: 363 °C. The minimum ambient and process fluid temperature
allowed for dust is -40 °C.

Ambient temperature range   Ta   -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter
away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does
not exceed the maximum temperature of the medium taking into account the temperature classification and the
maximum operating temperature of the sensor.

4.2.2   For types CMF200(C,E)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A4 or CIC A5 or no marking,
         CMF300(C,E)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A4 or CIC A5 or no marking,
         CMF400(C,E)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A4 or CIC A5 or no marking,
         CMFHC2(C,E)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A4 or CIC A6 or no marking and
         CMFHC3(C,E)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A4 or CIC A6 or no marking with
         integrally mounted core processor and
         CMF200(C,E)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6****,
         CMF300(C,E)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6****,
         CMF400(C,E)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6****,
         CMFHC2(C,E)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6**** CIC A6 or no marking and
         CMFHC3(C,E)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6**** CIC A6 or no marking with integrally mounted
         core processor

Note: Use the graph above to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust for types CMF*********Z**** is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2: 290 °C and T1: 440 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

5   Type CMF********(C,F)****** inclusive Construction Identification Code (CIC) A4 or no marking, except CMF***(A,B,C,E)****(C,F)******

5.1   Electrical parameters see DMT 01 ATEX E 082 X for the transmitter type *700**********

5.2   Temperature class / max. surface temperature T
   The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and are shown in the following graph:

5.2.1   For types CMF010*****(C,F)*Z****, CMF025*****(C,F)*Z****, CMF050*****(C,F)*Z****, CMF100*****(C,F)*Z****, CMF200*****(C,F)*Z****, CMF300*****(C,F)*Z****, CMF100*****(C,F)*Z**** CIC A4, CMF200*****(C,F)*Z**** CIC A4, CMF300*****(C,F)*Z**** C.I.C. A4, CMF100*****(C,F)*6****, CMF200*****(C,F)*6**** and CMF300*****(C,F)*6**** with integrally mounted transmitter
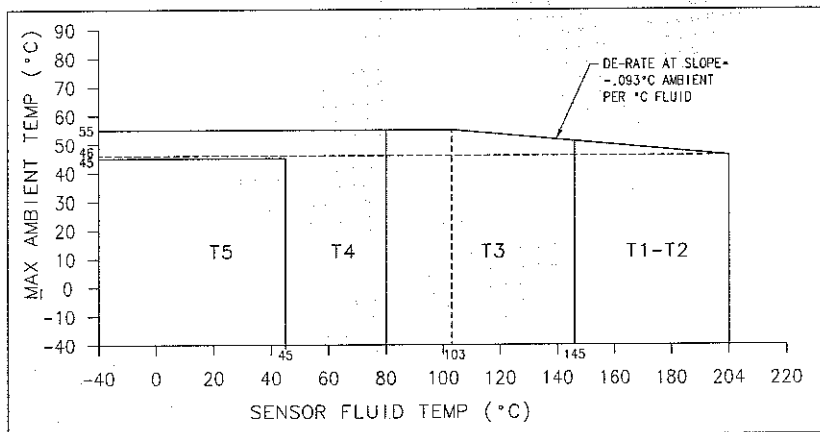
Note: Use the graph above to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust for types CMF*********Z**** is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 254 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

5.2.2 For types CMF400*****(C,F)*Z**** CIC A4 or no marking and CMF400*****(C,F)*6**** with integrally mounted transmitter
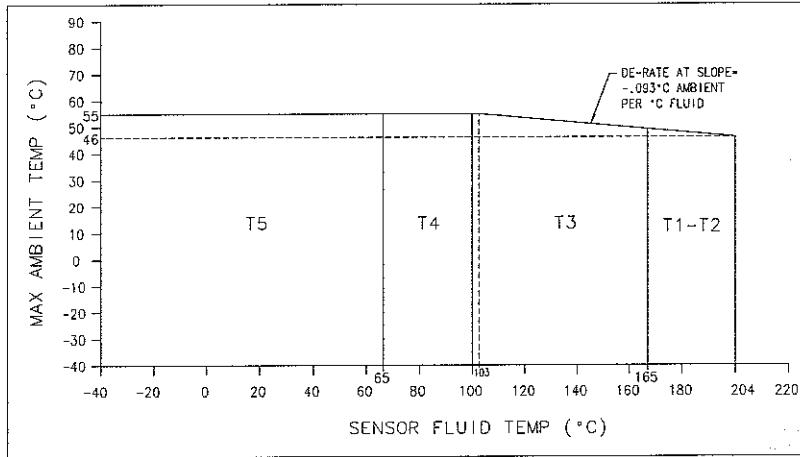
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust for types CMF*********Z**** is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 234 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -40 °C up to +55 °C

5.2.3 For types CMFHC2*****(C,F)*Z**** CIC A4 or no marking, CMFHC3*****(C,F)*Z**** CIC A4 or no marking, CMFHC2*****(C,F)*6**** and CMFHC3*****(C,F)*6**** with integrally mounted transmitter
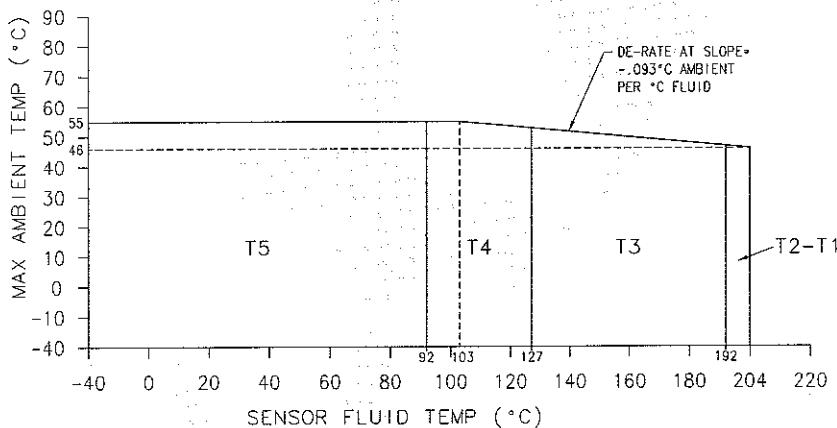

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust for types CMF*********Z**** is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 207 °C.
The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -40 °C up to +55 °C

6   Type CMF***(A,B,C,E)****(C,F)****** inclusive Construction Identification Code CIC A4 or CIC A5 or no marking

6.1   Electrical parameters see DMT 01 ATEX E 082 X for the transmitter type *700**********

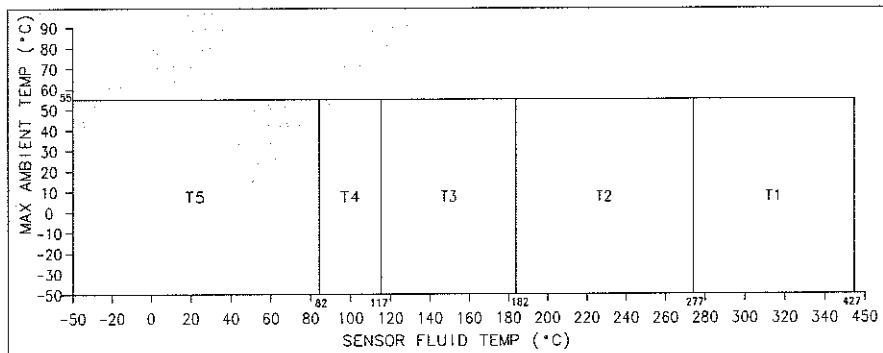6.2   Temperature class / max. surface temperature T
         The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and are shown in the following graph:

6.2.1   For types CMF200(A,B)****(C,F)*Z**** CIC A4 or CIC A5 or no marking, CMF300(A,B)****(C,F)*Z**** CIC A4 or CIC A5 or no marking, CMF400(A,B)****(C,F)*Z**** CIC A4 or CIC A5 or no marking and CMFHC2(A,B)****(C,F)*Z**** CIC A4 or CIC A6 or no marking and CMFHC3(A,B)****(C,F)*Z**** CIC A4 or CIC A6 or no marking with integrally mounted transmitter and CMF200(A,B)****(C,F)*6****, CMF300(A,B)****(C,F)*6****, CMF400(A,B)****(C,F)*6****, CMFHC2(A,B)****(C,F)*6**** CIC A6 or no marking and CMFHC3(A,B)****(C,F)*6**** CIC A6 or no marking with integrally mounted transmitter
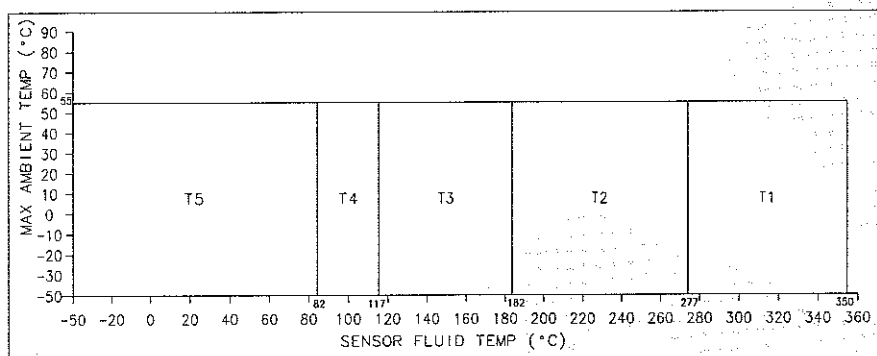
Note: Use the graph above to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust for types CMF*********Z****is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2: 290 °C and T1: 363 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

6.2.2   For types CMF200(C,E)****(C,F)*Z**** CIC A4 or CIC A5 or no marking,
         CMF300(C,E)****(C,F)*Z**** CIC A4 or CIC A5 or no marking,
         CMF400(C,E)****(C,F)*Z**** CIC A4 or CIC A5 or no marking,
         CMFHC2(C,E)****(C,F)*Z**** CIC A6 or no marking and
         CMFHC3(C,E)****(C,F)*Z**** CIC A6 or no markingwith integrally mounted transmitter

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Note: Use the graph above to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust for types CMF*********Z**** is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2: 290 °C and T1: 440 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range	Ta	-50 °C up to +55 °C	

The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

7   Types CMF********(J,U)****** incl. CIC A4 with 2200S transmitter, but without types CMF***(A,B,C,E)****J,U)******

7.1   Input circuits (terminals 1 - 2)

Voltage	Ui	DC 28	V
Current	Ii	120	mA
Power	Pi	0.84	W
Internal capacitance	Ci	2200	pF
Internal inductance	Li	30	µH

7.2   Temperature class / max. surface temperature T
The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and are shown in the following graph:

7.2.1   For types CMF010*****(J,U)*Z****, CMF025*****(J,U)*Z****, CMF050*****(J,U)*Z****, CMF100*****(J,U)*Z****, CMF200*****(J,U)*Z****, CMF300*****(J,U)*Z****, CMF200*****(J,U)*Z**** CIC A4, CMF200*****(J,U)*6****, CMF300*****(J,U)*Z**** CIC A4 and CMF300*****(J,U)*6**** with integrally mounted transmitter 2200S

Note: Use the graph above to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust for types CMF*********Z**** is as follows: T4: 130 °C, T3: 195 °C, T2 to T1: 254 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -40 °C up to +60 °C

7.2.2   For types CMF400*****(J,U)*Z**** CIC A4 and CMF400*****(J,U)*6**** with integrally mounted transmitter 2200S

Note: Use the graph above to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust for types CMF*********Z**** is as follows: T4: 130 °C, T3: 195 °C, T2 to T1: 234 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -40 °C up to +60 °C

7.2.3   For types CMFHC2*****(J,U)*Z****, CMFHC3*****(J,U)*Z**** CIC A4 or no marking, CMFHC2*****(J,U)*6**** and CMFHC3*****(J,U)*6**** with integrally mounted transmitter 2200S
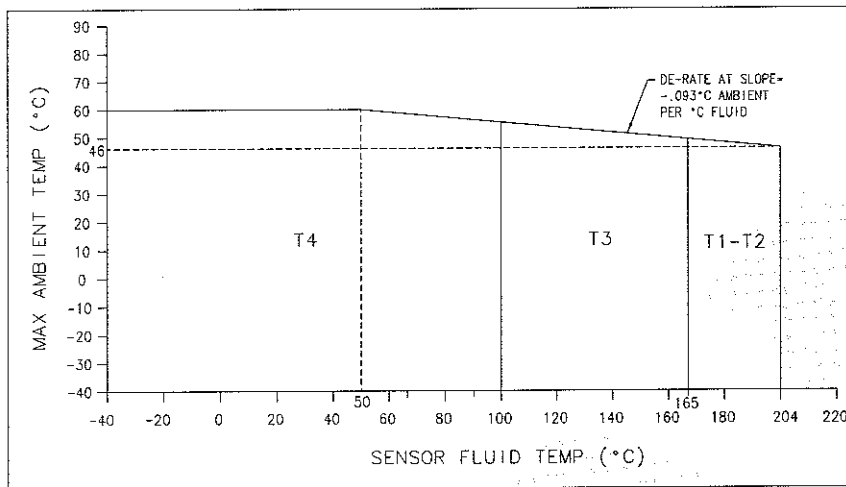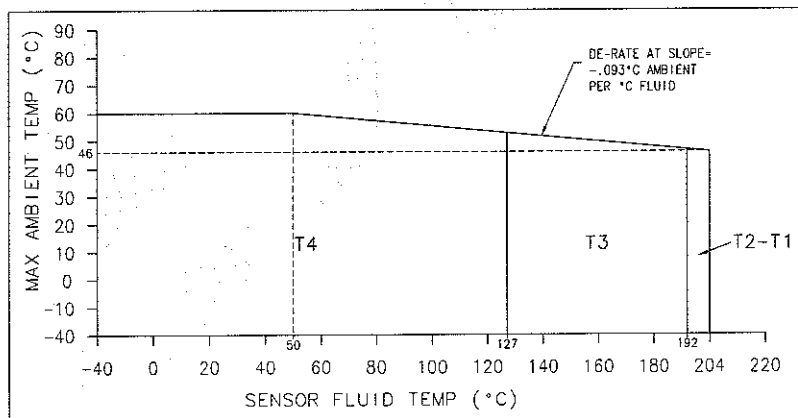
Note: Use the graph above to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust for types CMF*********Z**** is as follows: T4: 130 °C, T3: 195 °C, T2 to T1: 207 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range	Ta		-40 °C up to +60 °C

8   Types CMF200(A,B,C,E)****(J,U)******, CMF300(A,B,C,E)****(J,U)******, CMF400(A,B,C,E)****(J,U)******, CMFHC2(A,B,C,E)****(J,U)****** and CMFHC3(A,B,C,E)****(J,U)****** with 2200S transmitter

8.1   Input circuits (terminals 1 - 2)

Voltage	U_i	DC	28	V
Current	I_i		120	mA
Power	P_i		0.84	W
Internal capacitance	C_i		2200	pF
Internal inductance	L_i		30	µH

8.2   Temperature class / max. surface temperature T
The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and are shown in the following graph:

8.2.1   For types CMF200(A,B)****(J,U)*Z**** CIC A4 or CIC A5 or no marking, CMF300(A,B)****(J,U)*Z**** CIC A4 or CIC A5 or no marking, CMF400(A,B)****(J,U)*Z**** CIC A4 or CIC A5 or no marking, CMFHC2(A,B)****(J,U)*Z**** CIC A4 or CIC A6 or no marking, CMFHC3(A,B)****(J,U)*Z**** CIC A4 or CIC A6 or no marking, CMF200(A,B)****(J,U)*6****, CMF300(A,B)****(J,U)*6****, CMF400(A,B)****(J,U)*6****, CMFHC2(A,B)****(J,U)*6**** CIC A6 or no marking and CMFHC3(A,B)****(J,U)*6**** CIC A6 or no marking with integrally mounted 2200S transmitter
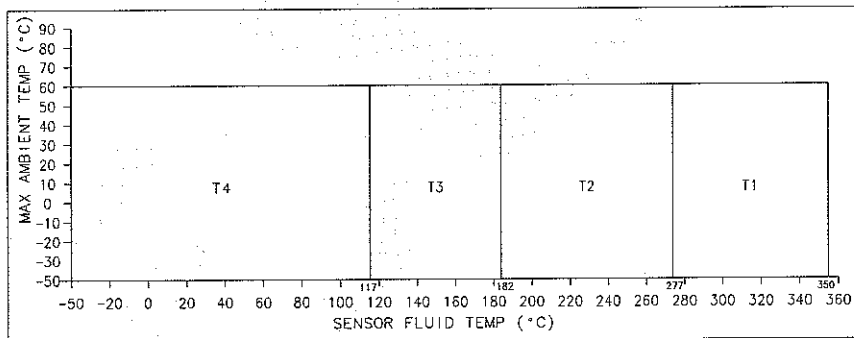
Note: Use the graph above to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust for types CMF*********Z**** is as follows: T4: 130 °C, T3: 195 °C, T2: 290 °C, T1: 363 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range	Ta		-50 °C up to +60 °C

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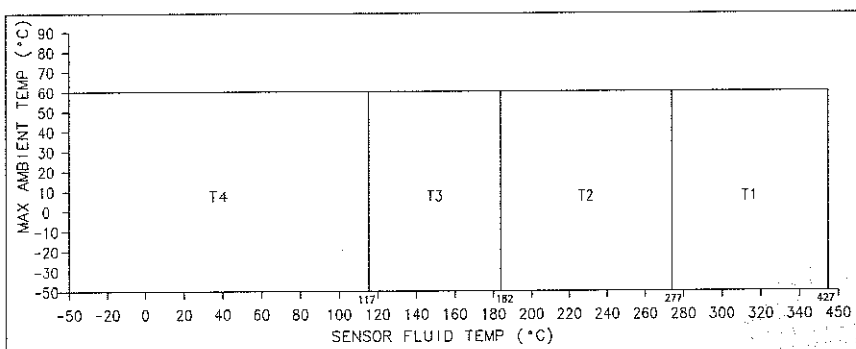(until 31.03.2007 EXAM BBG Prüf- und Zertifizier GmbH)

8.2.2 For types CMF200(C,E)****(J,U)*Z**** CIC A4 or CIC A5 or no marking, CMF300(C,E)****(J,U)*Z****
CIC A4 or CIC A5 or no marking,
CMF400(C,E)****(J,U)*Z**** CIC A4 or CIC A5 or no marking,
CMFHC2(C,E)****(J,U)*Z**** CIC A4 or CIC A6 or no marking,
CMFHC3(C,E)****(J,U)*Z**** CIC A4 or CIC A6 or no marking,
CMF200(C,E)****(J,U)*6****, CMF300(C,E)****(J,U)*6****,
CMF400(C,E)****(J,U)*6****, CMFHC2(C,E)****(J,U)*6**** CIC A6 or no marking and
CMFHC3(C,E)****(J,U)*6**** CIC A6 or no marking with integrally mounted 2200S transmitter

Note: Use the graph above to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust for types CMF*********Z**** is as follows: T4: 130 °C,
T3: 195 °C, T2: 290 °C, T1: 440 °C. The minimum ambient and process fluid temperature allowed for dust is
-40 °C.

Ambient temperature range   Ta   -50 °C up to +60 °C

The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1
meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient
temperature does not exceed the maximum temperature of the medium taking into account the temperature
classification and the maximum operating temperature of the sensor.

The marking of the equipment shall include the following:

⟨Ex⟩ **II 2G**   with additional marking required by the standards mentioned in the following tables:
II 2D   Ex tD A21 IP 65 T [3)] °C

Type	Type of protection gas
CMF010****[1)]*Z****	Ex ib IIC T1-T6
CMF025****[1)]*Z****	Ex ib IIC T1-T6
CMF050****[1)]*Z****	Ex ib IIC T1-T6
CMF100****[1)]*Z****	Ex ib IIC T1-T6
CMF100****[1)]*Z**** CIC A4	Ex ib IIC T1-T6
CMF100****[1)]*6****	Ex ib IIC T1-T6
CMF200****[1)]*Z****	Ex ib IIB T1-T6
CMF200****[1)]*Z**** CIC A4	Ex ib IIC T1-T6
CMF200****[1)]*6****	Ex ib IIC T1-T6
CMF200[4)]****[1)]*Z****	Ex ib IIB T1-T6
CMF200[4)]****[1)]*Z**** CIC A5	Ex ib IIB T1-T6
CMF200[4)]****[1)]*Z**** CIC A4	Ex ib IIC T1-T6
CMF200[4)]****[1)]*6****	Ex ib IIC T1-T6

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(until 31.03.2007 EXAM BBG Prüf- und Zertifizier GmbH)

Type	Type of protection gas
CMF300*****[1)]*Z****	Ex ib IIB T1-T6
CMF300*****[1)]*Z**** CIC A4	Ex ib IIC T1-T6
CMF300*****[1)]*6****	Ex ib IIC T1-T6
CMF300[4)]****[1)]*Z****	Ex ib IIB T1-T6
CMF300[4)]****[1)]*Z**** CIC A5	Ex ib IIB T1-T6
CMF300[4)]****[1)]*Z**** CIC A4	Ex ib IIC T1-T6
CMF300[4)]****[1)]*6****	Ex ib IIC T1-T6
CMF400*****[1)]*Z****	Ex ib IIB T1-T6
CMF400*****[1)]*Z**** CIC A4	Ex ib IIC T1-T6
CMF400*****[1)]*6****	Ex ib IIC T1-T6
CMF400[4)]****[1)]*Z****	Ex ib IIB T1-T6
CMF400[4)]****[1)]*Z**** CIC A5	Ex ib IIB T1-T6
CMF400[4)]****[1)]*Z**** CIC A4	Ex ib IIC T1-T6
CMF400[4)]****[1)]*6****	Ex ib IIC T1-T6
CMFHC2*****[1)]*Z****	Ex ib IIB T1-T6
CMFHC2*****[1)]*Z**** CIC A4	Ex ib IIC T1-T6
CMFHC2*****[1)]*6****	Ex ib IIC T1-T6
CMFHC2[4)]****[1)]*Z****	Ex ib IIB T1-T6
CMFHC2[4)]****[1)]*Z**** CIC A4	Ex ib IIC T1-T6
CMFHC2[4)]****[1)]*6****	Ex ib IIC T1-T6
CMFHC2[4)]****[1)]*Z**** CIC A6	Ex ib IIB T1-T6
CMFHC2[4)]****[1)]*6**** CIC A6	Ex ib IIC T1-T6
CMFHC3*****[1)]*Z****	Ex ib IIB T1-T6
CMFHC3*****[1)]*Z**** CIC A4	Ex ib IIC T1-T6
CMFHC3*****[1)]*6****	Ex ib IIC T1-T6
CMFHC3[4)]****[1)]*Z****	Ex ib IIB T1-T6
CMFHC3[4)]****[1)]*Z**** CIC A4	Ex ib IIC T1-T6
CMFHC3[4)]****[1)]*6****	Ex ib IIC T1-T6
CMFHC3[4)]****[1)]*Z**** CIC A6	Ex ib IIB T1-T6
CMFHC3[4)]****[1)]*6**** CIC A6	Ex ib IIc T1-T6
CMF010*****[2)]*Z****	Ex ib IIC T1-T5
CMF025*****[2)]*Z****	Ex ib IIC T1-T5
CMF050*****[2)]*Z****	Ex ib IIC T1-T5
CMF100*****[2)]*Z****	Ex ib IIC T1-T5
CMF100*****[2)]*Z**** CIC A4	Ex ib IIC T1-T5
CMF100*****[2)]*6****	Ex ib IIC T1-T5
CMF200*****[2)]*Z****	Ex ib IIB T1-T5
CMF200*****[2)]*Z**** CIC A4	Ex ib IIC T1-T5
CMF200*****[2)]*6****	Ex ib IIC T1-T5
CMF200[4)]****[2)]*Z****	Ex ib IIB T1-T5
CMF200[4)]****[2)]*Z**** CIC A5	Ex ib IIB T1-T5
CMF200[4)]****[2)]*Z**** CIC A4	Ex ib IIC T1-T5
CMF200[4)]****[2)]*6****	Ex ib IIC T1-T5
CMF300*****[2)]*Z****	Ex ib IIB T1-T5
CMF300*****[2)]*Z**** CIC A4	Ex ib IIC T1-T5
CMF300*****[2)]*6****	Ex ib IIC T1-T5
CMF300[4)]****[2)]*Z****	Ex ib IIB T1-T5
CMF300[4)]****[2)]*Z**** CIC A5	Ex ib IIB T1-T5
CMF300[4)]****[2)]*Z**** CIC 4	Ex ib IIC T1-T5
CMF300[4)]****[2)]*6****	Ex ib IIC T1-T5
CMF400*****[2)]*Z****	Ex ib IIB T1-T5
CMF400*****[2)]*Z**** CIC A4	Ex ib IIC T1-T5

Type	Type of protection gas
CMF400*****2)*6****	Ex ib IIC T1-T5
CMF400⁴)****2)*Z****	Ex ib IIB T1-T5
CMF400⁴)****2)*Z**** CIC A5	Ex ib IIB T1-T5
CMF400⁴)****2)*Z**** CIC A4	Ex ib IIC T1-T5
CMF400⁴)****2)*6****	Ex ib IIC T1-T5
CMFHC2*****2)*Z****	Ex ib IIB T1-T5
CMFHC2*****2)*Z**** CIC A4	Ex ib IIC T1-T5
CMFHC2*****2)*6****	Ex ib IIC T1-T5
CMFHC2⁴) ****2)*Z****	Ex ib IIB T1-T5
CMFHC2⁴) ****2)*Z**** CIC A4	Ex ib IIC T1-T5
CMFHC2⁴) ****2)*6****	Ex ib IIC T1-T5
CMFHC2⁴) ****2)*Z**** CIC A6	Ex ib IIB T1-T5
CMFHC2⁴) ****2)*6**** CIC A6	Ex ib IIC T1-T5
CMFHC3*****2)*Z****	Ex ib IIB T1-T5
CMFHC3*****2)*Z**** CIC A4	Ex ib IIC T1-T5
CMFHC3*****2)*6****	Ex ib IIC T1-T5
CMFHC3⁴)****2)*Z****	Ex ib IIB T1-T5
CMFHC3⁴)****2)*Z**** CIC A4	Ex ib IIC T1-T5
CMFHC3⁴)****2)*6****	Ex ib IIC T1-T5
CMFHC3⁴)****2)*Z**** CIC A6	Ex ib IIB T1-T5
CMFHC3⁴)****2)*6**** CIC A6	Ex ib IIB T1-T5

For sensors with J-box connected to non-MVD transmitters (i. e. 9739) is valid:

Type	Type of protection gas	Min. ambient/fluid temp. gas
CMF010*****1)*Z****	Ex ib IIC T1-T6	-240 °C
CMF025*****1)*Z****	Ex ib IIC T1-T6	-240 °C
CMF050*****1)*Z****	Ex ib IIC T1-T6	-240 °C
CMF100*****1)*Z****	Ex ib IIC T1-T6	-40 °C
CMF100*****1)*Z**** CIC A4	Ex ib IIC T1-T6	-240 °C
CMF100*****1)*6****	Ex ib IIC T1-T6	-240 °C
CMF200*****1)*Z****	Ex ib IIB T1-T6	-55 °C
CMF200*****1)*Z**** CIC A4	Ex ib IIC T1-T6	-240 °C
CMF200*****1)*6****	Ex ib IIC T1-T6	-240 °C
CMF200⁴)****1)*Z****	Ex ib IIB T1-T6	-50 °C
CMF200⁴)****1)*Z**** CIC A5	Ex ib IIB T1-T6	-50 °C
CMF200⁴)****1)*Z**** CIC A4	Ex ib IIC T1-T6	-50 °C
CMF200⁴)****1)*6****	Ex ib IIC T1-T6	-50 °C
CMF300*****1)*Z****	Ex ib IIB T1-T6	-55 °C
CMF300*****1)*Z**** CIC A4	Ex ib IIC T1-T6	-240 °C
CMF300*****1)*6****	Ex ib IIC T1-T6	-240 °C
CMF300⁴)****1)*Z****	Ex ib IIB T1-T6	-50 °C
CMF300⁴)****1)*Z**** CIC A5	Ex ib IIB T1-T6	-50 °C
CMF300⁴)****1)*Z**** CIC A4	Ex ib IIC T1-T6	-50 °C
CMF300⁴)****1)*6****	Ex ib IIC T1-T6	-50 °C

For sensors with J-box connected to MVD transmitters is valid:

Type	Type of protection gas	Min. ambient/fluid temp. gas
CMF010*****1)*Z****	Ex ib IIC T1-T6	-240 °C
CMF025*****1)*Z****	Ex ib IIC T1-T6	-240 °C
CMF050*****1)*Z****	Ex ib IIC T1-T6	-240 °C
CMF100*****1)*Z****	Ex ib IIC T1-T6	-60 °C
CMF100*****1)*Z**** CIC A4	Ex ib IIC T1-T6	-240 °C
CMF100*****1)*6****	Ex ib IIC T1-T6	-240 °C
CMF200*****1)*Z****	Ex ib IIB T1-T6	-55 °C
CMF200*****1)*Z**** CIC A4	Ex ib IIC T1-T6	-240 °C
CMF200*****1)*6****	Ex ib IIC T1-T6	-240 °C
CMF200 4)****1)*Z****	Ex ib IIB T1-T6	-50 °C
CMF200 4)****1)*Z**** CIC A5	Ex ib IIB T1-T6	-50 °C
CMF200 4)****1)*Z**** CIC A4	Ex ib IIC T1-T6	-50 °C
CMF200 4)****1)*6****	Ex ib IIC T1-T6	-50 °C
CMF300*****1)*Z****	Ex ib IIB T1-T6	-55 °C
CMF300*****1)*Z**** CIC A4	Ex ib IIC T1-T6	-240 °C
CMF300*****1)*6****	Ex ib IIC T1-T6	-240 °C
CMF300 4)****1)*Z****	Ex ib IIB T1-T6	-50 °C
CMF300 4)****1)*Z**** CIC A5	Ex ib IIB T1-T6	-50 °C
CMF300 4)****1)*Z**** CIC A4	Ex ib IIC T1-T6	-50 °C
CMF300 4)****1)*6****	Ex ib IIC T1-T6	-50 °C
CMF400*****1)*Z****	Ex ib IIB T1-T6	-68 °C
CMF400*****1)*Z**** CIC A4	Ex ib IIC T1-T6	-240 °C
CMF400*****1)*6****	Ex ib IIC T1-T6	-240 °C
CMF400 4)****1)*Z****	Ex ib IIB T1-T6	-50 °C
CMF400 4)****1)*Z**** CIC A5	Ex ib IIB T1-T6	-50 °C
CMF400 4)****1)*Z**** CIC A4	Ex ib IIC T1-T6	-50 °C
CMF400 4)****1)*6****	Ex ib IIC T1-T6	-50 °C
CMFHC2*****1)*Z****	Ex ib IIB T1-T6	-50 °C
CMFHC2*****1)*Z**** CIC A4	Ex ib IIC T1-T6	-240 °C
CMFHC2*****1)*6****	Ex ib IIC T1-T6	-240 °C
CMFHC2 4)****1)*Z****	Ex ib IIB T1-T6	-50 °C
CMFHC2 4)****1)*Z**** CIC A4	Ex ib IIC T1-T6	-50 °C
CMFHC2 4)****1)*6****	Ex ib IIC T1-T6	-50 °C
CMFHC2 4)****1)*Z**** CIC A6	Ex ib IIB T1-T6	-50 °C
CMFHC2 4)****1)*6**** CIC A6	Ex ib IIC T1-T6	-50 °C
CMFHC3*****1)*Z****	Ex ib IIB T1-T6	-50 °C
CMFHC3*****1)*Z**** CIC A4	Ex ib IIC T1-T6	-240 °C
CMFHC3*****1)*6****	Ex ib IIC T1-T6	-240 °C
CMFHC3 4)****1)*Z****	Ex ib IIB T1-T6	-50 °C
CMFHC3 4)****1)*Z**** CIC A4	Ex ib IIC T1-T6	-50 °C
CMFHC3 4)****1)*6****	Ex ib IIC T1-T6	-50 °C
CMFHC3 4)****1)*Z**** CIC A6	Ex ib IIB T1-T6	-50 °C
CMFHC3 4)****1)*6**** CIC A6	Ex ib IIC T1-T6	-50 °C

1)   At this place the letter R, H, S or T will be inserted.
2)   At this place the numeral 2, 3, 4, 5, 6, 7, 8 or 9 or the letter A, B, D, E, Q, V, W or Y will be inserted.
3)   Max. surface temperature T for dust for types CMF*********Z**** see temperature graphs and manufacturer's instructions. Min. ambient and process temperature for dust is -40 °C.
4)   At this place the letter A, B, C or E will be inserted.

