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 03 ATEX E 176 X

(4) **Equipment:** **Sensor type F*** *******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 03.2117 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'

(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:

II 2G EEx ib IIC T1 – T6

EXAM BBG Prüf- und Zertifizier GmbH
Bochum, dated 30.Juni 2003

Signed: Jockers
EXAM Certification body

Signed: Eickhoff
Head of special services unit

Dinnendahlstrasse 9 44809 Bochum Telefon-Phone +49 201/172-3947 Telefax-Fax +49 201/172-3948
(until 31.05.2003: Deutsche Montan Technologie GmbH, Am Technologiepark 1, 45307 Essen)

(13) Appendix to

(14) # EC-Type Examination Certificate

BVS 03 ATEX E 176 X

(15) 15.1 Subject and type

Sensor type F*** *******Z*****

Instead of the *** letters and numerals will be inserted which characterise the following modifications:

type F * * * * * * * * * * Z * * * * *

- Marking without influence to the type of protection
- Letter for conduit connections
- Letter for electronic interface
  - 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
  - I = Integral IFT9701
  - Q = aluminum core processor
  - V = aluminum core processor with extender
  - W = aluminum core processor for direct host
  - Y = aluminum core processor with extender for direct host
- Marking without influence to the type of protection
- 3 numerals for type of sensor

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 an enclosure with an integral mounted signal processing device type 700 can be used; this variation gets the denomination type F*** *****(A, B, D, E)*Z***** for a SS enclosure and F*** ***** (Q, V, W or Y)*Z***** for an aluminium enclosure.

Alternatively a transmitter type *700********** can be mounted directly to the junction box; this variation gets the denomination type F*** *****(C or F)*Z*****.

Alternatively a transmitter type IFT9701******* can be integrally mounted on the sensor; this variation gets the denomination type F*** *****I*Z*****.

By mounting the sensor directly to the transmitter the use of the unit will be modified according to the following table:

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Sensor	F025 *****(C or F)*Z***** F050 *****(C or F)*Z***** F100 *****(C or F)*Z***** F200 *****(C or F)*Z*****
Transmitter type *700*11*******	EEx ib IIB+H_2 T1-T5
Transmitter type *700*1(3 or 4)*******	EEx ib IIC T1-T5

15.3 Parameters

15.3.1 Type F*** *****(R or H)*Z*****

15.3.1.1 Drive circuit (terminals 1 - 2 or wires 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 at -40 °C [Ω]	series resistor at -40 °C [Ω]
F025 *****(R or H)*Z*****	5,83	24,1	988,8
F050 *****(R or H)*Z*****	5,83	24,1	469,7
F100 *****(R or H)*Z*****	29,9	262,1	207,7
F200 *****(R or H)*Z*****	9,4	37,4	148,3

15.3.1.2 Pick-off circuit (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		

sensor type	inductance [mH]	coil resistance at -40 °C [Ω]	series resistor at -40 °C [Ω]
F025 *****(R or H)*Z*****	6,9	105	0
F050 *****(R or H)*Z*****	6,9	105	0
F100 *****(R or H)*Z*****	6,9	105	0
F200 *****(R or H)*Z*****	23,8	182,5	0

15.3.1.3 Temperature circuit (terminals 3, 4 and 7 or wires orange, yellow and violet)

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

15.3.1.4 Regulation of temperature class

The classification into a temperature class 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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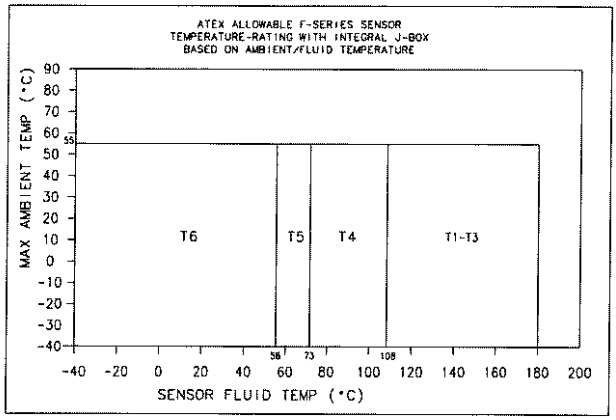


15.3.1.5 Ambient temperature range Ta -40 °C up to +55 °C

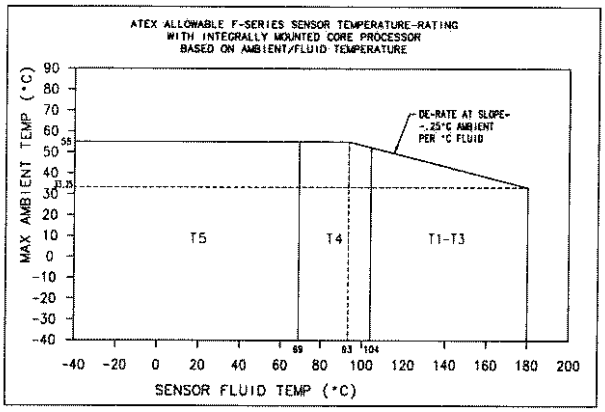
For type F*** *****(R or H)*Z***** The use of the sensor at an ambient temperature higher than 55 °C is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

15.3.2 Type F*** *****(A, B, D, E, Q, V, W or Y)*Z*****

15.3.2.1 Input circuit (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

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



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

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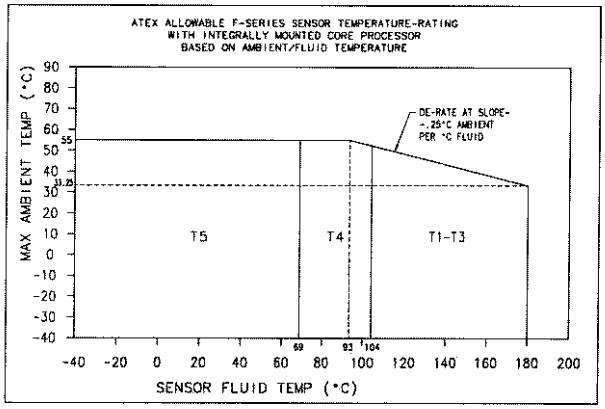
15.3.3 Type F*** *****(C or F)*Z*****

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

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

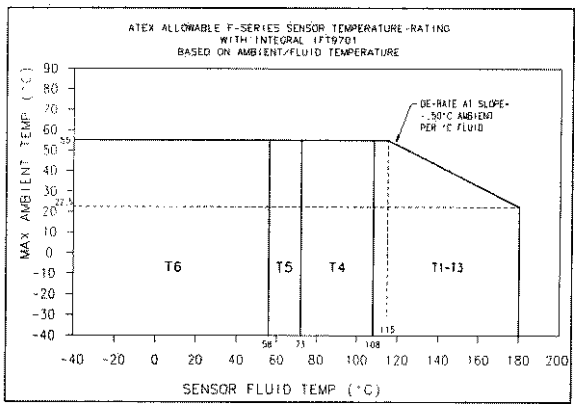


15.3.3.3 Ambient temperature range Ta -40 °C up to +55 °C

15.3.4 Type F*** *****I*Z*****

15.3.4.1 Electrical parameters see BVS 03 ATEX E 168 X for the transmitter type IFT9701*******

15.3.4.2 The classification into a temperature class 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 Ambient temperature range Ta -40 °C up to +55 °C

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(16) Test and assessment report
BVS PP 03.2117 EG as of 30.06.2003

(17) Special conditions for safe use
By mounting the sensor F*** *****(C or F)*Z***** directly to the transmitter *700********** the use of the unit will be modified according to the following table:

Sensor	F025 *****(C or F)*Z***** F050 *****(C or F)*Z***** F100 *****(C or F)*Z***** F200 *****(C or F)*Z*****
Transmitter type *700*11*******	EEx ib IIB+H_2 T1-T5
Transmitter type *700*1(3 or 4)*******	EEx ib IIC T1-T5

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, 30.06. 2003
BVS-Schu/Mi A 20030412

EXAM BBG Prüf- und Zertifizier GmbH

EXAM Certification body

Head of special services unit

Translation

1st Supplement

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

to the EC-Type Examination Certificate
BVS 03 ATEX E 176 X

Equipment: **Sensor type F*** *******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 and the version

type F300 *******Z***

type of protection EEx ib IIB T1 – T6 is also available.

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

EN 50014:1997+A1-A2 General requirements
EN 50020:2002 Intrinsic safety 'i'

Parameters

1 Type F300 *****(R oder H)*Z*****

1.1 Drive circuit (connections 1 - 2 or wires 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 at -40 °C [Ω]	Serial resistor at-40 °C [Ω]
F300 *****R*Z***** F300 *****H*Z*****	11,75	83,5	7,9

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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 negligible

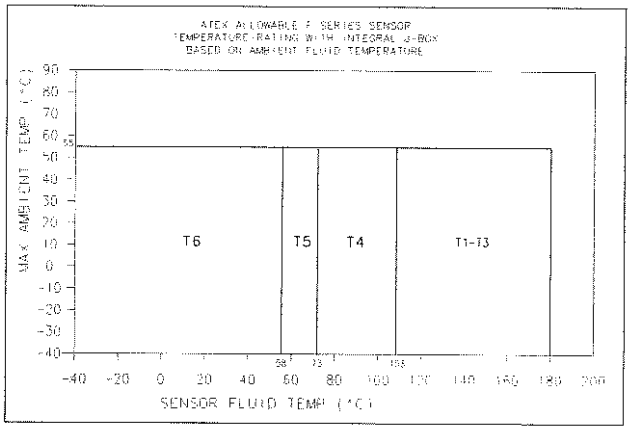
Sensor type	Inductance [mH]	Coil resistance at -40 °C [Ω]	Serial resistor at -40 °C [Ω]
F300 *****R*Z***** F300 *****H*Z*****	12,4	128,4	569,3

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

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

1.4 Regulation of temperature class

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



1.5 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.

2 Type F300 *****(A,B,D,E,Q,V,W,Y)*Z*****

2.1 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

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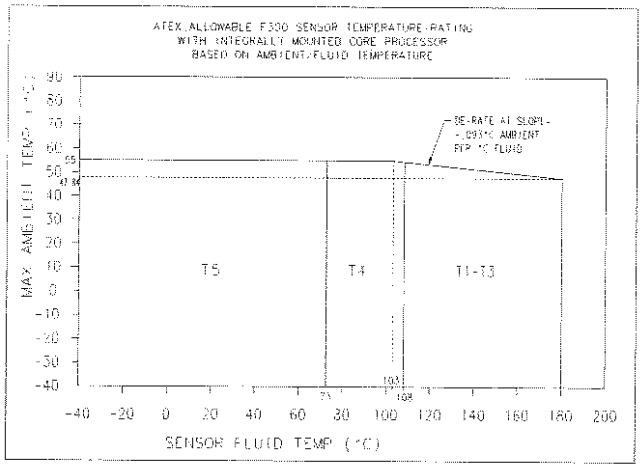
2.2 Regulation of temperature class
The classification into a temperature class depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graph:

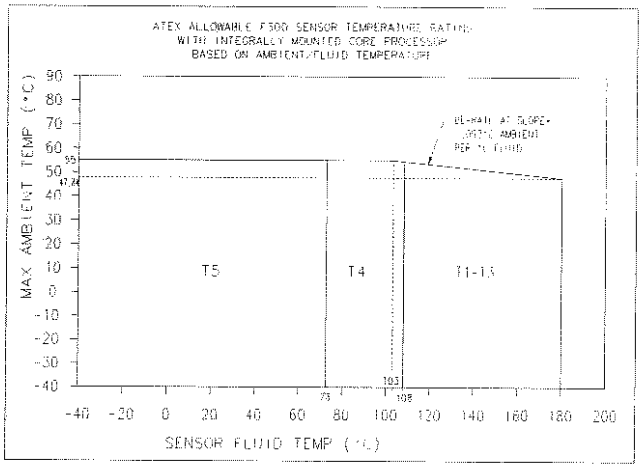


2.3 Ambient temperature range Ta -40 °C up to +55 °C

3 Type F300 *****(C oder F)*Z*****

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

3.2 Regulation of temperature class
The classification into a temperature class depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graph:



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

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DMT

Test and assessment report
BVS PP 03.2117 EG as of 20.10.2003

Deutsche Montan Technologie GmbH
Bochum, dated 20. October 2003

Jockers	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, 20. October 2003
BVS-Schu/Kw A 20030557

Deutsche Montan Technologie GmbH

Certification body	Special services unit

Dinnendahlstraße 9 44809 Bochum Telefon-Phone 0201/172-3947 Telefax-Fax 0201/172-3948
(until 31.05.2003: Deutsche Montan Technologie GmbH Am Technologiepark 1 45307 Essen)

EXAM
BBG Prüf- und Zertifizier GmbH

Translation

2nd Supplement

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

to the EC-Type Examination Certificate
BVS 03 ATEX E 176 X

Equipment: **Sensor type F*** *******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 sensor type F200 *******Z***** may be produced with other coil parameters and gets the Construction Identification Code (C.I.C) A1.

The sensors may also be mounted to transmitters type Typ *7001(2, 4 or 5)******.

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

EN 50014:1997+A1-A2 General requirements
EN 50020:2002 Intrinsic safety 'i'

Modified parameters

1 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 negligible

Sensor type	Inductance [mH]	Coil resistance at -40 °C [Ω]	Serial resistor at -40 °C [Ω]
F200 *****R*Z***** CIC A1 F200 *****H*Z***** CIC A1	12,4	128,4	569,3

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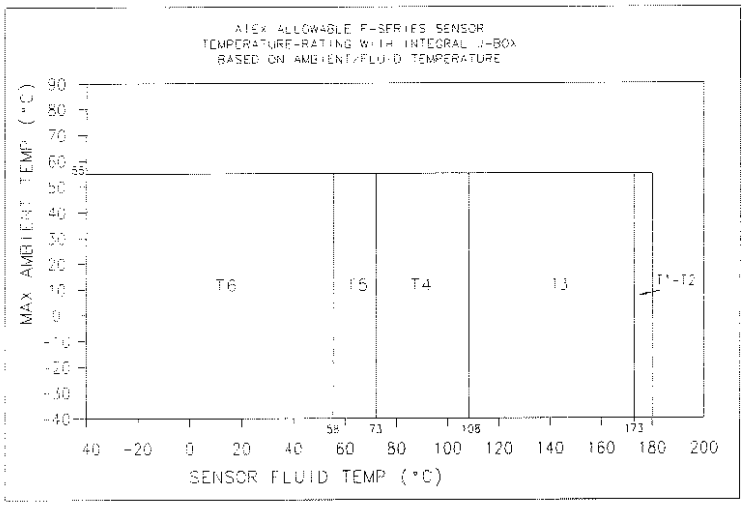
2 Regulation of temperature class

The classification into a temperature class depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and are shown in the following graphs:

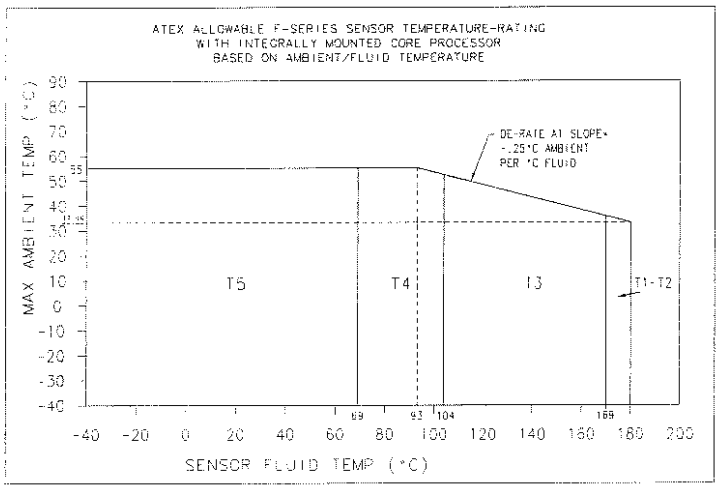
2.1 Type F*** *****(R or H)*Z*****



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.

2.2 Type F*** *****(A,B,D,E,Q,V,W,Y)*Z*****



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

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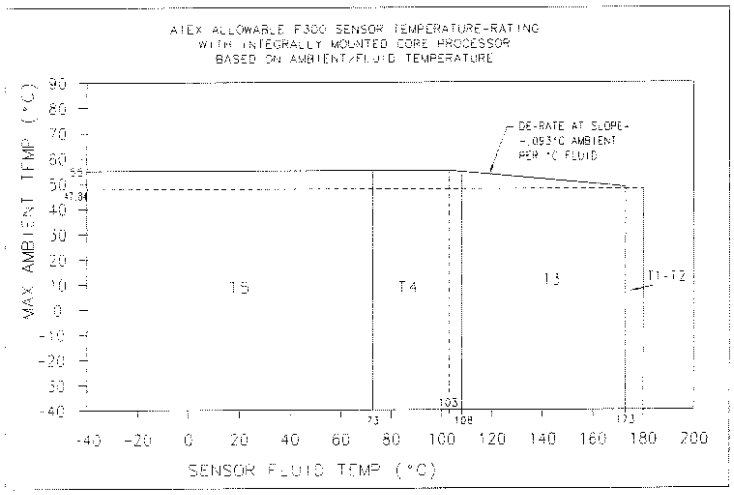
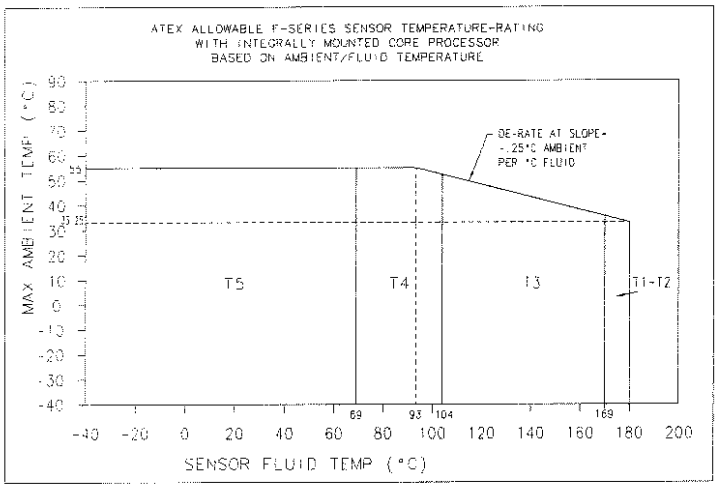
(until 31.05.2003: Deutsche Montan Technologie GmbH Am Technologiepark 1 45307 Essen)

2.3 Type F300 *****(A,B,D,E,Q,V,W,Y)*Z*****



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

2.4 Type F025 *****(C or F)*Z*****, F050 *****(C or F)*Z*****, F100 *****(C or F)*Z***** and F200 *****(C or F)*Z*****



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

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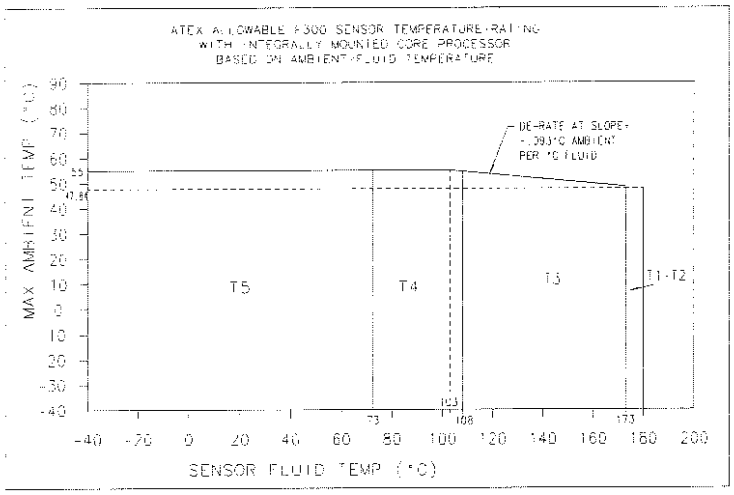
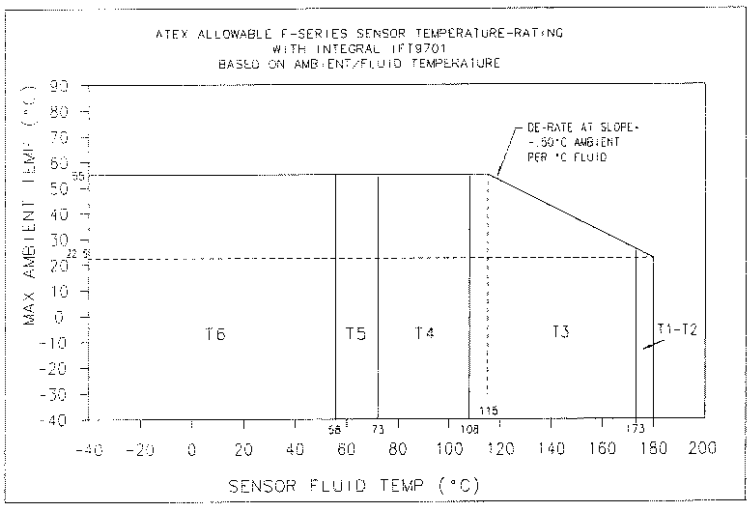
2.5 Type F300 *****(C or F)*Z*****



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

2.6 Type F*** *****I*Z*****



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

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(until 31.05.2003: Deutsche Montan Technologie GmbH Am Technologiepark 1 45307 Essen)

Special conditions for safe use

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

	F025 *****(C or F)*Z***** F050 *****(C or F)*Z***** F100 *****(C or F)*Z***** F200 *****(C or F)*Z*****	F300 *****(C or F)*Z*****
Transmitter type *700*1[1)] *******	EEx ib IIB+H_2 T1-T5	EEx ib IIB T1-T5
Transmitter type *700*1[2)] *******	EEx ib IIC T1-T5	EEx ib IIB T1-T5

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.