Special conditions for safe use

By mounting the sensor type CMF********(C,F)****** directly to the transmitter *700*********** the use of the unit will be modified according to the following:

	Sensor type	
Sensor type	CMF010*****(C,F)*Z**** CMF025*****(C,F)*Z**** CMF050*****(C,F)*Z**** CMF100*****(C,F)*Z**** CMF100*****(C,F)*Z**** CIC A4 CMF100*****(C,F)*6**** CMF200*****(C,F)*Z**** CIC A4 CMF200*****(C,F)*6**** CMF300*****(C,F)*Z**** CIC A4 CMF300*****(C,F)*6**** CMF400*****(C,F)*Z**** CIC A4 CMF400*****(C,F)*6**** CMFHC2*****(C,F)*Z**** CIC A4 CMFHC2*****(C,F)*6**** CMFHC3*****(C,F)*Z**** CIC A4 CMFHC3*****(C,F)*6**** CMF200(A,B,C,E)****(C,F)*Z**** CIC A4 CMF200(A,B,C,E)****(C,F)*6**** CMF300(A,B,C,E)****(C,F)*Z**** CIC A4 CMF300(A,B,C,E)****(C,F)*6**** CMF400(A,B,C,E)****(C,F)*Z**** CIC A4 CMF400(A,B,C,E)****(C,F)*6**** CMFHC2(A,B,C,E)****(C,F)*Z**** CIC A4 CMFHC2(A,B,C,E)****(C,F)*6**** CMFHC2(A,B,C,E)****(C,F)*6**** CIC A6 CMFHC3(A,B,C,E)****(C,F)*Z**** CIC A4 CMFHC3(A,B,C,E)****(C,F)*6**** CMFHC3(A,B,C,E)****(C,F)*Z**** CIC A6	CMF200*****(C,F)*Z**** CMF300*****(C,F)*Z**** CMF400*****(C,F)*Z**** CMFHC2*****(C,F)*Z**** CMFHC3*****(C,F)*Z**** CMF200(A,B,C,E)****(C,F)*Z**** CMF200(A,B,C,E)****(C,F)*Z**** CIC A5 CMF300(A,B,C,E)****(C,F)*Z**** CMF300(A,B,C,E)****(C,F)*Z**** CIC A5 CMF400(A,B,C,E)****(C,F)*Z**** CMF400(A,B,C,E)****(C,F)*Z**** CIC A5 CMFHC2(A,B,C,E)****(C,F)*Z**** CMFHC2(A,B,C,E)****(C,F)*Z**** CIC A6 CMFHC3(A,B,C,E)****(C,F)*Z**** CMFHC3(A,B,C,E)****(C,F)*Z**** CIC A6
Transmitter type *700*1[1] *******	Ex ib IIB+H_2 T1-T5 Ex tD A21 IP65 T [3] °C	Ex ib IIB T1-T5 Ex tD A21 IP65 T [3] °C
Transmitter type *700*1[2] *******	Ex ib IIC T1-T5 Ex tD A21 IP65 T [3] °C	Ex ib IIB T1-T5 Ex tD A21 IP65 T [3] °C

[1]   At this place the numeral 1 or 2 will be inserted.
[2]   At this place the numeral 3, 4 or 5 will be inserted.
[3]   Max. surface temperature T for dust for types CMF**********Z**** see temperature graphs and manufacturer's instructions.

▷ DEKRA

By mounting the sensor type CMF********(J,U)****** directly to the transmitter 22**S********* the use of the unit will be modified according to the following:

	Sensor Typ	
Sensor type	CMF010*****(J,U)*Z**** CMF025*****(J,U)*Z**** CMF050*****(J,U)*Z**** CMF100*****(J,U)*Z**** CMF100*****(J,U)*Z**** CIC A4 CMF100*****(J,U)*6**** CMF200*****(J,U)*Z**** CIC A4 CMF200*****(J,U)*6**** CMF300*****(J,U)*Z**** CIC A4 CMF300*****(J,U)*6**** CMF400*****(J,U)*Z**** CIC A4 CMF400*****(J,U)*6**** CMFHC2*****(J,U)*Z**** CIC A4 CMFHC2*****(J,U)*6**** CMFHC3*****(J,U)*Z**** CIC A4 CMFHC3*****(J,U)*6**** CMF200(A,B,C,E)****(J,U)*Z**** CIC A4 CMF200(A,B,C,E)****(J,U)*6**** CMF300(A,B,C,E)****(J,U)*Z**** CIC A4 CMF300(A,B,C,E)****(J,U)*6**** CMF400(A,B,C,E)****(J,U)*Z**** CIC A4 CMF400(A,B,C,E)****(J,U)*6**** CMFHC2(A,B,C,E)****(J,U)*Z**** CIC A4 CMFHC2(A,B,C,E)****(J,U)*6**** CMFHC2(A,B,C,E)****(J,U)*6**** CIC A6 CMFHC3(A,B,C,E)****(J,U)*Z**** CIC A4 CMFHC3(A,B,C,E)****(J,U)*6**** CMFHC3(A,B,C,E)****(J,U)*Z**** CIC A6	CMF200*****(J,U)*Z**** CMF300*****(J,U)*Z**** CMF400*****(J,U)*Z**** CMFHC2*****(J,U)*Z**** CMFHC3*****(J,U)*Z**** CMF200(A,B,C,E)****(J,U)*Z**** CMF200(A,B,C,E)****(J,U)*Z**** CIC A5 CMF300(A,B,C,E)****(J,U)*Z**** CMF300(A,B,C,E)****(J,U)*Z**** CIC A5 CMF400(A,B,C,E)****(J,U)*Z**** CMF400(A,B,C,E)****(J,U)*Z**** CIC A5 CMFHC2(A,B,C,E)****(J,U)*Z**** CMFHC2(A,B,C,E)****(J,U)*Z**** CIC A6 CMFHC3(A,B,C,E)****(J,U)*Z**** CMFHC3(A,B,C,E)****(J,U)*Z**** CIC A6
Transmitter type 2200S***1*Z****	Ex ib IIC T1-T4 Ex ibD 21 T70 °C	Ex ib IIB T1-T4 Ex ibD 21 T70 °C

Test and assessment report

BVS PP 06.2035 EG as of 27.10.2008

DEKRA EXAM GmbH
Bochum, dated 27. October 2008

Signed: Simanski
_____
Certification body

Signed: Dr. Eickhoff
_____
Special services unit

▷ DEKRA

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 27. October 2008
BVS-Schu / Her   A 20080800

DEKRA EXAM GmbH

_____
Certification body

_____
Special services unit

Translation

4th Supplement

(Supplement in accordance with Directive 94/9/EC Annex III number 6)

to the EC-Type Examination Certificate
BVS 06 ATEX E 045 X

Equipment:	**Sensor type CMF*****************
Manufacturer:	**Micro Motion, Inc.**
Address:	**Boulder, Co. 80301, USA**

Description

The sensor can be modified:
New version type CMFHC*Y********** is possible.
Removed Type CMF********(C,F)****** inclusive Construction Identification Code (CIC) A4 or no marking, except CMF***(A,B,C,E)****C******.
Electrical parameters for sensors with junction box have been changed.

The Essential Health and Safety Requirements of the modified equipment are assured by compliance with:

EN 60079-0:2006	General requirements
EN 60079-11:2007	Intrinsic safety ´i´
EN 61241-0:2006	General requirements
EN 61241-1:2004	Protection by enclosures ´tD´

Modified Parameters

1   Type CMF********(R,H,S,T)****** with J-box, inclusive Construction Identification Code (CIC) A4 except type CMF***(A,B,C,E)****(R,H,S,T)******

1.1   Drive circuit (connections 1 - 2 or red and brown)

Voltage	U_i	DC	11.4	V
Current	I_i		2.45	A
Power	P_i		2.54	W
Internal capacitance	C_i	negligible		

Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
CMF010*****(R,H,S,T)*Z****	2.51	78.7	948.9	-40
CMF010*****(R,H,S,T)*Z****	2.51	0	945.1	-240
CMF025*****(R,H,S,T)*Z****	2.51	78.7	170.8	-40
CMF025*****(R,H,S,T)*Z****	2.51	0	170.1	-240
CMF050*****(R,H,S,T)*Z****	2.51	78.7	170.8	-40
CMF050*****(R,H,S,T)*Z****	2.51	0	170.1	-240
CMF100*****(R,H,S,T)*Z****	6.7	58.4	89.0	-40
CMF100*****(R,H,S,T)*Z****	6.7	52.4	89.0	-60
CMF100*****(R,H,S,T)*Z**** CIC A4	6.7	0	177.0	-240
CMF100*****(R,H,S,T)*6****	6.7	0	177.0	-240
CMF200*****(R,H,S,T)*Z****	9.5	92.9	0	-40
CMF200*****(R,H,S,T)*Z****	9.5	85.8	0	-55
CMF200*****(R,H,S,T)*Z**** CIC A4	9.5	0	177.0	-240
CMF200*****(R,H,S,T)*6****	9.5	0	177.0	-240
CMF300*****(R,H,S,T)*Z****	9.5	92.9	0	-40
CMF300*****(R,H,S,T)*Z****	9.5	85.8	0	-55
CMF300*****(R,H,S,T)*Z**** CIC A4	9.5	0	177.0	-240
CMF300*****(R,H,S,T)*6****	9.5	0	177.0	-240
CMF400*****(R,H,S,T)*Z****	11.75	83.5	19.8	-40
CMF400*****(R,H,S,T)*Z****	11.75	71.4	19.8	-68
CMF400 *****(R,H,S,T)*Z**** CIC A4	11.75	0	187.1	-240
CMF400 *****(R,H,S,T)*6****	11.75	0	187.1	-240
CMFHC2*****(R,H,S,T)*Z****	5.0	19.5	38.5	-50
CMFHC2*****(R,H,S,T)*Z**** CIC A4	5.0	0	126.0	-240
CMFHC2*****(R,H,S,T)*6****	5.0	0	126.0	-240
CMFHC3*****(R,H,S,T)*Z****	5.0	19.5	38.5	-50
CMFHC3*****(R,H,S,T)*Z**** CIC A4	5.0	0	126.0	-240
CMFHC3*****(R,H,S,T)*6****	5.0	0	126.0	-240
CMFHC*Y****(R,H,S,T)*Z****	5,0	19.5	38.5	-50/-29
CMFHC*Y****(R,H,S,T)*Z**** CIC A4	5.0	0	126.0	-240/-29
CMFHC*Y****(R,H,S,T)*6****	5.0	0	126.0	-240/-29

1.2   Pick-Off coil (Terminals 5/9 and 6/8 or wires green/white and blue/grey)

Voltage	U_i	DC	21.13	V
Current	I_i		18.05	mA
Power	P_i		45	mW
Internal capacitance	C_i		negligible	

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(until 31.03.2007 EXAM BBG Prüf- und Zertifizier GmbH)

Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
CMF010*****(R,H,S,T)*Z****	2.51	78.7	0	-40
CMF010*****(R,H,S,T)*Z****	2.51	0	0	-240
CMF025*****(R,H,S,T)*Z****	2.51	78.7	0	-40
CMF025*****(R,H,S,T)*Z****	2.51	0	0	-240
CMF050*****(R,H,S,T)*Z****	2.51	78.7	0	-40
CMF050*****(R,H,S,T)*Z****	2.51	0	0	-240
CMF100*****(R,H,S,T)*Z****	0.441	11.1	0	-40
CMF100*****(R,H,S,T)*Z****	0.441	9.9	0	-60
CMF100*****(R,H,S,T)*Z**** CIC A4	0.441	0	0	-240
CMF100*****(R,H,S,T)*6****	0.441	0	0	-240
CMF200*****(R,H,S,T)*Z****	2.0	41.9	0 to 567.9	-40
CMF200*****(R,H,S,T)*Z****	2.0	38.7	0 to 567.9	-55
CMF200*****(R,H,S,T)*Z**** CIC A4	2.0	0	0 to 567.9	-240
CMF200*****(R,H,S,T)*6****	2.0	0	0 to 567.9	-240
CMF300*****(R,H,S,T)*Z****	2.0	41.9	0 to 567.9	-40
CMF300*****(R,H,S,T)*Z****	2.0	38.7	0 to 567.9	-55
CMF300*****(R,H,S,T)*Z**** CIC A4	2.0	0	0 to 567.9	-240
CMF300*****(R,H,S,T)*6****	2.0	0	0 to 567.9	-240
CMF400*****(R,H,S,T)*Z****	12.4	128.3	0 to 566.4	-40
CMF400*****(R,H,S,T)*Z****	12.4	109.8	0 to 566.4	-68
CMF400*****(R,H,S,T)*Z**** CIC A4	12.4	0	0 to 566.4	-240
CMF400*****(R,H,S,T)*6****	12.4	0	0 to 566.4	-240
CMFHC2*****(R,H,S,T)*Z****	2.8	49.2	42.6 to 566.4	-50
CMFHC2*****(R,H,S,T)*Z**** CIC A4	2.8	0	198.4 to 566.4	-240
CMFHC2*****(R,H,S,T)*6****	2.8	0	198.4 to 566.4	-240
CMFHC3*****(R,H,S,T)*Z****	2.8	49.2	42.6 to 566.4	-50
CMFHC3*****(R,H,S,T)*Z**** CIC A4	2.8	0	198.4 to 566.4	-240
CMFHC3*****(R,H,S,T)*6****	2.8	0	198.4 to 566.4	-240
CMFHC*Y****(R,H,S,T)*Z****	2,8	49,2	42,6 to 566,4	-50/-29
CMFHC*Y****(R,H,S,T)*Z**** CIC A4	2,8	0	198,4 to 566,4	-240/-29
CMFHC*Y****(R,H,S,T)*6****	2,8	0	198,4 to 566,4	-240/-29

1.3   Temperature circuits (terminals 3, 4 and 7 or wires orange, yellow and violet)

Voltage	U_i	DC	21.13	V
Current	I_i		26	mA
Power	P_i		112	mW
Internal capacitance	C_i		negligible	
Internal inductance	L_i		negligible	

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1.3.1 Identification resistor circuit (terminals 3 & 4 or wires orange and yellow)

sensor type	inductance [mH]	coil resistance [Ω]	serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
CMF400*****(R,H,S,T)*Z****	N/A	N/A	39.7 to 42.2	-68
CMF400*****(R,H,S,T)*Z**** CIC A4	N/A	N/A	39.7 to 42.2	-240
CMF400*****(R,H,S,T)*6****	N/A	N/A	39.7 to 42.2	-240

1.4 Temperature class / max. surface temperature T

The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium, taking into account the maximum operating temperature of the sensor and is shown in the following graph:

1.4.1 For types CMF010*****(R,H,S,T)****** , CMF025*****(R,H,S,T)****** and CMF050*****(R,H,S,T)****** with J-box,
for types CMF100*****(R,H,S,T)****** with J-box connected to non-MVD transmitters (i.e. 9739)
for types CMF100*****(R,H,S,T)****** with J-box connected to MVD transmitters,
for types CMF200*****(R,H,S,T)****** and CMF300*****(R,H,S,T)*Z**** with J-box and
for types CMF400*****(R,H,S,T)****** with J-box connected to MVD transmitters:

Not changed

1.4.2 For types CMF100*****(R,H,S,T)*Z****, CMF100*****(R,H,S,T)*Z**** and
CMF300*****(R,H,S,T)*Z**** with Construction Identification Code (CIC) marking A4 and for types
CMF100*****(R,H,S,T)*6****, CMF200*****(R,H,S,T)*6**** and CMF300*****(R,H,S,T)*6***
with J-box:

Not changed

1.4.3 For types CMF400*****(R,H,S,T)*Z**** with Construction Identification Code (CIC) marking A4 and type
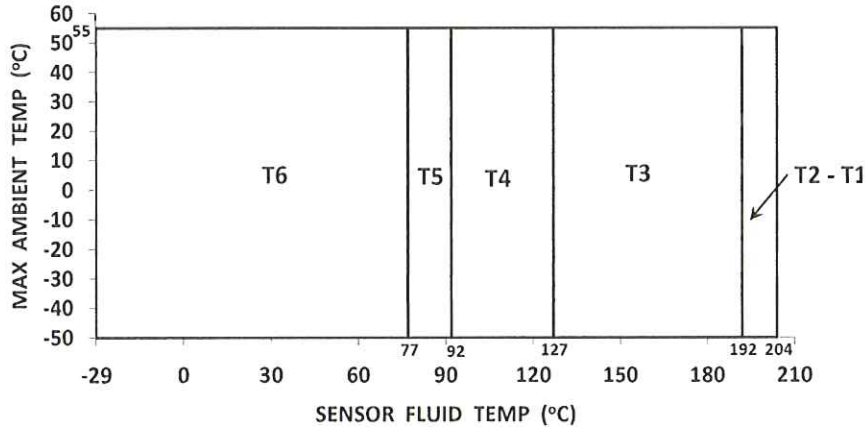CMF400*****(R,H,S,T)*6**** with J-box connected to MVD transmitters:

Not changed

1.4.4 For types CMFHC2*****(R,H,S,T)*Z**** and CMFHC3*****(R,H,S,T)*Z**** with J-box connected to MVD transmitters:

Not changed

1.4.5 For types CMFHC2*****(R,H,S,T)*Z**** and CMFHC3*****(R,H,S,T)*Z**** with Construction
Identification Code (CIC) marking A4 and types CMFHC2*****(R,H,S,T)*6**** and
CMFHC3*****(R,H,S,T)*6****with J-box connected to MVD transmitters:

Not changed

1.4.6 For types CMFHC*Y****(R,H,S,T)*Z**** without Construction Identification Code (CIC) marking with J-box connected to MVD transmitters:
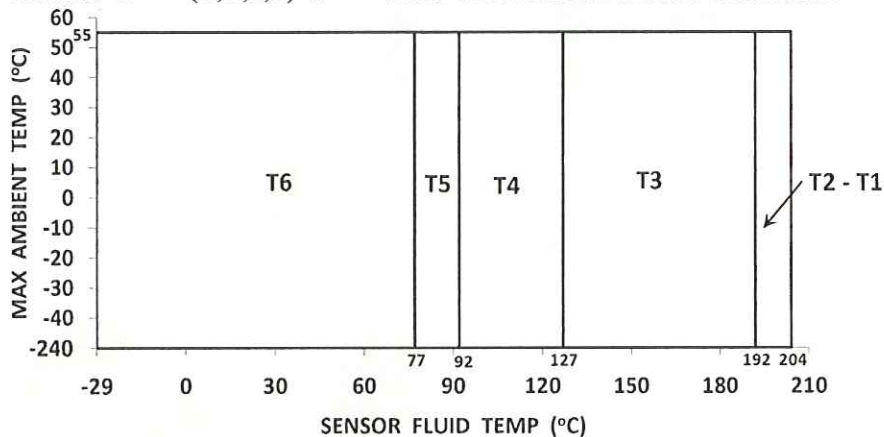

Note: Use the graph above to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust for types CMFHC*Y******Z**** is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 207 °C. The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium, taking into account the temperature classification and the maximum operating temperature of the sensor.

1.4.7 For types CMFHC*Y****(R,H,S,T)*Z**** with Construction Identification Code (CIC) marking A4 and type CMFHC*Y****(R,H,S,T)*6**** with J-box connected to MVD transmitters

Note: Use the graph above to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust for types CMFHC*Y******Z**** is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 207 °C. The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -240 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium, taking into account the temperature classification and the maximum operating temperature of the sensor.

2   Type CMF***(A,B,C,E)****(R,H,S,T)****** with J-box

2.1   Drive circuit (connections 1 - 2 or red and brown)

Voltage	U_i	DC	11.4	V
Current	I_i		2.45	A
Power	P_i		2.54	W

Effective internal capacitance   negligible

Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
CMF200(A,B,C,E)****(R,H,S,T)*Z****	4.01	32.2	19.8	-50
CMF200(A,B,C,E)****(R,H,S,T)*Z**** CIC A5	1.1	15.4	9.6	-50
CMF200(A,B,C,E)****(R,H,S,T)*Z**** CIC A4	1.1	15.4	41	-50
CMF200(A,B,C,E)****(R,H,S,T)*6****	1.1	15.4	41	-50
CMF300(A,B,C,E)****(R,H,S,T)*Z****	4.01	32.3	19.8	-50
CMF300(A,B,C,E)****(R,H,S,T)*Z**** CIC A5	1.1	15.4	9.6	-50
CMF300(A,B,C,E)****(R,H,S,T)*Z**** CIC A4	1.1	15.4	41	-50
CMF300(A,B,C,E)****(R,H,S,T)*6****	1.1	15.4	41	-50
CMF400(A,B,C,E)****(R,H,S,T)*Z****	7.75	54.3	19.8	-50
CMF400(A,B,C,E)****(R,H,S,T)*Z**** CIC A5	3.4	35.2	12.8	-50
CMF400(A,B,C,E)****(R,H,S,T)*Z**** CIC A4	3.4	35.2	63.2	-50
CMF400(A,B,C,E)****(R,H,S,T)*6****	3.4	35.2	63.2	-50
CMFHC2(A,B,C,E)****(R,H,S,T)*Z****	5.95	51.3	12.8	-50
CMFHC2(A,B,C,E)****(R,H,S,T)*Z**** CIC A4	5.95	51.3	88.9	-50
CMFHC2(A,B,C,E)****(R,H,S,T)*6****	5.95	51.3	88.9	-50
CMFHC2(A,B,C,E)****(R,H,S,T)*Z**** CIC A6	7.75	54.3	24.7	-50
CMFHC2(A,B,C,E)****(R,H,S,T)*6**** CIC A6	7.75	54.3	106.7	-50
CMFHC3(A,B,C,E)****(R,H,S,T)*Z****	5.95	51.3	12.8	-50
CMFHC3(A,B,C,E)****(R,H,S,T)*Z**** CIC A4	5.95	51.3	88.9	-50
CMFHC3(A,B,C,E)****(R,H,S,T)*6****	5.95	51.3	88.9	-50
CMFHC3(A,B,C,E)****(R,H,S,T)*Z**** CIC A6	7.75	54.3	24.7	-50
CMFHC3(A,B,C,E)****(R,H,S,T)*6**** CIC A6	7.75	54.3	106.7	-50

2.2   Pick-Off coil (Terminals 5/9 and 6/8 or wires green/white and blue/grey)

Voltage	U_i	DC	21.13	V
Current	I_i		18.05	mA
Power	P_i		45	mW

Effective internal capacitance   negligible

Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
CMF200(A,B,C,E)****(R,H,S,T)*Z****	1.25	15.4	569.2	-50
CMF200(A,B,C,E)****(R,H,S,T)*Z**** CIC A5	0.50	8.0	569.2	-50
CMF200(A,B,C,E)****(R,H,S,T)*Z**** CIC A4	0.50	8.0	569.2	-50
CMF200(A,B,C,E)****(R,H,S,T)*6****	0.50	8.0	569.2	-50
CMF300(A,B,C,E)****(R,H,S,T)*Z****	1.25	15.4	569.2	-50
CMF300(A,B,C,E)****(R,H,S,T)*Z**** CIC A5	0.50	8.0	569.2	-50
CMF300(A,B,C,E)****(R,H,S,T)*Z**** CIC A4	0.50	8.0	569.2	-50
CMF300(A,B,C,E)****(R,H,S,T)*6****	0.50	8.0	569.2	-50
CMF400(A,B,C,E)****(R,H,S,T)*Z****	6.50	41.1	569.2	-50
CMF400(A,B,C,E)****(R,H,S,T)*Z**** CIC A5	1.10	15.4	569.2	-50
CMF400(A,B,C,E)****(R,H,S,T)*Z**** CIC A4	1.10	15.4	569.2	-50
CMF400(A,B,C,E)****(R,H,S,T)*6****	1.10	15.4	569.2	-50
CMFHC2(A,B,C,E)****(R,H,S,T)*Z****	0.85	9.1	42.6	-50
CMFHC2(A,B,C,E)****(R,H,S,T)*Z**** CIC A4	0.85	9.1	42.6	-50
CMFHC2(A,B,C,E)****(R,H,S,T)*6****	0.85	9.1	42.6	-50
CMFHC2(A,B,C,E)****(R,H,S,T)*Z**** CIC A6	0.85	9.1	42.6	-50
CMFHC2(A,B,C,E)****(R,H,S,T)*6**** CIC A6	0.85	9.1	42.6	-50
CMFHC3(A,B,C,E)****(R,H,S,T)*Z****	0.85	9.1	42.6	-50
CMFHC3(A,B,C,E)****(R,H,S,T)*Z**** CIC A4	0.85	9.1	42.6	-50
CMFHC3(A,B,C,E)****(R,H,S,T)*6****	0.85	9.1	42.6	-50
CMFHC3(A,B,C,E)****(R,H,S,T)*Z**** CIC A6	0.85	9.1	42.6	-50
CMFHC3(A,B,C,E)****(R,H,S,T)*6**** CIC A6	0.85	9.1	42.6	-50

2.3   Temperature circuits (terminals 3, 4 and 7 or wires orange, yellow and violet)

Voltage	U_i	DC	21.13V
Current	I_i		26mA
Power	P_i		112mW
Effective internal capacitance	C_i	negligible	
Effective internal inductance	L_i	negligible	

2.3.1 Identification resistor circuit (terminals 3 & 4 or wires orange and yellow)

Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
CMF400(A,B,C,E)****(R,H,S,T)*Z****	N/A	N/A	39,7 to 42,2	-50
CMF400(A,B,C,E)****(R,H,S,T)*Z**** CIC A4	N/A	N/A	39,7 to 42,2	-50
CMF400(A,B,C,E)****(R,H,S,T)*6****	N/A	N/A	39,7 to 42,2	-50

2.4   Temperature class/ max. surface temperature T
The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graphs:

2.4.1 For types CMF200(A,B)****(R,H,S,T)*Z**** CIC A4 or CIC A5 or no marking and
CMF300(A,B)****(R,H,S,T)*Z**** CIC A4 or CIC A5 or no marking with J-box and
CMF400(A,B)****(R,H,S,T)*Z**** CIC A4 or CIC A5 or no marking,
CMFHC2(A,B)****(R,H,S,T)*Z**** CIC A4 or CIC A6 or no marking and
CMFHC3(A,B)****(R,H,S,T)*Z**** CIC A4 or CIC A6 or no marking with J-box connected to MVD
transmitter only and
for types CMF200(A,B)****(R,H,S,T)*6**** and CMF300(A,B)****(R,H,S,T)*6**** with J-box and
CMF400(A,B)****(R,H,S,T)*6****, CMFHC2(A,B)****(R,H,S,T)*6**** CIC A6 or no marking and
CMFHC3(A,B)****(R,H,S,T)*6**** CIC A6 or no marking with J-box connected to MVD transmitter only

Not changed

2.4.2 For types CMF200(C,E)****(R,H,S,T)*Z**** CIC A4 or CIC A5 or no marking and
CMF300(C,E)****(R,H,S,T)*Z**** CIC A4 or CIC A5 or no marking with J-box and
CMF400(C,E)****(R,H,S,T)*Z**** CIC A4 or CIC A5 or no marking,
CMFHC2(C,E)****(R,H,S,T)*Z**** CIC A4 or CIC A6 or no marking and
CMFHC3(C,E)****(R,H,S,T)*Z**** CIC A4 or CIC A6 or no marking with J-box connected to MVD transmitter
only and
for types CMF200(C,E)****(R,H,S,T)*6**** and CMF300(C,E)****(R,H,S,T)*6**** with J-box and
CMF400(C,E)****(R,H,S,T)*6****, CMFHC2(C,E)****(R,H,S,T)*6**** CIC A6 or no marking and
CMFHC3(C,E)****(R,H,S,T)*6**** CIC A6 or no marking with J-box connected to MVD transmitter only

Not changed

3 Type CMF********(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)****** with J-box, inclusive Construction Identification
Code (CIC) A4 except type CMF***(A,B,C,E)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)******

3.1 Input circuits (terminals 1 - 4)

Voltage	U_i	DC	17.3	V
Current	I_i		484	mA
Power	P_i		2.1	W
Internal capacitance	C_i		2200	pF
Internal inductance	L_i		30	μH

3.2 Temperature class/ max. surface temperature T
The classification into a temperature class/determination of the maximum surface temperature T depends
on the temperature of the medium, taking into account the maximum operating temperature of the sensor
and are shown in the following graphs:

3.2.1 For types CMF010*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****,
CMF025*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****,
CMF050*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****,
CMF100*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****,
CMF200*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****,
CMF300*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** and
CMF100*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****,
CMF200*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****,
CMF300*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A4 and
CMF200*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6****,
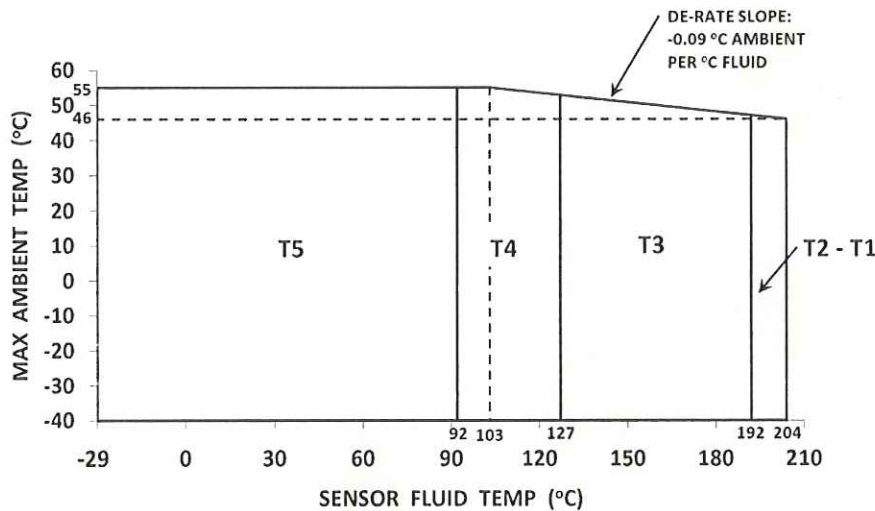CMF300*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6**** with integrally mounted core processor:

Not changed

3.2.2 For type CMF400*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** with CIC A4 and
CMF400*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6**** with integrally mounted core processor:

Not changed

3.2.3 For type CMFHC2*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** and
CMFHC3*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** with CIC A4 or no marking and
CMFHC2*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6**** and
CMFHC3*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6**** with integrally mounted core processor:

Not changed

3.2.4 For type CMFHC*Y****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** and
CMFHC*Y****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** with CIC A4 and
CMFHC*Y****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6**** with integrally mounted core processor:

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust for types CMF*********Z**** is as follows: T5: 95 °C,
T4: 130 °C, T3: 195 °C, T2 to T1: 207 °C:

Ambient temperature range   Ta   -40 °C up to +55 °C

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(until 31.03.2007 EXAM BBG Prüf- und Zertifizier GmbH)

4   Type CMF********(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)****** :

Not changed

5   Type CMF********(C,F)****** inclusive Construction Identification Code (CIC) A4 or no marking, except CMF***(A,B,C,E)****C******:

Obsolete

6   Type CMF***(A,B,C,E)****C****** inclusive Construction Identification Code CIC A4 or CIC A5 or no marking:

Not changed

7   Types CMF********(J,U)****** incl. CIC A4 with 2200S transmitter, but without types CMF***(A,B,C,E)****J,U)******

7.1   Input circuits (terminals 1 - 2)

Voltage	U_i	DC	28	V
Current	I_i		120	mA
Power	P_i		0.84	W
Internal capacitance	C_i		2200	pF
Internal inductance	L_i		45	µH

7.2   Temperature class / max. surface temperature T
The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking, into account the maximum operating temperature of the sensor and are shown in the following graphs:

7.2.1 For types CMF010*****(J,U)*Z****, CMF025*****(J,U)*Z****, CMF050*****(J,U)*Z****, CMF100*****(J,U)*Z****, CMF200*****(J,U)*Z****, CMF300*****(J,U)*Z****, CMF200*****(J,U)*Z**** CIC A4, CMF200*****(J,U)*6****, CMF300*****(J,U)*Z**** CIC A4 and CMF300*****(J,U)*6**** with integrally mounted transmitter 2200S:
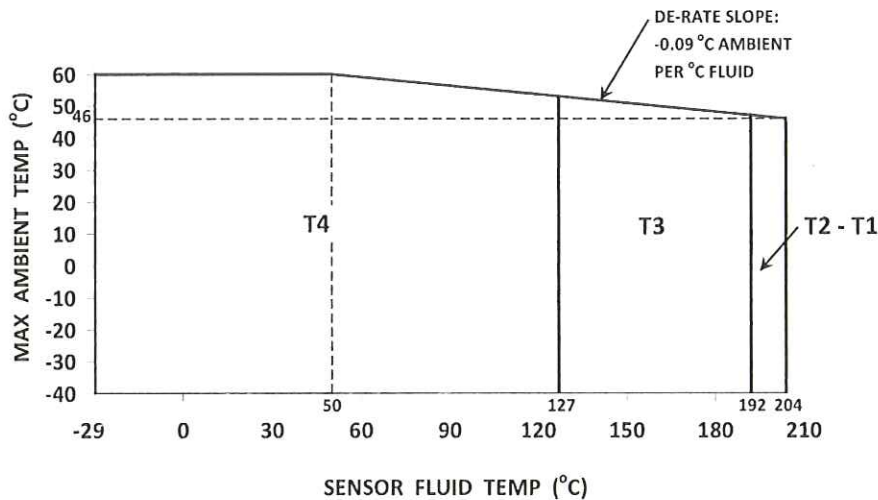
Not changed

7.2.2 For types CMF400*****(J,U)*Z**** CIC A4 and CMF400*****(J,U)*6**** with integrally mounted transmitter 2200S:

Not changed

7.2.3 For types CMFHC2*****(J,U)*Z****, CMFHC3*****(J,U)*Z**** CIC A4 or no marking, CMFHC2*****(J,U)*6**** and CMFHC3*****(J,U)*6**** with integrally mounted transmitter 2200S:

Not changed

7.2.4 For types CMFHC*Y****(J,U)*Z**** and CMFHC*Y****(J,U)*Z**** with CIC A4 and CMFHC*Y****(J,U)*6**** with integrally mounted transmitter 2200S:

Note: Use the graph above to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust for types CMFHC*Y******Z**** is as follows: T4: 130 °C, T3: 195 °C, T2 to T1: 207 °C:

Ambient temperature range	Ta	-40 °C up to +60 °C

8 Types CMF200(A,B,C,E)****(J,U)******, CMF300(A,B,C,E)****(J,U)******, CMF400(A,B,C,E)****(J,U)******, CMFHC2(A,B,C,E)****(J,U)****** and CMFHC3(A,B,C,E)****(J,U)****** with 2200S transmitter:

Not changed

The marking of the equipment shall include the following:

⟨Ex⟩ **II 2G** with additional marking required by the standards mentioned in the following tables:
II 2D Ex tD A21 IP 65 T [3)] **°C**

Type	Type of protection gas
CMF010*****[1)]*Z****	Ex ib IIC T1-T6
CMF025*****[1)]*Z****	Ex ib IIC T1-T6
CMF050*****[1)]*Z****	Ex ib IIC T1-T6
CMF100*****[1)]*Z****	Ex ib IIC T1-T6
CMF100*****[1)]*Z**** CIC A4	Ex ib IIC T1-T6
CMF100*****[1)]*6****	Ex ib IIC T1-T6
CMF200*****[1)]*Z****	Ex ib IIB T1-T6
CMF200*****[1)]*Z**** CIC A4	Ex ib IIC T1-T6
CMF200*****[1)]*6****	Ex ib IIC T1-T6
CMF200[4)]****[1)]*Z****	Ex ib IIB T1-T6
CMF200[4)]****[1)]*Z**** CIC A5	Ex ib IIB T1-T6
CMF200[4)]****[1)]*Z**** CIC A4	Ex ib IIC T1-T6
CMF200[4)]****[1)]*6****	Ex ib IIC T1-T6

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(until 31.03.2007 EXAM BBG Prüf- und Zertifizier GmbH)

Type	Type of protection gas
CMF300*****[1]*Z****	Ex ib IIB T1-T6
CMF300*****[1]*Z**** CIC A4	Ex ib IIC T1-T6
CMF300*****[1]*6****	Ex ib IIC T1-T6
CMF300[4]****[1]*Z****	Ex ib IIB T1-T6
CMF300[4]****[1]*Z**** CIC A5	Ex ib IIB T1-T6
CMF300[4]****[1]*Z**** CIC A4	Ex ib IIC T1-T6
CMF300[4]****[1]*6****	Ex ib IIC T1-T6
CMF400*****[1]*Z****	Ex ib IIB T1-T6
CMF400*****[1]*Z**** CIC A4	Ex ib IIC T1-T6
CMF400*****[1]*6****	Ex ib IIC T1-T6
CMF400[4]****[1]*Z****	Ex ib IIB T1-T6
CMF400[4]****[1]*Z**** CIC A5	Ex ib IIB T1-T6
CMF400[4]****[1]*Z**** CIC A4	Ex ib IIC T1-T6
CMF400[4]****[1]*6****	Ex ib IIC T1-T6
CMFHC2*****[1]*Z****	Ex ib IIB T1-T6
CMFHC2*****[1]*Z**** CIC A4	Ex ib IIC T1-T6
CMFHC2*****[1]*6****	Ex ib IIC T1-T6
CMFHC2[4]****[1]*Z****	Ex ib IIB T1-T6
CMFHC2[4]****[1]*Z**** CIC A4	Ex ib IIC T1-T6
CMFHC2[4]****[1]*6****	Ex ib IIC T1-T6
CMFHC2[4]****[1]*Z**** CIC A6	Ex ib IIB T1-T6
CMFHC2[4]****[1]*6**** CIC A6	Ex ib IIC T1-T6
CMFHC3*****[1]*Z****	Ex ib IIB T1-T6
CMFHC3*****[1]*Z**** CIC A4	Ex ib IIC T1-T6
CMFHC3*****[1]*6****	Ex ib IIC T1-T6
CMFHC3[4]****[1]*Z****	Ex ib IIB T1-T6
CMFHC3[4]****[1]*Z**** CIC A4	Ex ib IIC T1-T6
CMFHC3[4]****[1]*6****	Ex ib IIC T1-T6
CMFHC3[4]****[1]*Z**** CIC A6	Ex ib IIB T1-T6
CMFHC3[4]****[1]*6**** CIC A6	Ex ib IIC T1-T6
CMF010*****[2]*Z****	Ex ib IIC T1-T5
CMF025*****[2]*Z****	Ex ib IIC T1-T5
CMF050*****[2]*Z****	Ex ib IIC T1-T5
CMF100*****[2]*Z****	Ex ib IIC T1-T5
CMF100*****[2]*Z**** CIC A4	Ex ib IIC T1-T5
CMF100*****[2]*6****	Ex ib IIC T1-T5
CMF200*****[2]*Z****	Ex ib IIB T1-T5
CMF200*****[2]*Z**** CIC A4	Ex ib IIC T1-T5
CMF200*****[2]*6****	Ex ib IIC T1-T5
CMF200[4]****[2]*Z****	Ex ib IIB T1-T5
CMF200[4]****[2]*Z**** CIC A5	Ex ib IIB T1-T5
CMF200[4]****[2]*Z**** CIC A4	Ex ib IIC T1-T5
CMF200[4]****[2]*6****	Ex ib IIC T1-T5
CMF300*****[2]*Z****	Ex ib IIB T1-T5
CMF300*****[2]*Z**** CIC A4	Ex ib IIC T1-T5
CMF300*****[2]*6****	Ex ib IIC T1-T5
CMF300[4]****[2]*Z****	Ex ib IIB T1-T5
CMF300[4]****[2]*Z**** CIC A5	Ex ib IIB T1-T5
CMF300[4]****[2]*Z**** CIC 4	Ex ib IIC T1-T5
CMF300[4]****[2]*6****	Ex ib IIC T1-T5
CMF400*****[2]*Z****	Ex ib IIB T1-T5
CMF400*****[2]*Z**** CIC A4	Ex ib IIC T1-T5

Type	Type of protection gas
CMF400*****[2)]*6****	Ex ib IIC T1-T5
CMF400[4)]****[2)]*Z****	Ex ib IIB T1-T5
CMF400[4)]****[2)]*Z**** CIC A5	Ex ib IIB T1-T5
CMF400[4)]****[2)]*Z**** CIC A4	Ex ib IIC T1-T5
CMF400[4)]****[2)]*6****	Ex ib IIC T1-T5
CMFHC2*****[2)]*Z****	Ex ib IIB T1-T5
CMFHC2*****[2)]*Z**** CIC A4	Ex ib IIC T1-T5
CMFHC2*****[2)]*6****	Ex ib IIC T1-T5
CMFHC2[4)] ****[2)]*Z****	Ex ib IIB T1-T5
CMFHC2[4)] ****[2)]*Z**** CIC A4	Ex ib IIC T1-T5
CMFHC2[4)] ****[2)]*6****	Ex ib IIC T1-T5
CMFHC2[4)] ****[2)]*Z**** CIC A6	Ex ib IIB T1-T5
CMFHC2[4)] ****[2)]*6**** CIC A6	Ex ib IIC T1-T5
CMFHC3*****[2)]*Z****	Ex ib IIB T1-T5
CMFHC3*****[2)]*Z**** CIC A4	Ex ib IIC T1-T5
CMFHC3*****[2)]*6****	Ex ib IIC T1-T5
CMFHC3[4)]****[2)]*Z****	Ex ib IIB T1-T5
CMFHC3[4)]****[2)]*Z**** CIC A4	Ex ib IIC T1-T5
CMFHC3[4)]****[2)]*6****	Ex ib IIC T1-T5
CMFHC3[4)]****[2)]*Z**** CIC A6	Ex ib IIB T1-T5
CMFHC3[4)]****[2)]*6**** CIC A6	Ex ib IIB T1-T5
CMFHC*Y****[2)]*Z****	Ex ib IIB T1-T5
CMFHC*Y****[2)]*Z**** CIC A4	Ex ib IIC T1-T5
CMFHC*Y****[2)]*6****	Ex ib IIC T1-T5

For sensors with J-box connected to non-MVD transmitters (i. e. 9739) is valid:

Type	Type of protection gas	Min. ambient/fluid temp. gas
CMF010*****[1)]*Z****	Ex ib IIC T1-T6	-240 °C
CMF025*****[1)]*Z****	Ex ib IIC T1-T6	-240 °C
CMF050*****[1)]*Z****	Ex ib IIC T1-T6	-240 °C
CMF100*****[1)]*Z****	Ex ib IIC T1-T6	-40 °C
CMF100*****[1)]*Z**** CIC A4	Ex ib IIC T1-T6	-240 °C
CMF100*****[1)]*6****	Ex ib IIC T1-T6	-240 °C
CMF200*****[1)]*Z****	Ex ib IIB T1-T6	-55 °C
CMF200*****[1)]*Z**** CIC A4	Ex ib IIC T1-T6	-240 °C
CMF200*****[1)]*6****	Ex ib IIC T1-T6	-240 °C
CMF200[4)]****[1)]*Z****	Ex ib IIB T1-T6	-50 °C
CMF200[4)]****[1)]*Z**** CIC A5	Ex ib IIB T1-T6	-50 °C
CMF200[4)]****[1)]*Z**** CIC A4	Ex ib IIC T1-T6	-50 °C
CMF200[4)]****[1)]*6****	Ex ib IIC T1-T6	-50 °C
CMF300*****[1)]*Z****	Ex ib IIB T1-T6	-55 °C
CMF300*****[1)]*Z**** CIC A4	Ex ib IIC T1-T6	-240 °C
CMF300*****[1)]*6****	Ex ib IIC T1-T6	-240 °C
CMF300[4)]****[1)]*Z****	Ex ib IIB T1-T6	-50 °C
CMF300[4)]****[1)]*Z**** CIC A5	Ex ib IIB T1-T6	-50 °C
CMF300[4)]****[1)]*Z**** CIC A4	Ex ib IIC T1-T6	-50 °C
CMF300[4)]****[1)]*6****	Ex ib IIC T1-T6	-50 °C

For sensors with J-box connected to MVD transmitters is valid:

Type	Type of protection gas	Min. ambient/fluid temp. gas
CMF010*****[1]*Z****	Ex ib IIC T1-T6	-240 °C
CMF025*****[1]*Z****	Ex ib IIC T1-T6	-240 °C
CMF050*****[1]*Z****	Ex ib IIC T1-T6	-240 °C
CMF100*****[1]*Z****	Ex ib IIC T1-T6	-60 °C
CMF100*****[1]*Z**** CIC A4	Ex ib IIC T1-T6	-240 °C
CMF100*****[1]*6****	Ex ib IIC T1-T6	-240 °C
CMF200*****[1]*Z****	Ex ib IIB T1-T6	-55 °C
CMF200*****[1]*Z**** CIC A4	Ex ib IIC T1-T6	-240 °C
CMF200*****[1]*6****	Ex ib IIC T1-T6	-240 °C
CMF200[4)****[1]*Z****	Ex ib IIB T1-T6	-50 °C
CMF200[4)****[1]*Z**** CIC A5	Ex ib IIB T1-T6	-50 °C
CMF200[4)****[1]*Z**** CIC A4	Ex ib IIC T1-T6	-50 °C
CMF200[4)****[1]*6****	Ex ib IIC T1-T6	-50 °C
CMF300*****[1]*Z****	Ex ib IIB T1-T6	-55 °C
CMF300*****[1]*Z**** CIC A4	Ex ib IIC T1-T6	-240 °C
CMF300*****[1]*6****	Ex ib IIC T1-T6	-240 °C
CMF300[4)****[1]*Z****	Ex ib IIB T1-T6	-50 °C
CMF300[4)****[1]*Z**** CIC A5	Ex ib IIB T1-T6	-50 °C
CMF300[4)****[1]*Z**** CIC A4	Ex ib IIC T1-T6	-50 °C
CMF300[4)****[1]*6****	Ex ib IIC T1-T6	-50 °C
CMF400*****[1]*Z****	Ex ib IIB T1-T6	-68 °C
CMF400*****[1]*Z**** CIC A4	Ex ib IIC T1-T6	-240 °C
CMF400*****[1]*6****	Ex ib IIC T1-T6	-240 °C
CMF400[4)****[1]*Z****	Ex ib IIB T1-T6	-50 °C
CMF400[4)****[1]*Z**** CIC A5	Ex ib IIB T1-T6	-50 °C
CMF400[4)****[1]*Z**** CIC A4	Ex ib IIC T1-T6	-50 °C
CMF400[4)****[1]*6****	Ex ib IIC T1-T6	-50 °C
CMFHC2*****[1]*Z****	Ex ib IIB T1-T6	-50 °C
CMFHC2*****[1]*Z**** CIC A4	Ex ib IIC T1-T6	-240 °C
CMFHC2*****[1]*6****	Ex ib IIC T1-T6	-240 °C
CMFHC2[4)****[1]*Z****	Ex ib IIB T1-T6	-50 °C
CMFHC2[4)****[1]*Z**** CIC A4	Ex ib IIC T1-T6	-50 °C
CMFHC2[4)****[1]*6****	Ex ib IIC T1-T6	-50 °C
CMFHC2[4)****[1]*Z**** CIC A6	Ex ib IIB T1-T6	-50 °C
CMFHC2[4)****[1]*6**** CIC A6	Ex ib IIC T1-T6	-50 °C
CMFHC3*****[1]*Z****	Ex ib IIB T1-T6	-50 °C
CMFHC3*****[1]*Z**** CIC A4	Ex ib IIC T1-T6	-240 °C
CMFHC3*****[1]*6****	Ex ib IIC T1-T6	-240 °C
CMFHC3[4)****[1]*Z****	Ex ib IIB T1-T6	-50 °C
CMFHC3[4)****[1]*Z**** CIC A4	Ex ib IIC T1-T6	-50 °C
CMFHC3[4)****[1]*6****	Ex ib IIC T1-T6	-50 °C
CMFHC3[4)****[1]*Z**** CIC A6	Ex ib IIB T1-T6	-50 °C
CMFHC3[4)****[1]*6**** CIC A6	Ex ib IIC T1-T6	-50 °C
CMFHC*Y****[1]*Z****	Ex ib IIB T1-T6	-50 °C / - 29 °C
CMFHC*Y****[1]*Z**** CIC A4	Ex ib IIC T1-T6	-240 °C / - 29 °C
CMFHC*Y****[1]*6****	Ex ib IIC T1-T6	-240 °C / - 29 °C

[1] At this place the letter R, H, S or T will be inserted.
[2] At this place the numeral 2, 3, 4, 5, 6, 7, 8 or 9 or the letter A, B, D, E, Q, V, W or Y will be inserted.

3)   Max. surface temperature T for dust for types CMF*********Z**** see temperature graphs and manufacturer's instructions. Min. ambient and process temperature for dust is -40 °C.

4)   At this place the letter A, B, C or E will be inserted.

Special conditions for safe use

By mounting the sensor type CMF***(A,B,C,E)****C****** directly to the transmitter *700********** the use of the unit will be modified according to the following:

	Sensor type	
Sensor type	CMF200(A,B,C,E)****C*Z**** CIC A4 CMF200(A,B,C,E)****C*6**** CMF300(A,B,C,E)****C*Z**** CIC A4 CMF300(A,B,C,E)****C*6**** CMF400(A,B,C,E)****C*Z**** CIC A4 CMF400(A,B,C,E)****C*6**** CMFHC2(A,B,C,E)****C*Z**** CIC A4 CMFHC2(A,B,C,E)****C*6**** CMFHC2(A,B,C,E)****C*6**** CIC A6 CMFHC3(A,B,C,E)****C*Z**** CIC A4 CMFHC3(A,B,C,E)****C*6**** CMFHC3(A,B,C,E)****C*Z**** CIC A6	CMF200(A,B,C,E)****C*Z**** CMF200(A,B,C,E)****C*Z**** CIC A5 CMF300(A,B,C,E)****C*Z**** CMF300(A,B,C,E)****C*Z**** CIC A5 CMF400(A,B,C,E)****C*Z**** CMF400(A,B,C,E)****C*Z**** CIC A5 CMFHC2(A,B,C,E)****C*Z**** CMFHC2(A,B,C,E)****C*Z**** CIC A6 CMFHC3(A,B,C,E)****C*Z**** CMFHC3(A,B,C,E)****C*Z**** CIC A6
Transmitter type *700*1[1]*******	Ex ib IIB+H_2 T1-T5 Ex tD A21 IP65 T [3] °C	Ex ib IIB T1-T5 Ex tD A21 IP65 T [3] °C
Transmitter type *700*1[2]*******	Ex ib IIC T1-T5 Ex tD A21 IP65 T [3] °C	Ex ib IIB T1-T5 Ex tD A21 IP65 T [3] °C

1)   At this place the numeral 1 or 2 will be inserted.

2)   At this place the numeral 3, 4 or 5 will be inserted.

3)   Max. surface temperature T for dust for types CMF*********Z**** see temperature graphs and manufacturer's instructions.

By mounting the sensor type CMF********(J,U)****** directly to the transmitter 22**S********* the use of the unit will be modified according to the following:

Sensor type	Sensor Typ	
	CMF010*****(J,U)*Z****	CMF200*****(J,U)*Z****
	CMF025*****(J,U)*Z****	CMF300*****(J,U)*Z****
	CMF050*****(J,U)*Z****	CMF400*****(J,U)*Z****
	CMF100*****(J,U)*Z****	CMFHC2*****(J,U)*Z****
	CMF100*****(J,U)*Z**** CIC A4	CMFHC3*****(J,U)*Z****
	CMF100*****(J,U)*6****	CMF200(A,B,C,E)****(J,U)*Z****
	CMF200*****(J,U)*Z**** CIC A4	CMF200(A,B,C,E)****(J,U)*Z**** CIC A5
	CMF200*****(J,U)*6****	CMF300(A,B,C,E)****(J,U)*Z****
	CMF300*****(J,U)*Z**** CIC A4	CMF300(A,B,C,E)****(J,U)*Z**** CIC A5
	CMF300*****(J,U)*6****	CMF400(A,B,C,E)****(J,U)*Z****
	CMF400*****(J,U)*Z**** CIC A4	CMF400(A,B,C,E)****(J,U)*Z**** CIC A5
	CMF400*****(J,U)*6****	CMFHC2(A,B,C,E)****(J,U)*Z****
	CMFHC2*****(J,U)*Z**** CIC A4	CMFHC2(A,B,C,E)****(J,U)*Z**** CIC A6
	CMFHC2*****(J,U)*6****	CMFHC3(A,B,C,E)****(J,U)*Z****
	CMFHC3*****(J,U)*Z**** CIC A4	CMFHC3(A,B,C,E)****(J,U)*Z**** CIC A6
	CMFHC3*****(J,U)*6****	
	CMF200(A,B,C,E)****(J,U)*Z**** CIC A4	
	CMF200(A,B,C,E)****(J,U)*6****	
	CMF300(A,B,C,E)****(J,U)*Z**** CIC A4	
	CMF300(A,B,C,E)****(J,U)*6****	
	CMF400(A,B,C,E)****(J,U)*Z**** CIC A4	
	CMF400(A,B,C,E)****(J,U)*6****	
	CMFHC2(A,B,C,E)****(J,U)*Z**** CIC A4	
	CMFHC2(A,B,C,E)****(J,U)*6****	
	CMFHC2(A,B,C,E)****(J,U)*6**** CIC A6	
	CMFHC3(A,B,C,E)****(J,U)*Z**** CIC A4	
	CMFHC3(A,B,C,E)****(J,U)*6****	
	CMFHC3(A,B,C,E)****(J,U)*Z**** CIC A6	
Transmitter type 2200S***1*Z****	Ex ib IIC T1-T4 Ex ibD 21 T70 °C	Ex ib IIB T1-T4 Ex ibD 21 T70 °C

Test and assessment report

BVS PP 06.2035 EG as of 30.07.2009

DEKRA EXAM GmbH
Bochum, dated 30.07.2009

Signed:

Simanski
Certification body

Signed:

Dr. Eickhoff
Special services unit

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 30.07.2009
BVS-Schu / Her   A 20090502

DEKRA EXAM GmbH

Certification body

Special services unit

5th Supplement

(Supplement in accordance with Directive 94/9/EC Annex III number 6)

to the EC-Type Examination Certificate
BVS 06 ATEX E 045 X

Equipment:	**Sensor type CMF*****************
Manufacturer:	**Micro Motion, Inc.**
Address:	**Boulder, Co. 80301, USA**

Description

The sensor can be modified according to the descriptive documents as mentioned in the pertinent test and assessment report.
Sensors type CMFHC4*******(Z,6)**** and type CMFHC4(A,B,C,E)******(Z,6)**** have been added,

temperature diagrams for type CMF400*******(Z,6)**** and type CMF400*****(J,U)*(Z,6)**** have been modified,

Flex Conduit for High Temp Sensors have been revised,

Sensors type CMF********(R,H,S,T)*(Z,6)**** can also be executed with the alternate junction box covered in BVS 09 ATEX E 071 U and

new sensors type CMFHC4*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6**** & ETO 17192,
type CMFHC4*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A4 & ETO 17192,
type CMFHC3*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6**** & ETO 16995,
type CMFHC3*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A4 & ETO 16995,
type CMFHC2*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6**** & ETO 17076,
type CMFHC2*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A4 & ETO 17076,
type CMF300*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6**** & ETO 17151 and
type CMF300*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A4 & ETO 17151
for a minimum ambient-/process temperature of -240 °C are possible.

The following modifications have also been carried out:

Transmitters type *700*1*4****** and associated temperature diagrams have been added.

Transmitters Type 22**S*(5,6)***Z**** have been added.

Ambient Temperature Limit for sensors type CMF********(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z*****
has been changed to +60°C.

Also for the sensors have been assessed in acc. with the latest revisions of standards EN 60079-0:2009 and EN 61241-11:2006, which leads to modified marking.

The Essential Health and Safety Requirements of the modified equipment are assured by compliance with:

EN 60079-0:2009	General requirements
EN 60079-11:2007	Intrinsic safety ´i´
EN 61241-11:2006	Intrinsic safety ´iD´

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Modified Parameters

1   Type CMF********(R,H,S,T)****** with J-box, inclusive Construction Identification Code (CIC) A4 except type CMF***(A,B,C,E)****(R,H,S,T)******

1.1   Drive circuit (connections 1 - 2 or red and brown)

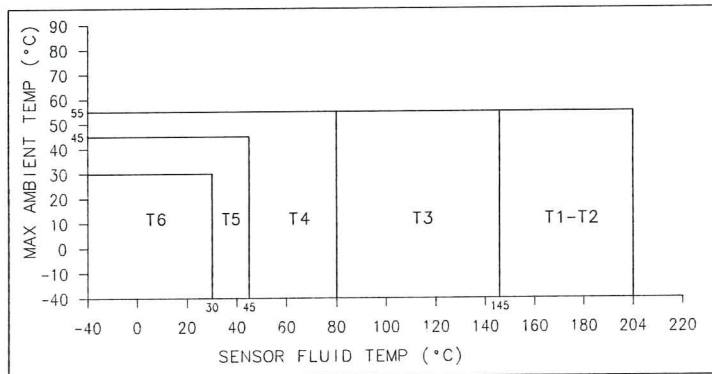|				
Voltage	U_i	DC	11.4	V
Current	I_i		2.45	A
Power	P_i		2.54	W
effective internal capacitance	C_i		negligible	

Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Min. Ambient/Fluid Temperature [°C]
CMF010*****(R,H,S,T)*Z****	2.51	78.7	948.9	-40
CMF010*****(R,H,S,T)*Z****	2.51	0	945.1	-240
CMF025*****(R,H,S,T)*Z****	2.51	78.7	170.8	-40
CMF025*****(R,H,S,T)*Z****	2.51	0	170.1	-240
CMF050*****(R,H,S,T)*Z****	2.51	78.7	170.8	-40
CMF050*****(R,H,S,T)*Z****	2.51	0	170.1	-240
CMF100*****(R,H,S,T)*Z****	6.7	58.4	89.0	-40
CMF100*****(R,H,S,T)*Z****	6.7	52.4	89.0	-60
CMF100*****(R,H,S,T)*Z**** CIC A4	6.7	0	177.0	-240
CMF100*****(R,H,S,T)*6****	6.7	0	177.0	-240
CMF200*****(R,H,S,T)*Z****	9.5	92.9	0	-40
CMF200*****(R,H,S,T)*Z****	9.5	85.8	0	-55
CMF200*****(R,H,S,T)*Z**** CIC A4	9.5	0	177.0	-240
CMF200*****(R,H,S,T)*6****	9.5	0	177.0	-240
CMF300*****(R,H,S,T)*Z****	9.5	92.9	0	-40
CMF300*****(R,H,S,T)*Z****	9.5	85.8	0	-55
CMF300*****(R,H,S,T)*Z**** CIC A4	9.5	0	177.0	-240
CMF300*****(R,H,S,T)*6****	9.5	0	177.0	-240
CMF400*****(R,H,S,T)*Z****	11.75	83.5	19.8	-40
CMF400*****(R,H,S,T)*Z****	11.75	71.4	19.8	-68
CMF400*****(R,H,S,T)*Z**** CIC A4	11.75	0	187.1	-240
CMF400*****(R,H,S,T)*6****	11.75	0	187.1	-240
CMFHC2*****(R,H,S,T)*Z****	5.0	19.5	38.5	-50
CMFHC2*****(R,H,S,T)*Z**** CIC A4	5.0	0	126.0	-240
CMFHC2*****(R,H,S,T)*6****	5.0	0	126.0	-240
CMFHC3*****(R,H,S,T)*Z****	5.0	19.5	38.5	-50
CMFHC3*****(R,H,S,T)*Z**** CIC A4	5.0	0	126.0	-240
CMFHC3*****(R,H,S,T)*6****	5.0	0	126.0	-240
CMFHC4*****(R,H,S,T)*Z****	5.0	19.5	38.5	-50
CMFHC4*****(R,H,S,T)*Z**** CIC A4	5.0	0	126.0	-240
CMFHC4*****(R,H,S,T)*6****	5.0	0	126.0	-240
CMFHC*Y****(R,H,S,T)*Z****	5.0	19.5	38.5	-50/-29
CMFHC*Y****(R,H,S,T)*Z**** CIC A4	5.0	0	126.0	-240/-29
CMFHC*Y****(R,H,S,T)*6****	5.0	0	126.0	-240/-29

1.2   Pick-Off coil (Terminals 5/9 and 6/8 or wires green/white and blue/grey)
       Voltage   Ui   DC   21.13   V
       Current   Ii   18.05   mA
       Power   Pi   45   mW

       Effective internal capacitance   Ci   negligible

Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Min. Ambient/Fluid Temperature [°C]
CMF010*****(R,H,S,T)*Z****	2.51	78.7	0	-40
CMF010*****(R,H,S,T)*Z****	2.51	0	0	-240
CMF025*****(R,H,S,T)*Z****	2.51	78.7	0	-40
CMF025*****(R,H,S,T)*Z****	2.51	0	0	-240
CMF050*****(R,H,S,T)*Z****	2.51	78.7	0	-40
CMF050*****(R,H,S,T)*Z****	2.51	0	0	-240
CMF100*****(R,H,S,T)*Z****	0.441	11.1	0	-40
CMF100*****(R,H,S,T)*Z****	0.441	9.9	0	-60
CMF100*****(R,H,S,T)*Z**** CIC A4	0.441	0	0	-240
CMF100*****(R,H,S,T)*6****	0.441	0	0	-240
CMF200*****(R,H,S,T)*Z****	2.0	41.9	0 to 567.9	-40
CMF200*****(R,H,S,T)*Z****	2.0	38.7	0 to 567.9	-55
CMF200*****(R,H,S,T)*Z**** CIC A4	2.0	0	0 to 567.9	-240
CMF200*****(R,H,S,T)*6****	2.0	0	0 to 567.9	-240
CMF300*****(R,H,S,T)*Z****	2.0	41.9	0 to 567.9	-40
CMF300*****(R,H,S,T)*Z****	2.0	38.7	0 to 567.9	-55
CMF300*****(R,H,S,T)*Z**** CIC A4	2.0	0	0 to 567.9	-240
CMF300*****(R,H,S,T)*6****	2.0	0	0 to 567.9	-240
CMF400*****(R,H,S,T)*Z****	12.4	128.3	0 to 566.4	-40
CMF400*****(R,H,S,T)*Z****	12.4	109.8	0 to 566.4	-68
CMF400*****(R,H,S,T)*Z**** CIC A4	12.4	0	0 to 566.4	-240
CMF400*****(R,H,S,T)*6****	12.4	0	0 to 566.4	-240
CMFHC2*****(R,H,S,T)*Z****	2.8	49.2	42.6 to 566.4	-50
CMFHC2*****(R,H,S,T)*Z**** CIC A4	2.8	0	198.4 to 566.4	-240
CMFHC2*****(R,H,S,T)*6****	2.8	0	198.4 to 566.4	-240
CMFHC3*****(R,H,S,T)*Z****	2.8	49.2	42.6 to 566.4	-50
CMFHC3*****(R,H,S,T)*Z**** CIC A4	2.8	0	198.4 to 566.4	-240
CMFHC3*****(R,H,S,T)*6****	2.8	0	198.4 to 566.4	-240
CMFHC4*****(R,H,S,T)*Z****	2.8	49.2	42.6 to 566.4	-50
CMFHC4*****(R,H,S,T)*Z**** CIC A4	2.8	0	198.4 to 566.4	-240
CMFHC4*****(R,H,S,T)*6****	2.8	0	198.4 to 566.4	-240
CMFHC*Y****(R,H,S,T)*Z****	2.8	49.2	42.6 to 566.4	-50/-29
CMFHC*Y****(R,H,S,T)*Z**** CIC A4	2.8	0	198.4 to 566.4	-240/-29
CMFHC*Y****(R,H,S,T)*6****	2.8	0	198.4 to 566.4	-240/-29

1.3   Temperature circuits (terminals 3, 4 and 7 or wires orange, yellow and violet)

Voltage	U_i	DC	21.13	V
Current	I_i		26	mA
Power	P_i		112	mW
Effective internal capacitance	C_i		negligible	
Effective internal inductance	L_i		negligible	

Identification resistor circuit (terminals 3 & 4 or wires orange and yellow)

Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Min. Ambient/Fluid Temperature [°C]
CMF400*****(R,H,S,T)*Z****	N/A	N/A	39.7 to 42.2	-68
CMF400*****(R,H,S,T)*Z**** CIC A4	N/A	N/A	39.7 to 42.2	-240
CMF400*****(R,H,S,T)*6****	N/A	N/A	39.7 to 42.2	-240

1.4   Temperature class/ max. surface temperature T
The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graph:

1.4.1   For types CMF010*****(R,H,S,T)****** , CMF025*****(R,H,S,T)****** and CMF050*****(R,H,S,T)****** with J-box
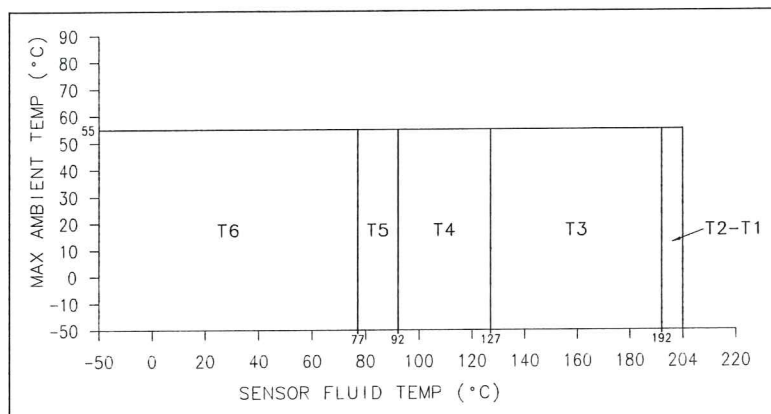

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 254 °C. The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range	T_a	-240 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

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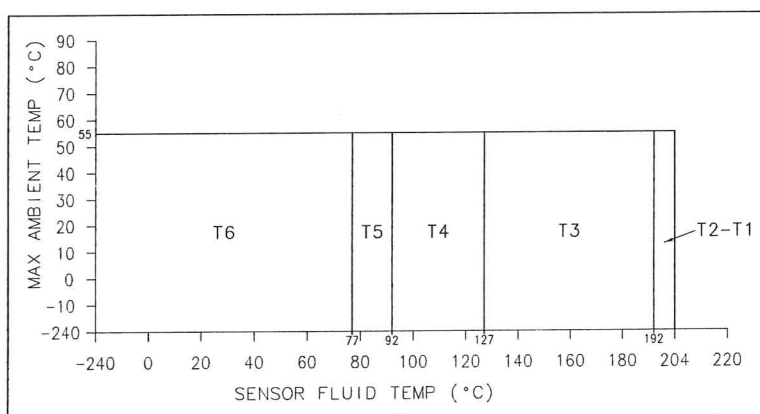1.4.2   For types CMF100*****(R,H,S,T)****** with J-box connected to non-MVD transmitters (i.e. 9739)

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 254 °C. The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -40 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

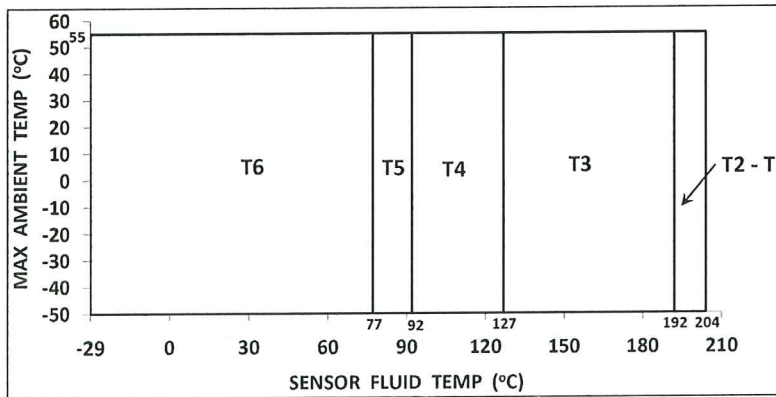1.4.3   For types CMF100*****(R,H,S,T)****** with J-box connected to MVD transmitters.