Test and assessment report

BVS PP 03.2117 EG as of 04.06.2004

EXAM BBG Prüf- und Zertifizier GmbH

Bochum, dated 04. June 2004

Signed: Dr. Jockers
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, 04.06.2004
BVS-Schu/Mi A 20040055

EXAM BBG Prüf- und Zertifizier GmbH

Certification body

Special services unit

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(until 31.05.2003: Deutsche Montan Technologie GmbH Am Technologiepark 1 45307 Essen)

EXAM
BBG Prüf- und Zertifizier GmbH

Translation

3rd Supplement

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

to the EC-Type Examination Certificate
BVS 03 ATEX E 176 X

Equipment: **Sensor type F*** *******Z*****

Manufacturer: **Micro Motion, Inc.**

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

Description
The sensor type F*** *******Z***** meets as well category 2D.
The sensors can also have an alternative 9-wire feed-through.

The Essential Health and Safety Requirements of the modified equipment 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

Marking of the sensors

Type	Type of protection gas	Type of protection dust
F025*****(R, H oder I)*Z*****	II 2G EEx ib IIC T1-T6	II 2D IP65 T 202°C – T 80 °C
F050*****(R, H oder I)*Z*****	II 2G EEx ib IIC T1-T6	II 2D IP65 T 202°C – T 80 °C
F100*****(R, H oder I)*Z*****	II 2G EEx ib IIC T1-T6	II 2D IP65 T 202°C – T 80 °C
F200*****(R, H oder I)*Z*****	II 2G EEx ib IIC T1-T6	II 2D IP65 T 202°C – T 80 °C
F200*****(R, H oder I)*Z***** CIC A1	II 2G EEx ib IIC T1-T6	II 2D IP65 T 202°C – T 80 °C
F300*****(R oder H)*Z*****	II 2G EEx ib IIB T1-T6	II 2D IP65 T 202°C – T 80 °C
F025*****(A, B, D, E, Q, V, W, Y)*Z*****	II 2G EEx ib IIC T1-T5	II 2D IP65 T 206°C – T 95 °C
F050*****(A, B, D, E, Q, V, W, Y)*Z*****	II 2G EEx ib IIC T1-T5	II 2D IP65 T 206°C – T 95 °C
F100*****(A, B, D, E, Q, V, W, Y) *Z*****	II 2G EEx ib IIC T1-T5	II 2D IP65 T 206°C – T 95 °C
F200*****(A, B, D, E, Q, V, W, Y)*Z*****	II 2G EEx ib IIC T1-T5	II 2D IP65 T 206°C – T 95 °C
F200*****(A, B, D, E, Q, V, W, Y)*Z***** CIC A1	II 2G EEx ib IIC T1-T5	II 2D IP65 T 206°C – T 95 °C
F300*****(A, B, D, E, Q, V, W, Y)*Z*****	II 2G EEx ib IIB T1-T5	II 2D IP65 T 202°C – T 95 °C

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Parameters

Type F*** *****R*Z***** and type F*** *****H*Z*****

Drive circuit (connections 1 - 2 or wires 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 at - 40 °C [Ω]	serial resistor at - 40 °C [Ω]
F025 *****R*Z***** F025 *****H*Z*****	5,83	24,1	988,8
F050 *****R*Z***** F050 *****H*Z*****	5,83	24,1	469,7
F100 *****R*Z***** F100 *****H*Z*****	29,9	262,1	207,7
F200 *****R*Z***** F200 *****H*Z*****	9,4	37,4	148,3
F300 *****R*Z***** F300 *****H*Z*****	11,75	83,5	7,9

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

sensor type	inductance [mH]	coil resistance at -40 °C [Ω]	serial resistor at -40 °C [Ω]
F025 *****R*Z***** F025 *****H*Z*****	6,9	105	0
F050 *****R*Z***** F050 *****H*Z*****	6,9	105	0
F100 *****R*Z***** F100 *****H*Z*****	6,9	105	0
F200 *****R*Z***** F200 *****H*Z*****	23,8	182,5	0
F300 *****R*Z***** F300 *****H*Z*****	12,4	128,4	569,3

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Pick-Off coil (Terminals 5/9 and 6/8 or wires green/white and blue/grey) for type with CIC A1

voltage	Ui	DC	30	V
current	Ii		101	mA
power	Pi		750	mW
effective internal capacitance	Ci	negligible		

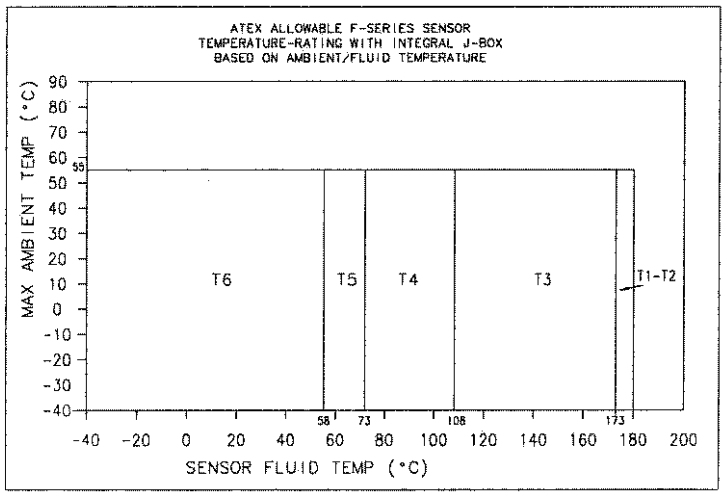
sensor type	inductance [mH]	coil resistance at -40 °C [Ω]	serial resistor at -40 °C [Ω]
F200 *****R*Z***** CIC A1 F200 *****H*Z***** CIC A1	12,4	128,4	569,3

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

voltage	Ui	DC	30	V
current	Ii		101	mA
power	Pi		750	mW
effective internal capacitance	Ci		negligible	
effective internal inductance	Li		negligible	

Temperature class/ max. surface temperature T (types F025 *******Z*****, F050 *******Z*****, F100 *******Z*****, F200 *******Z*****)

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



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: 202°C.

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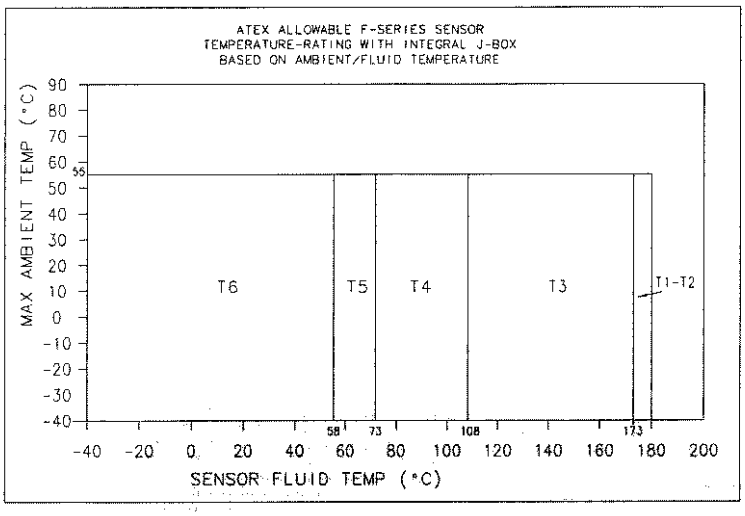
Type F300 *****(R or H)*Z*****

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



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: 202°C.

Ambient temperature range	Ta	-40 °C bis +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.

Type F*** *****(A,B,D,E,Q,V,W,Y)*Z*****
(Types F025 *******Z*****, F050 *******Z*****, F100 *******Z*****, F200 *******Z*****)

input circuits (terminals 1 - 4)				
voltage	Ui	DC	17,3	V
current	Ii		484	mA
power	Pi		2,1	W
internal capacitance	Ci		2200	pF
effective internal inductance	Li		30	µH

The classification into a temperature class/determination of the maximum surface temperature T depend on the temperature of the medium taking into account the maximum operating

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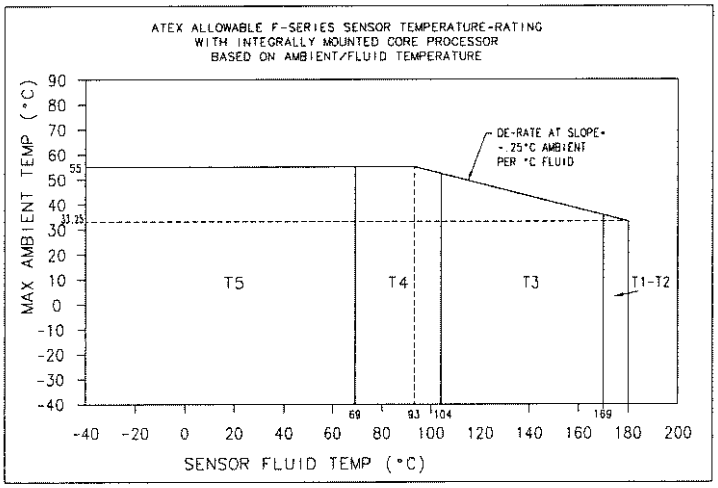
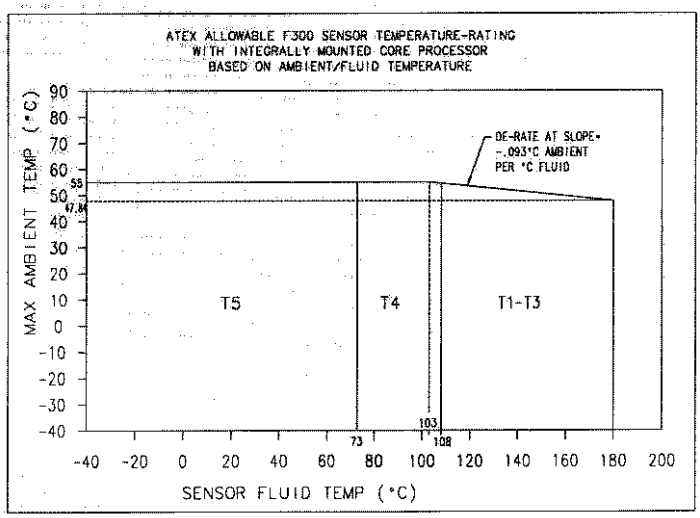
temperature of the sensor and are shown in the following graph:



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: 206°C.

Type F300 *****(A,B,D,E,Q,V,W,Y)*Z*****

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



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: 202°C.

Ambient temperature range Ta -40 °C bis +55 °C

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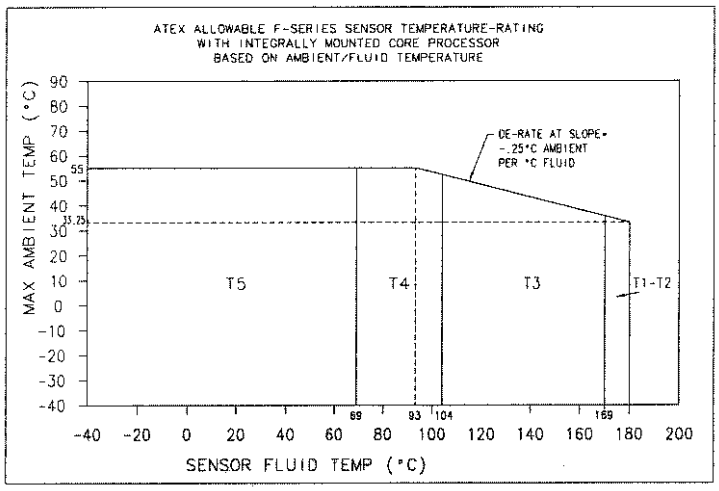
Type F025 *****(C or F)*Z*****, F050 *****(C or F)*Z*****,
F100 *****(C or F)*Z***** and F200 *****(C or F)*Z*****

Electrical parameters see BVS PP 01.2061 EG for the transmitter type *700**********

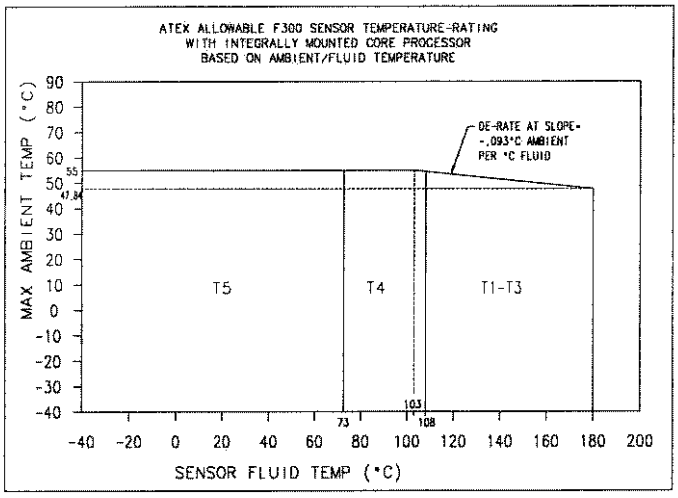
The classification into a temperature class/determination of the maximum surface temperature T depend on the temperature of the medium taking into account the maximum operating temperature of the sensor and are shown in the following graph:



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: 206°C.

Type F300 *****(C oder F)*Z*****

The classification into a temperature class/determination of the maximum surface temperature T depend 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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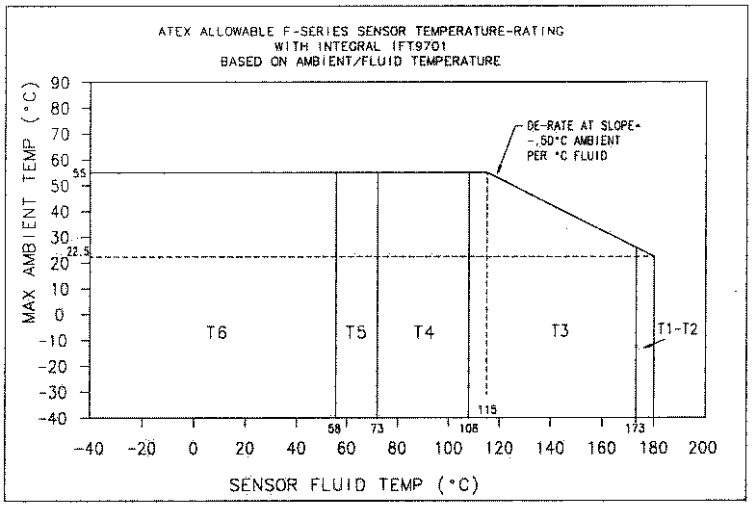
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: 95°C, T4: 130°C, T3: 195°C, T2 to T1: 202°C.

Ambient temperature range Ta -40 °C bis +55 °C

Type F*** *****I*Z*****

Electrical parameters see BVS PP 03.2111 EG for the transmitter type IFT9701******

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



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: 202°C.

Ambient temperature range Ta -40 °C bis +55 °C

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Special conditions for safe use

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

Transmitter type	F025 *****(C or F)*Z***** F050 *****(C or F)*Z***** F100 *****(C or F)*Z***** F200 *****(C or F)*Z***** F200 *****(C or F)*Z***** CIC A1	F300 *****(C or F)*Z*****
*700*1[1)] *******	EEx ib IIB+H_2 T1-T5 IP65 T 206°C – T 95 °C	EEx ib IIB T1-T5 IP65 T 202°C – T 95 °C
*700*1[2)] *******	EEx ib IIC T1-T5 IP65 T 206°C – T 95 °C	EEx ib IIB T1-T5 IP65 T 202°C – T 95 °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.

Test and assessment report
BVS PP 03.2117 EG as of 16.02.2005

EXAM BBG Prüf- und Zertifizier GmbH
Bochum, dated 16. Februar 2005

Signed: Dr.Jockers
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, 16.02.2005
BVS-Hk/Mi A 20040479

EXAM BBG Prüf- und Zertifizier GmbH

Certification body

Special services unit

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EXAM
BBG Prüf- und Zertifizier GmbH

Translation

4th Supplement

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

to the EC-Type Examination Certificate
BVS 03 ATEX E 176 X

Equipment: **Sensor type F*** *******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 and the version

type F300A *******Z***

types of protection EEx ib IIB T1 – T6 and IP65 T**°C is also available.

The Essential Health and Safety Requirements of the modified equipment 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

Marking of the sensors

Type	Type of protection gas	Type of protection dust
F025*****(R, H or I)*Z*****	II 2G EEx ib IIC T1-T6	II 2D IP65 T 202 °C – T 80 °C
F050*****(R, H or I)*Z*****	II 2G EEx ib IIC T1-T6	II 2D IP65 T 202 °C – T 80 °C
F100*****(R, H or I)*Z*****	II 2G EEx ib IIC T1-T6	II 2D IP65 T 202 °C – T 80 °C
F200*****(R, H or I)*Z*****	II 2G EEx ib IIC T1-T6	II 2D IP65 T 202 °C – T 80 °C
F200*****(R, H or I)*Z***** CIC A1	II 2G EEx ib IIC T1-T6	II 2D IP65 T 202 °C – T 80 °C
F300*****(R or H)*Z*****	II 2G EEx ib IIB T1-T6	II 2D IP65 T 202 °C – T 80 °C
F300A****(R or H)*Z*****	II 2G EEx ib IIB T1-T6	II 2D IP65 T 365 °C – T 80 °C
F025*****(A, B, D, E, Q, V, W, Y)*Z*****	II 2G EEx ib IIC T1-T5	II 2D IP65 T 206 °C – T 95 °C
F050*****(A, B, D, E, Q, V, W, Y)*Z*****	II 2G EEx ib IIC T1-T5	II 2D IP65 T 206 °C – T 95 °C
F100*****(A, B, D, E, Q, V, W, Y) *Z*****	II 2G EEx ib IIC T1-T5	II 2D IP65 T 206 °C – T 95 °C
F200*****(A, B, D, E, Q, V, W, Y)*Z*****	II 2G EEx ib IIC T1-T5	II 2D IP65 T 206 °C – T 95 °C
F200*****(A, B, D, E, Q, V, W, Y)*Z***** CIC A1	II 2G EEx ib IIC T1-T5	II 2D IP65 T 206 °C – T 95 °C
F300*****(A, B, D, E, Q, V, W, Y)*Z*****	II 2G EEx ib IIB T1-T5	II 2D IP65 T 202 °C – T 95 °C
F300A****(A, B, D, E, Q, V, W, Y)*Z*****	II 2G EEx ib IIB T1-T5	II 2D IP65 T 365 °C – T 95 °C

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(until 31.05.2003: Deutsche Montan Technologie GmbH Am Technologiepark 1 45307 Essen Germany)

Parameters

1 Type F300A ****(R or H)*Z*****

1.1 Drive circuit (connections 1 - 2 or wires 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 at -40 °C [Ω]	Serial resistor at-40 °C [Ω]
F300A ****R*Z***** F300A ****H*Z*****	7,75	57,1	19,8

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 negligible

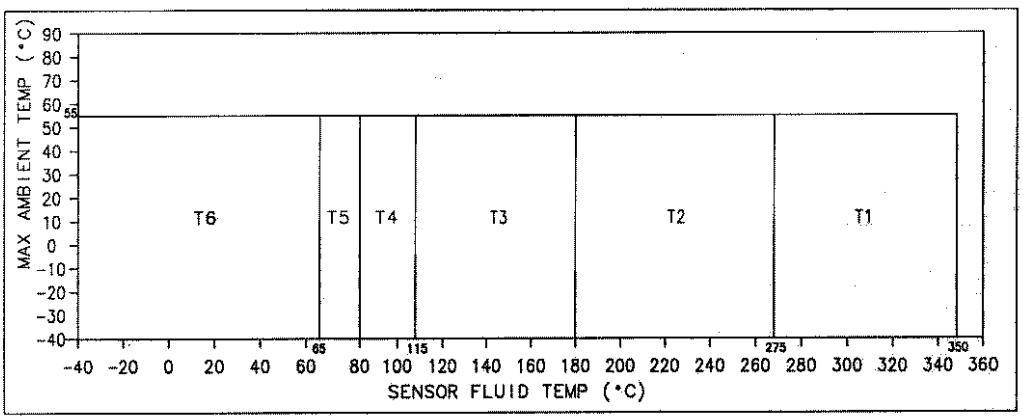
Sensor type	Inductance [mH]	Coil resistance at -40 °C [Ω]	Serial resistor at -40 °C [Ω]
F300A ****R*Z***** F300A ****H*Z*****	6,5	43,2	569,3

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

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

1.4 Temperature class/ max. surface temperature T

The classification into a temperature class/determination of the maximum surface temperature T depend 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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(until 31.05.2003: Deutsche Montan Technologie GmbH Am Technologiepark 1 45307 Essen Germany)

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: 365 °C.

1.5 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.

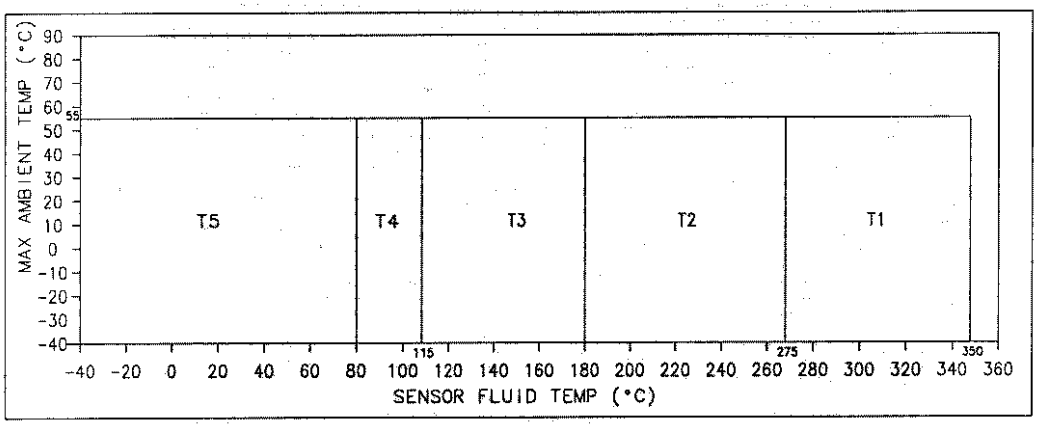
2 Type F300A ****(A,B,D,E,Q,V,W,Y)*Z*****

2.1 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

2.2 Temperature class/ max. surface temperature T

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



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: 365 °C.

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

3 Type F300A ****(C oder 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

The classification into a temperature class/determination of the maximum surface temperature T depend 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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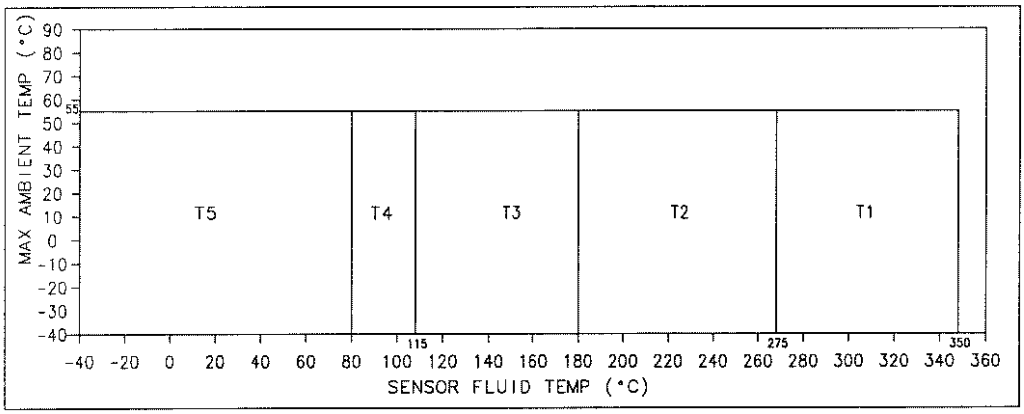

Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2: 290 °C and T1: 365 °C.

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

Special conditions for safe use

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

Transmitter type	F025 *****(C or F)*Z***** F050 *****(C or F)*Z***** F100 *****(C or F)*Z***** F200 *****(C or F)*Z***** F200 *****(C or F)*Z***** CIC A1	F300 *****(C or F)*Z***** F300A *****(C or F)*Z*****
*700*1[1] *******	EEx ib IIB+H_2 T1-T5 IP65 T 206 °C – T 95 °C	EEx ib IIB T1-T5 F300:IP65 T 202 °C – T 95 °C F300A: IP65 T 365 °C – T95°C
*700*1[2] *******	EEx ib IIC T1-T5 IP65 T 206 °C – T 95 °C	EEx ib IIB T1-T5 F300: IP65 T 202 °C – T 95 °C F300A: IP65 T 365 °C –T 95°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.

Test and assessment report
BVS PP 03.2117 EG as of 10.06.2005

EXAM BBG Prüf- und Zertifizier GmbH
Bochum, dated 10. June 2005

Signed: Dr. Jockers
Certification body

Signed: Dr. Wittler
Special services unit

Dinnendahlstrasse 9 44809 Bochum Germany Phone +49 234/3696-105 Fax +49 234/3696-110
(until 31.05.2003: Deutsche Montan Technologie GmbH Am Technologiepark 1 45307 Essen Germany)

EXAM
BBG Prüf- und Zertifizier GmbH

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, 10.06.2005
BVS-Schu/Mi A 20050159

EXAM BBG Prüf- und Zertifizier GmbH

Certification body

Special services unit

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(until 31.05.2003: Deutsche Montan Technologie GmbH Am Technologiepark 1 45307 Essen Germany)

EXAM
BBG Prüf- und Zertifizier GmbH

Translation

5th Supplement

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

to the EC-Type Examination Certificate
BVS 03 ATEX E 176 X

Equipment: **Sensor type F*** *******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 sensors type F025 *******Z*****, type F050 *******Z***** and type F100 *******Z***** may be produced with other coil parameters and get the Construction Identification Code (C.I.C) A2.

The sensors can manufactured with modified electronic options:
type F*** *****(2, 3, 4, 5, 6, 7, 8, 9, S)*Z*****

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

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

The maximum fluid temperature and the minimum fluid / ambient temperature have been modified.

The Essential Health and Safety Requirements of the modified equipment 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

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Marking of sensors

Type	Type of protection gas	Type of protection dust
F025*****[1]*Z*****	II 2G EEx ib IIC T1-T6	II 2D IP65 T [3] °C
F050*****[1]*Z*****	II 2G EEx ib IIC T1-T6	II 2D IP65 T [3] °C
F100*****[1]*Z*****	II 2G EEx ib IIC T1-T6	II 2D IP65 T [3] °C
F200*****[1]*Z*****	II 2G EEx ib IIC T1-T6	II 2D IP65 T [3] °C
F200*****[1]*Z***** C.I.C A1	II 2G EEx ib IIC T1-T6	II 2D IP65 T [3] °C
F300*****[1]*Z*****	II 2G EEx ib IIB T1-T6	II 2D IP65 T [3] °C
F300A****[1]*Z*****	II 2G EEx ib IIB T1-T6	II 2D IP65 T [3] °C
F025 *****I*Z*****	II 2G EEx ib IIC T1-T6	
F025 *****I*Z***** C.I.C A2	II 2G EEx ib IIC T1-T6	
F050 *****I*Z*****	II 2G EEx ib IIC T1-T6	
F050 *****I*Z***** C.I.C A2	II 2G EEx ib IIC T1-T6	
F100 *****I*Z*****	II 2G EEx ib IIC T1-T6	
F100 *****I*Z***** C.I.C A2	II 2G EEx ib IIC T1-T6	
F200 *****I*Z*****	II 2G EEx ib IIC T1-T6	
F200 *****I*Z***** C.I.C A2	II 2G EEx ib IIC T1-T6	
F025*****[2]*Z*****	II 2G EEx ib IIC T1-T5	II 2D IP65 T [3] °C
F025*****[2]*Z***** C.I.C A2	II 2G EEx ib IIC T1-T5	II 2D IP65 T [3] °C
F050*****[2]*Z*****	II 2G EEx ib IIC T1-T5	II 2D IP65 T [3] °C
F050*****[2]*Z***** C.I.C A2	II 2G EEx ib IIC T1-T5	II 2D IP65 T [3] °C
F100*****[2] *Z*****	II 2G EEx ib IIC T1-T5	II 2D IP65 T [3] °C
F100*****[2] *Z***** C.I.C A2	II 2G EEx ib IIC T1-T5	II 2D IP65 T [3] °C
F200*****[2]*Z*****	II 2G EEx ib IIC T1-T5	II 2D IP65 T [3] °C
F200*****[2]*Z***** C.I.C A1	II 2G EEx ib IIC T1-T5	II 2D IP65 T [3] °C
F300*****[2]*Z*****	II 2G EEx ib IIB T1-T5	II 2D IP65 T [3] °C
F300A****[2]*Z*****	II 2G EEx ib IIB T1-T5	II 2D IP65 T [3] °C

For sensors with J-box connected to non-MVD transmitters (i. e. 9701) is valid:

Type	Type of protection gas	Min. ambient/fluid temp. gas	Type of protection dust
F025*****[1]*Z***** C.I.C A2	II 2G EEx ib IIC T1-T6	-68 °C	II 2D IP65 T [3] °C
F050*****[1]*Z***** C.I.C A2	II 2G EEx ib IIC T1-T6	-68 °C	II 2D IP65 T [3] °C
F100*****[1]*Z***** C.I.C A2	II 2G EEx ib IIC T1-T6	-68 °C	II 2D IP65 T [3] °C
F200*****[1]*Z***** C.I.C A1	II 2G EEx ib IIC T1-T6	-90 °C	II 2D IP65 T [3] °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	Type of protection dust
F025*****[1]*Z***** C.I.C A2	II 2G EEx ib IIC T1-T6	-83 °C	II 2D IP65 T [3] °C
F050*****[1]*Z***** C.I.C A2	II 2G EEx ib IIC T1-T6	-83 °C	II 2D IP65 T [3] °C
F100*****[1]*Z***** C.I.C A2	II 2G EEx ib IIC T1-T6	-83 °C	II 2D IP65 T [3] °C
F200*****[1]*Z***** C.I.C A1	II 2G EEx ib IIC T1-T6	-138 °C	II 2D 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.

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Parameters

1 Type F*** *****(R, H or S)*Z*****

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]
F025 *****(R, H or S)*Z*****	5,83	24,1	988,8	-40 °C
F025 *****(R, H or S)*Z***** C.I.C A2	7,5	84,95	569,0	-68 °C
F025 *****(R, H or S)*Z***** C.I.C A2	7,5	77,27	568,83	-83 °C
F050 *****(R, H or S)*Z*****	5,83	24,1	469,7	-40 °C
F050 *****(R, H or S)*Z***** C.I.C A2	7,5	84,95	569,0	-68 °C
F050 *****(R, H or S)*Z***** C.I.C A2	7,5	77,27	568,83	-83 °C
F100 *****(R, H or S)*Z*****	29,9	262,1	207,7	-40 °C
F100 *****(R, H or S)*Z***** C.I.C A2	7,5	84,95	71,12	-68 °C
F100 *****(R, H or S)*Z***** C.I.C A2	7,5	77,27	71,1	-83 °C
F200 *****(R, H or S)*Z*****	9,4	37,4	148,3	-40 °C
F200 *****(R, H or S)*Z***** C.I.C A1	9,4	27,5	148,17	-90 °C
F200 *****(R, H or S)*Z***** C.I.C A1	9,4	18,43	148,03	-138 °C
F300 *****(R, H or S)*Z*****	11,75	83,5	7,9	-40 °C
F300A ****(R, H or S)*Z*****	7,75	57,1	19,8	-40 °C

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 negligible

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Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
F025 *****(R, H or S)*Z*****	6,9	105	0	-40 °C
F025 *****(R, H or S)*Z***** C.I.C A2	7,5	84,95	0 - 569	-68 °C
F025 *****(R, H or S)*Z***** C.I.C A2	7,5	77,27	0 - 568,83	-83 °C
F050 *****(R, H or S)*Z*****	6,9	105	0	-40 °C
F050 *****(R, H or S)*Z***** C.I.C A2	7,5	84,95	0 - 569	-68 °C
F050 *****(R, H or S)*Z***** C.I.C A2	7,5	77,27	0 - 568,83	-83 °C
F100 *****(R, H or S)*Z*****	6,9	105	0	-40 °C
F100 *****(R, H or S)*Z***** C.I.C A2	7,5	84,95	0 - 569	-68 °C
F100 *****(R, H or S)*Z***** C.I.C A2	7,5	77,27	0 - 568,83	-83 °C
F200 *****(R, H or S)*Z*****	23,8	182,5	0	-40 °C
F200 *****(R, H or S)*Z***** C.I.C A1	12,4	128,4	0 - 569,3	-40 °C
F200 *****(R, H or S)*Z***** C.I.C A1	12,4	94,3	0 - 568,73	-90 °C
F200 *****(R, H or S)*Z***** C.I.C A1	12,4	63,21	0 - 568,19	-138 °C
F300 *****(R, H or S)*Z*****	12,4	128,4	0 - 569,3	-40 °C
F300A ****(R, H or S)*Z*****	6,5	43,2	0 - 569,3	-40 °C

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

Voltage	Ui	DC	30	V
Current	Ii		101	mA
Power	Pi		750	mW
effective internal capacitance		negligible		
effective internal inductance		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 are shown in the following graph:

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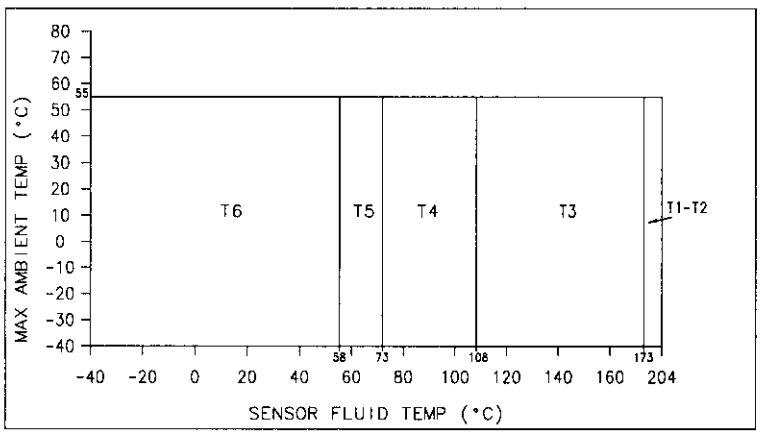
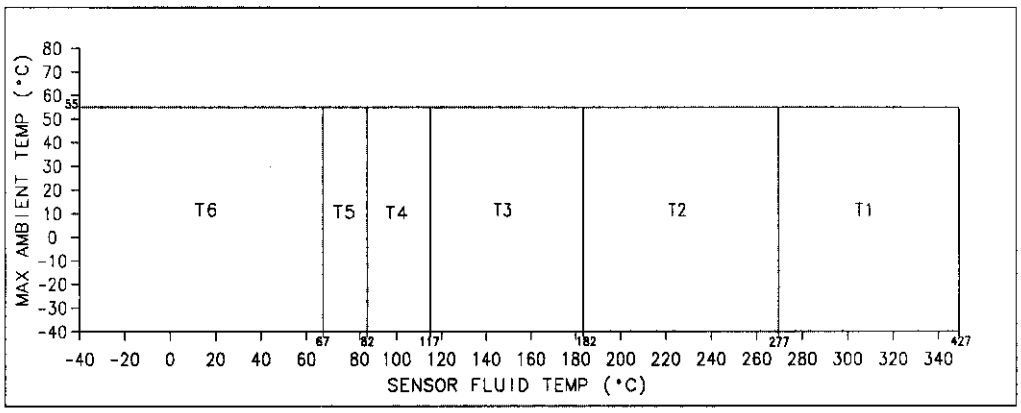
1.4.1 For types F025 *****(R, H or S)*Z*****, F050 *****(R, H or S)*Z*****, F100 *****(R, H or S)*Z***** and F200 *****(R, H or S)*Z***** without Construction Identification Code (C.I.C) marking



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: 226 °C.

1.4.2 For type F300A *****(R, H or S)*Z***** without Construction Identification Code (C.I.C) marking with J-box connected to MVD transmitters (i. e. 1700/2700)



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.

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.