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 254 °C. The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -60 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

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1.4.4 For types CMF200*****(R,H,S,T)****** and CMF300*****(R,H,S,T)*Z**** with J-box
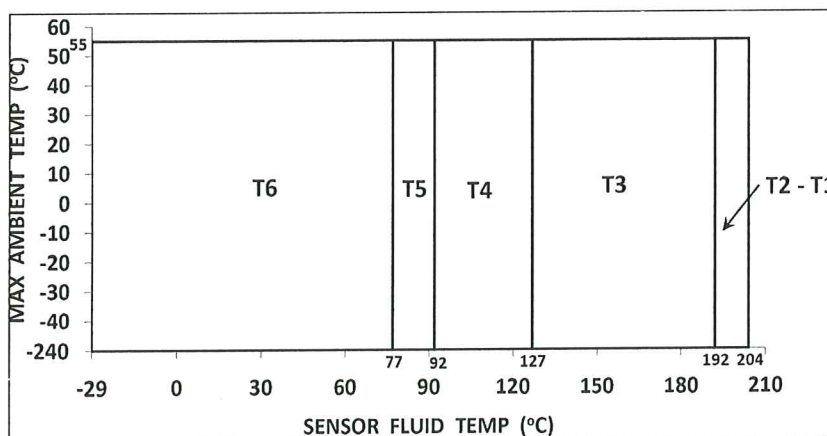

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 254 °C. The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -55 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

1.4.5 For types CMF100*****(R,H,S,T)*Z****, CMF200*****(R,H,S,T)*Z**** and CMF300*****(R,H,S,T)*Z**** with Construction Identification Code (CIC) marking A4 and for types CMF100*****(R,H,S,T)*6****, CMF200*****(R,H,S,T)*6**** and CMF300*****(R,H,S,T)*6**** with J-box

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 254 °C. The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -240 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

1.4.6   For types CMF400*****(R,H,S,T)*Z**** with J-box connected to MVD transmitters .

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 234 °C. The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -68 °C up to +60 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

1.4.7   For types CMF400*****(R,H,S,T)*Z**** with Construction Identification Code (CIC) marking A4 and for types CMF400*****(R,H,S,T)*6**** with J-box

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 234 °C. The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -240 °C up to +60 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

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1.4.8   For types CMFHC2*****(R,H,S,T)*Z**** , CMFHC3*****(R,H,S,T)*Z**** and
CMFHC4*****(R,H,S,T)*Z**** with J-box connected to MVD transmitters.

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2
and T1: 207 °C. The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does
not exceed the maximum temperature of the medium taking into account the temperature classification and
the maximum operating temperature of the sensor.

1.4.9   For types CMFHC2*****(R,H,S,T)*Z**** , CMFHC3*****(R,H,S,T)*Z**** and
CMFHC4*****(R,H,S,T)*Z**** with Construction Identification Code (CIC) marking A4 and types
CMFHC2*****(R,H,S,T)*6**** , CMFHC3*****(R,H,S,T)*6**** and CMFHC4*****(R,H,S,T)*6****
with J-box connected to MVD transmitters .

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2
and T1: 207 °C. The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -240 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does
not exceed the maximum temperature of the medium taking into account the temperature classification and
the maximum operating temperature of the sensor.

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1.4.10   For types CMFHC*Y****(R,H,S,T)*Z**** without Construction Identification Code (CIC) marking with
          J-box connected to MVD transmitters

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2
and T1: 207 °C. The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does
not exceed the maximum temperature of the medium taking into account the temperature classification and
the maximum operating temperature of the sensor.

1.4.11   For types CMFHC*Y****(R,H,S,T)*Z**** with Construction Identification Code (CIC) marking A4 and
          type CMFHC*Y****(R,H,S,T)*6**** with J-box connected to MVD transmitters

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C,
T2 and T1: 207 °C. The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -240 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does
not exceed the maximum temperature of the medium taking into account the temperature classification and
the maximum operating temperature of the sensor.

2 Type CMF***(A,B,C,E)****(R,S)****** with J-box

Removed option codes CMF*** (A,B,C,E)****(H,T)*******

2.1 Drive circuit (connections 1 - 2 or red and brown)

Voltage	U_i	DC	11.4	V
Current	I_i		2.45	A
Power	P_i		2.54	W

Effective internal capacitance C_i negligible

Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Min Ambient/Fluid Temperature [°C]
CMF200(A,B,C,E)****(R,S)*Z****	4.01	32.2	19.8	-50
CMF200(A,B,C,E)****(R,S)*Z**** CIC A5	1.1	15.4	9.6	-50
CMF200(A,B,C,E)****(R,S)*Z**** CIC A4	1.1	15.4	41	-50
CMF200(A,B,C,E)****(R,S)*6****	1.1	15.4	41	-50
CMF300(A,B,C,E)****(R,S)*Z****	4.01	32.3	19.8	-50
CMF300(A,B,C,E)****(R,S)*Z**** CIC A5	1.1	15.4	9.6	-50
CMF300(A,B,C,E)****(R,S)*Z**** CIC A4	1.1	15.4	41	-50
CMF300(A,B,C,E)****(R,S)*6****	1.1	15.4	41	-50
CMF400(A,B,C,E)****(R,S)*Z****	7.75	54.3	19.8	-50
CMF400(A,B,C,E)****(R,S)*Z**** CIC A5	3.4	35.2	12.8	-50
CMF400(A,B,C,E)****(R,S)*Z**** CIC A4	3.4	35.2	63.2	-50
CMF400(A,B,C,E)****(R,S)*6****	3.4	35.2	63.2	-50
CMFHC2(A,B,C,E)****(R,S)*Z****	5.95	51.3	12.8	-50
CMFHC2(A,B,C,E)****(R,S)*Z**** CIC A4	5.95	51.3	88.9	-50
CMFHC2(A,B,C,E)****(R,S)*6****	5.95	51.3	88.9	-50
CMFHC2(A,B,C,E)****(R,S)*Z**** CIC A6	7.75	54.3	24.7	-50
CMFHC2(A,B,C,E)****(R,S)*6**** CIC A6	7.75	54.3	106.7	-50
CMFHC3(A,B,C,E)****(R,S)*Z****	5.95	51.3	12.8	-50
CMFHC3(A,B,C,E)****(R,S)*Z**** CIC A4	5.95	51.3	88.9	-50
CMFHC3(A,B,C,E)****(R,S)*6****	5.95	51.3	88.9	-50
CMFHC3(A,B,C,E)****(R,S)*Z**** CIC A6	7.75	54.3	24.7	-50
CMFHC3(A,B,C,E)****(R,S)*6**** CIC A6	7.75	54.3	106.7	-50
CMFHC4(A,B,C,E)****(R,S)*Z****	5.95	51.3	12.8	-50
CMFHC4(A,B,C,E)****(R,S)*Z**** CIC A4	5.95	51.3	88.9	-50
CMFHC4(A,B,C,E)****(R,S)*6****	5.95	51.3	88.9	-50
CMFHC4(A,B,C,E)****(R,S)*Z**** CIC A6	7.75	54.3	24.7	-50
CMFHC4(A,B,C,E)****(R,S)*6**** CIC A6	7.75	54.3	106.7	-50

2.2 Pick-Off coil (Terminals 5/9 and 6/8 or wires green/white and blue/grey)

Voltage	U_i	DC	21.13	V
Current	I_i		18.05	mA
Power	P_i		45	mW

Effective internal capacitance C_i negligible

Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Min. Ambient/Fluid Temperature [°C]
CMF200(A,B,C,E)****(R,S)*Z****	1.25	15.4	569.2	-50
CMF200(A,B,C,E)****(R,S)*Z**** CIC A5	0.50	8.0	569.2	-50
CMF200(A,B,C,E)****(R,S)*Z**** CIC A4	0.50	8.0	569.2	-50
CMF200(A,B,C,E)****(R,S)*6****	0.50	8.0	569.2	-50
CMF300(A,B,C,E)****(R,S)*Z****	1.25	15.4	569.2	-50
CMF300(A,B,C,E)****(R,S)*Z**** CIC A5	0.50	8.0	569.2	-50
CMF300(A,B,C,E)****(R,S)*Z**** CIC A4	0.50	8.0	569.2	-50
CMF300(A,B,C,E)****(R,S)*6****	0.50	8.0	569.2	-50
CMF400(A,B,C,E)****(R,S)*Z****	6.50	41.1	569.2	-50
CMF400(A,B,C,E)****(R,S)*Z**** CIC A5	1.10	15.4	569.2	-50
CMF400(A,B,C,E)****(R,S)*Z**** CIC A4	1.10	15.4	569.2	-50
CMF400(A,B,C,E)****(R,S)*6****	1.10	15.4	569.2	-50
CMFHC2(A,B,C,E)****(R,S)*Z****	0.85	9.1	42.6	-50
CMFHC2(A,B,C,E)****(R,S)*Z**** CIC A4	0.85	9.1	42.6	-50
CMFHC2(A,B,C,E)****(R,S)*6****	0.85	9.1	42.6	-50
CMFHC2(A,B,C,E)****(R,S)*Z**** CIC A6	0.85	9.1	42.6	-50
CMFHC2(A,B,C,E)****(R,S)*6**** CIC A6	0.85	9.1	42.6	-50
CMFHC3(A,B,C,E)****(R,S)*Z****	0.85	9.1	42.6	-50
CMFHC3(A,B,C,E)****(R,S)*Z**** CIC A4	0.85	9.1	42.6	-50
CMFHC3(A,B,C,E)****(R,S)*6****	0.85	9.1	42.6	-50
CMFHC3(A,B,C,E)****(R,S)*Z**** CIC A6	0.85	9.1	42.6	-50
CMFHC3(A,B,C,E)****(R,S)*6**** CIC A6	0.85	9.1	42.6	-50
CMFHC4(A,B,C,E)****(R,S)*Z****	0.85	9.1	42.6	-50
CMFHC4(A,B,C,E)****(R,S)*Z**** CIC A4	0.85	9.1	42.6	-50
CMFHC4(A,B,C,E)****(R,S)*6****	0.85	9.1	42.6	-50
CMFHC4(A,B,C,E)****(R,S)*Z**** CIC A6	0.85	9.1	42.6	-50
CMFHC4(A,B,C,E)****(R,S)*6**** CIC A6	0.85	9.1	42.6	-50

2.3   Temperature circuits (terminals 3, 4 and 7 or wires orange, yellow and violet)

Voltage	U_i	DC	21.13	V
Current	I_i		26	mA
Power	P_i		112	mW
Effective internal capacitance	C_i		negligible	
Effective internal inductance	L_i		negligible	

Identification resistor circuit (terminals 3 & 4 or wires orange and yellow)

Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Min. Ambient/Fluid Temperature [°C]
CMF400(A,B,C,E)****(R,S)*Z****	N/A	N/A	39.7 to 42.2	-50
CMF400(A,B,C,E)****(R,S)*Z**** CIC A4	N/A	N/A	39.7 to 42.2	-50
CMF400(A,B,C,E)****(R,S)*6****	N/A	N/A	39.7 to 42.2	-50

2.4   Temperature class/ max. surface temperature T

The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graph:

2.4.1   For types CMF200(A,B)****(R,S)*Z**** CIC A4 or CIC A5 or no marking and
CMF300(A,B)****(R,S)*Z**** CIC A4 or CIC A5 or no marking with J-box and
CMF400(A,B)****(R,S)*Z**** CIC A4 or CIC A5 or no marking,
CMFHC2(A,B)****(R,S)*Z**** CIC A4 or CIC A6 or no marking,
CMFHC3(A,B)****(R,S)*Z**** CIC A4 or CIC A6 or no marking and
CMFHC4(A,B)****(R,S)*Z**** CIC A4 or CIC A6 or no marking with J-box connected to MVD transmitter only and for types CMF200(A,B)****(R,S)*6**** and CMF300(A,B)****(R,S)*6**** with J-box and CMF400(A,B)****(R,S)*6****, CMFHC2(A,B)****(R,S)*6**** CIC A6 or no marking , CMFHC3(A,B)****(R,S)*6**** CIC A6 or no marking and CMFHC4(A,B)****(R,S)*6**** CIC A6 or no marking with J-box connected to MVD transmitter only.
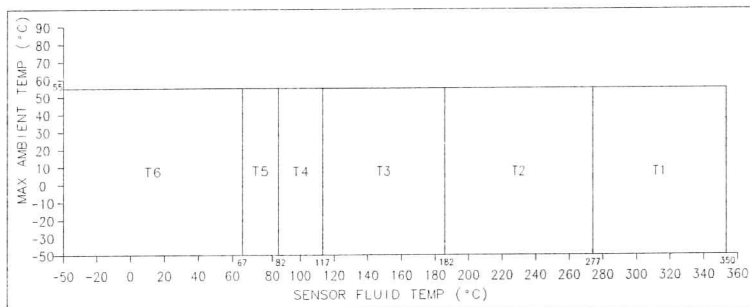
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T6: 80°C, T5: 95°C, T4: 130°C, T3: 195°C, T2: 290°C, T1: 363°C. The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

2.4.2   For types CMF200(C,E)****(R,S)*Z**** CIC A4 or CIC A5 or no marking and
CMF300(C,E)****(R,S)*Z**** CIC A4 or CIC A5 or no marking with J-box and
CMF400(C,E)****(R,S)*Z**** CIC A4 or CIC A5 or no marking,
CMFHC2(C,E)****(R,S)*Z**** CIC A4 or CIC A6 or no marking,
CMFHC3(C,E)****(R,S)*Z**** CIC A4 or CIC A6 or no marking and
CMFHC4(C,E)****(R,S)*Z**** CIC A4 or CIC A6 or no marking with J-box connected to MVD transmitter only and for types CMF200(C,E)****(R,S)*6**** and CMF300(C,E)****(R,S)*6**** with J-box and CMF400(C,E)****(R,S)*6****, CMFHC2(C,E)****(R,S)*6**** CIC A6 or no marking , CMFHC3(C,E)****(R,S)*6**** CIC A6 or no marking and CMFHC4(C,E)****(R,S)*6**** CIC A6 or no marking with J-box connected to MVD transmitter only.

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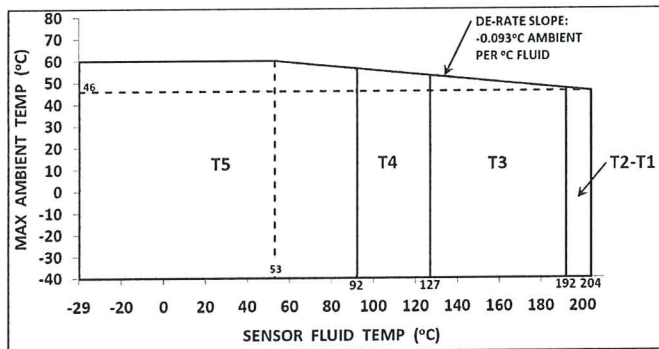
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T6: 80°C, T5: 95°C, T4: 130°C, T3: 195°C, T2: 290°C, T1: 440°C. The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

3	Type CMF********(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)****** with J-box, inclusive Construction Identification Code (CIC) A4 except type CMF***(A,B,C,E)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)******

3.1   Input circuits (terminals 1 - 4)

Voltage	U_i	DC	17.3	V
Current	I_i		484	mA
Power	P_i		2.1	W
Effective internal capacitance	C_i		2200	pF
Effective internal inductance	L_i		30	µH

3.2   Temperature class/ max. surface temperature T
The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graph:

3.2.1   For types CMF010*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****,
CMF025*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****,
CMF050*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****,
CMF100*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****,
CMF200*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****,
CMF300*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** and
CMF100*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****,
CMF200*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****,
CMF300*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** with CIC A4 and
CMF200*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6****,
CMF300*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6**** with integrally mounted core processor

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T5: 95°C, T4: 130°C, T3: 195°C, T2 and T1: 254°C.
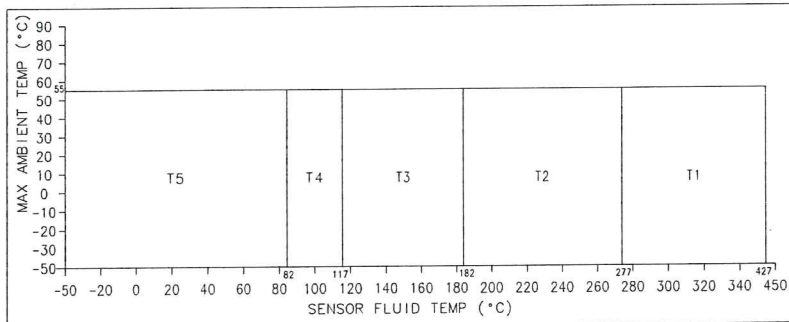
Ambient temperature range   Ta   -40 °C up to +60 °C

CMF300*****(2,3,6,7,A,D,Q,W)*Z**** with CIC A4 and ETO 17151 and
CMF300*****(2,3,6,7,A,D,Q,W)*6**** with ETO 17151 with integrally mounted core processor
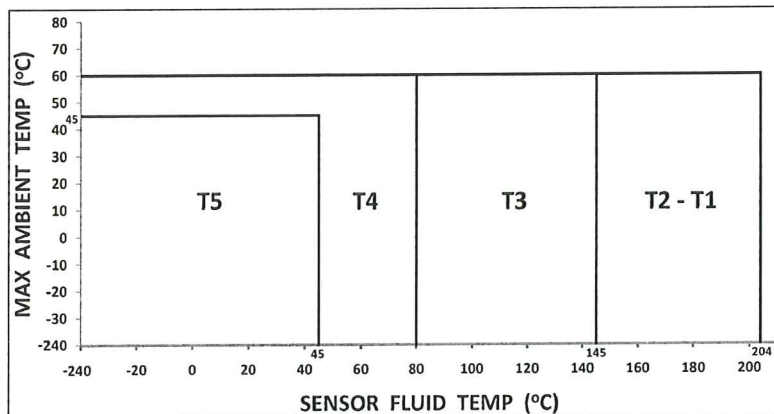
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T5: 95°C, T4: 130°C, T3: 195°C, T2 and T1: 254°C.

Ambient temperature range   Ta   -240 °C up to +60 °C

The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

3.2.2 For type CMF400*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** with CIC A4 and
CMF400*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6**** with integrally mounted core processor
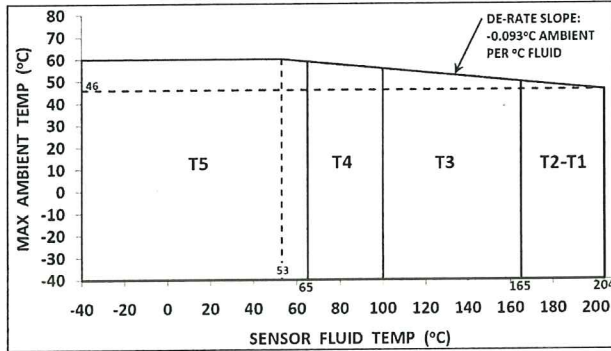
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T5: 95°C, T4: 130°C, T3: 195°C, T2 and T1: 234°C.

Ambient temperature range   Ta   -40 °C up to +60 °C

3.2.3 For type CMFHC2*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** and
CMFHC3*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** and
CMFHC4*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** with CIC A4 or no marking and
CMFHC2*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6**** and
CMFHC3*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6**** and
CMFHC4*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6**** with integrally mounted core processor
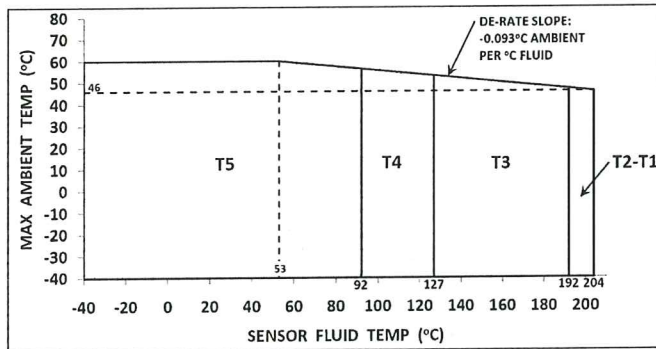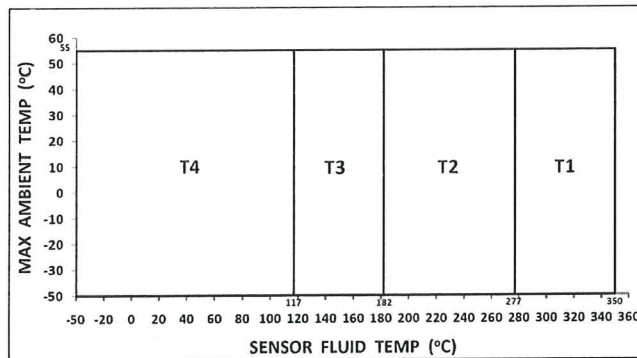

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T5: 95°C, T4: 130°C, T3: 195°C, T2 and T1: 207°C.

Ambient temperature range   Ta   -40 °C up to +60 °C

For type CMFHC2*****(2,3,6,7,A,D,Q,W)*Z**** with CIC A4 and ETO17076 and
CMFHC3*****(2,3,6,7,A,D,Q,W)*Z**** with CIC A4 and ETO16995 and
CMFHC4*****(2,3,6,7,A,D,Q,W)*Z**** with CIC A4 and ETO17192, and
CMFHC2*****(2,3,6,7,A,D,Q,W)*6**** with ETO17076 and
CMFHC3*****(2,3,6,7,A,D,Q,W)*6**** with ETO16995 and
CMFHC4*****(2,3,6,7,A,D,Q,W)*6**** with ETO17192 with integrally mounted core processor
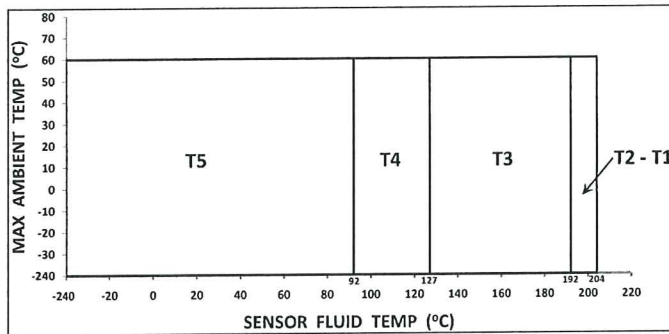
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Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T5: 95°C, T4: 130°C, T3: 195°C, T2 and T1: 207°C.

Ambient temperature range   Ta   -240 °C up to +60 °C

The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

3.2.4   For type CMFHC*Y****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** and CMFHC*Y****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** with CIC A4 and CMFHC*Y****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6**** with integrally mounted core processor

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 to T1: 207 °C.

Ambient temperature range   Ta   -40 °C up to +60 °C

4   Type CMF***(A,B,C,E)****(2, 3, 6, 7, A, D, Q, W)******

Removed option codes CMF*** (A,B,C,E)****(4, 5, 8, 9, B, E, V, Y)*******.

4.1   Input circuits (terminals 1 - 4)

Voltage	U_i	DC	17.3	V
Current	I_i		484	mA
Power	P_i		2.1	W
Effective internal capacitance	C_i		2200	pF
Effective internal inductance	L_i		30	µH

4.2   Temperature class/ max. surface temperature T
The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and are shown in the following graph:

4.2.1   For types CMF200(A,B)****(2, 3, 6, 7, A, D, Q, W)*Z**** CIC A4 or CIC A5 or no marking,
CMF300(A,B)****(2, 3, 6, 7, A, D, Q, W)*Z**** CIC A4 or CIC A5 or no marking,
CMF400(A,B)****(2, 3, 6, 7, A, D, Q, W)*Z**** CIC A4 or CIC A5 or no marking,
CMFHC2(A,B)****(2, 3, 6, 7, A, D, Q, W)*Z**** CIC A4 or CIC A6 or no marking,
CMFHC3(A,B)****(2, 3, 6, 7, A, D, Q, W)*Z**** CIC A4 or CIC A6 or no marking and
CMFHC4(A,B)****(2, 3, 6, 7, A, D, Q, W)*Z**** CIC A4 or CIC A6 or no marking
and for types
CMF200(A,B)****(2, 3, 6, 7, A, D, Q, W)*6****,
CMF300(A,B)****(2, 3, 6, 7, A, D, Q, W)*6****,
CMF400(A,B)****(2, 3, 6, 7, A, D, Q, W)*6****,
CMFHC2(A,B)****(2, 3, 6, 7, A, D, Q, W)*6**** CIC A6 or no marking ,
CMFHC3(A,B)****(2, 3, 6, 7, A, D, Q, W)*6**** CIC A6 or no marking and
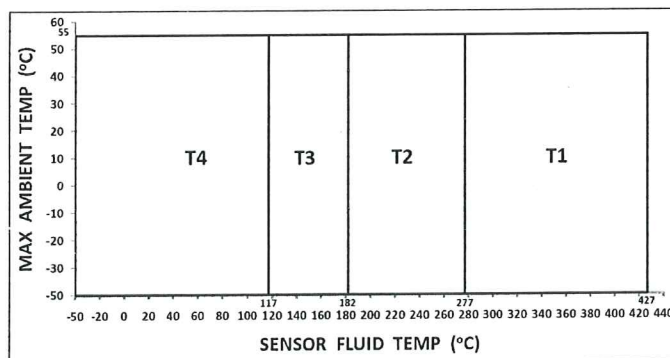CMFHC4(A,B)****(2, 3, 6, 7, A, D, Q, W)*6**** CIC A6 or no marking with integrally mounted core processor.

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T5: 95°C, T4: 130°C, T3: 195°C, T2: 290°C, T1: 363°C. The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.
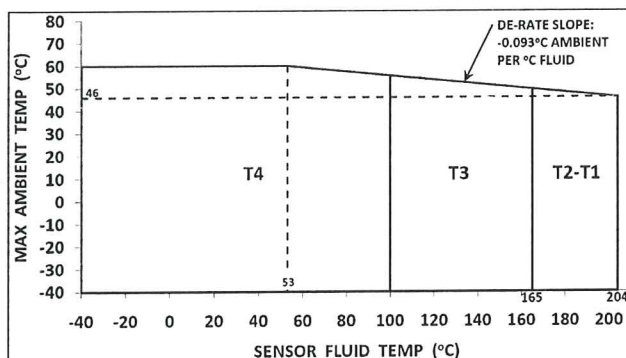
4.2.2   For types CMF200(C,E)****(2, 3, 6, 7, A, D, Q, W)*Z**** CIC A4 or CIC A5 or no marking,
CMF300(C,E)****(2, 3, 6, 7, A, D, Q, W)*Z**** CIC A4 or CIC A5 or no marking,
CMF400(C,E)****(2, 3, 6, 7, A, D, Q, W)*Z**** CIC A4 or CIC A5 or no marking,
CMFHC2(C,E)****(2, 3, 6, 7, A, D, Q, W)*Z**** CIC A4 or CIC A6 or no marking,
CMFHC3(C,E)****(2, 3, 6, 7, A, D, Q, W)*Z**** CIC A4 or CIC A6 or no marking and
CMFHC4(C,E)****(2, 3, 6, 7, A, D, Q, W)*Z**** CIC A4 or CIC A6 or no marking
and for types
CMF200(C,E)****(2, 3, 6, 7, A, D, Q, W)*6****,
CMF300(C,E)****(2, 3, 6, 7, A, D, Q, W)*6****,
CMF400(C,E)****(2, 3, 6, 7, A, D, Q, W)*6****,
CMFHC2(C,E)****(2, 3, 6, 7, A, D, Q, W)*6**** CIC A6 or no marking,
CMFHC3(C,E)****(2, 3, 6, 7, A, D, Q, W)*6**** CIC A6 or no marking and
CMFHC4(C,E)****(2, 3, 6, 7, A, D, Q, W)*6**** CIC A6 or no marking with integrally mounted core processor.