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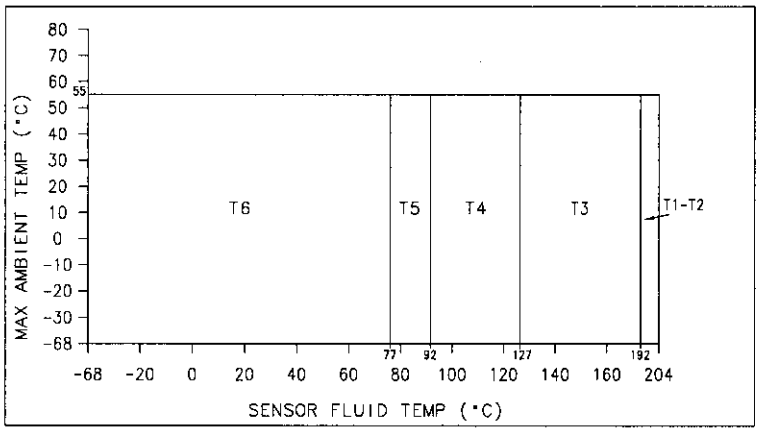
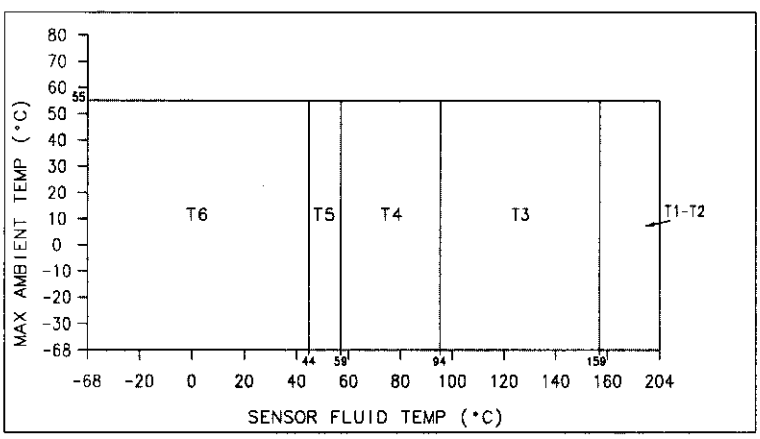
1.4.3 For types F025 *****(R, H or S)*Z***** and F050 *****(R, H or S)*Z***** with Construction Identification Code (C.I.C) marking A2 with J-box connected to non-MVD transmitters (i. e. 9701)



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.

1.4.4 For type F100 *****(R, H or S)*Z***** with Construction Identification Code (C.I.C) marking A2 with J-box connected to non-MVD transmitters (i. e. 9701)



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: 240 °C. The minimum ambient and process fluid temperature allowed for dust is -40°C.

Ambient temperature range Ta -68 °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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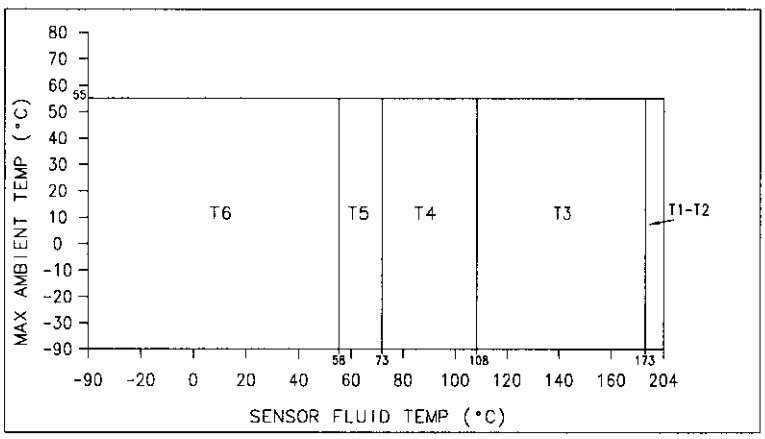
1.4.5 For type F200 *****(R, H or S)*Z***** with Construction Identification Code (C.I.C) marking A1 with J-box connected to non-MVD transmitters (i. e. 9701)

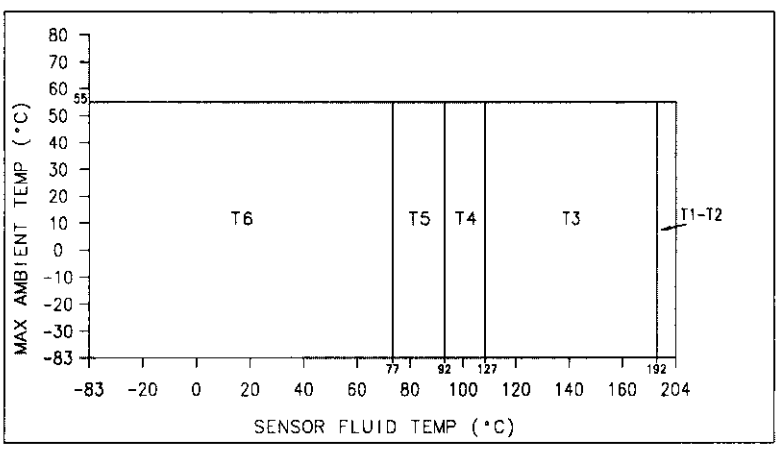


Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 226 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range	Ta	-90 °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 F025 *****(R, H or S)*Z***** and F050 *****(R, H or S)*Z***** with Construction Identification Code (C.I.C) marking A2 with J-box connected to MVD transmitters (i. e. 1700/2700)



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: 226 °C. The minimum ambient and process fluid temperature allowed for dust is -40°C.

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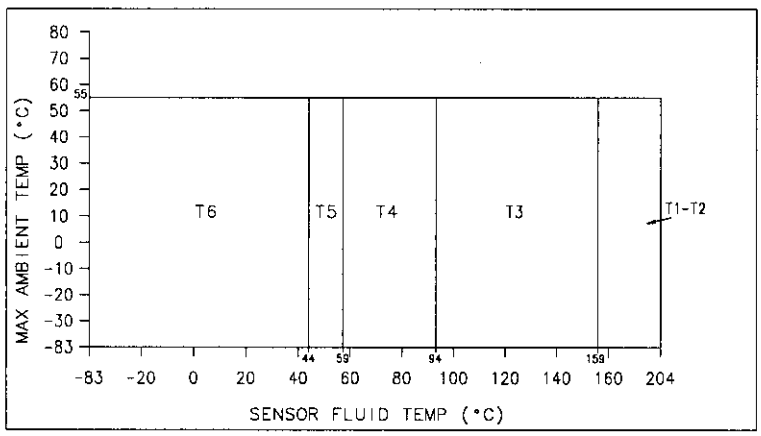
1.4.7 For type F100 *****(R, H or S)*Z***** with Construction Identification Code (C.I.C) marking A2 with J-box connected to MVD transmitters (i. e. 1700/2700)

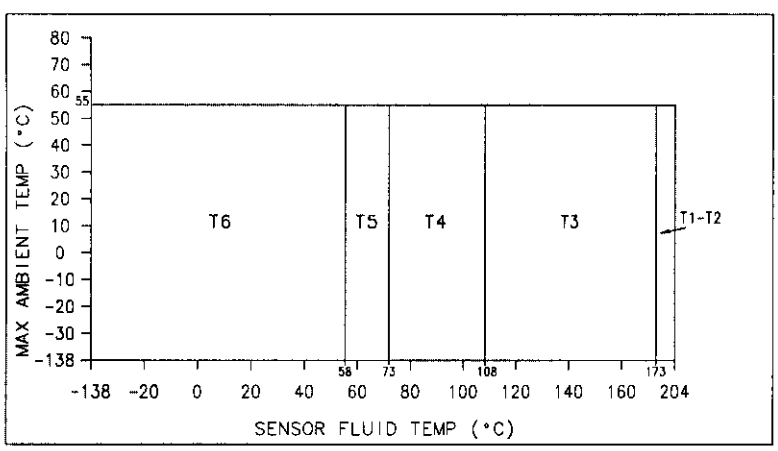


Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 226 °C. The minimum ambient and process fluid temperature allowed for dust is -40°C.

Ambient temperature range Ta -83 °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.

1.4.8 For type F200 *****(R, H or S)*Z***** with Construction Identification Code (C.I.C) marking A1 with J-box connected to MVD transmitters (i. e. 1700/2700)



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: 226 °C. The minimum ambient and process fluid temperature allowed for dust is -40°C.

Ambient temperature range Ta -138 °C up to +55 °C

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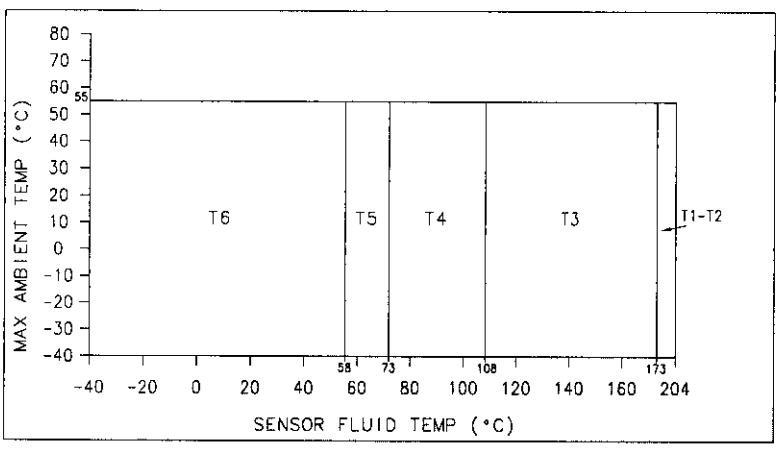
The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

1.4.9 For type F300 *****(R, H or S)*Z***** without Construction Identification Code (C.I.C) marking with J-box connected to MVD transmitters (i. e. 1700/2700)



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: 226 °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.

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

2.1 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

2.2 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:

2.2.1 For types F025 *****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W or Y)*Z*****,
F050 *****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W or Y)*Z*****,
F100 *****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W or Y)*Z***** and

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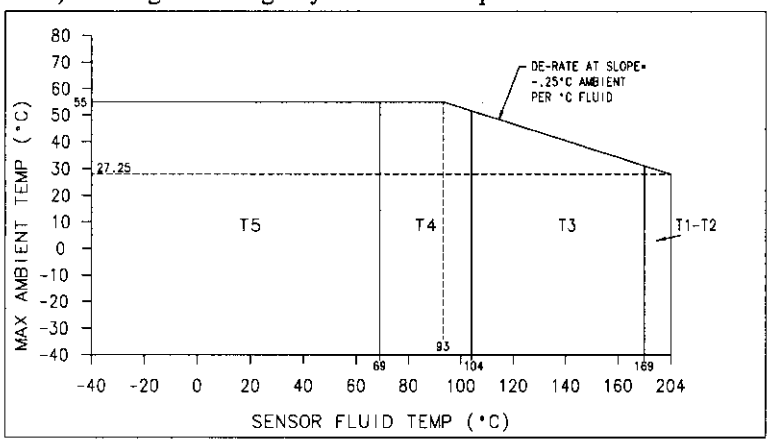
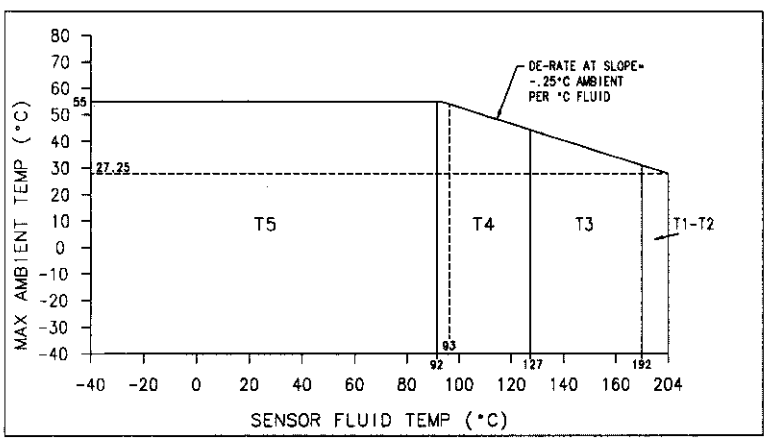
F200 *****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W or Y)*Z***** without Construction Identification Code (C.I.C) marking with integrally mounted core processor



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 and T1: 230 °C.

2.2.2 For types F025 *****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W or Y)*Z***** and F050 *****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W or Y)*Z***** with Construction Identification Code (C.I.C) marking A2 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.

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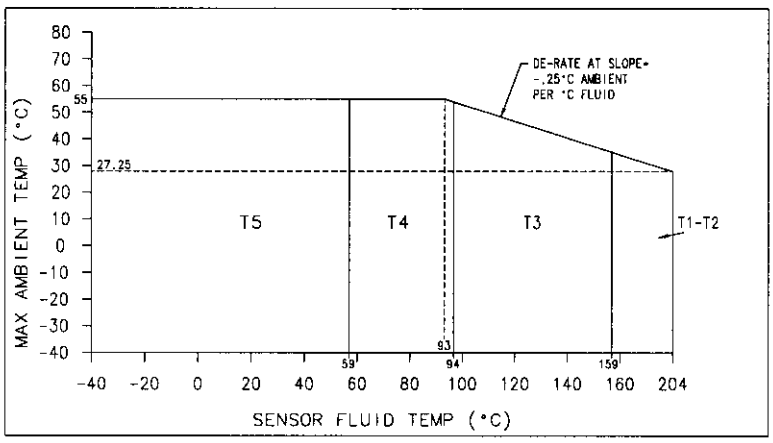
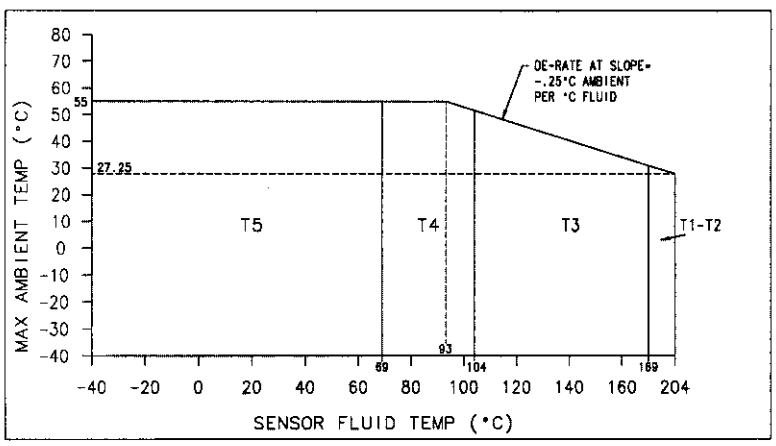
2.2.3 For type F100 *****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W or Y)*Z***** with Construction Identification Code (C.I.C) marking A2 with integrally mounted core processor



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: 240 °C.

2.2.4 For type F200 *****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W or Y)*Z***** with Construction Identification Code (C.I.C) marking A1 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: 230 °C.

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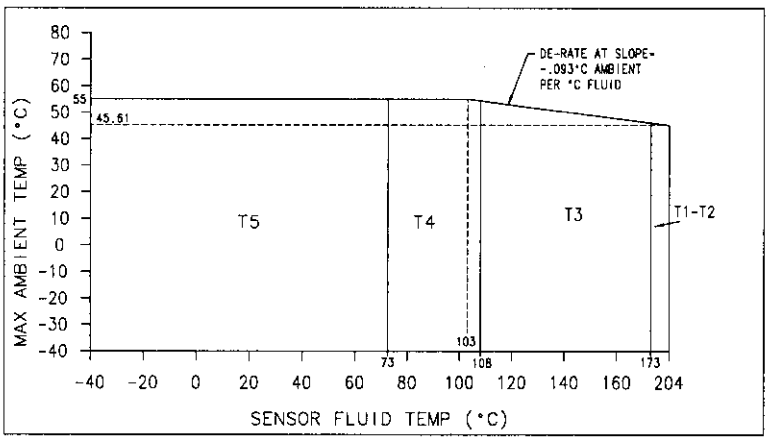
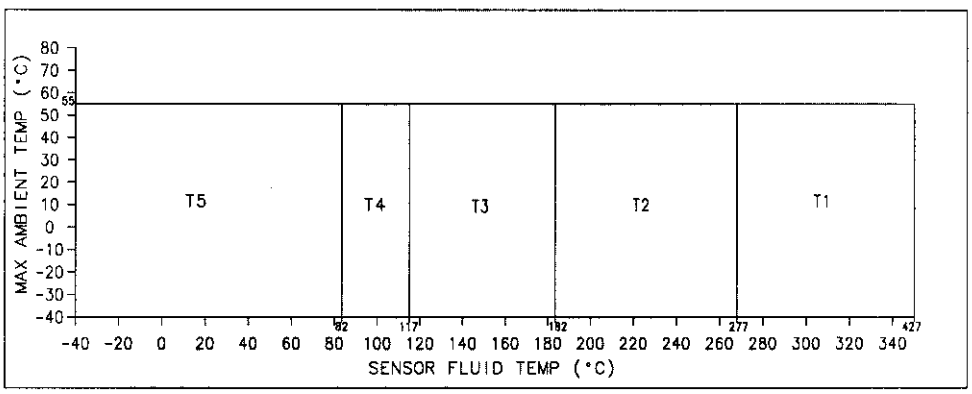
2.2.5 For type F300 *****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W or Y)*Z***** without Construction Identification Code (C.I.C) marking with integrally mounted core processor



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 and T1: 226 °C.

2.2.6 For type F300A *****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W or Y)*Z***** without Construction Identification Code (C.I.C) marking with remote 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.

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

3 Type F*** ****(C or F)*Z*****

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

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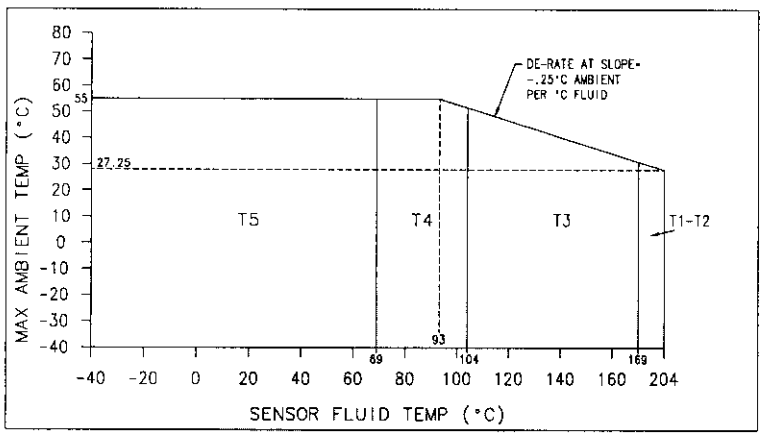
3.2 Temperature class/ max. surface temperature T

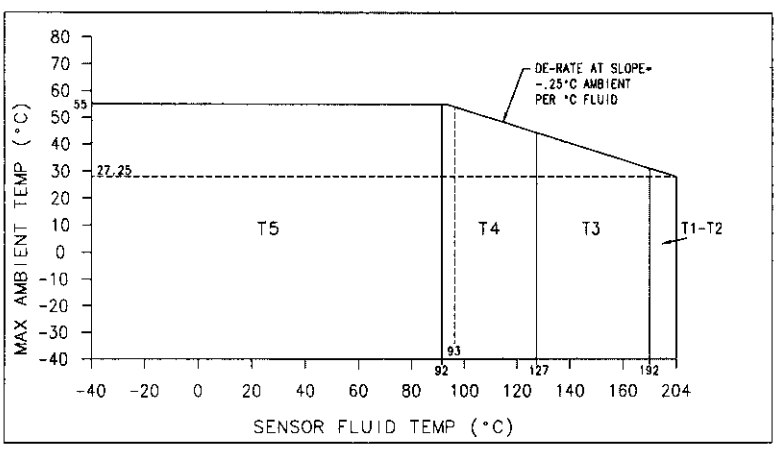
The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and are shown in the following graph:

3.2.1 For types F025 *****(C or F)*Z*****, F050 *****(C or F)*Z*****, F100 *****(C or F)*Z***** and F200 *****(C or F)*Z***** without Construction Identification Code (C.I.C) 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 and T1: 230 °C.

3.2.2 For types F025 *****(C or F)*Z***** and F050 *****(C or F)*Z***** with Construction Identification Code (C.I.C) marking A2 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.

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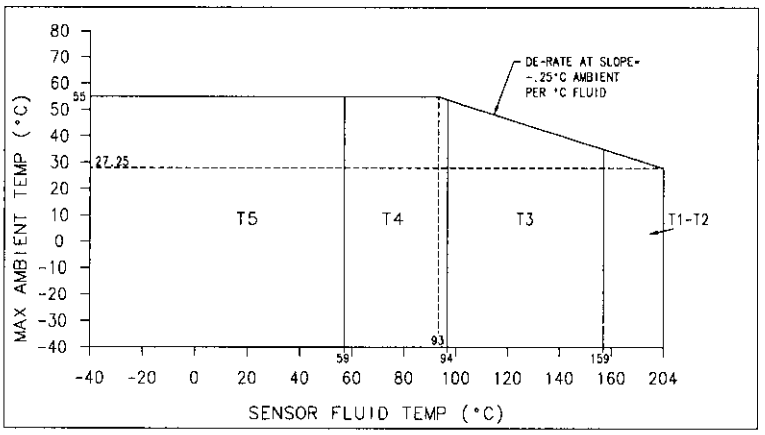
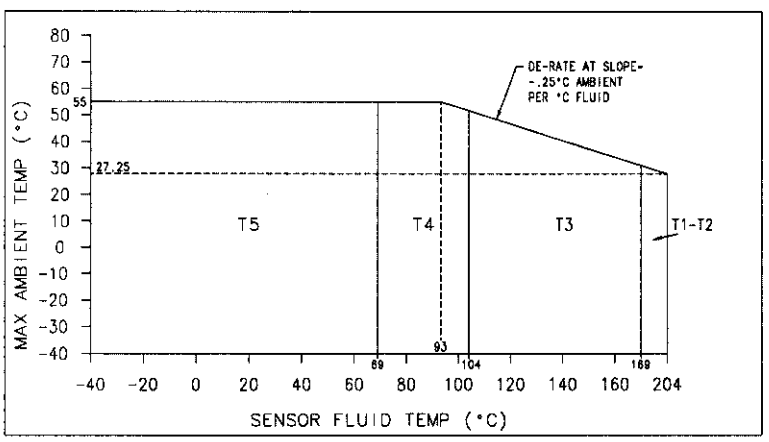
3.2.3 For type F100 *****(C or F)*Z***** with Construction Identification Code (C.I.C) marking A2 with integrally mounted core processor



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: 240 °C.

3.2.4 For type F200 *****(C or F)*Z***** with Construction Identification Code (C.I.C) marking A1 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: 230 °C.

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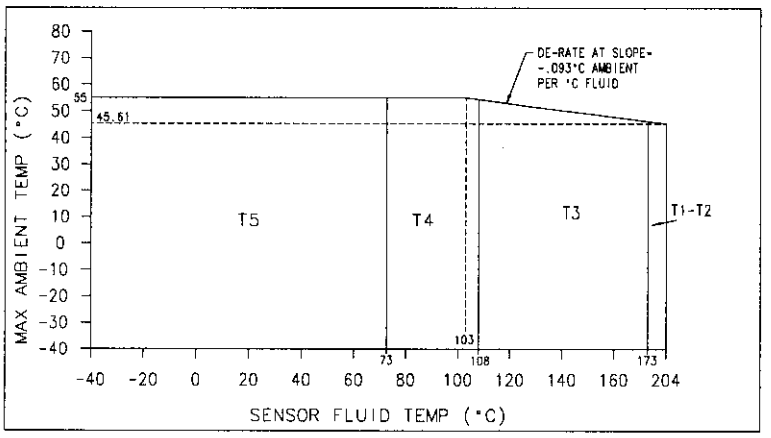
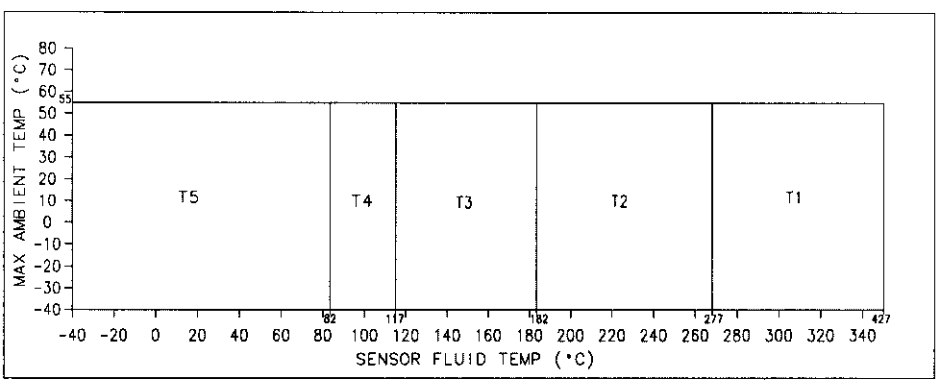
3.2.5 For type F300 *****(C or F)*Z***** without Construction Identification Code (C.I.C) marking with integrally mounted core processor



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 and T1: 226 °C.

3.2.6 For type F300A *****(C or F)*Z***** without Construction Identification Code (C.I.C) 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: 190 °C and T1: 440 °C.

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

4 Type F*** *****I*Z***** (without types F300 *****I*Z***** and F300A *****I*Z*****)

4.1 Electrical parameters see BVS 03 ATEX E 168 X for transmitter type IFT9701*******

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:

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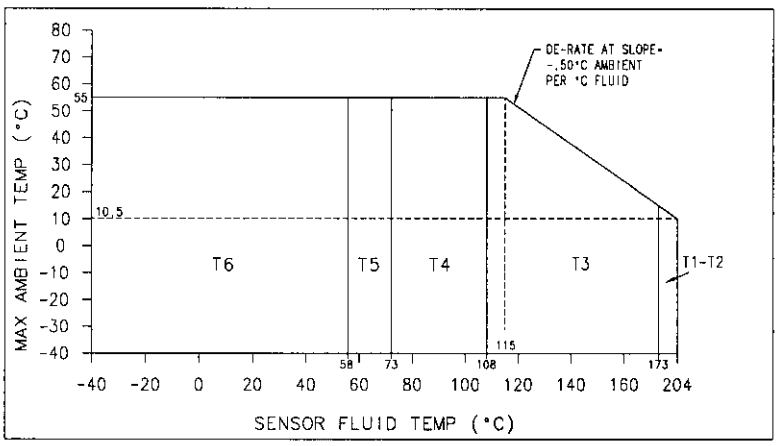
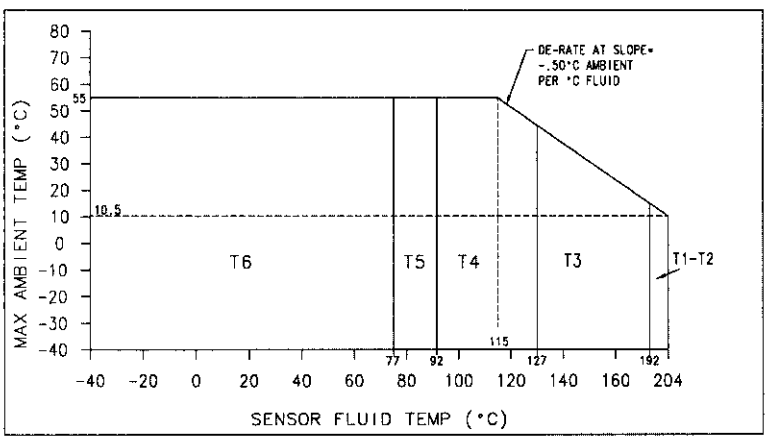
4.2.1 For types F025 *****I*Z*****, F050 *****I*Z*****, F100 *****I*Z***** and F200 *****I*Z***** without Construction Identification Code (C.I.C) marking and type F200 *****I*Z***** with Construction Identification Code (C.I.C) marking A1 with integrally mounted transmitter type IFT9701*******



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

4.2.2 For types F025 *****I*Z***** and F050 *****I*Z***** with Construction Identification Code (C.I.C) marking A2 with integrally mounted transmitter type IFT9701*******



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

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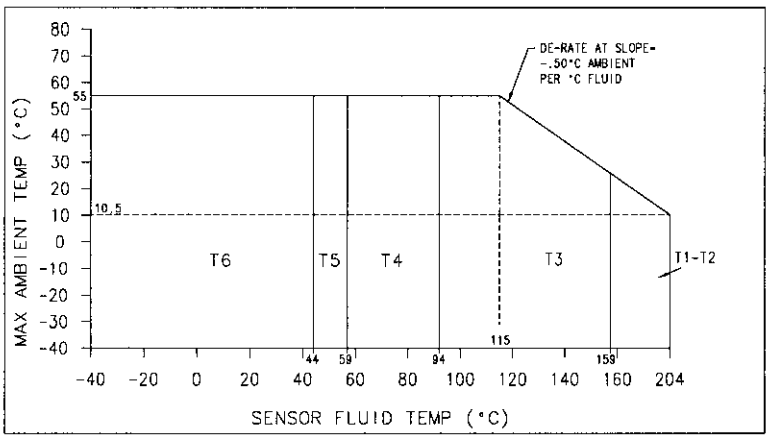
4.2.3 For types F100 *****I*Z***** with Construction Identification Code (C.I.C) marking A2 with integrally mounted transmitter type IFT9701*******



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

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

Special conditions for safe use

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

Transmitter type	F025 *****(C or F)*Z***** + C.I.C A2 F050 *****(C or F)*Z***** + C.I.C A2 F100 *****(C or F)*Z***** + C.I.C A2 F200 *****(C or F)*Z***** + C.I.C A1	F300 *****(C or F)*Z***** F300A ****(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

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 03.2117 EG as of 16.02.2006

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EXAM
BBG Prüf- und Zertifizier GmbH

EXAM BBG Prüf- und Zertifizier GmbH

Bochum, dated 16. February 2006

Signed: Dr. Jockers
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, 16.02.2006
BVS-Schu/Mi A 20050663

EXAM BBG Prüf- und Zertifizier GmbH

Certification body

Special services unit

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EXAM
BBG Prüf- und Zertifizier GmbH

Zertifizierungsstelle

Carl-Beyling-Haus
Dinnendahlstrasse 9
44809 Bochum

Telefon 0234 – 3696-105
Telefax 0234 – 3696-110

EXAM · Postfach 10 27 48 · 44727 Bochum

Micro Motion, Inc.
7070 Winchester Circle
Boulder, Co.
USA

Ihr Zeichen	H. van Holland
Ihre Nachricht	16.03.2006
Unser Zeichen	A 20060199 BVS-Schu/Mi
Durchwahl	Tel.: (0234) 3696 105 Fax: (0234) 3696 110
e-mail	Schumann@bg-exam.de
Datum	03.04.2006

Ladies and Gentlemen,

we added the Revision Report as of 03.04.2006 to the Test and Assessment Report BVS PP 03.2117 EG.

We confirm, that the Certificate

BVS 03 ATEX E 176 X as of 30.06.2003, last modification of 16.02.2006

is still valid.

Kind regards
BBG Prüf- und Zertifizier GmbH

(Dr. Jockers)

i.V.

(Dr. Eickhoff)

Enclosures: Revision Report
Descriptive Documents
Invoice

EXAM
BBG Prüf- und Zertifizier GmbH

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Translation

6th Supplement

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

to the EC-Type Examination Certificate
BVS 03 ATEX E 176 X

Equipment: **Sensor type F*** *******Z*****

Manufacturer: **Micro Motion, Inc.**

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

Description

The sensors type F025 *******Z*****, type F050 *******Z*****, type F100 *******Z***** and type F300 *******Z***** may be produced as high temperature versions and get the denomination

type F025(A,B,C,E)****Z*****, type F050(A,B,C,E)******Z*****, type F100(A,B,C,E)******Z***** and type F300(A,B,C,E)******Z*****.**

The Essential Health and Safety Requirements of the modified equipment 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

Marking of sensors

For sensors with J-box connected to non-MVD transmitters (i. e. 9701) is valid:

Type	Type of protection gas	Min. ambient/fluid temp. gas	Type of protection dust
F025*****[1]*Z***** C.I.C A2	EEx ib IIC T1-T6	-68 °C	IP65 T [3] °C
F050*****[1]*Z***** C.I.C A2	EEx ib IIC T1-T6	-68 °C	IP65 T [3] °C
F100*****[1]*Z***** C.I.C A2	EEx ib IIC T1-T6	-68 °C	IP65 T [3] °C
F200*****[1]*Z***** C.I.C A1	EEx ib IIC T1-T6	-90 °C	IP65 T [3] °C

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Type	Type of protection gas	Type of protection dust
F025*****[1]*Z*****	EEx ib IIC T1-T6	IP65 T [3] °C
F050*****[1]*Z*****	EEx ib IIC T1-T6	IP65 T [3] °C
F100*****[1]*Z*****	EEx ib IIC T1-T6	IP65 T [3] °C
F200*****[1]*Z*****	EEx ib IIC T1-T6	IP65 T [3] °C
F200*****[1]*Z***** C.I.C A1	EEx ib IIC T1-T6	IP65 T [3] °C
F300*****[1]*Z*****	EEx ib IIB T1-T6	IP65 T [3] °C
F025 *****I*Z*****	EEx ib IIC T1-T6	
F025 *****I*Z***** C.I.C A2	EEx ib IIC T1-T6	
F050 *****I*Z*****	EEx ib IIC T1-T6	
F050 *****I*Z***** C.I.C A2	EEx ib IIC T1-T6	
F100 *****I*Z*****	EEx ib IIC T1-T6	
F100 *****I*Z***** C.I.C A2	EEx ib IIC T1-T6	
F200 *****I*Z*****	EEx ib IIC T1-T6	
F200 *****I*Z***** C.I.C A2	EEx ib IIC T1-T6	
F025*****[2]*Z*****	EEx ib IIC T1-T5	IP65 T [3] °C
F025*****[2]*Z***** C.I.C A2	EEx ib IIC T1-T5	IP65 T [3] °C
F050*****[2]*Z*****	EEx ib IIC T1-T5	IP65 T [3] °C
F050*****[2]*Z***** C.I.C A2	EEx ib IIC T1-T5	IP65 T [3] °C
F100*****[2] *Z*****	EEx ib IIC T1-T5	IP65 T [3] °C
F100*****[2] *Z***** C.I.C A2	EEx ib IIC T1-T5	IP65 T [3] °C
F200*****[2]*Z*****	EEx ib IIC T1-T5	IP65 T [3] °C
F200*****[2]*Z***** C.I.C A1	EEx ib IIC T1-T5	IP65 T [3] °C
F300*****[2]*Z*****	EEx ib IIB T1-T5	IP65 T [3] °C
F025[4]****[2]*Z*****	EEx ib IIC T1–T5	IP65 T [3] °C
F050[4]****[2]*Z*****	EEx ib IIC T1–T5	IP65 T [3] °C
F100[4]****[2]*Z*****	EEx ib IIC T1–T5	IP65 T [3] °C
F300[4]****[2]*Z*****	EEx ib IIB T1–T5	IP65 T [3] °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	Type of protection dust
F025*****[1]*Z***** C.I.C A2	EEx ib IIC T1-T6	-83 °C	IP65 T [3] °C
F050*****[1]*Z***** C.I.C A2	EEx ib IIC T1-T6	-83 °C	IP65 T [3] °C
F100*****[1]*Z***** C.I.C A2	EEx ib IIC T1-T6	-83 °C	IP65 T [3] °C
F200*****[1]*Z***** C.I.C A1	EEx ib IIC T1-T6	-138 °C	IP65 T [3] °C
F025[4]****[1]*Z*****	EEx ib IIC T1–T6	-50 °C	IP65 T [3] °C
F050[4]****[1]*Z*****	EEx ib IIC T1–T6	-50 °C	IP65 T [3] °C
F100[4]****[1]*Z*****	EEx ib IIC T1–T6	-50 °C	IP65 T [3] °C
F300[4]****[1]*Z*****	EEx ib IIB T1–T6	-50 °C	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.

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Parameters

1 Type F*** *****(R, H, S)*Z***** (except type F*** (A, B, C, E)****(R, H, S)*Z*****)

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]
F025 *****(R, H, S)*Z*****	5,83	24,1	988,8	-40 °C
F025 *****(R, H, S)*Z*****	7,5	84,95	569,0	-68 °C
C.I.C A2		77,27	568,83	-83 °C
F050 *****(R, H, S)*Z*****	5,83	24,1	469,7	-40 °C
F050 *****(R, H, S)*Z*****	7,5	84,95	569,0	-68 °C
C.I.C A2		77,27	568,83	-83 °C
F100 *****(R, H, S)*Z*****	29,9	262,1	207,7	-40 °C
F100 *****(R, H, S)*Z*****	7,5	84,95	71,12	-68 °C
C.I.C A2		77,27	71,1	-83 °C
F200 *****(R, H, S)*Z*****	9,4	37,4	148,3	-40 °C
F200 *****(R, H, S)*Z*****	9,4	27,5	148,17	-90 °C
C.I.C A1		18,43	148,03	-138 °C
F300 *****(R, H, S)*Z*****	11,75	83,5	7,9	-40 °C

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 negligible

Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	minimum Ambient/Fluid Temperature [°C]
F025 *****(R, H, S)*Z*****	6,9	105	0	-40 °C
F025 *****(R, H, S)*Z*****	7,5	84,95	0 - 569	-68 °C
C.I.C A2		77,27	0 - 568,83	-83 °C
F050 *****(R, H, S)*Z*****	6,9	105	0	-40 °C
F050 *****(R, H, S)*Z*****	7,5	84,95	0 - 569	-68 °C
C.I.C A2		77,27	0 - 568,83	-83 °C
F100 *****(R, H, S)*Z*****	6,9	105	0	-40 °C
F100 *****(R, H, S)*Z*****	7,5	84,95	0 - 569	-68 °C
C.I.C A2		77,27	0 - 568,83	-83 °C
F200 *****(R, H, S)*Z*****	23,8	182,5	0	-40 °C
F200 *****(R, H, S)*Z*****	12,4	128,4	0 - 569,3	-40 °C
C.I.C A1				
F200 *****(R, H, S)*Z*****	12,4	94,3	0 - 568,73	-90 °C
C.I.C A1		63,21	0 - 568,19	-138 °C
F300 *****(R, H, S)*Z*****	12,4	128,4	0 - 569,3	-40 °C

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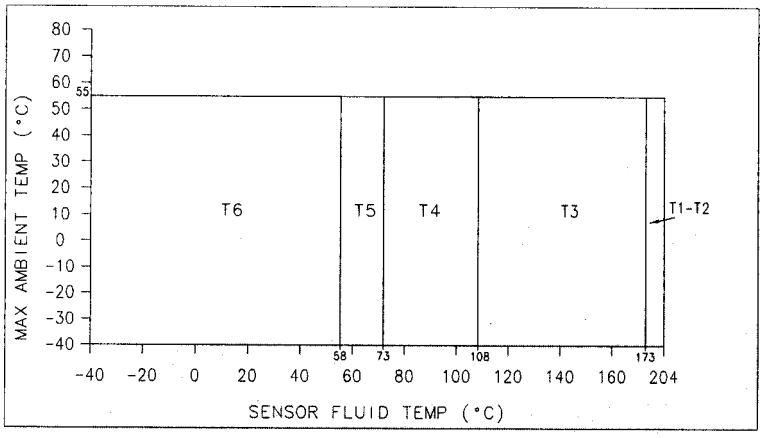
1.3 Temperature circuits (terminals 3, 4 and 7 or wires orange, yellow and violet)

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

1.4 Temperature class/ max. surface temperature T

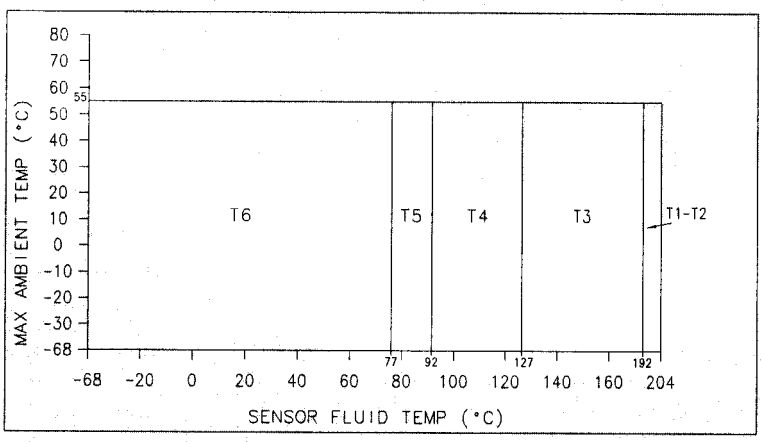
The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and are shown in the following graph:

1.4.1 For types F025 *****(R, H, S)*Z*****, F050 *****(R, H, S)*Z*****, F100 *****(R, H, S)*Z***** and F200 *****(R, H, S)*Z***** without Construction Identification Code (C.I.C) marking



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: 226 °C.