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T5: 95°C, T4: 130°C, T3: 195°C, T2: 290°C, T1: 440°C. The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range $\qquad$ Ta $\qquad$ -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

5   Type CMF********(C,F)****** inclusive Construction Identification Code (CIC) A4 or no marking, except CMF***(A,B,C,E)****C******

Obsolete

6   Type CMF***(A,B,C,E)****C****** inclusive Construction Identification Code CIC A4 or CIC A5 or no marking

6.1   Electrical parameters see DMT 01 ATEX 082 X for the transmitter type *700**********

6.2   Temperature class/ max. surface temperature T
The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor, and is shown in the following graphs:

6.2.1   For types CMF200(A,B)****C*Z**** CIC A4 or CIC A5 or no marking,
CMF300(A,B)****C*Z**** CIC A4 or CIC A5 or no marking,
CMF400(A,B)****C*Z**** CIC A4 or CIC A5 or no marking,
CMFHC2(A,B)****C*Z**** CIC A4 or CIC A6 or no marking,
CMFHC3(A,B)****C*Z**** CIC A4 or CIC A6 or no marking and
CMFHC4(A,B)****C*Z**** CIC A4 or CIC A6 or no marking,
and for types
CMF200(A,B)****C*6****,
CMF300(A,B)****C*6****,
CMF400(A,B)****C*6****,
CMFHC2(A,B)****C*6**** CIC A6 or no marking,
CMFHC3(A,B)****C*6**** CIC A6 or no marking and
CMFHC4(A,B)****C*6**** CIC A6 or no marking with integrally mounted core processor.

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T5: 95°C, T4: 130°C, T3: 195°C, T2: 290°C, T1: 363°C. The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

When used with Transmitter type *700*1*4****** (Wireless HART Output Option Code "4"):

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.

Ambient temperature range   Ta   -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

6.2.2   For types CMF200(C,E)****C*Z**** CIC A4 or CIC A5 or no marking,
           CMF300(C,E)****C*Z**** CIC A4 or CIC A5 or no marking,
           CMF400(C,E)****C*Z**** CIC A4 or CIC A5 or no marking,
           CMFHC2(C,E)****C*Z**** CIC A4 or CIC A6 or no marking,
           CMFHC3(C,E)****C*Z**** CIC A4 or CIC A6 or no marking and
           CMFHC4(C,E)****C*Z**** CIC A4 or CIC A6 or no marking,
           and for types

CMF200(C,E)****C*6****,
CMF300(C,E)****C*6****,
CMF400(C,E)****C*6****,
CMFHC2(C,E)****C*6**** CIC A6 or no marking,
CMFHC3(C,E)****C*6**** CIC A6 or no marking and
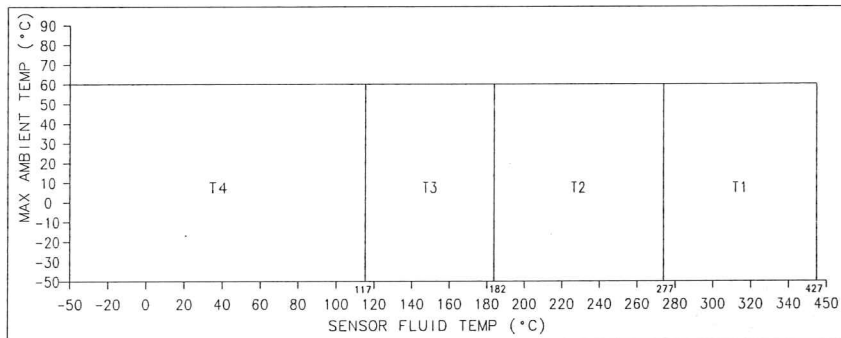CMFHC4(C,E)****C*6**** CIC A6 or no marking with integrally mounted MVD transmitter

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: 95°C, T4: 130°C, T3: 195°C, T2: 290°C,
T1: 440°C. The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min.
1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient
temperature does not exceed the maximum temperature of the medium taking into account, the temperature
classification and the maximum operating temperature of the sensor

When used with Transmitter type *700*1*4****** (Wireless HART Output Option Code "4"):

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.

Ambient temperature range   Ta   -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min.
1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient
temperature does not exceed the maximum temperature of the medium taking into account, the temperature
classification and the maximum operating temperature of the sensor.

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7   Types CMF********(J,U)****** incl. CIC A4 with 2200S transmitter, but without types
CMF***(A,B,C,E)****J******

7.1   Input circuits (terminals 1 - 4)

Voltage	U_i	DC	28	V
Current	I_i		120	mA
Power	P_i		0.84	W
Effective internal capacitance	C_i		2200	pF
Effective internal inductance	L_i		45	µH

7.2   Temperature class/ max. surface temperature T
The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graph:

7.2.1   For types CMF010*****(J,U)*Z****, CMF025*****(J,U)*Z****,
CMF050*****(J,U)*Z****, CMF100*****(J,U)*Z****,
CMF200*****(J,U)*Z****, CMF300*****(J,U)*Z****,
CMF200*****(J,U)*Z**** CIC A4, CMF200*****(J,U)*6****,
CMF300*****(J,U)*Z**** CIC A4 and CMF300*****(J,U)*6**** with integrally mounted transmitter
2200S

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T4: 130 °C, T3: 195 °C, T2 to T1: 254 °C.

Ambient temperature range T_a -40 °C up to +60 °C

7.2.2   For types CMF400*****(J,U)*Z**** CIC A4 and CMF400*****(J,U)*6**** with integrally mounted transmitter 2200S

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T4: 130 °C, T3: 195 °C, T2 to T1: 234 °C.

Ambient temperature range   Ta   -40 °C up to +60 °C

7.2.3   For types CMFHC2*****(J,U)*Z****, CMFHC3*****(J,U)*Z****, CMFHC4*****(J,U)*Z**** CIC A4
or no marking,
CMFHC2*****(J,U)*6**** , CMFHC3*****(J,U)*6**** and CMFHC4*****(J,U)*6**** with integrally
mounted transmitter 2200S
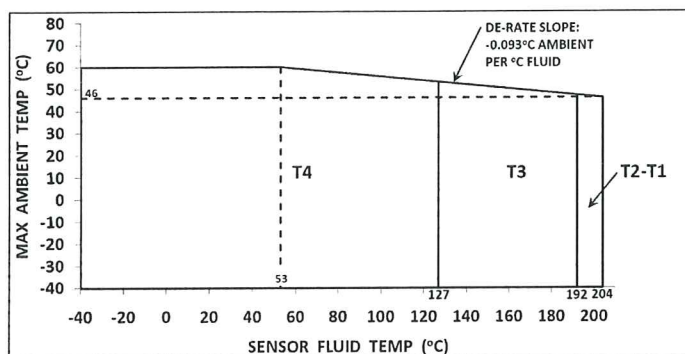
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T4: 130 °C, T3: 195 °C, T2 to T1: 207 °C.

Ambient temperature range   Ta   -40 °C up to +60 °C

7.2.4   For types CMFHC*Y****(J,U)*Z**** and CMFHC*Y****(J,U)*Z**** with CIC A4 and
CMFHC*Y****(J,U)*6**** with integrally mounted transmitter 2200S
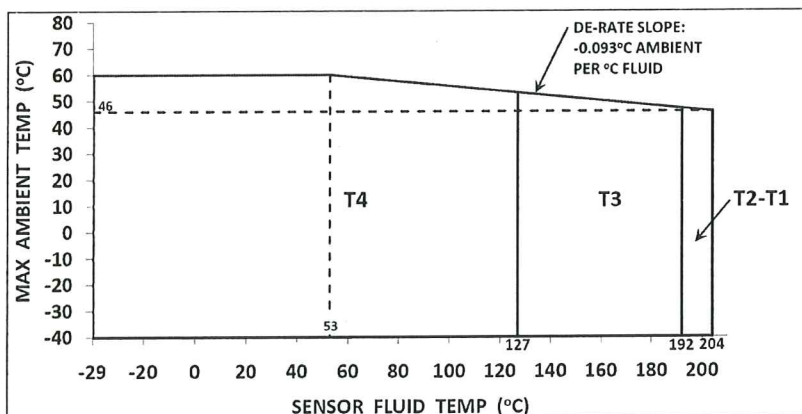
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T4: 130 °C, T3: 195 °C, T2 to T1: 207 °C.

Ambient temperature range   Ta   -40 °C up to +60 °C

8   Types CMF200(A,B,C,E)****J******, CMF300(A,B,C,E)****J******, CMF400(A,B,C,E)****J******,
CMFHC2(A,B,C,E)****J****** , CMFHC3(A,B,C,E)****J****** and CMFHC4(A,B,C,E)****J******
with 2200S transmitter

Removed option codes CMF*** (A,B,C,E)****U******* .

8.1	Input circuits (terminals 1 - 4)				
	Voltage	U_i	DC	28	V
	Current	I_i		120	mA
	Power	P_i		0.84	W
	Effective internal capacitance	C_i		2200	pF
	Effective internal inductance	L_i		45	μH

8.2 Temperature class/ max. surface temperature T
The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graph:

8.2.1 For types CMF200(A,B)****J*Z**** CIC A4 or CIC A5 or no marking and CMF300(A,B)****J*Z**** CIC A4 or CIC A5 or no marking , CMF400(A,B)****J*Z**** CIC A4 or CIC A5 or no marking, CMFHC2(A,B)****J*Z**** CIC A4 or CIC A6 or no marking, CMFHC3(A,B)****J*Z**** CIC A4 or CIC A6 or no marking and CMFHC4(A,B)****J*Z**** CIC A4 or CIC A6 or no marking with 2200S transmitter and for type CMF200(A,B)****C*6**** and CMF300(A,B)****C*6****, CMF400(A,B)****C*6****, CMFHC2(A,B)****C*6**** CIC A6 or no marking, CMFHC3(A,B)****C*6**** CIC A6 or no marking and CMFHC4(A,B)****C*6**** CIC A6 or no marking with Transmitter 2200S

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T4: 130°C, T3: 195°C, T2: 290°C, T1: 363°C. The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range T_a -50 °C up to +60 °C

The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account, the temperature classification and the maximum operating temperature of the sensor.

8.2.2 For types CMF200(C,E)****J*Z**** CIC A4 or CIC A5 or no marking and CMF300(C,E)****J*Z**** CIC A4 or CIC A5 or no marking , CMF400(C,E)****J*Z**** CIC A4 or CIC A5 or no marking, CMFHC2(C,E)****J*Z**** CIC A4 or CIC A6 or no marking, CMFHC3(C,E)****J*Z**** CIC A4 or CIC A6 or no marking and CMFHC4(C,E)****J*Z**** CIC A4 or CIC A6 or no marking with 2200S transmitter and for type CMF200(C,E)****C*6**** and CMF300(C,E)****C*6****, CMF400(C,E)****C*6****, CMFHC2(C,E)****C*6**** CIC A6 or no marking, CMFHC3(C,E)****C*6**** CIC A6 or no marking and CMFHC4(C,E)****C*6**** CIC A6 or no marking with Transmitter 2200S

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T4: 130°C, T3: 195°C, T2: 290°C, T1: 440°C. The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -50 °C up to +60 °C

The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account, the temperature classification and the maximum operating temperature of the sensor.

The marking of the equipment shall include the following:

⟨Ex⟩ **II 2G** with additional marking required by the standards mentioned in the following tables:
II 2D Ex ib IIIC T [3] °C Db   IP 65

Type	Type of protection gas	Min. ambient/fluid temp. Gas
CMF010*****[1]*Z****	Ex ib IIC T1-T6 Gb	-240 °C
CMF025*****[1]*Z****	Ex ib IIC T1-T6 Gb	-240 °C
CMF050*****[1]*Z****	Ex ib IIC T1-T6 Gb	-240 °C
CMF100*****[1]*Z****	Ex ib IIC T1-T6 Gb	-60 °C
CMF100*****[1]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMF100*****[1]*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMF200*****[1]*Z****	Ex ib IIB T1-T6 Gb	-55 °C
CMF200*****[1]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMF200*****[1]*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMF200[4]*****[1]*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMF200[4]*****[1]*Z**** CIC A5	Ex ib IIB T1-T6 Gb	-50 °C
CMF200[4]*****[1]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-50 °C

Type	Type of protection gas	Min. ambient/fluid temp. Gas
CMF200[4)]****[1)]*6****	Ex ib IIC T1-T6 Gb	-50 °C
CMF300*****[1)]*Z****	Ex ib IIB T1-T6 Gb	-55 °C
CMF300*****[1)]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMF300*****[1)]*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMF300[4)]****[1)]*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMF300[4)]****[1)]*Z**** CIC A5	Ex ib IIB T1-T6 Gb	-50 °C
CMF300[4)]****[1)]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-50 °C
CMF300[4)]****[1)]*6****	Ex ib IIC T1-T6 Gb	-50 °C
CMF400*****[1)]*Z****	Ex ib IIB T1-T6 Gb	-68 °C
CMF400*****[1)]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMF400*****[1)]*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMF400[4)]****[1)]*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMF400[4)]****[1)]*Z**** CIC A5	Ex ib IIB T1-T6 Gb	-50 °C
CMF400[4)]****[1)]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-50 °C
CMF400[4)]****[1)]*6****	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC2*****[1)]*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMFHC2*****[1)]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMFHC2*****[1)]*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMFHC2[4)]****[1)]*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMFHC2[4)]****[1)]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC2[4)]****[1)]*6****	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC2[4)]****[1)]*Z**** CIC A6	Ex ib IIB T1-T6 Gb	-50 °C
CMFHC2[4)]****[1)]*6**** CIC A6	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC3*****[1)]*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMFHC3*****[1)]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMFHC3*****[1)]*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMFHC3[4)]****[1)]*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMFHC3[4)]****[1)]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC3[4)]****[1)]*6****	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC3[4)]****[1)]*Z**** CIC A6	Ex ib IIB T1-T6 Gb	-50 °C
CMFHC3[4)]****[1)]*6**** CIC A6	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC4*****[1)]*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMFHC4*****[1)]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMFHC4*****[1)]*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMFHC4[4)]****[1)]*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMFHC4[4)]****[1)]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC4[4)]****[1)]*6****	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC4[4)]****[1)]*Z**** CIC A6	Ex ib IIB T1-T6 Gb	-50 °C
CMFHC4[4)]****[1)]*6**** CIC A6	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC*Y****[1)]*Z****	Ex ib IIB T1-T6 Gb	-50 °C / -29 °C
CMFHC*Y****[1)]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C / -29 °C
CMFHC*Y****[1)]*6****	Ex ib IIC T1-T6 Gb	-240 °C / -29 °C
CMF010*****[2)]*Z****	Ex ib IIC T1-T5 Gb	-40 °C
CMF025*****[2)]*Z****	Ex ib IIC T1-T5 Gb	-40 °C
CMF050*****[2)]*Z****	Ex ib IIC T1-T5 Gb	-40 °C
CMF100*****[2)]*Z****	Ex ib IIC T1-T5 Gb	-40 °C
CMF100*****[2)]*Z**** CIC A4	Ex ib IIC T1-T5 Gb	-40 °C
CMF100*****[2)]*6****	Ex ib IIC T1-T5 Gb	-40 °C
CMF200*****[2)]*Z****	Ex ib IIB T1-T5 Gb	-40 °C
CMF200*****[2)]*Z**** CIC A4	Ex ib IIC T1-T5 Gb	-40 °C
CMF200*****[2)]*6****	Ex ib IIC T1-T5 Gb	-40 °C
CMF200[4)]****[2)]*Z****	Ex ib IIB T1-T5 Gb	-50 °C

Type	Type of protection gas	Min. ambient/fluid temp. Gas
CMF200$^{4)}$****$^{2)}$*Z**** CIC A5	Ex ib IIB T1-T5 Gb	-50 °C
CMF200$^{4)}$****$^{2)}$*Z**** CIC A4	Ex ib IIC T1-T5 Gb	-50 °C
CMF200$^{4)}$****$^{2)}$*6****	Ex ib IIC T1-T5 Gb	-50 °C
CMF300*****$^{2)}$*Z****	Ex ib IIB T1-T5 Gb	-40 °C
CMF300*****$^{2)}$*Z**** CIC A4	Ex ib IIC T1-T5 Gb	-40 °C
CMF300*****$^{2)}$*Z**** CIC A4 & ETO 17151	Ex ib IIC T1-T5 Gb	-240 °C
CMF300*****$^{2)}$*6****	Ex ib IIC T1-T5 Gb	-40 °C
CMF300*****$^{2)}$*6**** & ETO 17151	Ex ib IIC T1-T5 Gb	-240 °C
CMF300$^{4)}$****$^{2)}$*Z****	Ex ib IIB T1-T5 Gb	-50 °C
CMF300$^{4)}$****$^{2)}$*Z**** CIC A5	Ex ib IIB T1-T5 Gb	-50 °C
CMF300$^{4)}$****$^{2)}$*Z**** CIC 4	Ex ib IIC T1-T5 Gb	-50 °C
CMF300$^{4)}$****$^{2)}$*6****	Ex ib IIC T1-T5 Gb	-50 °C
CMF400*****$^{2)}$*Z****	Ex ib IIB T1-T5 Gb	-40 °C
CMF400*****$^{2)}$*Z**** CIC A4	Ex ib IIC T1-T5 Gb	-40 °C
CMF400*****$^{2)}$*6****	Ex ib IIC T1-T5 Gb	-40 °C
CMF400$^{4)}$****$^{2)}$*Z****	Ex ib IIB T1-T5 Gb	-50 °C
CMF400$^{4)}$****$^{2)}$*Z**** CIC A5	Ex ib IIB T1-T5 Gb	-50 °C
CMF400$^{4)}$****$^{2)}$*Z**** CIC A4	Ex ib IIC T1-T5 Gb	-50 °C
CMF400$^{4)}$****$^{2)}$*6****	Ex ib IIC T1-T5 Gb	-50 °C
CMFHC2*****$^{2)}$*Z****	Ex ib IIB T1-T5 Gb	-40 °C
CMFHC2*****$^{2)}$*Z**** CIC A4	Ex ib IIC T1-T5 Gb	-40 °C
CMFHC2*****$^{2)}$*6****	Ex ib IIC T1-T5 Gb	-40 °C
CMFHC2$^{4)}$ ****$^{2)}$*Z****	Ex ib IIB T1-T5 Gb	-50 °C
CMFHC2$^{4)}$ ****$^{2)}$*Z**** CIC A4	Ex ib IIC T1-T5 Gb	-50 °C
CMFHC2$^{4)}$ ****$^{2)}$*6****	Ex ib IIC T1-T5 Gb	-50 °C
CMFHC2$^{4)}$ ****$^{2)}$*Z**** CIC A6	Ex ib IIB T1-T5 Gb	-50 °C
CMFHC2$^{4)}$ ****$^{2)}$*6**** CIC A6	Ex ib IIC T1-T5 Gb	-50 °C
CMFHC3*****$^{2)}$*Z****	Ex ib IIB T1-T5 Gb	-40 °C
CMFHC3*****$^{2)}$*Z**** CIC A4	Ex ib IIC T1-T5 Gb	-40 °C
CMFHC3*****$^{2)}$*6****	Ex ib IIC T1-T5 Gb	-40 °C
CMFHC3$^{4)}$****$^{2)}$*Z****	Ex ib IIB T1-T5 Gb	-50 °C
CMFHC3$^{4)}$****$^{2)}$*Z**** CIC A4	Ex ib IIC T1-T5 Gb	-50 °C
CMFHC3$^{4)}$****$^{2)}$*6****	Ex ib IIC T1-T5 Gb	-50 °C
CMFHC3$^{4)}$****$^{2)}$*Z**** CIC A6	Ex ib IIB T1-T5 Gb	-50 °C
CMFHC3$^{4)}$****$^{2)}$*6**** CIC A6	Ex ib IIC T1-T5 Gb	-50 °C
CMFHC4*****$^{2)}$*Z****	Ex ib IIB T1-T5 Gb	-40 °C
CMFHC4*****$^{2)}$*Z**** CIC A4	Ex ib IIC T1-T5 Gb	-40 °C
CMFHC4*****$^{2)}$*6****	Ex ib IIC T1-T5 Gb	-40 °C
CMFHC4$^{4)}$****$^{2)}$*Z****	Ex ib IIB T1-T5 Gb	-50 °C
CMFHC4$^{4)}$****$^{2)}$*Z**** CIC A4	Ex ib IIC T1-T5 Gb	-50 °C
CMFHC4$^{4)}$****$^{2)}$*6****	Ex ib IIC T1-T5 Gb	-50 °C
CMFHC4$^{4)}$****$^{2)}$*Z**** CIC A6	Ex ib IIB T1-T5 Gb	-50 °C
CMFHC4$^{4)}$****$^{2)}$*6**** CIC A6	Ex ib IIC T1-T5 Gb	-50 °C
CMFHC*Y****$^{2)}$*Z****	Ex ib IIB T1-T5 Gb	-40 °C / -29 °C
CMFHC*Y****$^{2)}$*Z**** CIC A4	Ex ib IIC T1-T5 Gb	-40 °C / -29 °C
CMFHC*Y****$^{2)}$*6****	Ex ib IIC T1-T5 Gb	-40 °C / -29 °C
CMFHC2*****$^{2)}$*Z**** CIC A4 & ETO 17076	Ex ib IIC T1-T5 Gb	-240 °C
CMFHC2*****$^{2)}$*6**** & ETO 17076	Ex ib IIC T1-T5 Gb	-240 °C
CMFHC3*****$^{2)}$*Z**** CIC A4 & ETO 16995	Ex ib IIC T1-T5 Gb	-240 °C
CMFHC3*****$^{2)}$*6**** & ETO 16995	Ex ib IIC T1-T5 Gb	-240 °C

Type	Type of protection gas	Min. ambient/fluid temp. Gas
CMFHC4*****[2])*Z**** CIC A4 & ETO 17192	Ex ib IIC T1-T5 Gb	-240 °C
CMFHC4*****[2])*6**** & ETO 17192	Ex ib IIC T1-T5 Gb	-240 °C

For sensors with J-box connected to non-MVD transmitters (i. e. 9739) is valid:

Type	Type of protection gas	Min. ambient/fluid temp. gas
CMF010*****[1])*Z****	Ex ib IIC T1-T6 Gb	-240 °C
CMF025*****[1])*Z****	Ex ib IIC T1-T6 Gb	-240 °C
CMF050*****[1])*Z****	Ex ib IIC T1-T6 Gb	-240 °C
CMF100*****[1])*Z****	Ex ib IIC T1-T6 Gb	-40 °C
CMF100*****[1])*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMF100*****[1])*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMF200*****[1])*Z****	Ex ib IIB T1-T6 Gb	-55 °C
CMF200*****[1])*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMF200*****[1])*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMF200[4])*****[1])*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMF200[4])*****[1])*Z**** CIC A5	Ex ib IIB T1-T6 Gb	-50 °C
CMF200[4])*****[1])*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-50 °C
CMF200[4])*****[1])*6****	Ex ib IIC T1-T6 Gb	-50 °C
CMF300*****[1])*Z****	Ex ib IIB T1-T6 Gb	-55 °C
CMF300*****[1])*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMF300*****[1])*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMF300[4])*****[1])*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMF300[4])*****[1])*Z**** CIC A5	Ex ib IIB T1-T6 Gb	-50 °C
CMF300[4])*****[1])*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-50 °C
CMF300[4])*****[1])*6****	Ex ib IIC T1-T6 Gb	-50 °C

For sensors with J-box connected to MVD transmitters (i.e. 1700/2700) is valid:

Type	Type of protection gas	Min. ambient/ fluid temp. gas
CMF010*****[1])*Z****	Ex ib IIC T1-T6 Gb	-240 °C
CMF025*****[1])*Z****	Ex ib IIC T1-T6 Gb	-240 °C
CMF050*****[1])*Z****	Ex ib IIC T1-T6 Gb	-240 °C
CMF100*****[1])*Z****	Ex ib IIC T1-T6 Gb	-60 °C
CMF100*****[1])*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMF100*****[1])*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMF200*****[1])*Z****	Ex ib IIB T1-T6 Gb	-55 °C
CMF200*****[1])*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMF200*****[1])*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMF200[4])*****[1])*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMF200[4])*****[1])*Z**** CIC A5	Ex ib IIB T1-T6 Gb	-50 °C
CMF200[4])*****[1])*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-50 °C
CMF200[4])*****[1])*6****	Ex ib IIC T1-T6 Gb	-50 °C
CMF300*****[1])*Z****	Ex ib IIB T1-T6 Gb	-55 °C
CMF300*****[1])*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMF300*****[1])*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMF300[4])*****[1])*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMF300[4])*****[1])*Z**** CIC A5	Ex ib IIB T1-T6 Gb	-50 °C
CMF300[4])*****[1])*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-50 °C
CMF300[4])*****[1])*6****	Ex ib IIC T1-T6 Gb	-50 °C

Type	Type of protection gas	Min. ambient/fluid temp. Gas
CMFHC4*****[2]*Z**** CIC A4 & ETO 17192	Ex ib IIC T1-T5 Gb	-240 °C
CMFHC4*****[2]*6**** & ETO 17192	Ex ib IIC T1-T5 Gb	-240 °C

For sensors with J-box connected to non-MVD transmitters (i. e. 9739) is valid:

Type	Type of protection gas	Min. ambient/fluid temp. gas
CMF010*****[1]*Z****	Ex ib IIC T1-T6 Gb	-240 °C
CMF025*****[1]*Z****	Ex ib IIC T1-T6 Gb	-240 °C
CMF050*****[1]*Z****	Ex ib IIC T1-T6 Gb	-240 °C
CMF100*****[1]*Z****	Ex ib IIC T1-T6 Gb	-40 °C
CMF100*****[1]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMF100*****[1]*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMF200*****[1]*Z****	Ex ib IIB T1-T6 Gb	-55 °C
CMF200*****[1]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMF200*****[1]*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMF200[4]*****[1]*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMF200[4]*****[1]*Z**** CIC A5	Ex ib IIB T1-T6 Gb	-50 °C
CMF200[4]*****[1]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-50 °C
CMF200[4]*****[1]*6****	Ex ib IIC T1-T6 Gb	-50 °C
CMF300*****[1]*Z****	Ex ib IIB T1-T6 Gb	-55 °C
CMF300*****[1]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMF300*****[1]*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMF300[4]*****[1]*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMF300[4]*****[1]*Z**** CIC A5	Ex ib IIB T1-T6 Gb	-50 °C
CMF300[4]*****[1]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-50 °C
CMF300[4]*****[1]*6****	Ex ib IIC T1-T6 Gb	-50 °C

For sensors with J-box connected to MVD transmitters i.e. 1700/2700) is valid:

Type	Type of protection gas	Min. ambient/ fluid temp. gas
CMF010*****[1]*Z****	Ex ib IIC T1-T6 Gb	-240 °C
CMF025*****[1]*Z****	Ex ib IIC T1-T6 Gb	-240 °C
CMF050*****[1]*Z****	Ex ib IIC T1-T6 Gb	-240 °C
CMF100*****[1]*Z****	Ex ib IIC T1-T6 Gb	-60 °C
CMF100*****[1]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMF100*****[1]*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMF200*****[1]*Z****	Ex ib IIB T1-T6 Gb	-55 °C
CMF200*****[1]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMF200*****[1]*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMF200[4]*****[1]*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMF200[4]*****[1]*Z**** CIC A5	Ex ib IIB T1-T6 Gb	-50 °C
CMF200[4]*****[1]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-50 °C
CMF200[4]*****[1]*6****	Ex ib IIC T1-T6 Gb	-50 °C
CMF300*****[1]*Z****	Ex ib IIB T1-T6 Gb	-55 °C
CMF300*****[1]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMF300*****[1]*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMF300[4]*****[1]*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMF300[4]*****[1]*Z**** CIC A5	Ex ib IIB T1-T6 Gb	-50 °C
CMF300[4]*****[1]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-50 °C
CMF300[4]*****[1]*6****	Ex ib IIC T1-T6 Gb	-50 °C

Type	Type of protection gas	Min. ambient/ fluid temp. gas
CMF400*****[1]*Z****	Ex ib IIB T1-T6 Gb	-68 °C
CMF400*****[1]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMF400*****[1]*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMF400[4]****[1]*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMF400[4]****[1]*Z**** CIC A5	Ex ib IIB T1-T6 Gb	-50 °C
CMF400[4]****[1]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-50 °C
CMF400[4]****[1]*6****	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC2*****[1]*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMFHC2*****[1]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMFHC2*****[1]*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMFHC2[4]****[1]*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMFHC2[4]****[1]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC2[4]****[1]*6****	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC2[4]****[1]*Z**** CIC A6	Ex ib IIB T1-T6 Gb	-50 °C
CMFHC2[4]****[1]*6**** CIC A6	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC3*****[1]*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMFHC3*****[1]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMFHC3*****[1]*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMFHC3[4]****[1]*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMFHC3[4]****[1]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC3[4]****[1]*6****	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC3[4]****[1]*Z**** CIC A6	Ex ib IIB T1-T6 Gb	-50 °C
CMFHC3[4]****[1]*6**** CIC A6	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC4*****[1]*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMFHC4*****[1]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMFHC4*****[1]*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMFHC4[4]****[1]*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMFHC4[4]****[1]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC4[4]****[1]*6****	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC4[4]****[1]*Z**** CIC A6	Ex ib IIB T1-T6 Gb	-50 °C
CMFHC4[4]****[1]*6**** CIC A6	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC*Y****[1]*Z****	Ex ib IIB T1-T6 Gb	-50 °C / - 29 °C
CMFHC*Y****[1]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C / - 29 °C
CMFHC*Y****[1]*6****	Ex ib IIC T1-T6 Gb	-240 °C / - 29 °C

[1] At this place the letter R, H, S or T will be inserted.
[2] At this place the numeral 2, 3, 4, 5, 6, 7, 8 or 9 or the letter A, B, D, E, Q, V, W or Y will be inserted.
[3] Max. surface temperature T for dust for types CMF**********Z**** see temperature graphs and manufacturer´s instructions. Min. ambient and process temperature for dust is -40 °C.
[4] At this place the letter A, B, C or E will be inserted.

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Special conditions for safe use

By mounting the sensor type CMF***(A,B,C,E)****C****** directly to the
transmitter *700********** the use of the unit will be modified according to the following chart:

	Sensor type	
Transmitter type	CMF200(A,B,C,E)****C*Z**** CIC A4 CMF200(A,B,C,E)****C*6**** CMF300(A,B,C,E)****C*Z**** CIC A4 CMF300(A,B,C,E)****C*6**** CMF400(A,B,C,E)****C*Z**** CIC A4 CMF400(A,B,C,E)****C*6**** CMFHC2(A,B,C,E)****C*Z**** CIC A4 CMFHC2(A,B,C,E)****C*6**** CMFHC2(A,B,C,E)****C*6**** CIC A6 CMFHC3(A,B,C,E)****C*Z**** CIC A4 CMFHC3(A,B,C,E)****C*6**** CMFHC3(A,B,C,E)****C*Z**** CIC A6 CMFHC4(A,B,C,E)****C*Z**** CIC A4 CMFHC4(A,B,C,E)****C*6**** CMFHC4(A,B,C,E)****C*Z**** CIC A6	CMF200(A,B,C,E)****C*Z**** CMF200(A,B,C,E)****C*Z**** CIC A5 CMF300(A,B,C,E)****C*Z**** CMF300(A,B,C,E)****C*Z**** CIC A5 CMF400(A,B,C,E)****C*Z**** CMF400(A,B,C,E)****C*Z**** CIC A5 CMFHC2(A,B,C,E)****C*Z**** CMFHC2(A,B,C,E)****C*Z**** CIC A6 CMFHC3(A,B,C,E)****C*Z**** CMFHC3(A,B,C,E)****C*Z**** CIC A6 CMFHC4(A,B,C,E)****C*Z**** CMFHC4(A,B,C,E)****C*Z**** CIC A6
*700*1[1] *******	Ex ib IIB+H_2 T1-T5 Ex tD A21 IP65 T [3] °C	Ex ib IIB T1-T5 Ex tD A21 IP65 T [3] °C
*700*1[2] *******	Ex ib IIC T1-T5 Ex tD A21 IP65 T [3] °C	Ex ib IIB T1-T5 Ex tD A21 IP65 T [3] °C
*700*1[1] 4******	Ex ib IIB+H_2 T1-T4	Ex ib IIB T1-T4
*700*1[2] 4******	Ex ib IIC T1-T4	Ex ib IIB T1-T4

[1] At this place the numeral 1 or 2 will be inserted.
[2] At this place the numeral 3, 4 or 5 will be inserted.
[3] Max. surface temperature T for dust for types CMF**********Z**** see temperature graphs and
    manufacturer's instructions.