1.4.2 For types F025 *****(R, H, S)*Z***** and F050 *****(R, H, S)*Z***** with Construction Identification Code (C.I.C) marking A2 with J-box connected to non-MVD transmitters (i. e. 9701)



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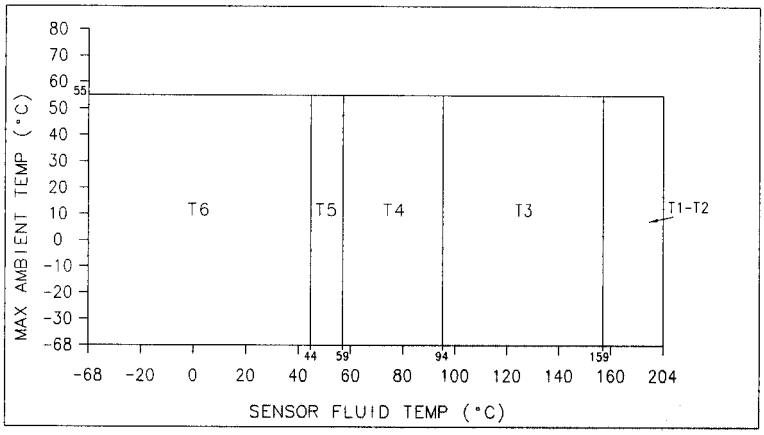
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 207 °C. The minimum ambient and process fluid temperature allowed for dust is -40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

1.4.3 For type F100 *****(R, H, S)*Z***** with Construction Identification Code (C.I.C) marking A2 with J-box connected to non-MVD transmitters (i. e. 9701)

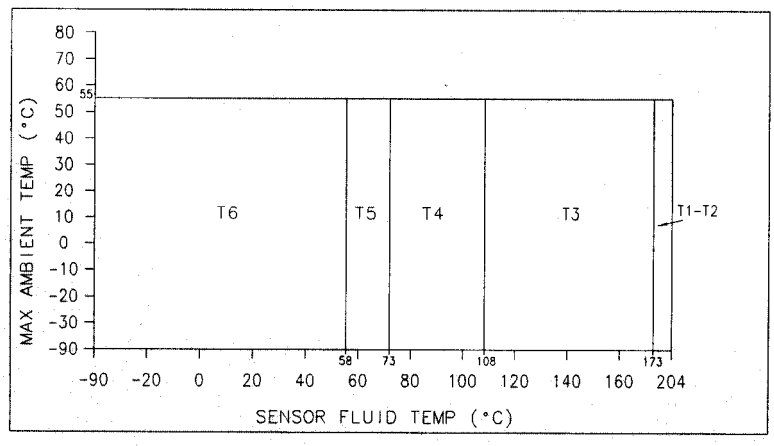


Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 240 °C. The minimum ambient and process fluid temperature allowed for dust is -40°C.

Ambient temperature range Ta -68 °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 type F200 *****(R, H, S)*Z***** with Construction Identification Code (C.I.C) marking A1 with J-box connected to non-MVD transmitters (i. e. 9701)



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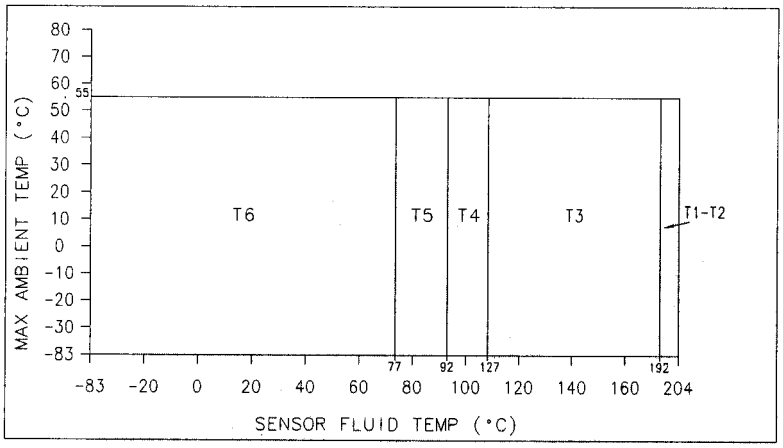
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 226 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

Ambient temperature range Ta -90 °C up to +55 °C

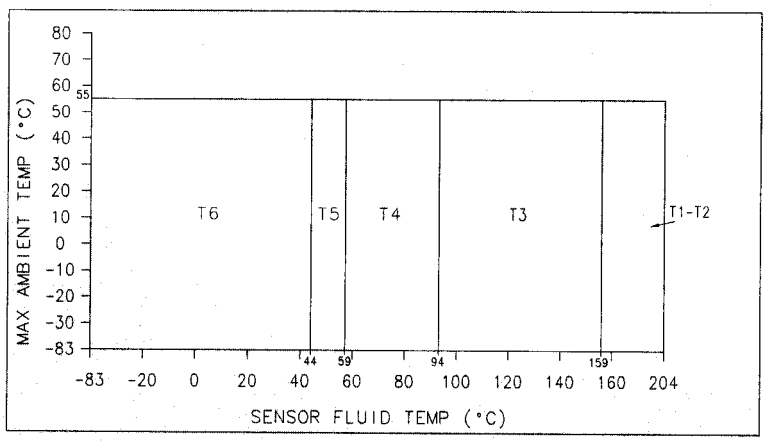
The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

1.4.5 For types F025 *****(R, H, S)*Z***** and F050 *****(R, H, S)*Z***** with Construction Identification Code (C.I.C) marking A2 with J-box connected to MVD transmitters (i. e. 1700/2700)



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.

1.4.6 For type F100 *****(R, H, S)*Z***** with Construction Identification Code (C.I.C) marking A2 with J-box connected to MVD transmitters (i. e. 1700/2700)



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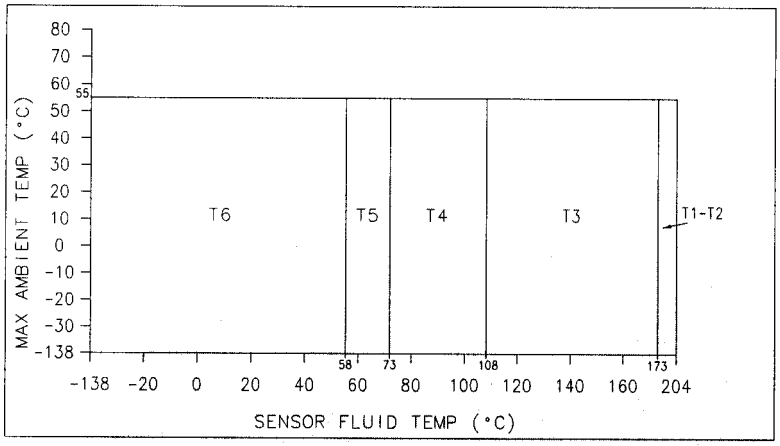
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 240 °C. The minimum ambient and process fluid temperature allowed for dust is -40°C.

Ambient temperature range Ta -83 °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 type F200 *****(R, H, S)*Z***** with Construction Identification Code (C.I.C) marking A1 with J-box connected to MVD transmitters (i. e. 1700/2700)

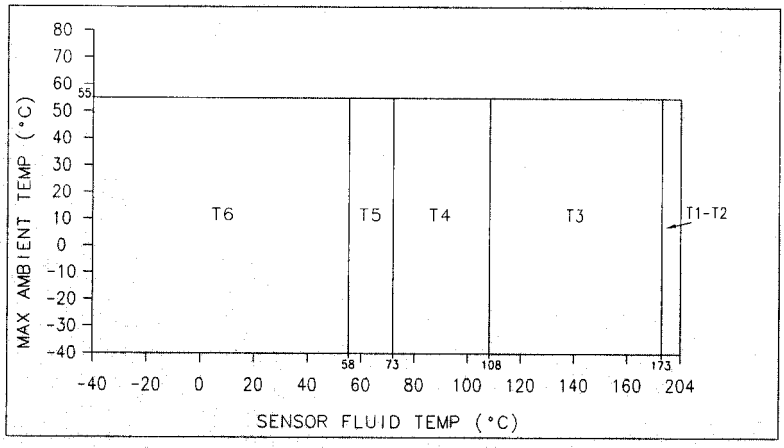


Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 226 °C. The minimum ambient and process fluid temperature allowed for dust is -40°C.

Ambient temperature range Ta -138 °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.

1.4.8 For type F300 *****(R, H, S)*Z***** without Construction Identification Code (C.I.C) marking with J-box connected to MVD transmitters (i. e. 1700/2700)



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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: 226 °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.

2 Type F***(A,B,C,E)****(R,H,S)*Z*****

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]
F025(A,B,C,E)****(R, H, S)*Z*****	1,8	19,8	55,3	-50 °C
F050(A,B,C,E)****(R, H, S)*Z*****	1,8	19,8	55,3	-50 °C
F100(A,B,C,E)****(R, H, S)*Z*****	1,8	19,8	55,3	-50 °C
F300(A,B,C,E)****(R, H, S)*Z*****	7,75	54,3	19,8	-50 °C

2.2 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 negligible

Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor Ω]	minimum Ambient/Fluid Temperature [°C]
F025(A,B,C,E)****(R, H, S)*Z*****	1,8	19,8	0 – 569,2	-50 °C
F050(A,B,C,E)****(R, H, S)*Z*****	1,8	19,8	0 – 569,2	-50 °C
F100(A,B,C,E)****(R, H, S)*Z*****	1,8	19,8	0 – 569,2	-50 °C
F300(A,B,C,E)****(R, H, S)*Z*****	6,5	41,1	0 – 569,2	-50 °C

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

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

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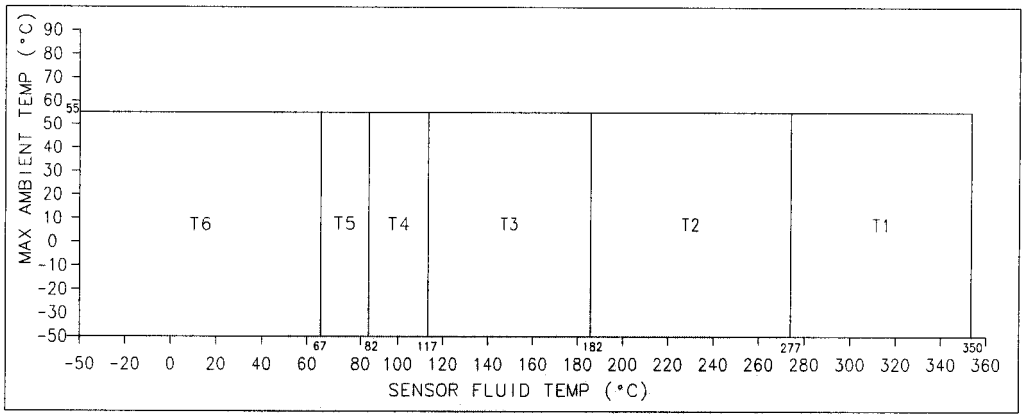
2.4 Temperature class/ max. surface temperature T

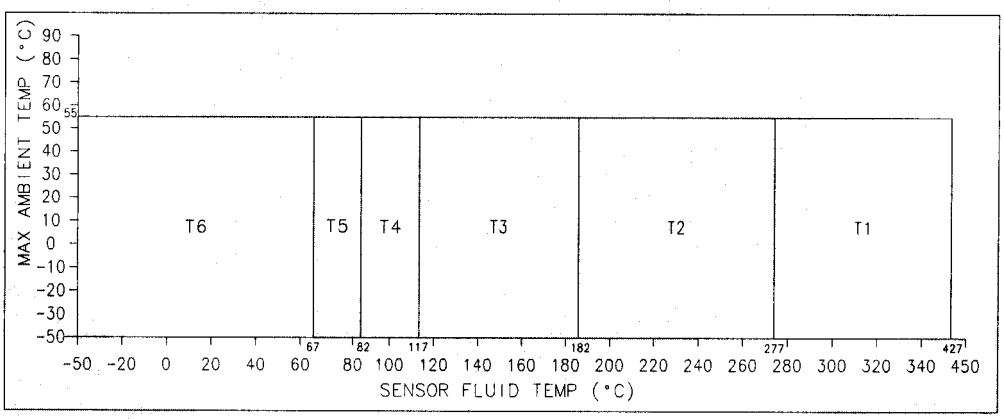
The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and are shown in the following graph:

2.4.1 For types F025(A, B)****(R, H, S)*Z*****, F050(A, B)****(R, H, S)*Z*****, F100(A, B)****(R, H, S)*Z***** and F300(A, B)****(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: 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.

2.4.2 For types F025(C, E)****(R, H, S)*Z*****, F050(C, E)****(R, H, S)*Z*****, F100(C, E)****(R, H, S)*Z***** and F300(C, E)****(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: 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.

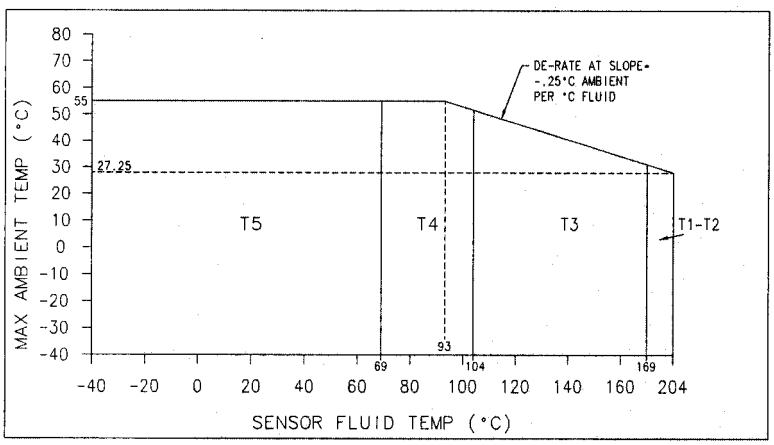
3 Type F*** ****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z*****
except F*** (A,B,C,E)****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z*****

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 F025 *****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z*****,
F050 *****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z*****,
F100 *****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z***** and
F200 *****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z***** without Construction Identification Code (C.I.C) 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 and T1: 230 °C.

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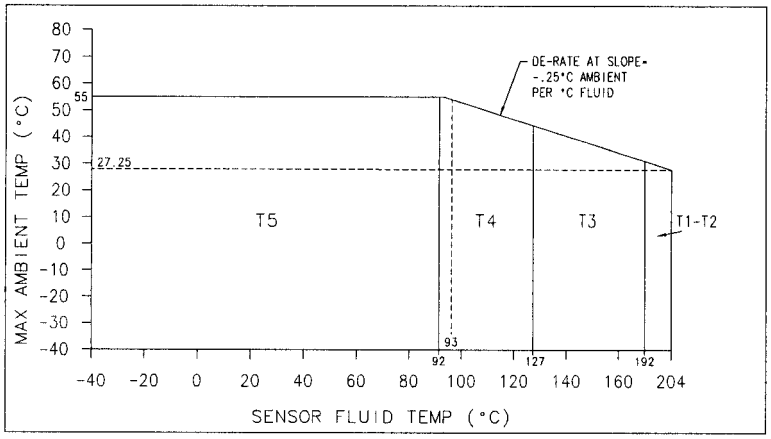
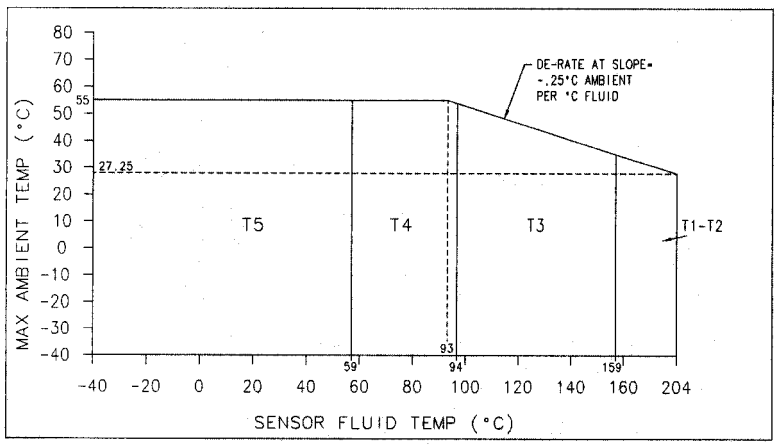
3.2.2 For types F025 *****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z***** and F050 *****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z***** with Construction Identification Code (C.I.C) marking A2 with integrally mounted core processor



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.

3.2.3 For type F100 *****(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 A2 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: 240 °C.

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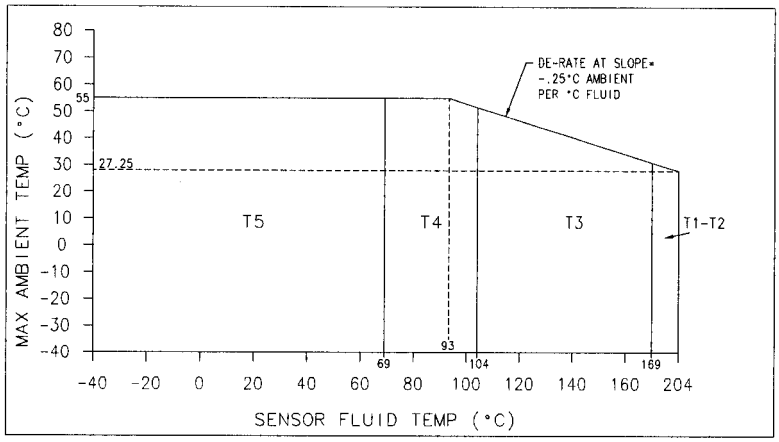
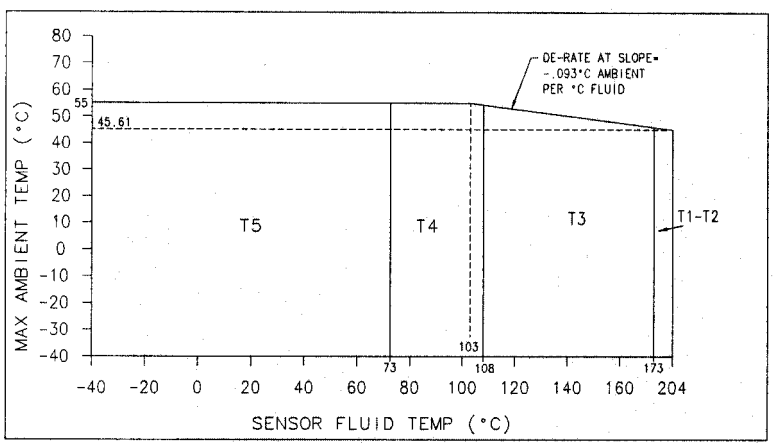
3.2.4 For type F200 *****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z***** with Construction Identification Code (C.I.C) marking A1 with integrally mounted core processor



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: 230 °C.