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By mounting the sensor type CMF********(J,U)****** directly to the transmitter 22**S********* the use of the unit will be modified according to the following:

	Sensor Typ	
Transmitter type	CMF010*****(J,U)*Z**** CMF025*****(J,U)*Z**** CMF050*****(J,U)*Z**** CMF100*****(J,U)*Z**** CMF100*****(J,U)*Z**** CIC A4 CMF100*****(J,U)*6**** CMF200*****(J,U)*Z**** CIC A4 CMF200*****(J,U)*6**** CMF300*****(J,U)*Z**** CIC A4 CMF300*****(J,U)*6**** CMF400*****(J,U)*Z**** CIC A4 CMF400*****(J,U)*6**** CMFHC2*****(J,U)*Z**** CIC A4 CMFHC2*****(J,U)*6**** CMFHC3*****(J,U)*Z**** CIC A4 CMFHC3*****(J,U)*6**** CMFHC4*****(J,U)*Z**** CIC A4 CMFHC4*****(J,U)*6**** CMFHC*Y****(J,U)*Z**** CIC A4 CMFHC*Y****(J,U)*6**** CMF200(A,B,C,E)****J*Z**** CIC A4 CMF200(A,B,C,E)****J*6**** CMF300(A,B,C,E)****J*Z**** CIC A4 CMF300(A,B,C,E)****J*6**** CMF400(A,B,C,E)****J*Z**** CIC A4 CMF400(A,B,C,E)****J*6**** CMFHC2(A,B,C,E)****J*Z**** CIC A4 CMFHC2(A,B,C,E)****J*6**** CMFHC2(A,B,C,E)****J*6**** CIC A6 CMFHC3(A,B,C,E)****J*Z**** CIC A4 CMFHC3(A,B,C,E)****J*6**** CMFHC3(A,B,C,E)****J*Z**** CIC A6 CMFHC4(A,B,C,E)****J*Z**** CIC A4 CMFHC4(A,B,C,E)****J*6**** CMFHC4(A,B,C,E)****J*Z**** CIC A6	CMF200*****(J,U)*Z**** CMF300*****(J,U)*Z**** CMF400*****(J,U)*Z**** CMFHC2*****(J,U)*Z**** CMFHC3*****(J,U)*Z**** CMFHC4*****(J,U)*Z**** CMFHC*Y****(J,U)*Z**** CMF200(A,B,C,E)****J*Z**** CMF200(A,B,C,E)****J*Z**** CIC A5 CMF300(A,B,C,E)****J*Z**** CMF300(A,B,C,E)****J*Z**** CIC A5 CMF400(A,B,C,E)****J*Z**** CMF400(A,B,C,E)****J*Z**** CIC A5 CMFHC2(A,B,C,E)****J*Z**** CMFHC2(A,B,C,E)****J*Z**** CIC A6 CMFHC3(A,B,C,E)****J*Z**** CMFHC3(A,B,C,E)****J*Z**** CIC A6 CMFHC4(A,B,C,E)****J*Z**** CMFHC4(A,B,C,E)****J*Z**** CIC A6
2200S*(H,K)*1*Z****	Ex ib IIC T1-T4 Ex ibD 21 T [1] °C	Ex ib IIB T1-T4 Ex ibD 21 T [1] °C
2200S*(5,6)*1*Z****	Ex ib IIC T1-T4	Ex ib IIB T1-T4

[1] Max. surface temperature T for dust for types CMF**********Z**** see temperature graphs and manufacturer's instructions.

<u>Test and assessment report</u>

BVS PP 06.2035 EG as of 27.01.2010

DEKRA EXAM GmbH

Bochum, dated 27. January 2010

Signed: Hans Christian Simansk

Certification body

Signed: Dr. Franz Eickhoff

Special services unit

▷ DEKRA

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 27. January 2010
BVS-Schu/Her   A 20090898

DEKRA EXAM GmbH

_____
Certification body

_____
Special services unit

Translation

(1) # 6. Supplement to the EC-Type Examination Certificate

(2) Equipment and protective systems intended for use
in potentially explosive atmospheres - Directive 94/9/EC
Supplement accordant with Annex III number 6

(3) No. of EC-Type Examination Certificate: **BVS 06 ATEX E 045 X**

(4) Equipment: **Sensor type CMF***************

(5) Manufacturer: **Micro Motion, Inc.**

(6) Address: **Boulder, Co. 80301, USA**

(7) The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this supplement.

(8) The certification body of DEKRA EXAM GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council of 23 March 1994 certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive. The examination and test results are recorded in the test and assessment report BVS PP 06.2035 EG.

(9) The Essential Health and Safety Requirements are assured by compliance with:

EN 60079-0:2009 General requirements
EN 60079-11:2007 Intrinsic safety 'i'
EN 61241-11:2006 Intrinsic safety 'iD'

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the appendix to this certificate.

(11) This supplement to the EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to Directive 94/9/EC.
Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment shall include the following:

⟨Ex⟩ **II 2G**
II 2D Ex ib IIC T* °C Db see cl. 15.1

DEKRA EXAM GmbH
Bochum, dated 10.06.2011

Signed: Simanski   Signed: Dr. Eickhoff

_____   _____
Certification body   Special services unit

(13) Appendix to

(14) **6. Supplement to the EC-Type Examination Certificate
BVS 06 ATEX E 045 X**

(15) <u>15.1 Subject and type</u>

Instead of the *** in the complete denomination letters and numerals will be inserted which characterize the following variations:

C M F * * * * * * * * * * * * * *

     Marking without influence to the type of protection

Z = ATEX Zone 1
6 = ATEX Zone 1 gas group IIC

Letter for conduit connections

Letter for electronic interface
2 = aluminium enhanced core processor
3 = stainless enhanced core processor
4 = aluminium enhanced core processor with extender
5 = stainless enhanced core processor with extender
6 = aluminium enhanced core processor for direct host
7 = stainless enhanced core processor for direct host
8 = aluminium enhanced core processor with extender for direct host
9 = stainless enhanced core processor with extender for direct host
A = local core processor
B = local core processor with extender
C = integral 1700/2700
D = local core processor for direct host
E = local core processor with extender for direct host
R = with junction box for 9-wire
H = 9 wire junction box with extender
Q = aluminium core processor
V = aluminium core processor with extender
W = aluminium core processor for direct host
Y = aluminium core processor with extender for direct host
S = 9-wire Stainless junction box
J = integral 2200S
U = integral 2200S with extender

Marking without influence to the type of protection

A = High Temp. Stainless Steel Tube 350 °C
B = High Temp. HY Tube 350 °C
C = High Temp. Stainless Steel Tube 427 °C
E = High Temp. HY Tube 427 °C
Other marking without influence to the type of protection

3 numerals for type of sensor

<u>Marking</u>

⟨Ex⟩ II 2G with additional marking required by the standards mentioned in the following tables:
II 2D Ex ib IIIC T [3)] °C Db IP66

For types with J-box connected to MVD transmitters:

Type	Type of protection gas	Min. ambient/fluid temp. Gas [3]
CMF010*****[1])*Z****	Ex ib IIC T1-T6 Gb	-240 °C
CMF025*****[1])*Z****	Ex ib IIC T1-T6 Gb	-240 °C
CMF050*****[1])*Z****	Ex ib IIC T1-T6 Gb	-240 °C
CMF100*****[1])*Z****	Ex ib IIC T1-T6 Gb	-60 °C
CMF100*****[1])*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMF100*****[1])*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMF200*****[1])*Z****	Ex ib IIB T1-T6 Gb	-55 °C
CMF200*****[1])*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMF200*****[1])*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMF200[4])****[1])*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMF200[4])****[1])*Z**** CIC A5	Ex ib IIB T1-T6 Gb	-50 °C
CMF200[4])****[1])*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-50 °C
CMF200[4])****[1])*6****	Ex ib IIC T1-T6 Gb	-50 °C
CMF200[4])****[1])*6**** CIC A7	Ex ib IIC T1-T6 Gb	-50 °C
CMF300*****[1])*Z****	Ex ib IIB T1-T6 Gb	-55 °C
CMF300*****[1])*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMF300*****[1])*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMF300[4])****[1])*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMF300[4])****[1])*Z**** CIC A5	Ex ib IIB T1-T6 Gb	-50 °C
CMF300[4])****[1])*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-50 °C
CMF300[4])****[1])*6****	Ex ib IIC T1-T6 Gb	-50 °C
CMF300[4])****[1])*6**** CIC A7	Ex ib IIC T1-T6 Gb	-50 °C
CMF400*****[1])*Z****	Ex ib IIB T1-T6 Gb	-68 °C
CMF400*****[1])*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMF400*****[1])*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMF400[4])****[1])*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMF400[4])****[1])*Z**** CIC A5	Ex ib IIB T1-T6 Gb	-50 °C
CMF400[4])****[1])*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-50 °C
CMF400[4])****[1])*6****	Ex ib IIC T1-T6 Gb	-50 °C
CMF400[4])****[1])*6**** CIC A7	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC2*****[1])*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMFHC2*****[1])*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMFHC2*****[1])*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMFHC2[4])****[1])*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMFHC2[4])****[1])*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC2[4])****[1])*6****	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC2[4])****[1])*Z**** CIC A6	Ex ib IIB T1-T6 Gb	-50 °C
CMFHC2[4])****[1])*6**** CIC A6	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC3*****[1])*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMFHC3*****[1])*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMFHC3*****[1])*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMFHC3[4])****[1])*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMFHC3[4])****[1])*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC3[4])****[1])*6****	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC3[4])****[1])*Z**** CIC A6	Ex ib IIB T1-T6 Gb	-50 °C
CMFHC3[4])****[1])*6**** CIC A6	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC4*****[1])*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMFHC4*****[1])*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMFHC4*****[1])*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMFHC4[4])****[1])*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMFHC4[4])****[1])*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC4[4])****[1])*6****	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC4[4])****[1])*Z**** CIC A6	Ex ib IIB T1-T6 Gb	-50 °C
CMFHC4[4])****[1])*6**** CIC A6	Ex ib IIC T1-T6 Gb	-50 °C
CMFHC*Y****[1])*Z****	Ex ib IIB T1-T6 Gb	-50 °C / -29 °C
CMFHC*Y****[1])*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C / -29 °C
CMFHC*Y****[1])*6****	Ex ib IIC T1-T6 Gb	-240 °C / -29 °C

For types with core processor

Type	Type of protection gas	Min. ambient/fluid temp. Gas [3)]
CMF010*****[2)]*Z****	Ex ib IIC T1-T5 Gb	-40 °C
CMF025*****[2)]*Z****	Ex ib IIC T1-T5 Gb	-40 °C
CMF050*****[2)]*Z****	Ex ib IIC T1-T5 Gb	-40 °C
CMF100*****[2)]*Z****	Ex ib IIC T1-T5 Gb	-40 °C
CMF100*****[2)]*Z**** CIC A4	Ex ib IIC T1-T5 Gb	-40 °C
CMF100*****[2)]*6****	Ex ib IIC T1-T5 Gb	-40 °C
CMF200*****[2)]*Z****	Ex ib IIB T1-T5 Gb	-40 °C
CMF200*****[2)]*Z**** CIC A4	Ex ib IIC T1-T5 Gb	-40 °C
CMF200*****[2)]*6****	Ex ib IIC T1-T5 Gb	-40 °C
CMF200[4)]****[2)]*Z****	Ex ib IIB T1-T5 Gb	-50 °C
CMF200[4)]****[2)]*Z**** CIC A5	Ex ib IIB T1-T5 Gb	-50 °C
CMF200[4)]****[2)]*Z**** CIC A4	Ex ib IIC T1-T5 Gb	-50 °C
CMF200[4)]****[2)]*6****	Ex ib IIC T1-T5 Gb	-50 °C
CMF200[4)]****[2)]*6**** CIC A7	Ex ib IIC T1-T5 Gb	-50 °C
CMF300*****[2)]*Z****	Ex ib IIB T1-T5 Gb	-40 °C
CMF300*****[2)]*Z**** CIC A4	Ex ib IIC T1-T5 Gb	-40 °C
CMF300*****[2)]*Z**** CIC A4 & ETO 17151	Ex ib IIC T1-T5 Gb	-240 °C
CMF300*****[2)]*6****	Ex ib IIC T1-T5 Gb	-40 °C
CMF300*****[2)]*6**** & ETO 17151	Ex ib IIC T1-T5 Gb	-240 °C
CMF300[4)]****[2)]*Z****	Ex ib IIB T1-T5 Gb	-50 °C
CMF300[4)]****[2)]*Z**** CIC A5	Ex ib IIB T1-T5 Gb	-50 °C
CMF300[4)]****[2)]*Z**** CIC 4	Ex ib IIC T1-T5 Gb	-50 °C
CMF300[4)]****[2)]*6****	Ex ib IIC T1-T5 Gb	-50 °C
CMF300[4)]****[2)]*6**** CIC A7	Ex ib IIC T1-T5 Gb	-50 °C
CMF400*****[2)]*Z****	Ex ib IIB T1-T5 Gb	-40 °C
CMF400*****[2)]*Z**** CIC A4	Ex ib IIC T1-T5 Gb	-40 °C
CMF400*****[2)]*6****	Ex ib IIC T1-T5 Gb	-40 °C
CMF400[4)]****[2)]*Z****	Ex ib IIB T1-T5 Gb	-50 °C
CMF400[4)]****[2)]*Z**** CIC A5	Ex ib IIB T1-T5 Gb	-50 °C
CMF400[4)]****[2)]*Z**** CIC A4	Ex ib IIC T1-T5 Gb	-50 °C
CMF400[4)]****[2)]*6****	Ex ib IIC T1-T5 Gb	-50 °C
CMF400[4)]****[2)]*6**** CIC A7	Ex ib IIC T1-T5 Gb	-50 °C
CMFHC2*****[2)]*Z****	Ex ib IIB T1-T5 Gb	-40 °C
CMFHC2*****[2)]*Z**** CIC A4	Ex ib IIC T1-T5 Gb	-40 °C
CMFHC2*****[2)]*Z**** CIC A4 & ETO 17076	Ex ib IIC T1-T5 Gb	-240 °C
CMFHC2*****[2)]*6****	Ex ib IIC T1-T5 Gb	-40 °C
CMFHC2*****[2)]*6**** & ETO 17076	Ex ib IIC T1-T5 Gb	-240 °C
CMFHC2[4)] ****[2)]*Z****	Ex ib IIB T1-T5 Gb	-50 °C
CMFHC2[4)] ****[2)]*Z**** CIC A4	Ex ib IIC T1-T5 Gb	-50 °C
CMFHC2[4)] ****[2)]*6****	Ex ib IIC T1-T5 Gb	-50 °C
CMFHC2[4)] ****[2)]*Z**** CIC A6	Ex ib IIB T1-T5 Gb	-50 °C
CMFHC2[4)] ****[2)]*6**** CIC A6	Ex ib IIC T1-T5 Gb	-50 °C
CMFHC3*****[2)]*Z****	Ex ib IIB T1-T5 Gb	-40 °C
CMFHC3*****[2)]*Z**** CIC A4	Ex ib IIC T1-T5 Gb	-40 °C
CMFHC3*****[2)]*Z**** CIC A4 & ETO 16995	Ex ib IIC T1-T5 Gb	-240 °C
CMFHC3*****[2)]*6****	Ex ib IIC T1-T5 Gb	-40 °C
CMFHC3*****[2)]*6**** & ETO 16995	Ex ib IIC T1-T5 Gb	-240 °C
CMFHC3[4)]****[2)]*Z****	Ex ib IIB T1-T5 Gb	-50 °C
CMFHC3[4)]****[2)]*Z**** CIC A4	Ex ib IIC T1-T5 Gb	-50 °C
CMFHC3[4)]****[2)]*6****	Ex ib IIC T1-T5 Gb	-50 °C
CMFHC3[4)]****[2)]*Z**** CIC A6	Ex ib IIB T1-T5 Gb	-50 °C
CMFHC3[4)]****[2)]*6**** CIC A6	Ex ib IIC T1-T5 Gb	-50 °C
CMFHC4*****[2)]*Z****	Ex ib IIB T1-T5 Gb	-40 °C
CMFHC4*****[2)]*Z**** CIC A4	Ex ib IIC T1-T5 Gb	-40 °C
CMFHC4*****[2)]*Z**** CIC A4 & ETO 17192	Ex ib IIC T1-T5 Gb	-240 °C
CMFHC4*****[2)]*6****	Ex ib IIC T1-T5 Gb	-40 °C

Type	Type of protection gas	Min. ambient/fluid temp. Gas [3]
CMFHC4*****[2]*6**** & ETO 17192	Ex ib IIC T1-T5 Gb	-240 °C
CMFHC4[4]****[2]*Z****	Ex ib IIB T1-T5 Gb	-50 °C
CMFHC4[4]****[2]*Z**** CIC A4	Ex ib IIC T1-T5 Gb	-50 °C
CMFHC4[4]****[2]*6****	Ex ib IIC T1-T5 Gb	-50 °C
CMFHC4[4]****[2]*Z**** CIC A6	Ex ib IIB T1-T5 Gb	-50 °C
CMFHC4[4]****[2]*6**** CIC A6	Ex ib IIC T1-T5 Gb	-50 °C
CMFHC*Y****[2]*Z****	Ex ib IIB T1-T5 Gb	-40 °C / -29 °C
CMFHC*Y****[2]*Z**** CIC A4	Ex ib IIC T1-T5 Gb	-40 °C / -29 °C
CMFHC*Y****[2]*6****	Ex ib IIC T1-T5 Gb	-40 °C / -29 °C

For sensors with J-box connected to non-MVD transmitters (i. e. 9739) is valid:

Type	Type of protection gas	Min. ambient/fluid temp. Gas [3]
CMF010*****[1]*Z****	Ex ib IIC T1-T6 Gb	-240 °C
CMF025*****[1]*Z****	Ex ib IIC T1-T6 Gb	-240 °C
CMF050*****[1]*Z****	Ex ib IIC T1-T6 Gb	-240 °C
CMF100*****[1]*Z****	Ex ib IIC T1-T6 Gb	-40 °C
CMF100*****[1]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMF100*****[1]*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMF200*****[1]*Z****	Ex ib IIB T1-T6 Gb	-55 °C
CMF200*****[1]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMF200*****[1]*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMF200[4]****[1]*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMF200[4]****[1]*Z**** CIC A5	Ex ib IIB T1-T6 Gb	-50 °C
CMF200[4]****[1]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-50 °C
CMF200[4]****[1]*6****	Ex ib IIC T1-T6 Gb	-50 °C
CMF200[4]****[1]*6**** CIC A7	Ex ib IIC T1-T6 Gb	-50 °C
CMF300*****[1]*Z****	Ex ib IIB T1-T6 Gb	-55 °C
CMF300*****[1]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-240 °C
CMF300*****[1]*6****	Ex ib IIC T1-T6 Gb	-240 °C
CMF300[4]****[1]*Z****	Ex ib IIB T1-T6 Gb	-50 °C
CMF300[4]****[1]*Z**** CIC A5	Ex ib IIB T1-T6 Gb	-50 °C
CMF300[4]****[1]*Z**** CIC A4	Ex ib IIC T1-T6 Gb	-50 °C
CMF300[4]****[1]*6****	Ex ib IIC T1-T6 Gb	-50 °C
CMF300[4]****[1]*6**** CIC A7	Ex ib IIC T1-T6 Gb	-50 °C

[1]   At this place the letter R, H, S or T will be inserted.
[2]   At this place the numeral 2, 3, 4, 5, 6, 7, 8 or 9 or the letter A, B, D, E, Q, V, W or Y will be inserted.
[3]   Max. surface temperature T for dust for types CMF**********Z**** see temperature graphs and manufacturer's instructions. Min. ambient and process temperature for dust is -40 °C. When marked with ETO 18748 the minimum ambient allowed for dust is -50 °C.
[4]   At this place the letter A, B, C or E will be inserted.

15.2 Description

The sensor can be modified; the degree of protection has been changed into IP66.

The sensor type CMF********(R,H,S,T)****** can be marked with "ETO 18748"; than the minimum ambient temperature allowed for dust is -50 °C.

The sensor type CMF***(A,B,C,E)******6**** can be manufactured with modified drive and Pick-Off coils and modified series resistors; therefore it is marked additionally with "CIC A7".

The sensor type CMF***(A,B,C,E)****(2,3,6,7,A,D,Q,W)*(Z,6)**** can be used in an ambient temperature range from -50 °C to +60 °C.

15.3 Parameters

15.3.1   Type CMF********(R,H,S,T)****** with J-box, inclusive Construction Identification Code (CIC) A4 except type CMF***(A,B,C,E)****(R,S)******

15.3.1.1   Drive circuit (connections 1 - 2 or red and brown)

Voltage	Ui	DC	11,4 V
Current	Ii		2,45 A
Power	Pi		2,54 W
effective internal capacitance			negligible
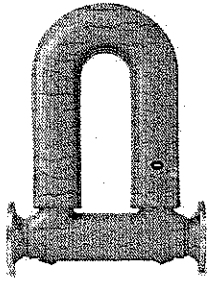
sensor type		inductance [mH]	coil resistance [Ω]	serial resistor [Ω]	minimum Ambient/Fluid Temperature [°C]
CMF010*****(R,H,S,T)*Z****	IIC	2.51	0	945.1	-240

sensor type		inductance [mH]	coil resistance [Ω]	serial resistor [Ω]	minimum Ambient/Fluid Temperature [°C]
CMF025*****(R,H,S,T)*Z****	IIC	2.51	0	170.1	-240
CMF050*****(R,H,S,T)*Z****	IIC	2.51	0	170.1	-240
CMF100*****(R,H,S,T)*Z****	IIC	6.7	58.4	89.0	-40
CMF100*****(R,H,S,T)*Z****	IIC	6.7	52.4	89.0	-60
CMF100*****(R,H,S,T)*Z**** CIC A4	IIC	6.7	0	177.0	-240
CMF100*****(R,H,S,T)*6****	IIC	6.7	0	177.0	-240

Sensortyp		inductance [mH]	coil resistance [Ω]	serial resistor [Ω]	minimum Ambient/Fluid Temperature [°C]
CMF200*****(R,H,S,T)*Z****	IIB	9.5	85.8	0	-55
CMF200*****(R,H,S,T)*Z**** CIC A4	IIC	9.5	0	177.0	-240
CMF200*****(R,H,S,T)*6****	IIC	9.5	0	177.0	-240
CMF300*****(R,H,S,T)*Z****	IIB	9.5	85.8	0	-55
CMF300*****(R,H,S,T)*Z**** CIC A4	IIC	9.5	0	177.0	-240
CMF300*****(R,H,S,T)*6****	IIC	9.5	0	177.0	-240

sensor type		inductance [mH]	coil resistance [Ω]	serial resistor [Ω]	minimum Ambient/Fluid Temperature [°C]
CMF400*****(R,H,S,T)*Z****	IIB	11.75	71.4	19.8	-68
CMF400*****(R,H,S,T)*Z**** CIC A4	IIC	11.75	0	187.1	-240
CMF400*****(R,H,S,T)*6****	IIC	11.75	0	187.1	-240

sensor type			inductance [mH]	coil resistance [Ω]	serial resistor [Ω]	minimum Ambient/Fluid Temperature [°C]
CMFHC2*****(R,H,S,T)*Z****		IIB	5.0	19,5	38.5	-50
CMFHC2*****(R,H,S,T)*Z**** CIC A4		IIC	5.0	0	126.0	-240
CMFHC2*****(R,H,S,T)*6****		IIC	5.0	0	126.0	-240
CMFHC3*****(R,H,S,T)*Z****		IIB	5.0	19,5	38.5	-50
CMFHC3*****(R,H,S,T)*Z**** CIC A4		IIC	5.0	0	126.0	-240
CMFHC3*****(R,H,S,T)*6****		IIC	5.0	0	126.0	-240
CMFHC4*****(R,H,S,T)*Z****		IIB	5.0	19,5	38.5	-50
CMFHC4*****(R,H,S,T)*Z**** CIC A4		IIC	5.0	0	126.0	-240
CMFHC4*****(R,H,S,T)*6****		IIC	5.0	0	126.0	-240
CMFHC*Y****(R,H,S,T)*Z****		IIB	5.0	19,5	38.5	-50/-29
CMFHC*Y****(R,H,S,T)*Z**** CIC A4		IIC	5.0	0	126.0	-240/-29
CMFHC*Y****(R,H,S,T)*6****		IIC	5.0	0	126.0	-240/-29

15.3.1.2   Pick-Off coil (Terminals 5/9 and 6/8 or wires green/white and blue/grey)

Voltage	U_i	DC	21,13	V
Current	I_i		18,05	mA
power	P_i		45	mW

effective internal capacitance   negligible

sensor type			inductance [mH]	coil resistance [Ω]	serial resistor [Ω]	minimum Ambient/Fluid Temperature [°C]
CMF010*****(R,H,S,T)*Z****		IIC	2.51	0	0	-240
CMF025*****(R,H,S,T)*Z****		IIC	2.51	0	0	-240
CMF050*****(R,H,S,T)*Z****		IIC	2.51	0	0	-240
CMF100*****(R,H,S,T)*Z****		IIC	0.441	11.1	0	-40
CMF100*****(R,H,S,T)*Z****		IIC	0.441	9.9	0	-60
CMF100*****(R,H,S,T)*Z**** CIC A4		IIC	0.441	0	0	-240
CMF100*****(R,H,S,T)*6****		IIC	0.441	0	0	-240
CMF200*****(R,H,S,T)*Z****		IIB	2.0	38.7	0 to 567.9	-55
CMF200*****(R,H,S,T)*Z**** CIC A4		IIC	2.0	0	0 to 567.9	-240
CMF200*****(R,H,S,T)*6****		IIC	2.0	0	0 to 567.9	-240
CMF300*****(R,H,S,T)*Z****		IIB	2.0	38.7	0 to 567.9	-55
CMF300*****(R,H,S,T)*Z**** CIC A4		IIC	2.0	0	0 to 567.9	-240
CMF300*****(R,H,S,T)*6****		IIC	2.0	0	0 to 567.9	-240
CMF400*****(R,H,S,T)*Z****		IIB	12.4	109.8	0 to 566.4	-68
CMF400*****(R,H,S,T)*Z**** CIC A4		IIC	12.4	0	0 to 566.4	-240
CMF400*****(R,H,S,T)*6****		IIC	12.4	0	0 to 566.4	-240
CMFHC2*****(R,H,S,T)*Z****		IIB	2.8	49.2	42.6 to 566.4	-50
CMFHC2*****(R,H,S,T)*Z**** CIC A4		IIC	2.8	0	198.4 to 566.4	-240
CMFHC2*****(R,H,S,T)*6****		IIC	2.8	0	198.4 to 566.4	-240
CMFHC3*****(R,H,S,T)*Z****		IIB	2.8	49.2	42.6 to 566.4	-50
CMFHC3*****(R,H,S,T)*Z**** CIC A4		IIC	2.8	0	198.4 to 566.4	-240
CMFHC3*****(R,H,S,T)*6****		IIC	2.8	0	198.4 to 566.4	-240
CMFHC4*****(R,H,S,T)*Z****		IIB	2.8	49.2	42.6 to 566.4	-50
CMFHC4*****(R,H,S,T)*Z**** CIC A4		IIC	2.8	0	198.4 to 566.4	-240
CMFHC4*****(R,H,S,T)*6****		IIC	2.8	0	198.4 to 566.4	-240
CMFHC*Y****(R,H,S,T)*Z****		IIB	2.8	49.2	42.6 to 566.4	-50/-29
CMFHC*Y****(R,H,S,T)*Z**** CIC A4		IIC	2.8	0	198.4 to 566.4	-240/-29
CMFHC*Y****(R,H,S,T)*6****		IIC	2.8	0	198.4 to 566.4	-240/-29

4.1.3 Temperature circuits (terminals 3, 4 and 7 or wires orange, yellow and violet)

Voltage	Ui	DC	21.31	V
Current	Ii		26	mA
Power	Pi		112	mW
effective internal capacitance	Ci		negligible	
effective internal inductance	Li		negligible	

Identification resistor circuit (terminals 3 & 4 or wires orange and yellow)

sensor type		inductance [mH]	coil resistance [Ω]	serial resistor [Ω]	minimum Ambient/Fluid Temperature [°C]
CMF400*****(R,H,S,T)*Z****	IIB	N/A	N/A	39.7 to 42.2	-68
CMF400*****(R,H,S,T)*Z**** CIC A4	IIC	N/A	N/A	39.7 to 42.2	-240
CMF400*****(R,H,S,T)*6****	IIC	N/A	N/A	39.7 to 42.2	-240

15.3.1.4 Temperature class/ max. surface temperature T
The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graph:

15.3.1.4.1 For types with J-box

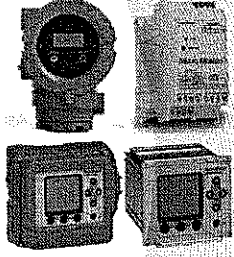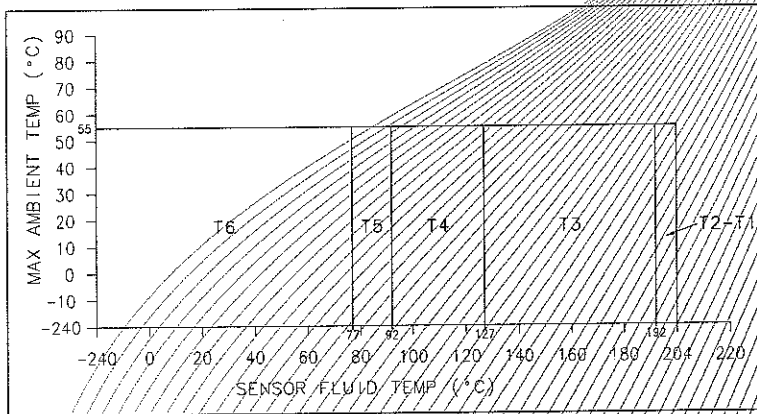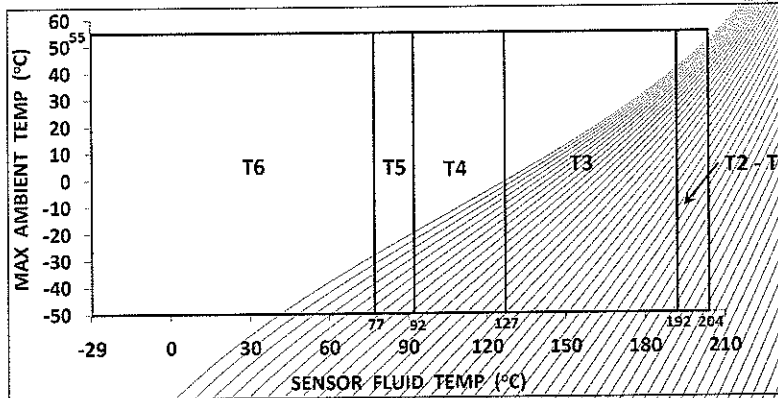| CMF010*****(R,H,S,T)*Z****	CMF025*****(R,H,S,T)*Z**** CMF050*****(R,H,S,T)*Z****

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 254 °C. The minimum ambient temperature allowed for dust is -40 °C. When marked with ETO 18748 the minimum ambient allowed for dust is -50 °C.