3.2.5 For type F300 *****(2, 3, 4, 5, 6, 7, 8, 9, A,B,D,E,Q,V,W, Y)*Z***** without Construction Identification Code (C.I.C) 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 and T1: 226 °C.

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

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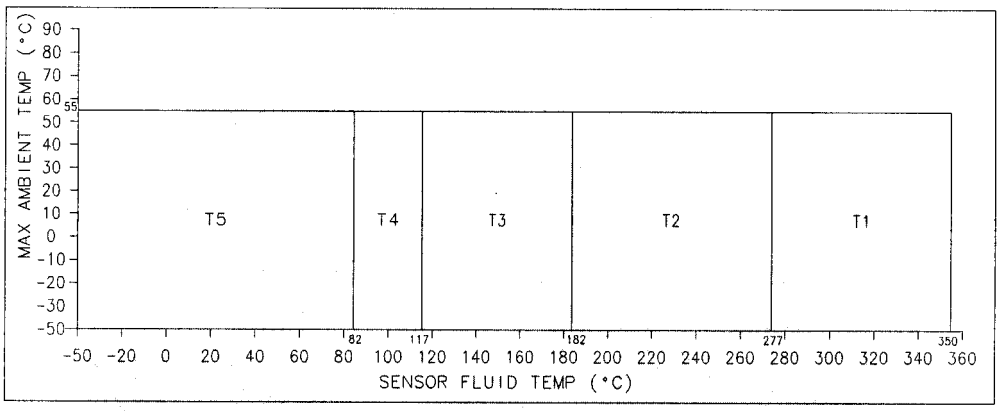
4 Type F*** (A,B,C,E)****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z*****

4.1 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

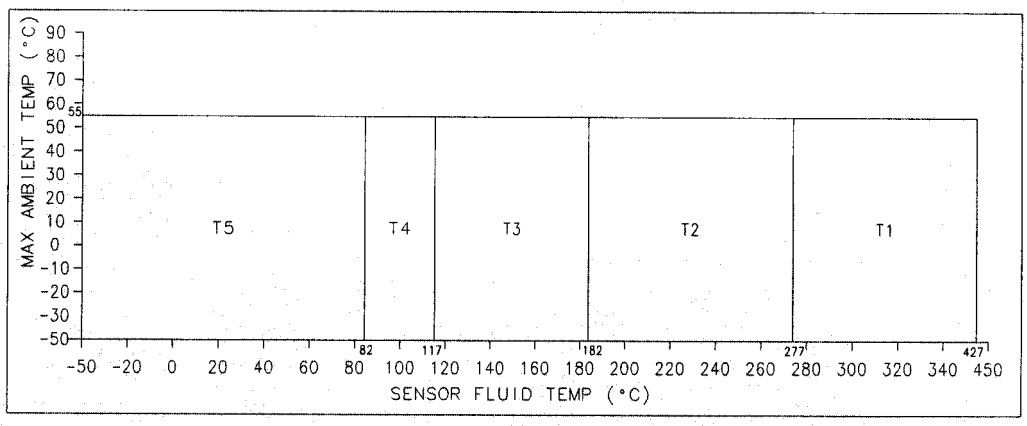
4.2 Temperature class/ max. surface temperature T
The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and are shown in the following graph:

4.2.1 For types F025(A,B)****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z*****,
F050(A,B)****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z*****,
F100(A,B)****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z***** and
F300(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.

4.2.2 For types F025(C,E)****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z*****,
F050(C,E)****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z*****,
F100(C,E)*****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z***** and
F300(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

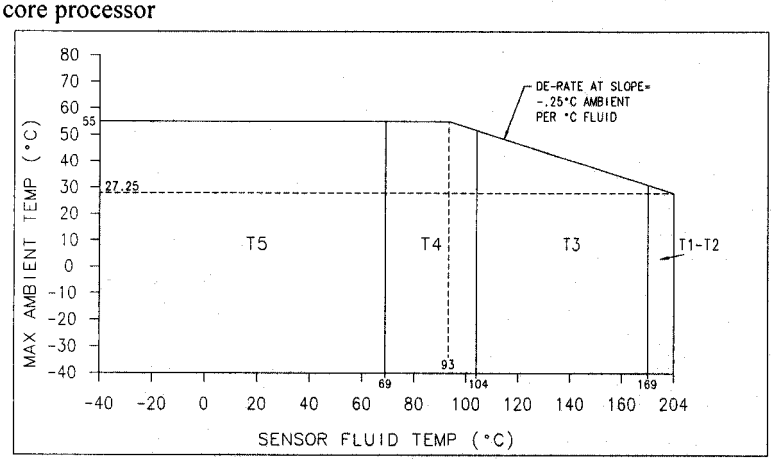
The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature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

5 Type F*** ****(C, F)*Z*****, except F**(A,B,C,E)****(C, F)*Z*****

5.1 Electrical parameters see BVS PP 01.2061 EG 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 F025 *****(C, F)*Z*****, F050 *****(C, F)*Z*****, F100 *****(C, F)*Z***** and F200 *****(C, F)*Z***** without Construction Identification Code (C.I.C) 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 and T1: 230 °C.

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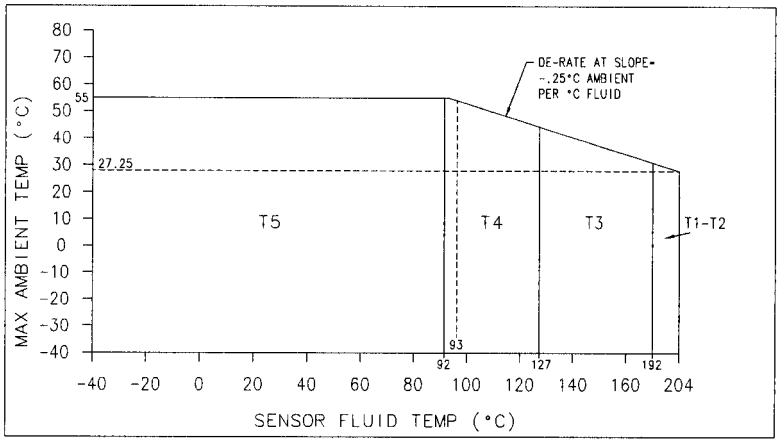
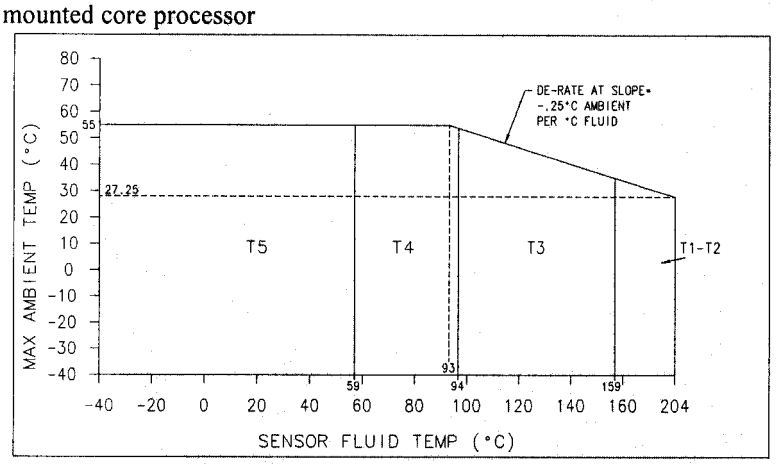
5.2.2 For types F025 *****(C, F)*Z***** and F050 *****(C, F)*Z***** with Construction Identification Code (C.I.C) marking A2 with integrally mounted core processor



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.

5.2.3 For type F100 *****(C, F)*Z***** with Construction Identification Code (C.I.C) marking A2 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: 240 °C.

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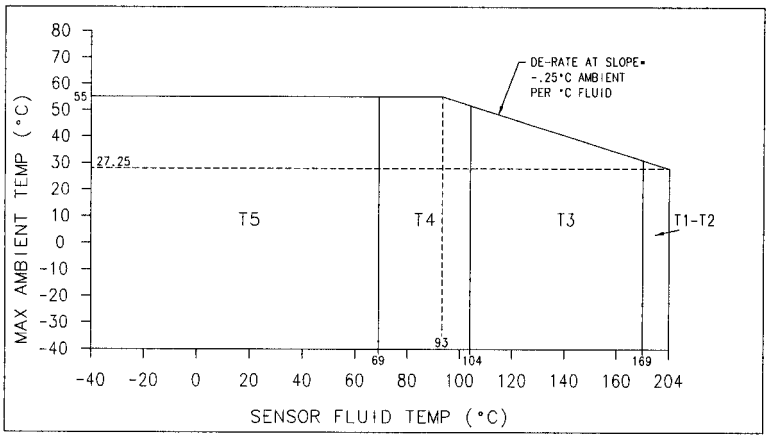
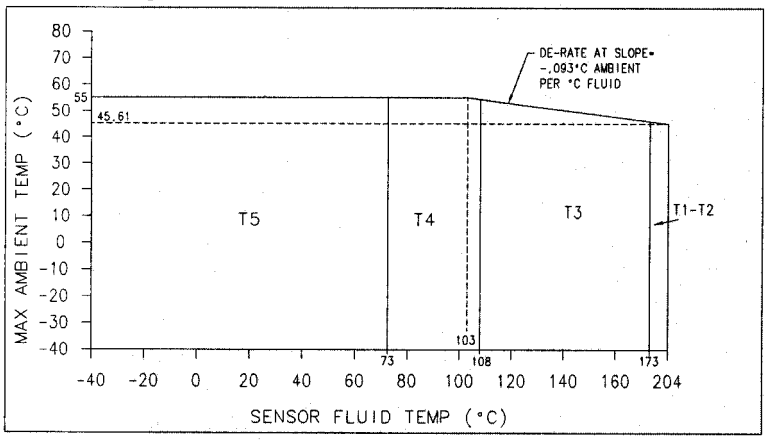
5.2.4 For type F200 *****(C, F)*Z***** with Construction Identification Code (C.I.C) marking A1 with integrally mounted core processor



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: 230 °C.

5.2.5 For type F300 *****(C, F)*Z***** without Construction Identification Code (C.I.C) 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 and T1: 226 °C.

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

6 Type F**(A,B,C,E)****(C, F)*Z*****

6.1 Electrical parameters see BVS PP 01.2061 EG 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:

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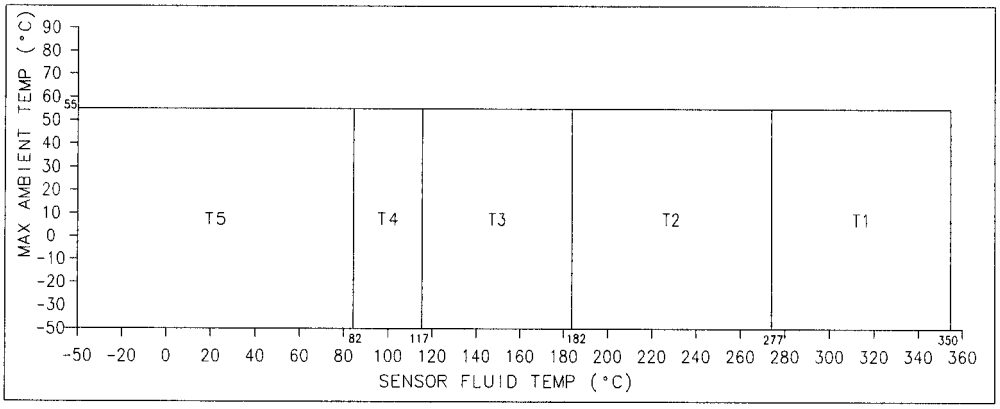
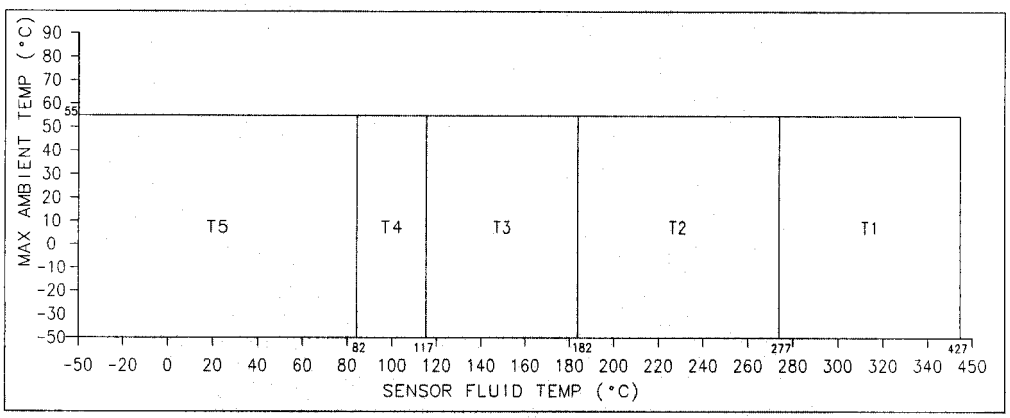
6.2.1 For types F025(A,B)****(C, F)*Z*****, F050(A,B)****(C, F)*Z*****, F100(A,B)****(C, F)*Z***** and F300(A,B)****(C, F)*Z***** with integrally mounted core processor



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.

6.2.2 For types F025(C,E)****(C, F)*Z*****, F050(C,E)****(C, F)*Z*****, F100(C,E)****(C, F)*Z***** and F300(C,E)****(C, F)*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: 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.

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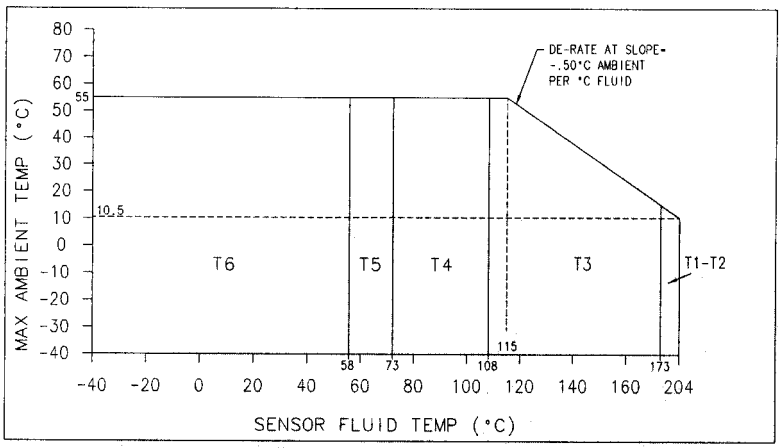
7 Type F*** *****I*Z***** (without types F300 *****I*Z***** and F***(A,B,C,E)****I*Z*****)

7.1 Electrical parameters see BVS PP 03.2111 EG for the transmitter type IFT9701*******

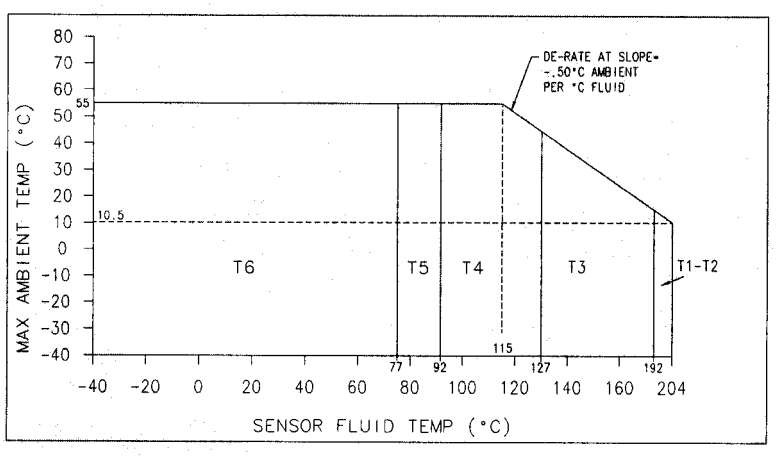
7.2 Temperature class/ max. surface temperature T
The classification into a temperature class/determination of the maximum surface temperature T depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and are shown in the following graph:

7.2.1 For types F025 *****I*Z*****, F050 *****I*Z*****, F100 *****I*Z***** and F200 *****I*Z***** without Construction Identification Code (C.I.C) marking and type F200 *****I*Z***** with Construction Identification Code (C.I.C) marking A1 with integrally mounted transmitter type IFT9701*******



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

7.2.2 For types F025 *****I*Z***** and F050 *****I*Z***** with Construction Identification Code (C.I.C) marking A2 with integrally mounted transmitter type IFT9701*******



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

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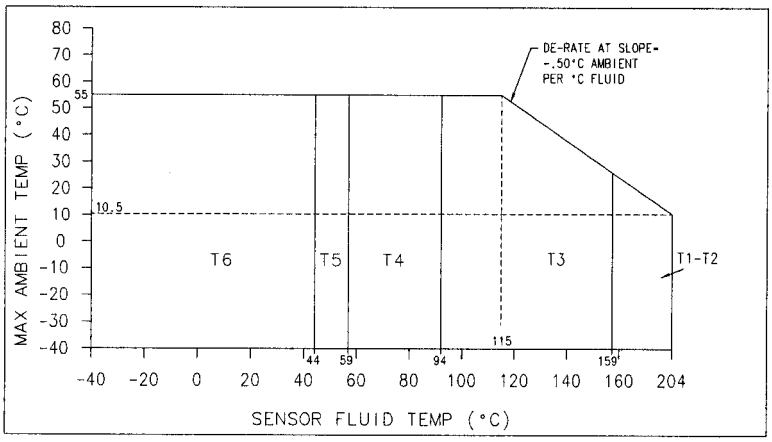
7.2.3 For types F100 *****I*Z***** with Construction Identification Code (C.I.C) marking A2 with integrally mounted transmitter type IFT9701*******



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

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

Test and assessment report
BVS PP 03.2117 EG as of 19.06*.2006

EXAM BBG Prüf- und Zertifizier GmbH
Bochum, dated 19. June 2006

Signed: Dr. Jockers
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, 19.06.2006
BVS-Schu/Kw A 20060360

EXAM BBG Prüf- und Zertifizier GmbH

Certification body

Special services unit

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Ihr Zeichen	H. van Holland
Ihre Nachricht	19.06.2006
Unser Zeichen	BVS-Schu/Mi A 20060400
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 03.2117 EG.

We confirm, that the Certificate

BVS 03 ATEX E 176 X as of 30.06.2003, last modification of 19.06.2006

is still valid.

Kind regards
BBG Prüf- und Zertifizier GmbH

i.V. Migenda (Migenda) i.V. Wittler (Dr. Wittler)

Enclosures: Revision Report
Descriptive Documents

EXAM
BBG Prüf- und Zertifizier GmbH

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Ihr Zeichen	Henk van Holland
Ihre Nachricht	17.01.2007
Unser Zeichen	BVS-Hk/Mi A 20070037
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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 03.2117 EG.