Ambient temperature range   Ta   -240 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

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15.3.1.4.2 For types with J-box

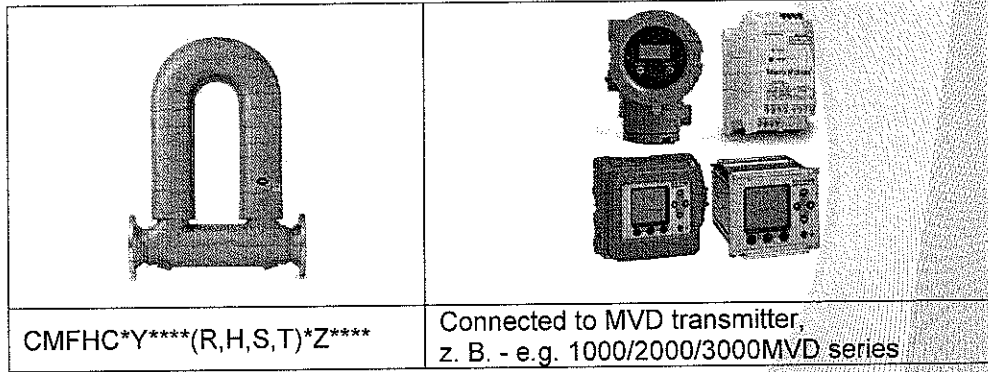|	
CMF100*****(R,H,S,T)*Z****	Connected to non MVD transmitters (i.e. 9739)

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 254 °C. The minimum ambient temperature allowed for dust is -40 °C. When marked with ETO 18748 the minimum ambient allowed for dust is -50°C.

Ambient temperature range   Ta   -40 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

15.3.1.4.3 For types with J-box connected to MVD transmitters.

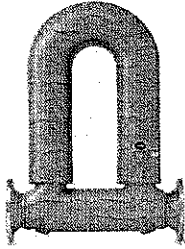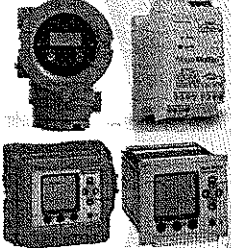|	
CMF100*****(R,H,S,T)*Z****	Connected to MVD transmitter, z. B. - e.g. 1000/2000/3000MVD series

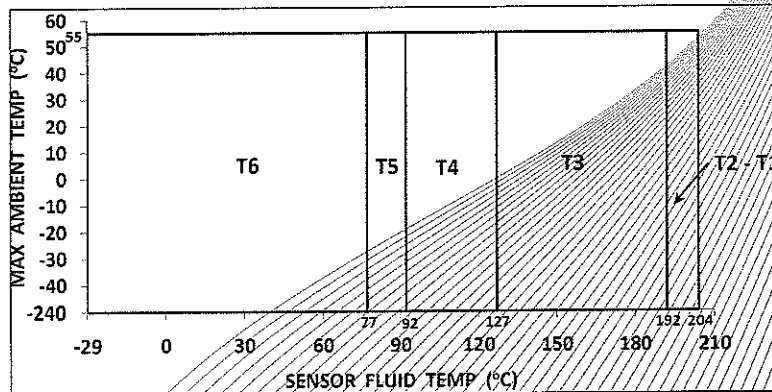Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 254 °C. The minimum ambient temperature allowed for dust is -40 °C. When marked with ETO 18748 the minimum ambient allowed for dust is -50 °C.

| Ambient temperature range | Ta | -60 °C up to +55 °C |

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

15.3.1.4.4   For types with J-box
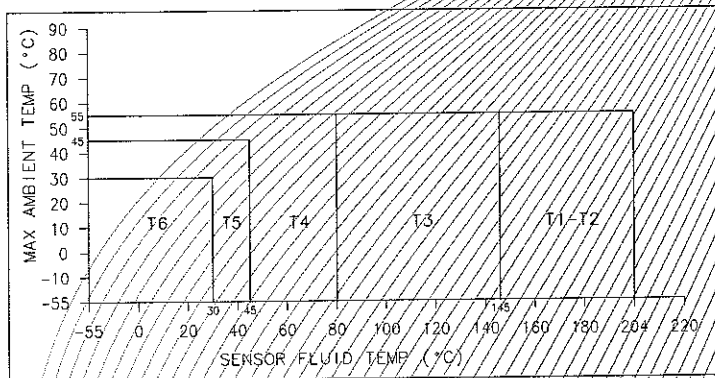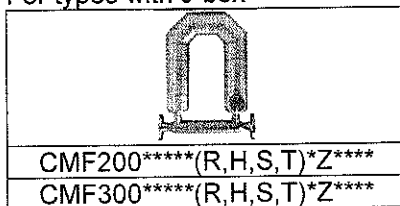
| CMF200*****(R,H,S,T)*Z**** |
| CMF300*****(R,H,S,T)*Z**** |

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 254 °C. The minimum ambient temperature allowed for dust is -40 °C. When marked with ETO 18748 the minimum ambient allowed for dust is -50 °C.

| Ambient temperature range | Ta | -55 °C bis – up to +55 °C |

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

15.3.1.4.5   For types with J-box

CMF100*****(R,H,S,T)*Z**** CIC A4	CMF200*****(R,H,S,T)*Z**** CIC A4
CMF100*****(R,H,S,T)*6****	CMF200*****(R,H,S,T)*6****
	CMF300*****(R,H,S,T)*Z**** CIC A4
	CMF300*****(R,H,S,T)*6****

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 254 °C. The minimum ambient temperature allowed for dust is -40 °C. When marked with ETO 18748 the minimum ambient allowed for dust is -50 °C.

Ambient temperature range   Ta   -240 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

15.3.1.4.6 For types with J-box connected to MVD transmitters.

CMF400*****(R,H,S,T)*Z****	Connected to MVD transmitter,
CMF400*****(R,H,S,T)*Z**** CIC A4	z. B. - e.g. 1000/2000/3000MVD series
CMF400*****(R,H,S,T)*6****	

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 234 °C. The minimum ambient temperature allowed for dust is -40 °C. When marked with ETO 18748 the minimum ambient allowed for dust is -50 °C.

Ambient temperature range   Ta   -68 °C up to +60 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

15.3.1.4.7 For types with J-box connected to MVD transmitters.

CMF400*****(R,H,S,T)*Z**** CIC A4	Connected to MVD transmitter,
CMF400*****(R,H,S,T)*6****	z. B. - e.g. 1000/2000/3000MVD series
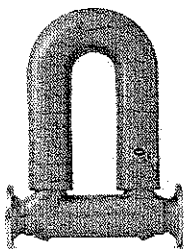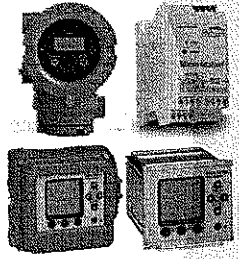
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 234 °C. The minimum ambient temperature allowed for dust is -40 °C. When marked with ETO 18748 the minimum ambient allowed for dust is -50 °C.

Ambient temperature range   Ta   -240 °C up to +60 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

15.3.1.4.8 For types with J-box connected to MVD transmitters.

CMFHC2*****(R,H,S,T)*Z****	Connected to MVD transmitter,
CMFHC3*****(R,H,S,T)*Z****	z. B. - e.g. 1000/2000/3000MVD series
CMFHC4*****(R,H,S,T)*Z****	

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 207 °C. The minimum ambient temperature allowed for dust is -40 °C. When marked with ETO 18748 the minimum ambient allowed for dust is -50 °C.

Ambient temperature range   Ta   -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

15.3.1.4.9 For types with J-box connected to MVD transmitters.

CMFHC2*****(R,H,S,T)*Z**** CIC A4	
CMFHC2*****(R,H,S,T)*6****	Angeschlossen an einen MVD-Transmitter -
CMFHC3*****(R,H,S,T)*Z**** CIC A4	Connected to MVD transmitter,
CMFHC3*****(R,H,S,T)*6****	z. B. - e.g. 1000/2000/3000MVD series
CMFHC4*****(R,H,S,T)*Z**** CIC A4	
CMFHC4*****(R,H,S,T)*6****	

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 207 °C. The minimum ambient temperature allowed for dust is -40 °C. When marked with ETO 18748 the minimum ambient allowed for dust is -50 °C.

Ambient temperature range   Ta   -240 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

15.3.1.4.10 For types with J-box connected to MVD transmitters.

CMFHC*Y****(R,H,S,T)*Z****	Connected to MVD transmitter, z. B. - e.g. 1000/2000/3000MVD series

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 207 °C. The minimum ambient temperature allowed for dust is -40 °C. When marked with ETO 18748 the minimum ambient allowed for dust is -50 °C.

Ambient temperature range   Ta   -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

15.3.1.4.11 For types with J-box connected to MVD transmitters.

CMFHC*Y****(R,H,S,T)*Z**** CIC A4	Connected to MVD transmitter,
CMFHC*Y****(R,H,S,T)*6****	z. B. - e.g. 1000/2000/3000MVD series

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 207 °C. The minimum ambient temperature allowed for dust is -40 °C. When marked with ETO 18748 the minimum ambient allowed for dust is -50 °C.

Ambient temperature range   Ta   -240 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

15.3.1.5   All sensors listed in cl. 15.3.1 can also be executed with the alternate junction box type 800/2400 Splined J-Box covered in BVS 09 ATEX E 071 U.
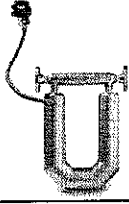
15.3.2   Type CMF***(A,B,C,E)****(R,S)****** with J-box

15.3.2.1 Drive circuit (connections 1 - 2 or red and brown)

Voltage	U_i	DC	11.4	V
Current	I_i		2.45	A
Power	P_i		2.54	W

effective internal capacitance   negligible

sensor type	inductance [mH]	coil resistance [Ω]	serial resistor [Ω]	minimum Ambient/Fluid Temperature [°C]
CMF200(A,B,C,E)****(R,S)*Z****	4.0	32.3	19.8	-50
CMF200(A,B,C,E)****(R,S)*Z**** CIC A5	1.1	15.4	9.6	-50
CMF200(A,B,C,E)****(R,S)*Z**** CIC A4	1.1	15.4	41	-50
CMF200(A,B,C,E)****(R,S)*6****	1.1	15.4	41	-50
CMF200(A,B,C,E)****(R,S)*6**** CIC A7	4.0	32.3	88.9	-50
CMF300(A,B,C,E)****(R,S)*Z****	4.0	32.3	19.8	-50
CMF300(A,B,C,E)****(R,S)*Z**** CIC A5	1.1	15.4	9.6	-50
CMF300(A,B,C,E)****(R,S)*Z**** CIC A4	1.1	15.4	41	-50
CMF300(A,B,C,E)****(R,S)*6****	1.1	15.4	41	-50
CMF300(A,B,C,E)****(R,S)*6**** CIC A7	4.0	32.3	88.9	-50
CMF400(A,B,C,E)****(R,S)*Z****	7.75	54.3	19.8	-50
CMF400(A,B,C,E)****(R,S)*Z**** CIC A5	3.4	35.2	12.8	-50
CMF400(A,B,C,E)****(R,S)*Z**** CIC A4	3.4	35.2	63.2	-50
CMF400(A,B,C,E)****(R,S)*6****	3.4	35.2	63.2	-50
CMF400(A,B,C,E)****(R,S)*6**** CIC A7	7.75	54.3	106.7	-50
CMFHC2(A,B,C,E)****(R,S)*Z****	5.95	51.3	12.8	-50
CMFHC2(A,B,C,E)****(R,S)*Z**** CIC A4	5.95	51.3	88.9	-50
CMFHC2(A,B,C,E)****(R,S)*6****	5.95	51.3	88.9	-50
CMFHC2(A,B,C,E)****(R,S)*Z**** CIC A6	7.75	54.3	24.7	-50
CMFHC2(A,B,C,E)****(R,S)*6**** CIC A6	7.75	54.3	106.7	-50
CMFHC3(A,B,C,E)****(R,S)*Z****	5.95	51.3	12.8	-50
CMFHC3(A,B,C,E)****(R,S)*Z**** CIC A4	5.95	51.3	88.9	-50
CMFHC3(A,B,C,E)****(R,S)*6****	5.95	51.3	88.9	-50
CMFHC3(A,B,C,E)****(R,S)*Z**** CIC A6	7.75	54.3	24.7	-50
CMFHC3(A,B,C,E)****(R,S)*6**** CIC A6	7.75	54.3	106.7	-50
CMFHC4(A,B,C,E)****(R,S)*Z****	5.95	51.3	12.8	-50
CMFHC4(A,B,C,E)****(R,S)*Z**** CIC A4	5.95	51.3	88.9	-50
CMFHC4(A,B,C,E)****(R,S)*6****	5.95	51.3	88.9	-50
CMFHC4(A,B,C,E)****(R,S)*Z**** CIC A6	7.75	54.3	24.7	-50
CMFHC4(A,B,C,E)****(R,S)*6**** CIC A6	7.75	54.3	106.7	-50

15.3.2.2 Pick-Off coil (Terminals 5/9 and 6/8 or wires green/white and blue/grey)

Voltage	Ui	DC	21.13	V
Current	Ii		18.05	mA
Power	Pi		45	mW

effective internal capacitance   negligible

sensor type	inductance [mH]	coil resistance [Ω]	serial resistor [Ω]	minimum Ambient/Fluid Temperature [°C]
CMF200(A,B,C,E)****(R,S)*Z****	1.25	15.4	569.2	-50
CMF200(A,B,C,E)****(R,S)*Z**** CIC A5	0.50	8.0	569.2	-50
CMF200(A,B,C,E)****(R,S)*Z**** CIC A4	0.50	8.0	569.2	-50
CMF200(A,B,C,E)****(R,S)*6****	0.50	8.0	569.2	-50
CMF200(A,B,C,E)****(R,S)*6**** CIC A7	1.25	15.4	569.2	-50
CMF300(A,B,C,E)****(R,S)*Z****	1.25	15.4	569.2	-50
CMF300(A,B,C,E)****(R,S)*Z**** CIC A5	0.50	8.0	569.2	-50
CMF300(A,B,C,E)****(R,S)*Z**** CIC A4	0.50	8.0	569.2	-50
CMF300(A,B,C,E)****(R,S)*6****	0.50	8.0	569.2	-50
CMF300(A,B,C,E)****(R,S)*6**** CIC A7	1.25	15.4	569.2	-50
CMF400(A,B,C,E)****(R,S)*Z****	6.50	41.1	569.2	-50
CMF400(A,B,C,E)****(R,S)*Z**** CIC A5	1.10	15.4	569.2	-50
CMF400(A,B,C,E)****(R,S)*Z**** CIC A4	1.10	15.4	569.2	-50
CMF400(A,B,C,E)****(R,S)*6****	1.10	15.4	569.2	-50
CMF400(A,B,C,E)****(R,S)*6**** CIC A7	6.50	41.1	569.2	-50
CMFHC2(A,B,C,E)****(R,S)*Z****	0.85	9.1	42.6	-50
CMFHC2(A,B,C,E)****(R,S)*Z**** CIC A4	0.85	9.1	42.6	-50
CMFHC2(A,B,C,E)****(R,S)*6****	0.85	9.1	42.6	-50
CMFHC2(A,B,C,E)****(R,S)*Z**** CIC A6	0.85	9.1	42.6	-50
CMFHC2(A,B,C,E)****(R,S)*6**** CIC A6	0.85	9.1	42.6	-50
CMFHC3(A,B,C,E)****(R,S)*Z****	0.85	9.1	42.6	-50
CMFHC3(A,B,C,E)****(R,S)*Z**** CIC A4	0.85	9.1	42.6	-50
CMFHC3(A,B,C,E)****(R,S)*6****	0.85	9.1	42.6	-50
CMFHC3(A,B,C,E)****(R,S)*Z**** CIC A6	0.85	9.1	42.6	-50
CMFHC3(A,B,C,E)****(R,S)*6**** CIC A6	0.85	9.1	42.6	-50
CMFHC4(A,B,C,E)****(R,S)*Z****	0.85	9.1	42.6	-50
CMFHC4(A,B,C,E)****(R,S)*Z**** CIC A4	0.85	9.1	42.6	-50
CMFHC4(A,B,C,E)****(R,S)*6****	0.85	9.1	42.6	-50
CMFHC4(A,B,C,E)****(R,S)*Z**** CIC A6	0.85	9.1	42.6	-50
CMFHC4(A,B,C,E)****(R,S)*6**** CIC A6	0.85	9.1	42.6	-50

15.3.2.3 Temperature circuits (terminals 3, 4 and 7 or wires orange, yellow and violet)

Voltage	Ui	DC	21.13	V
Current	Ii		26	mA
Power	Pi		112	mW
effective internal capacitance	Ci		negligible	
effective internal inductance	Li		negligible	

Identification resistor circuit (terminals 3 & 4 or wires orange and yellow)
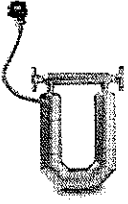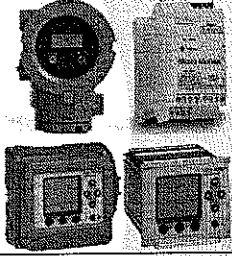
sensor type	inductance [mH]	coil resistance [Ω]	serial resistor [Ω]	minimum Ambient/Fluid Temperature [°C]
CMF400(A,B,C,E)****(R,S)*Z****	N/A	N/A	39.7 to 42.2	-50
CMF400(A,B,C,E)****(R,S)*Z**** CIC A4	N/A	N/A	39.7 to 42.2	-50
CMF400(A,B,C,E)****(R,S)*6****	N/A	N/A	39.7 to 42.2	-50

15.3.2.4 Temperature class/ max. surface temperature T
The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graph:

15.3.2.4.1 For types with J-box connected to MVD transmitters.

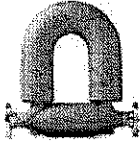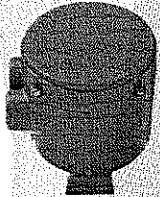|	
CMF200(A or B)****(R,S)*Z****	Connected to MVD transmitter, e.g. 1000/2000/3000MVD series
CMF200(A or B)****(R,S)*Z**** CIC A4	
CMF200(A or B)****(R,S)*Z**** CIC A5	
CMF200(A or B)****(R,S)*6****	
CMF200(A or B)****(R,S)*6**** CIC A7	
CMF300(A or B)****(R,S)*Z****	
CMF300(A or B)****(R,S)*Z**** CIC A4	
CMF300(A or B)****(R,S)*Z**** CIC A5	
CMF300(A or B)****(R,S)*6****	
CMF300(A or B)****(R,S)*6**** CIC A7	
CMF400(A or B)****(R,S)*Z****	
CMF400(A or B)****(R,S)*Z**** CIC A4	
CMF400(A or B)****(R,S)*Z**** CIC A5	
CMF400(A or B)****(R,S)*6****	
CMF400(A or B)****(R,S)*6**** CIC A7	
CMFHC2(A or B)****(R,S)*Z****	
CMFHC2(A or B)****(R,S)*Z**** CIC A4	
CMFHC2(A or B)****(R,S)*Z**** CIC A6	
CMFHC2(A or B)****(R,S)*6****	
CMFHC2(A or B)****(R,S)*6**** CIC A6	
CMFHC3(A or B)****(R,S)*Z****	
CMFHC3(A or B)****(R,S)*Z**** CIC A4	
CMFHC3(A or B)****(R,S)*Z**** CIC A6	
CMFHC3(A or B)****(R,S)*6****	
CMFHC3(A or B)****(R,S)*6**** CIC A6	
CMFHC4(A or B)****(R,S)*Z****	
CMFHC4(A or B)****(R,S)*Z**** CIC A4	
CMFHC4(A or B)****(R,S)*Z**** CIC A6	
CMFHC4(A or B)****(R,S)*6****	
CMFHC4(A or B)****(R,S)*6**** CIC A6	

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: T 80°C, T5: T 95°C, T4: T 130 °C, T3: T 195 °C, T2: T 290 °C, T1: T 363 °C. The minimum ambient temperature allowed for dust is -40 °C.
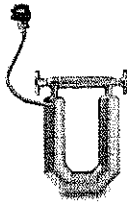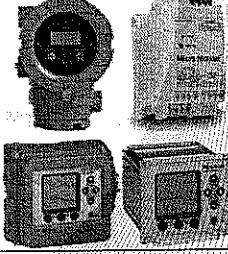
Ambient temperature range   Ta   -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor

15.3.2.4.2 For types with J-box connected to MVD transmitters.
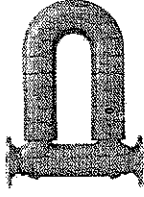
|	
CMF200(C or E)****(R,S)*Z****	Connected to MVD transmitter, e.g. 1000/2000/3000MVD series
CMF200(C or E)****(R,S)*Z**** CIC A4	
CMF200(C or E)****(R,S)*Z**** CIC A5	
CMF200(C or E)****(R,S)*6****	
CMF200(C or E)****(R,S)*6**** CIC A7	
CMF300(C or E)****(R,S)*Z****	
CMF300(C or E)****(R,S)*Z**** CIC A4	
CMF300(C or E)****(R,S)*Z**** CIC A5	
CMF300(C or E)****(R,S)*6****	
CMF300(C or E)****(R,S)*6**** CIC A7	
CMF400(C or E)****(R,S)*Z****	
CMF400(C or E)****(R,S)*Z**** CIC A4	
CMF400(C or E)****(R,S)*Z**** CIC A5	
CMF400(C or E)****(R,S)*6****	
CMF400(C or E)****(R,S)*6**** CIC A7	
CMFHC2(C or E)****(R,S)*Z****	
CMFHC2(C or E)****(R,S)*Z**** CIC A4	
CMFHC2(C or E)****(R,S)*Z**** CIC A6	
CMFHC2(C or E)****(R,S)*6****	
CMFHC2(C or E)****(R,S)*6**** CIC A6	
CMFHC3(C or E)****(R,S)*Z****	
CMFHC3(C or E)****(R,S)*Z**** CIC A4	
CMFHC3(C or E)****(R,S)*Z**** CIC A6	
CMFHC3(C or E)****(R,S)*6****	
CMFHC3(C or E)****(R,S)*6**** CIC A6	
CMFHC4(C or E)****(R,S)*Z****	
CMFHC4(C or E)****(R,S)*Z**** CIC A4	
CMFHC4(C or E)****(R,S)*Z**** CIC A6	
CMFHC4(C or E)****(R,S)*6****	
CMFHC4(C or E)****(R,S)*6**** CIC A6	
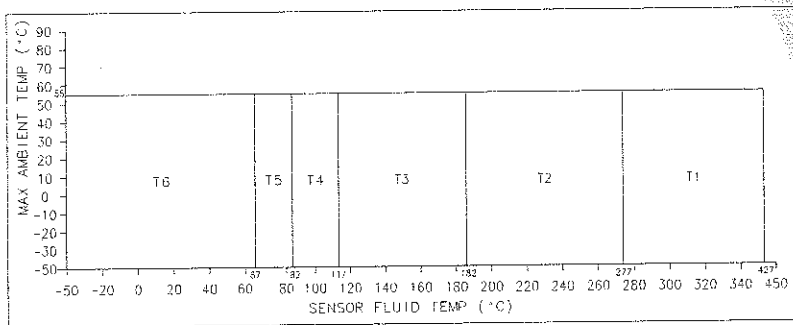
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: T 80 °C, T5: T 95 °C, T4: T 130 °C, T3: T 195 °C, T2: T 290 °C, T1: T 440 °C. The minimum ambient temperature allowed for dust is -40 °C.

| Ambient temperature range | Ta | | -50 °C up to +55 °C |

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor

15.3.3 Type CMF********(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)****** with J-box, inclusive Construction Identification Code (CIC) A4 except type
CMF***(A,B,C,E)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)******

15.3.3.1 Input circuits (terminals 1 - 4)

Voltage	U_i	DC	17,3	V
Current	I_i		484	mA
Power	P_i		2,1	W
effective internal capacitance	C_i		2200	pF
effective internal inductance	L_i		30	µH

15.3.3.2 Temperature class/ max. surface temperature T
The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and are shown in the following graph:

15.3.3.2.1 For types with integrally mounted core processor
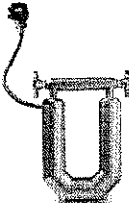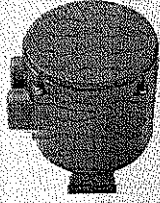
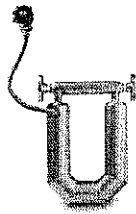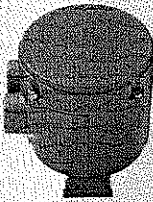| Sensor type	CMF010	CMF100	CMF200/300	
CMF010*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****				
CMF025*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****				
CMF050*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****				
CMF100*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****				
CMF200*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****			with integral core processor	
CMF200*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A4				
CMF200*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6****				
CMF300*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****				
CMF300*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A4				
CMF300*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6****				
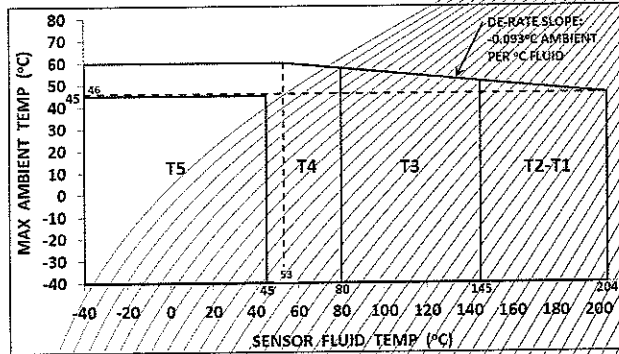
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: T 95 °C, T4: T 130 °C, T3: T 195 °C, T2 and T1: T 254 °C.

Ambient temperature range   Ta   −40 °C up to +60 °C

15.3.3.2.2 For types with integrally mounted core processor

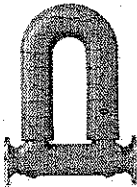| Sensor type		
CMF300*****(2,3,6,7,A,D,Q,W)*Z**** CIC A4 and ETO 17151		with integral core processor
CMF300*****(2,3,6,7,A,D,Q,W)*6**** and ETO 17151		
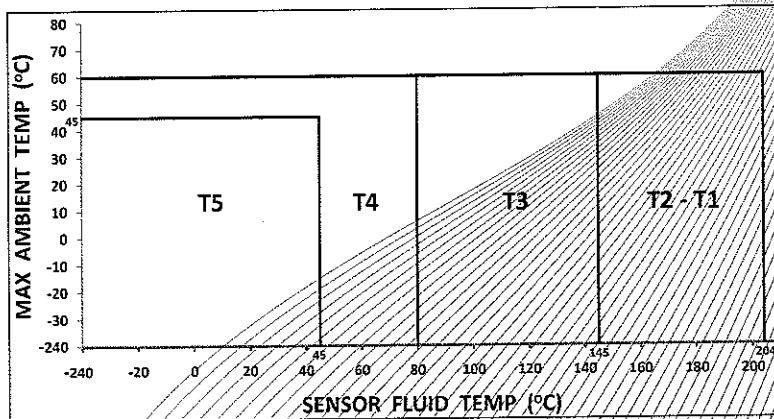
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: T 95 °C, T4: T 130 °C, T3: T 195 °C, T2 and T1: T 254 °C.

Ambient temperature range   Ta   -240 °C up to +60 °C

The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

15.3.3.2.3 For types with integrally mounted core processor

Sensor type		
CMF400*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****		with integral core processor
CMF400*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A4		
CMF400*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6****		
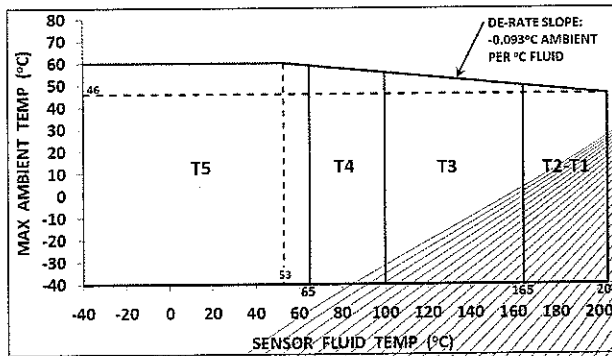
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: T 95 °C, T4: T 130 °C, T3: T 195 °C, T2 and T1: T 234 °C.

Ambient temperature range   Ta   -40 °C up to +60 °C

15.3.3.2.4 For types with integrally mounted core processor

| Sensor type		
CMFHC2*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****		
CMFHC2*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A4		
CMFHC2*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6****		
CMFHC3*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****	mit eingebautem Prozessor - with integral core processor	
CMFHC3*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A4		
CMFHC3*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6****		
CMFHC4*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****		
CMFHC4*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A4		
CMFHC4*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6****		
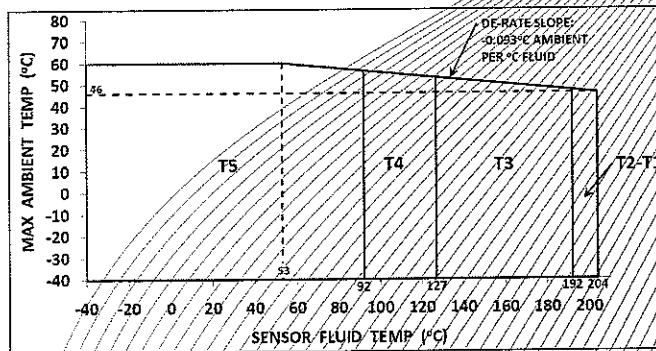
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: T 95 °C, T4: T 130 °C, T3: T 195 °C, T2 and T1: T 207 °C.

Ambient temperature range   Ta   -40 °C up to +60 °C

15.3.3.2.5 For types with integrally mounted core processor

Sensor type		
CMFHC2*****(2,3,6,7,A,D,Q,W)*Z**** CIC A4 and ETO 17076		with integral core processor
CMFHC2*****(2,3,6,7,A,D,Q,W)*6**** and ETO 17076		
CMFHC3*****(2,3,6,7,A,D,Q,W)*Z**** CIC A4 and ETO 16995		
CMFHC3*****(2,3,6,7,A,D,Q,W)*6**** and ETO 16995		
CMFHC4*****(2,3,6,7,A,D,Q,W)*Z**** CIC A4 and ETO 17192		
CMFHC4*****(2,3,6,7,A,D,Q,W)*6**** and ETO 17192		
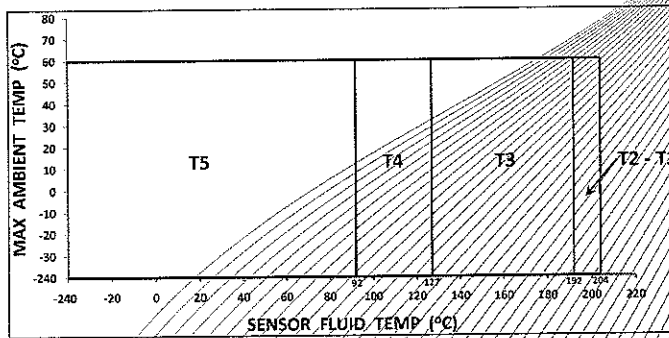
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: T 95 °C, T4: T 130 °C, T3: T 195 °C, T2 and T1: T 207 °C.

Ambient temperature range   Ta   -240 °C up to +60 °C

The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

15.3.3.2.6   For types with integrally mounted core processor

Sensor type		with integral core processor

CMFHC*Y****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z****
CMFHC*Y****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z**** CIC A4
CMFHC*Y****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6****
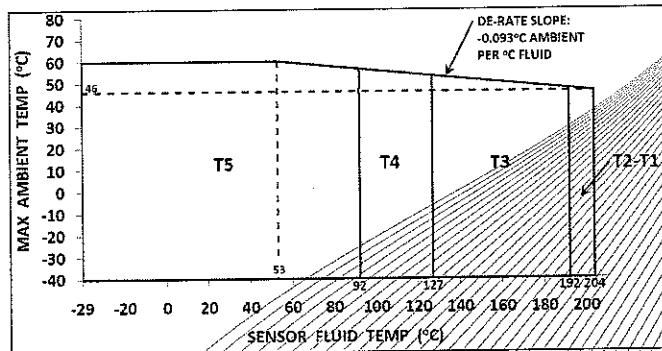
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 to T1: 207 °C.

Ambient temperature range   Ta   –40 °C up to +60 °C

15.3.4.1   Type CMF*(A,B,C,E)****(2, 3, 6, 7, A, D, Q, W)******
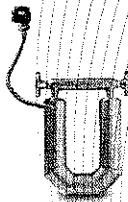
15.3.4.2   Input circuits (terminals 1 - 4)
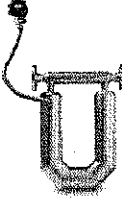
Voltage	Ui	DC 17.3	V
Current	Ii	484	mA
Power	Pi	2.1	W
effective internal capacitance	Ci	2200	pF
effective internal inductance	Li	30	µH

4.4.2   Temperature class/ max. surface temperature T
The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and are shown in the following graph:

15.3.4.2.1   For types with integrally mounted core processor

For types with integrally mounted core processor

| CMF200(A or B)****(2,3,6,7,A,D,Q,W)*Z**** |
| CMF200(A or B)****(2,3,6,7,A,D,Q,W)*Z**** CIC A4 |
| CMF200(A or B)****(2,3,6,7,A,D,Q,W)*Z**** CIC A5 |
| CMF200(A or B)****(2,3,6,7,A,D,Q,W)*6**** |
| CMF200(A or B)****(2,3,6,7,A,D,Q,W)*6**** CIC A7 |
| CMF300(A or B)****(2,3,6,7,A,D,Q,W)*Z**** |
| CMF300(A or B)****(2,3,6,7,A,D,Q,W)*Z**** CIC A4 |
| CMF300(A or B)****(2,3,6,7,A,D,Q,W)*Z**** CIC A5 |
| CMF300(A or B)****(2,3,6,7,A,D,Q,W)*6**** |
| CMF300(A or B)****(2,3,6,7,A,D,Q,W)*6**** CIC A7 |
| CMF400(A or B)****(2,3,6,7,A,D,Q,W)*Z**** |
| CMF400(A or B)****(2,3,6,7,A,D,Q,W)*Z**** CIC A4 |
| CMF400(A or B)****(2,3,6,7,A,D,Q,W)*Z**** CIC A5 |
| CMF400(A or B)****(2,3,6,7,A,D,Q,W)*6**** |
| CMF400(A or B)****(2,3,6,7,A,D,Q,W)*6**** CIC A7 |
| CMFHC2(A or B)****(2,3,6,7,A,D,Q,W)*Z**** |
| CMFHC2(A or B)****(2,3,6,7,A,D,Q,W)*Z**** CIC A4 |
| CMFHC2(A or B)****(2,3,6,7,A,D,Q,W)*Z**** CIC A6 |
| CMFHC2(A or B)****(2,3,6,7,A,D,Q,W)*6**** |
| CMFHC2(A or B)****(2,3,6,7,A,D,Q,W)*6**** CIC A6 |
| CMFHC3(A or B)****(2,3,6,7,A,D,Q,W)*Z**** |
| CMFHC3(A or B)****(2,3,6,7,A,D,Q,W)*Z**** CIC A4 |
| CMFHC3(A or B)****(2,3,6,7,A,D,Q,W)*Z**** CIC A6 |
| CMFHC3(A or B)****(2,3,6,7,A,D,Q,W)*6**** |
| CMFHC3(A or B)****(2,3,6,7,A,D,Q,W)*6**** CIC A6 |
| CMFHC4(A or B)****(2,3,6,7,A,D,Q,W)*Z**** |
| CMFHC4(A or B)****(2,3,6,7,A,D,Q,W)*Z**** CIC A4 |
| CMFHC4(A or B)****(2,3,6,7,A,D,Q,W)*Z**** CIC A6 |
| CMFHC4(A or B)****(2,3,6,7,A,D,Q,W)*6**** |
| CMFHC4(A or B)****(2,3,6,7,A,D,Q,W)*6**** CIC A6 |

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
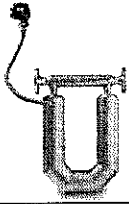The maximum surface temperature T for dust is as follows: T5: T 95 °C, T4: T 130 °C, T3: T 195 °C, T2: T 290 °C, T1: T 363 °C. The minimum ambient temperature allowed for dust is -40 °C.
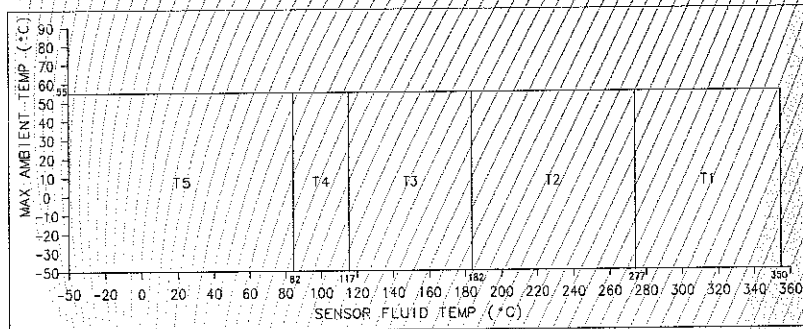
Ambient temperature range   Ta   -50 °C up to +60 °C

The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

15.3.4.2.2   For types with integrally mounted core processor

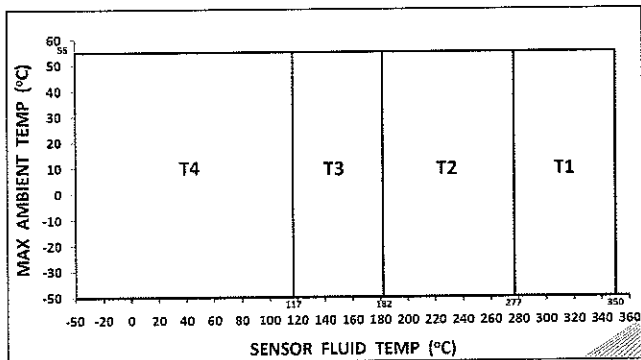|	For types with integrally mounted core processor
CMF200(C or E)****(2,3,6,7,A,D,Q,W)*Z****	
CMF200(C or E)****(2,3,6,7,A,D,Q,W)*Z**** CIC A4	
CMF200(C or E)****(2,3,6,7,A,D,Q,W)*Z**** CIC A5	
CMF200(C or E)****(2,3,6,7,A,D,Q,W)*6****	
CMF200(C or E)****(2,3,6,7,A,D,Q,W)*6**** CIC A7	
CMF300(C or E)****(2,3,6,7,A,D,Q,W)*Z****	
CMF300(C or E)****(2,3,6,7,A,D,Q,W)*Z**** CIC A4	
CMF300(C or E)****(2,3,6,7,A,D,Q,W)*Z**** CIC A5	
CMF300(C or E)****(2,3,6,7,A,D,Q,W)*6****	
CMF300(C or E)****(2,3,6,7,A,D,Q,W)*6**** CIC A7	
CMF400(C or E)****(2,3,6,7,A,D,Q,W)*Z****	
CMF400(C or E)****(2,3,6,7,A,D,Q,W)*Z**** CIC A4	
CMF400(C or E)****(2,3,6,7,A,D,Q,,W)*Z**** CIC A5	
CMF400(C or E)****(2,3,6,7,A,D,Q,W)*6****	
CMF400(C or E)****(2,3,6,7,A,D,Q,W)*6**** CIC A7	
CMFHC2(C or E)****(2,3,6,7,A,D,Q,W)*Z****	
CMFHC2(C or E)****(2,3,6,7,A,D,Q,W)*Z**** CIC A4	
CMFHC2(C or E)****(2,3,6,7,A,D,Q,W)*Z**** CIC A6	
CMFHC2(C or E)****(2,3,6,7,A,D,Q,W)*6****	
CMFHC2(C or E)****(2,3,6,7,A,D,Q,W)*6**** CIC A6	
CMFHC3(C or E)****(2,3,6,7,A,D,Q,W)*Z****	
CMFHC3(C or E)****(2,3,6,7,A,D,,Q,W)*Z**** CIC A4	
CMFHC3(C or E)****(2,3,6,7,A,D,Q,W)*Z**** CIC A6	
CMFHC3(C or E)****(2,3,6,7,A,D,Q,W)*6****	
CMFHC3(C or E)****(2,3,6,7,A,D,Q,W)*6**** CIC A6	
CMFHC4(C or E)****(2,3,6,7,A,D,Q,W)*Z****	
CMFHC4(C or E)****(2,3,6,7,A,D,Q,W)*Z**** CIC A4	
CMFHC4(C or E)****(2,3,6,7,A,D,Q,W)*Z**** CIC A6	
CMFHC4(C or E)****(2,3,6,7,A,D,Q,W)*6****	
CMFHC4(C or E)****(2,3,6,7,A,D,Q,W)*6**** CIC A6	

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: T 95 °C, T4: T 130 °C, T3: T 195 °C, T2: T 290 °C, T1: T 440 °C. The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -50 °C up to +60 °C

The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

15.3.5   Type CMF***(A,B,C,E)****C****** inclusive Construction Identification Code CIC A4 or CIC A5 or no marking

15.3.5.1   Electrical parameters see DMT 01 ATEX E 082 X for the transmitter type *700**********

15.3.5.2   Temperature class/ max. surface temperature T
           The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor, and are shown in the following graphs:

15.3.5.2.1 For types with integrally mounted core processor

	For types with integrally mounted core processor
CMF200(A or B)****C*Z****	
CMF200(A or B)****C*Z**** CIC A5	
CMF200(A or B)****C*Z**** CIC A4	
CMF200(A or B)****C*6****	
CMF200(A or B)****C*6**** CIC A7	
CMF300(A or B)****C*Z****	
CMF300(A or B)****C*Z**** CIC A5	
CMF300(A or B)****C*Z**** CIC A4	
CMF300(A or B)****C*6****	
CMF300(A or B)****C*6**** CIC A7	
CMF400(A or B)****C*Z****	
CMF400(A or B)****C*Z**** CIC A5	
CMF400(A or B)****C*Z**** CIC A4	
CMF400(A or B)****C*6****	
CMF400(A or B)****C*6**** CIC A7	
CMFHC2(A or B)****C*Z****	
CMFHC2(A or B)****C*Z**** CIC A6	
CMFHC2(A or B)****C*Z**** CIC A4	
CMFHC2(A or B)****C*6****	
CMFHC2(A or B)****C*6**** CIC A6	
CMFHC3(A or B)****C*Z****	
CMFHC3(A or B)****C*Z**** CIC A6	
CMFHC3(A or B)****C*Z**** CIC A4	
CMFHC3(A or B)****C*6****	
CMFHC3(A or B)****C*6**** CIC A6	
CMFHC4(A or B)****C*Z****	
CMFHC4(A or B)****C*Z**** CIC A6	
CMFHC4(A or B)****C*Z**** CIC A4	
CMFHC4(A or B)****C*6****	
CMFHC4(A or B)****C*6**** CIC A6	

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: T 95 °C, T4: T 130 °C, T3: T 195 °C, T2: T 290 °C, T1: T 363 °C.
The minimum ambient temperature allowed for dust is -40 °C.
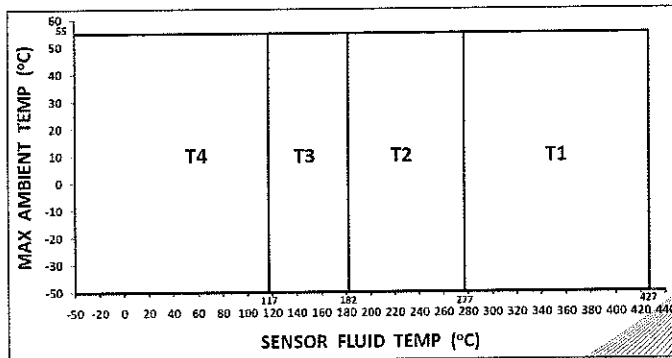
Ambient temperature range   Ta   -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

When used with Transmitter type *700*1*4****** (Wireless HART Output Option Code "4")

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.

Ambient temperature range   Ta   -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

CMF200(C or E)****C*Z****	For types with integrally mounted core processor
CMF200(C or E)****C*Z**** CIC A5	
CMF200(C or E)****C*Z**** CIC A4	
CMF200(C or E)****C*6****	
CMF200(C or E)****C*6**** CIC A7	
CMF300(C or E)****C*Z****	
CMF300(C or E)****C*Z**** CIC A5	
CMF300(C or E)****C*Z**** CIC A4	
CMF300(C or E)****C*6****	
CMF300(C or E)****C*6**** CIC A7	
CMF400(C or E)****C*Z****	
CMF400(C or E)****C*Z**** CIC A5	
CMF400(C or E)****C*Z**** CIC A4	
CMF400(C or E)****C*6****	
CMF400(C or E)****C*6**** CIC A7	
CMFHC2(C or E)****C*Z****	
CMFHC2(C or E)****C*Z**** CIC A6	
CMFHC2(C or E)****C*Z**** CIC A4	
CMFHC2(C or E)****C*6****	
CMFHC2(C or E)****C*6**** CIC A6	
CMFHC3(C or E)****C*Z****	
CMFHC3(C or E)****C*Z**** CIC A6	
CMFHC3(C or E)****C*Z**** CIC A4	
CMFHC3(C or E)****C*6****	
CMFHC3(C or E)****C*6**** CIC A6	
CMFHC4(C or E)****C*Z****	
CMFHC4(C or E)****C*Z**** CIC A6	
CMFHC4(C or E)****C*Z**** CIC A4	
CMFHC4(C or E)****C*6****	
CMFHC4(C or E)****C*6**** CIC A6	

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: T 95 °C, T4: T 130 °C, T3: T 195 °C, T2: T 290 °C, T1: T 440 °C. The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range	Ta	-50 °C up to +55 °C

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The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor

When used with Transmitter type *700*1*4****** (Wireless HART Output Option Code "4"):

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.

Ambient temperature range   Ta   -50 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

15.3.6   Types CMF********(J,U)****** incl. CIC A4 with 2200S transmitter, but without types CMF***(A,B,C,E)****J******

15.3.6.1   Input circuits (terminals 1 - 4)
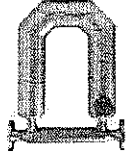
Voltage	U_i	DC	28	V
Current	I_i		120	mA
Power	P_i		0.84	W
effective internal capacitance	C_i		2200	pF
effective internal inductance	L_i		45	µH

15.3.6.2   Temperature class/ max. surface temperature T
The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and are shown in the following graph.

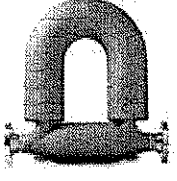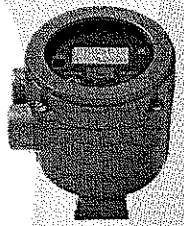## 15.3.6.2.1 For types with integrally mounted transmitter 2200S

Sensor type	CMF010	CMF100	CMF200/300	with integral transmitter 2200S
CMF010*****(J or U)*Z****				
CMF025*****(J or U)*Z****				
CMF050*****(J or U)*Z****				
CMF100*****(J or U)*Z****				
CMF200*****(J or U)*Z****				
CMF200*****(J or U)*Z**** CIC A4				
CMF200*****(J or U)*6****				
CMF300*****(J or U)*Z****				
CMF300*****(J or U)*Z**** CIC A4				
CMF300*****(J or U)*6****				

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T4: 130 °C, T3: 195 °C, T2 to T1: 254 °C.

Ambient temperature range   Ta   -40 °C up to +60 °C

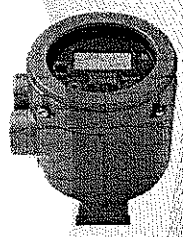## 15.3.6.2.2   For types with integrally mounted transmitter 2200S
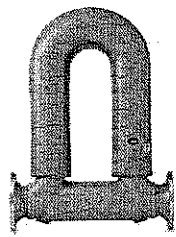
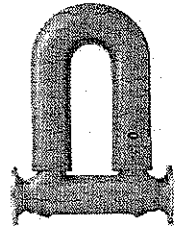| Sensor type		with integral transmitter 2200S
CMF400*****(J or U)*Z****		
CMF400*****(J or U)*Z**** CIC A4		
CMF400*****(J or U)*6****		
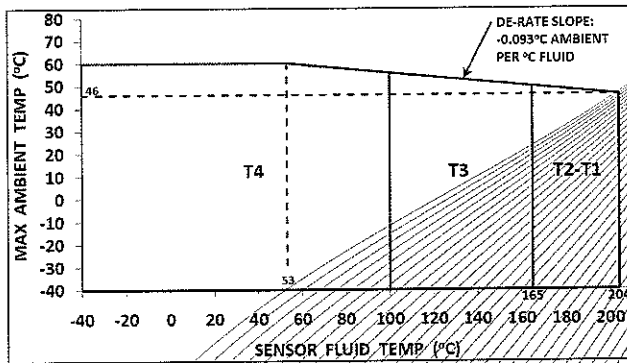
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T4: 130 °C, T3: 195 °C, T2 to T1: 234 °C.

Ambient temperature range   Ta   -40 °C up to +60 °C

15.3.6.2.3 For types with integrally mounted transmitter 2200S

Sensor type		with integral transmitter 2200S
CMFHC2*****(J or U)*Z****		
CMFHC2*****(J or U)*Z**** CIC A4		
CMFHC2*****(J or U)*6****		
CMFHC3*****(J or U)*Z****		
CMFHC3*****(J or U)*Z**** CIC A4		
CMFHC3*****(J or U)*6****		
CMFHC4*****(J or U)*Z****		
CMFHC4*****(J or U)*Z**** CIC A4		
CMFHC4*****(J or U)*6****		
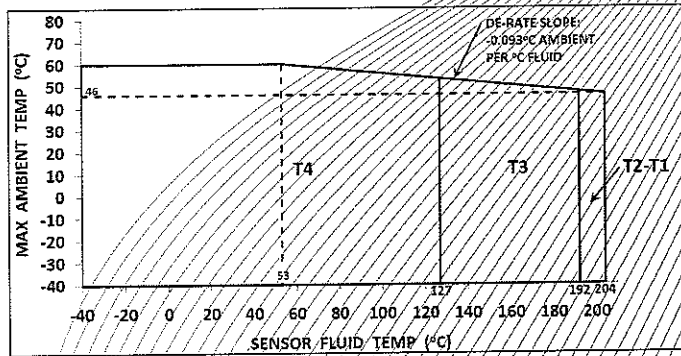
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
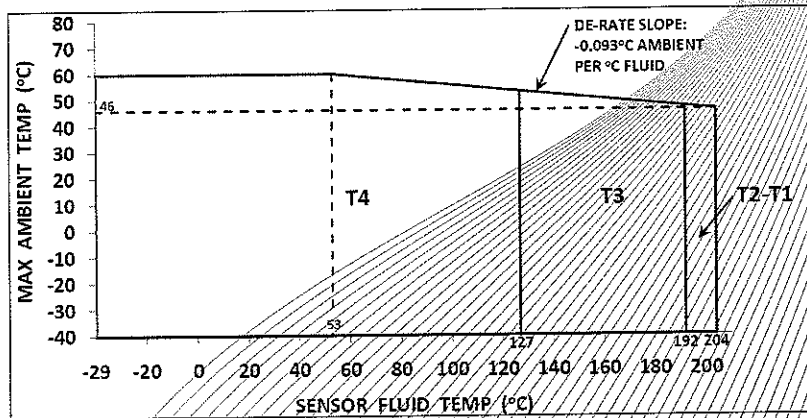The maximum surface temperature T for dust is as follows: T4: 130 °C, T3: 195 °C, T2 to T1: 207 °C.

Ambient temperature range   Ta   -40 °C up to +60 °C

15.3.6.2.4 For types with integrally mounted transmitter 2200S

Sensor type		
CMFHC*Y****(J or U)*Z****		with integral transmitter 2200S
CMFHC*Y****(J or U)*Z**** CIC A4		
CMFHC*Y****(J or U)*6****		

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T4: 130 °C, T3: 195 °C, T2 to T1: 207 °C.

Ambient temperature range   Ta   -40 °C up to +60 °C

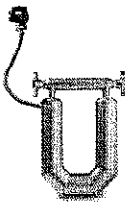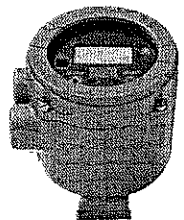**15.3.7**   Types CMF***(A,B,C,E)****J****** with 2200S transmitter
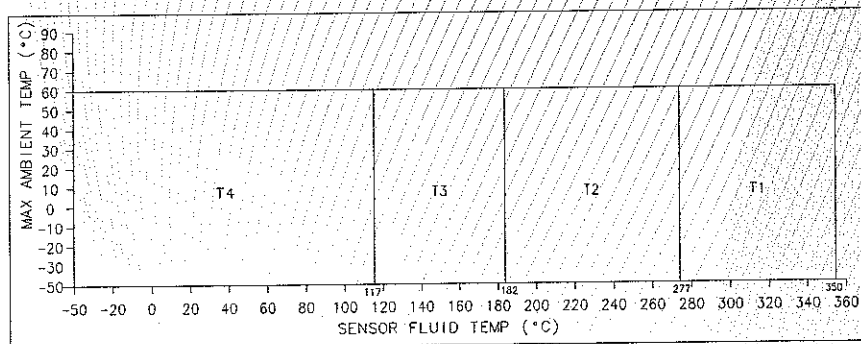
15.3.7.1   Input circuits (terminals 1 - 4)

Voltage	U_i	DC 28	V
Current	I_i	120	mA
Power	P_i	0.84	W
effective internal capacitance	C_i	2200	pF
effective internal inductance	L_i	45	µH

15.3.7.2   Temperature class/ max. surface temperature T
The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and are shown in the following graph:

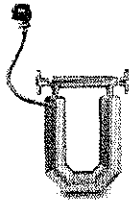|	
CMF200(A or B)****J*Z****	with integral transmitter 2200S
CMF200(A or B)****J*Z**** CIC A4	
CMF200(A or B)****J*Z**** CIC A5	
CMF200(A or B)****J*6****	
CMF200(A or B)****J*6**** CIC A7	
CMF300(A or B)****J*Z****	
CMF300(A or B)****J*Z**** CIC A4	
CMF300(A or B)****J*Z**** CIC A5	
CMF300(A or B)****J*6****	
CMF300(A or B)****J*6**** CIC A7	
CMF400(A or B)****J*Z****	
CMF400(A or B)****J*Z**** CIC A4	
CMF400(A or B)****J*Z**** CIC A5	
CMF400(A or B)****J*6****	
CMF400(A or B)****J*6**** CIC A7	
CMFHC2(A or B)****J*Z****	
CMFHC2(A or B)****J*Z**** CIC A4	
CMFHC2(A or B)****J*Z**** CIC A6	
CMFHC2(A or B)****J*6****	
CMFHC2(A or B)****J*6**** CIC A6	
CMFHC3(A or B)****J*Z****	
CMFHC3(A or B)****J*Z**** CIC A4	
CMFHC3(A or B)****J*Z**** CIC A6	
CMFHC3(A or B)****J*6****	
CMFHC3(A or B)****J*6**** CIC A6	
CMFHC4(A or B)****J*Z****	
CMFHC4(A or B)****J*Z**** CIC A4	
CMFHC4(A or B)****J*Z**** CIC A6	
CMFHC4(A or B)****J*6****	
CMFHC4(A or B)****J*6**** CIC A6	

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T4: T 130 °C, T3: T 195 °C, T2: T 290 °C, T1: T 363 °C. The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range   Ta   -50 °C up to +60 °C

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The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

15.3.7.2.2 For types with integrally mounted transmitter 2200S

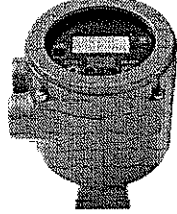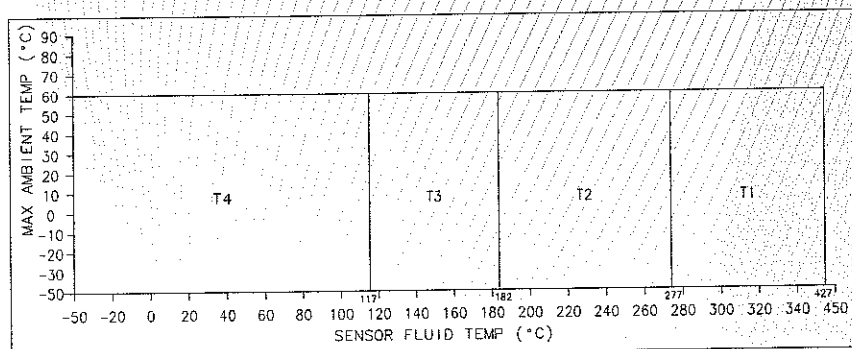| CMF200(C or E)****J*Z****	with integral transmitter 2200S
CMF200(C or E)****J*Z**** CIC A4	
CMF200(C or E)****J*Z**** CIC A5	
CMF200(C or E)****J*6****	
CMF200(C or E)****J*6**** CIC A7	
CMF300(C or E)****J*Z****	
CMF300(C or E)****J*Z**** CIC A4	
CMF300(C or E)****J*Z**** CIC A5	
CMF300(C or E)****J*6****	
CMF300(C or E)****J*6**** CIC A7	
CMF400(C or E)****J*Z****	
CMF400(C or E)****J*Z**** CIC A4	
CMF400(C or E)****J*Z**** CIC A5	
CMF400(C or E)****J*6****	
CMF400(C or E)****J*6**** CIC A7	
CMFHC2(C or E)****J*Z****	
CMFHC2(C or E)****J*Z**** CIC A4	
CMFHC2(C or E)****J*Z**** CIC A6	
CMFHC2(C or E)****J*6****	
CMFHC2(C or E)****J*6**** CIC A6	
CMFHC3(C or E)****J*Z****	
CMFHC3(C or E)****J*Z**** CIC A4	
CMFHC3(C or E)****J*Z**** CIC A6	
CMFHC3(C or E)****J*6****	
CMFHC3(C or E)****J*6**** CIC A6	
CMFHC4(C or E)****J*Z****	
CMFHC4(C or E)****J*Z**** CIC A4	
CMFHC4(C or E)****J*Z**** CIC A6	
CMFHC4(C or E)****J*6****	
CMFHC4(C or E)****J*6**** CIC A6	

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T4: T 130 °C, T3: T 195 °C, T2: T 290 °C, T1: T 440 °C. The minimum ambient temperature allowed for dust is -40 °C

Ambient temperature range   Ta   -50 °C up to +60 °C

The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

(16) Test and assessment report

BVS PP 06.2035 EG as of 14.06.2011

(17) Special conditions for safe use

By mounting the sensor type CMF********C****** directly to the transmitter *700********** the use of the unit will be modified according to the following:

Transmitter type	Sensor type	
	CMF200(A,B,C,E)****C*Z**** CIC A4 CMF200(A,B,C,E)****C*6**** CMF200(A,B,C,E)****C*6**** CIC A7 CMF300(A,B,C,E)****C*Z**** CIC A4 CMF300(A,B,C,E)****C*6**** CMF300(A,B,C,E)****C*6**** CIC A7 CMF400(A,B,C,E)****C*Z**** CIC A4 CMF400(A,B,C,E)****C*6**** CMF400(A,B,C,E)****C*6**** CIC A7 CMFHC2(A,B,C,E)****C*Z**** CIC A4 CMFHC2(A,B,C,E)****C*6**** CMFHC2(A,B,C,E)****C*6**** CIC A6 CMFHC3(A,B,C,E)****C*Z**** CIC A4 CMFHC3(A,B,C,E)****C*6**** CMFHC3(A,B,C,E)****C*Z**** CIC A6 CMFHC4(A,B,C,E)****C*Z**** CIC A4 CMFHC4(A,B,C,E)****C*6**** CMFHC4(A,B,C,E)****C*Z**** CIC A6	CMF200(A,B,C,E)****C*Z**** CMF200(A,B,C,E)****C*Z**** CIC A5 CMF300(A,B,C,E)****C*Z**** CMF300(A,B,C,E)****C*Z**** CIC A5 CMF400(A,B,C,E)****C*Z**** CMF400(A,B,C,E)****C*Z**** CIC A5 CMFHC2(A,B,C,E)****C*Z**** CMFHC2(A,B,C,E)****C*Z**** CIC A6 CMFHC3(A,B,C,E)****C*Z**** CMFHC3(A,B,C,E)****C*Z**** CIC A6 CMFHC4(A,B,C,E)****C*Z**** CMFHC4(A,B,C,E)****C*Z**** CIC A6
*700*1[1] *******	Ex ib IIB+H_2 T1-T5 Ex tD A21 IP66 T [3] °C	Ex ib IIB T1-T5 Ex tD A21 IP66 T [3] °C
*700*1[2] *******	Ex ib IIC T1-T5 Ex tD A21 IP66 T [3] °C	Ex ib IIB T1-T5 Ex tD A21 IP66 T [3] °C
*700*1[1] 4******	Ex ib IIB+H_2 T1-T4	Ex ib IIB T1-T4
*700*1[2] 4******	Ex ib IIC T1-T4	Ex ib IIB T1-T4

[1] At this place the numeral 1 or 2 will be inserted.
[2] At this place the numeral 3, 4 or 5 will be inserted.
[3] Max. surface temperature T for dust for types CMF**********Z**** see temperature graphs and manufacturer's instructions.
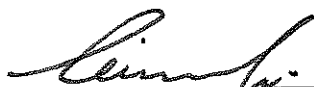
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By mounting the sensor type CMF********(J,U)****** directly to the transmitter 22**S********* the use of the unit will be modified according to the following:

	Sensor Typ	
Transmitter type	CMF010*****(J,U)*Z**** CMF025*****(J,U)*Z**** CMF050*****(J,U)*Z**** CMF100*****(J,U)*Z**** CMF200*****(J,U)*Z**** CIC A4 CMF200*****(J,U)*6**** CMF300*****(J,U)*Z**** CIC A4 CMF300*****(J,U)*6**** CMF400*****(J,U)*Z**** CIC A4 CMF400*****(J,U)*6**** CMFHC2*****(J,U)*Z**** CIC A4 CMFHC2*****(J,U)*6**** CMFHC3*****(J,U)*Z**** CIC A4 CMFHC3*****(J,U)*6**** CMFHC4*****(J,U)*Z**** CIC A4 CMFHC4*****(J,U)*6**** CMFHC*Y****(J,U)*Z**** CIC A4 CMFHC*Y****(J,U)*6**** CMF200(A,B,C,E)****J*Z**** CIC A4 CMF200(A,B,C,E)****J*6**** CMF200(A,B,C,E)****J*6**** CIC A7 CMF300(A,B,C,E)****J*Z**** CIC A4 CMF300(A,B,C,E)****J*6**** CMF300(A,B,C,E)****J*6**** CIC A7 CMF400(A,B,C,E)****J*Z**** CIC A4 CMF400(A,B,C,E)****J*6**** CMF400(A,B,C,E)****J*6**** CIC A7 CMFHC2(A,B,C,E)****J*Z**** CIC A4 CMFHC2(A,B,C,E)****J*6**** CMFHC2(A,B,C,E)****J*6**** CIC A6 CMFHC3(A,B,C,E)****J*Z**** CIC A4 CMFHC3(A,B,C,E)****J*6**** CMFHC3(A,B,C,E)****J*Z**** CIC A6 CMFHC4(A,B,C,E)****J*Z**** CIC A4 CMFHC4(A,B,C,E)****J*6**** CMFHC4(A,B,C,E)****J*Z**** CIC A6	CMF200*****(J,U)*Z**** CMF300*****(J,U)*Z**** CMF400*****(J,U)*Z**** CMFHC2*****(J,U)*Z**** CMFHC3*****(J,U)*Z**** CMFHC4*****(J,U)*Z**** CMFHC*Y****(J,U)*Z**** CMF200(A,B,C,E)****J*Z**** CMF200(A,B,C,E)****J*Z**** CIC A5 CMF300(A,B,C,E)****J*Z**** CMF300(A,B,C,E)****J*Z**** CIC A5 CMF400(A,B,C,E)****J*Z**** CMF400(A,B,C,E)****J*Z**** CIC A5 CMFHC2(A,B,C,E)****J*Z**** CMFHC2(A,B,C,E)****J*Z**** CIC A6 CMFHC3(A,B,C,E)****J*Z**** CMFHC3(A,B,C,E)****J*Z**** CIC A6 CMFHC4(A,B,C,E)****J*Z**** CMFHC4(A,B,C,E)****J*Z**** CIC A6
2200S*(H,K)*1*Z****	Ex ib IIC T1-T4 Ex ibD 21 T [1] °C	Ex ib IIB T1-T4 Ex ibD 21 T [1] °C
2200S*(5,6)*1*Z****	Ex ib IIC T1-T4	Ex ib IIB T1-T4

[1] Max. surface temperature T for dust for types CMF**********Z**** see temperature graphs and manufacturer's instructions.

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA EXAM GmbH
44809 Bochum, 10.06.2011
BVS-Schu/Sch   A 20110189

_____
Certification body

_____
Special services unit