We confirm, that the Certificate

BVS 03 ATEX E 176 X as of 30.06.2003, last modification of 19.06.2006

is still valid.

Kind regards
BBG Prüf- und Zertifizier GmbH

(Dr. Jockers)

i.V.
(Dr. Eickhoff)

Enclosures: Revision Report

EXAM
BBG Prüf- und Zertifizier GmbH

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DEKRA

Translation

7th Supplement

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

to the EC-Type Examination Certificate
BVS 03 ATEX E 176 X

Equipment: **Sensor type F**********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 F***(A,B,C,E)******Z***** can be manufactured with other coils and get therefore the additional marking with C.I.C. A3.

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 F***(A,B,C,E)****(R,H,S)*Z*****

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		

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Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
F025(A,B,C,E)****(R, H, S)*Z*****	1.8	19.8	55.3	-50 °C
F025(A,B,C,E)****(R, H, S)*Z***** C.I.C. A3	0.9	13.5	38.5	-50 °C
F050(A,B,C,E)****(R, H, S)*Z*****	1.8	19.8	55.3	-50 °C
F050(A,B,C,E)****(R, H, S)*Z***** C.I.C. A3	0.9	13.5	38.5	-50 °C
F100(A,B,C,E)****(R, H, S)*Z*****	1.8	19.8	55.3	-50 °C
F100(A,B,C,E)****(R, H, S)*Z***** C.I.C. A3	0.9	13.5	38.5	-50 °C
F300(A,B,C,E)****(R, H, S)*Z*****	7.75	54.3	19.8	-50 °C

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 negligible

Sensor type	Inductance [mH]	Coil resistance[Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
F025(A,B,C,E)****(R, H, S)*Z*****	1.8	19.8	0 – 569.2	-50 °C
F025(A,B,C,E)****(R, H, S)*Z***** C.I.C. A3	0.9	13.5	0 – 569.2	-50 °C
F050(A,B,C,E)****(R, H, S)*Z*****	1.8	19.8	0 – 569.2	-50 °C
F050(A,B,C,E)****(R, H, S)*Z***** C.I.C. A3	0.9	13.5	0 – 569.2	-50 °C
F100(A,B,C,E)****(R, H, S)*Z*****	1.8	19.8	0 – 569.2	-50 °C
F100(A,B,C,E)****(R, H, S)*Z***** C.I.C. A3	0.9	13.5	0 – 569.2	-50 °C
F300(A,B,C,E)****(R, H, S)*Z*****	6.5	41.1	0 – 569.2	-50 °C

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

Voltage	Ui	DC	30	V
Current	Ii		101	mA
Power	Pi		750	mW
Effective internal capacitance	Ci	negligible		
Effective internal inductance	Li	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 are shown in the following graph:

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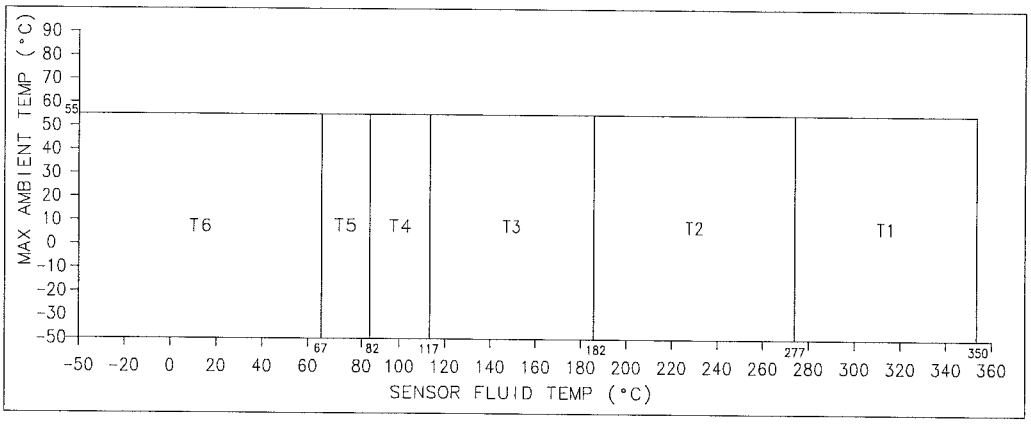
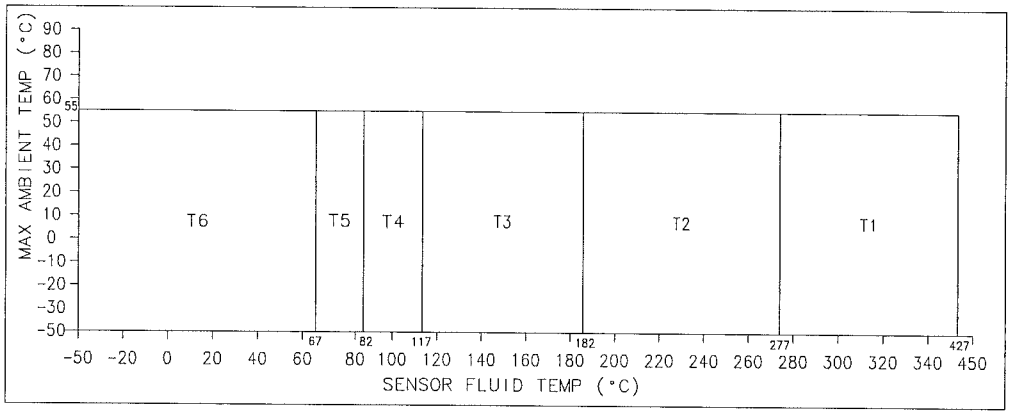
1.4.1 For types F025(A, B)****(R, H, S)*Z***** C.I.C. A3 or no marking, F050(A, B)****(R, H, S)*Z***** C.I.C. A3 or no marking, F100(A, B)****(R, H, S)*Z***** C.I.C. A3 or no marking and F300(A, B)****(R, H, S)*Z***** no marking with J-box connected to MVD transmitters



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: 290 °C and T1: 363 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

1.4.2 For types F025(C, E)****(R, H, S)*Z***** C.I.C. A3 or no marking, F050(C, E)****(R, H, S)*Z***** C.I.C. A3 or no marking, F100(C, E)****(R, H, S)*Z***** C.I.C. A3 or no marking and F300(C, E)****(R, H, S)*Z***** no 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: 290 °C and T1: 440 °C. The minimum ambient and process fluid temperature allowed for dust is -40°C.

1.4.3 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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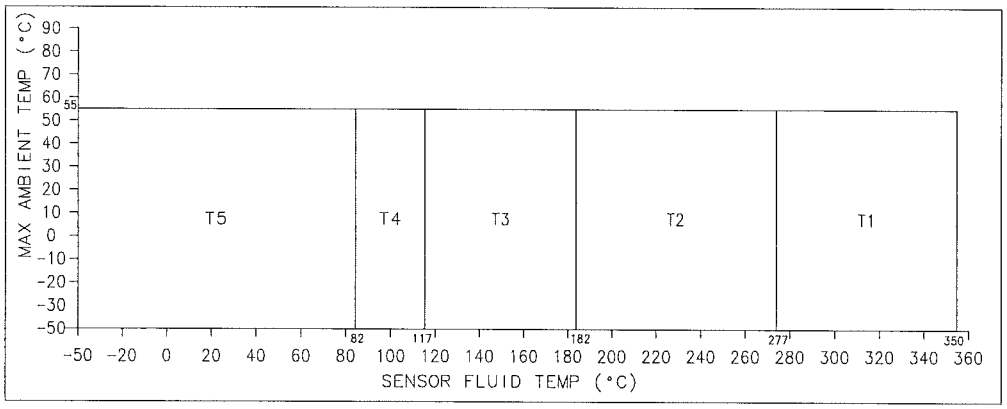
2 Type F***(A,B,C,E)****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z*****

2.1 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

2.2 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:

2.2.1 For types F025(A,B)****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z***** C.I.C. A3 or no marking, F050(A,B)****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z***** C.I.C. A3 or no marking, F100(A,B)****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z***** C.I.C. A3 or no marking and F300(A,B)****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z***** 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 F025(C,E)****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z***** C.I.C. A3 or no marking, F050(C,E)****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z***** C.I.C. A3 or no marking, F100(C,E)*****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z***** and C.I.C. A3 or no marking F300(C,E)****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z***** no marking with integrally mounted core processor

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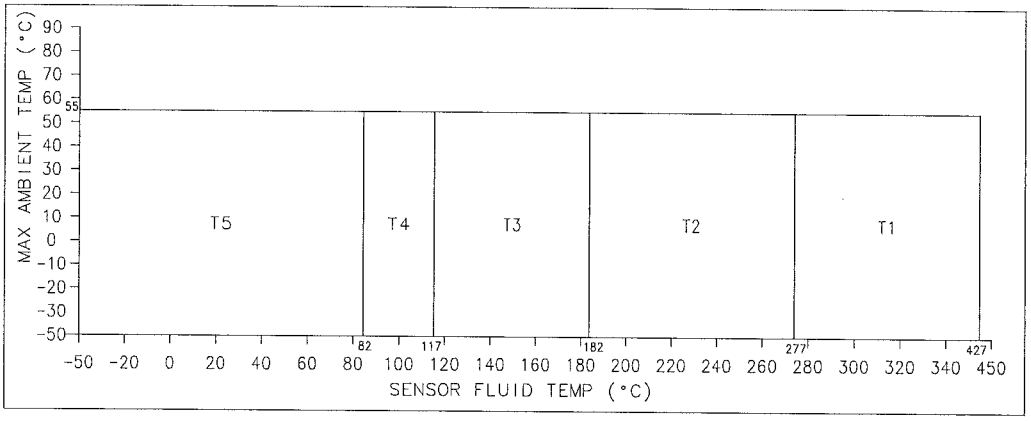


Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature. The maximum surface temperature T for dust is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2: 290 °C and T1: 440 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

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

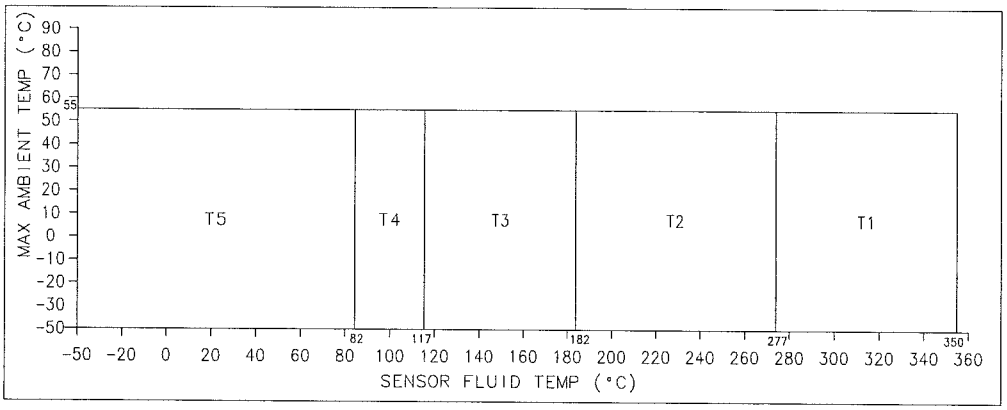
The use of the sensor at higher ambient temperatures is possible, since the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature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

3 Type F***(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
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 F025(A,B)****(C, F)*Z*****C.I.C. A3 or no marking, F050(A,B)****(C, F)*Z*****C.I.C. A3 or no marking and F100(A,B)****(C, F)*Z*****C.I.C. A3 or no marking and F300(A,B)****(C, F)*Z***** without marking with integrally mounted transmitter



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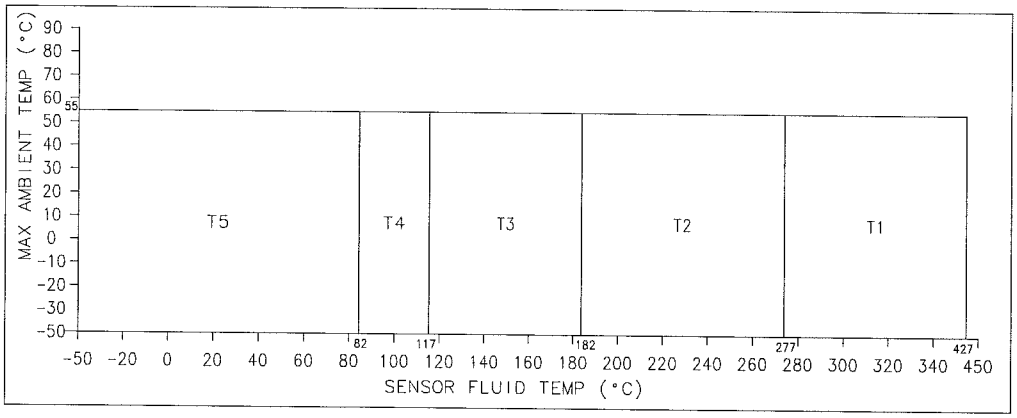
(until 31.03.2007 EXAM BBG Prüf- und Zertifizier GmbH)

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 F025(C,E)****(C, F)*Z***** C.I.C. A3 or no marking, F050(C,E)****(C, F)*Z***** C.I.C. A3 or no marking and F100(C,E)****(C, F)*Z***** C.I.C. A3 or no marking and F300(C,E)****(C, F)*Z***** without 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: 290 °C and T1: 440 °C. The minimum ambient and process fluid temperature allowed for dust is -40 °C.

3.2.3 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:

II 2G
II 2D

with additional marking required by the standards mentioned in the following tables:

Type	Type of protection gas	type of protection dust
F025*****[1]*Z*****	Ex ib IIC T1-T6	Ex tD A21 IP65T [3] °C
F050*****[1]*Z*****	Ex ib IIC T1-T6	Ex tD A21 IP65T [3] °C
F100*****[1]*Z*****	Ex ib IIC T1-T6	Ex tD A21 IP65T [3] °C
F200*****[1]*Z*****	Ex ib IIC T1-T6	Ex tD A21 IP65T [3] °C
F200*****[1]*Z***** C.I.C A1	Ex ib IIC T1-T6	Ex tD A21 IP65T [3] °C
F300*****[1]*Z*****	Ex ib IIB T1-T6	Ex tD A21 IP65T [3] °C
F025 *****I*Z*****	Ex ib IIC T1-T6	
F025 *****I*Z***** C.I.C A2	Ex ib IIC T1-T6	
F050 *****I*Z*****	Ex ib IIC T1-T6	
F050 *****I*Z***** C.I.C A2	Ex ib IIC T1-T6	
F100 *****I*Z*****	Ex ib IIC T1-T6	
F100 *****I*Z***** C.I.C A2	Ex ib IIC T1-T6	

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(until 31.03.2007 EXAM BBG Prüf- und Zertifizier GmbH)

Type	Type of protection gas	type of protection dust
F200 *****I*Z*****	Ex ib IIC T1-T6	
F200 *****I*Z***** C.I.C A2	Ex ib IIC T1-T6	
F025*****[2]*Z*****	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F025*****[2]*Z***** C.I.C A2	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F050*****[2]*Z*****	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F050*****[2]*Z***** C.I.C A2	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F100*****[2] *Z*****	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F100*****[2] *Z***** C.I.C A2	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F200*****[2]*Z*****	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F200*****[2]*Z***** C.I.C A1	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F300*****[2]*Z*****	Ex ib IIB T1-T5	Ex tD A21 IP65T [3] °C
F025[4]**** [2]*Z*****	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F025[4]**** [2]*Z***** C.I.C. A3	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F050[4]**** [2]*Z*****	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F050[4]**** [2]*Z***** C.I.C. A3	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F100[4]**** [2]*Z*****	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F100[4]**** [2]*Z***** C.I.C. A3	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F300[4]**** [2]*Z*****	Ex ib IIB T1-T5	Ex tD A21 IP65T [3] °C

For sensors with J-box connected to non-MVD transmitters (i. e. 9701) is valid:

Type	Type of protection gas	Min. ambient/fluid temp. gas	Type of protection dust
F025*****[1]*Z***** C.I.C A2	Ex ib IIC T1-T6	-68 °C	Ex tD A21 IP65T [3] °C
F050*****[1]*Z***** C.I.C A2	Ex ib IIC T1-T6	-68 °C	Ex tD A21 IP65T [3] °C
F100*****[1]*Z***** C.I.C A2	Ex ib IIC T1-T6	-68 °C	Ex tD A21 IP65T [3] °C
F200*****[1]*Z***** C.I.C A1	Ex ib IIC T1-T6	-90 °C	Ex tD A21 IP65T [3] °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	Type of protection dust
F025*****[1]*Z***** C.I.C A2	Ex ib IIC T1-T6	-83 °C	Ex tD A21 IP65T [3] °C
F050*****[1]*Z***** C.I.C A2	Ex ib IIC T1-T6	-83 °C	Ex tD A21 IP65T [3] °C
F100*****[1]*Z***** C.I.C A2	Ex ib IIC T1-T6	-83 °C	Ex tD A21 IP65T [3] °C
F200*****[1]*Z***** C.I.C A1	Ex ib IIC T1-T6	-138 °C	Ex tD A21 IP65T [3] °C
F025[4]****[1]*Z*****	Ex ib IIC T1-T6	-50 °C	Ex tD A21 IP65T [3] °C
F025[4]****[1]*Z*****C.I.C. A3	Ex ib IIC T1-T6	-50 °C	Ex tD A21 IP65T [3] °C
F050[4]****[1]*Z*****	Ex ib IIC T1-T6	-50 °C	Ex tD A21 IP65T [3] °C
F050[4]****[1]*Z*****C.I.C. A3	Ex ib IIC T1-T6	-50 °C	Ex tD A21 IP65T [3] °C
F100[4]****[1]*Z*****	Ex ib IIC T1-T6	-50 °C	Ex tD A21 IP65T [3] °C
F100[4]****[1]*Z*****C.I.C. A3	Ex ib IIC T1-T6	-50 °C	Ex tD A21 IP65T [3] °C
F300[4]****[1]*Z*****	Ex ib IIB T1-T6	-50 °C	Ex tD A21 IP65T [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.

Special conditions for safe use

Not changed

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(until 31.03.2007 EXAM BBG Prüf- und Zertifizier GmbH)

Test and assessment report
BVS PP 03.2117 EG as of 31.07.2007

DEKRA EXAM GmbH
Bochum, dated 31. July 2007

Signed: Dr. Jockers
Certification body

Signed: Dr. Wittler
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 20070263

DEKRA EXAM GmbH

Certification body

Special services unit

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(until 31.03.2007 EXAM BBG Prüf- und Zertifizier GmbH)

DEKRA

Translation

8th Supplement

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

to the EC-Type Examination Certificate
BVS 03 ATEX E 176 X

Equipment: **Sensor type F**********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:
New versions type F *** ***** (J or U) ******* have been added.
New versions type F *** ***** T ******* have been added.
New versions type F 300 ******* 6***** have been added.
New versions type F 300 ******* Z***** with Construction Identification Code CIC A4 have been added.

The following modifications have also been carried out:
Changed electrical parameters for sensors with junction box.
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 F*** *****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z*****
has been changed to +60°C.

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 F********(R,H,S,T)******* with J-box except type F***(A,B,C,E)****(R,S)*******

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

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Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
F025*****(R,H,S,T)*Z*****	5.83	24.1	988.8	-40°C
F025*****(R,H,S,T)*Z***** CIC A2	7.5	84.95 77.27	569.0 568.83	-68°C -83°C
F050*****(R,H,S,T)*Z*****	5.83	24.1	988.8	-40°C
F050*****(R,H,S,T)*Z***** CIC A2	7.5	84.95 77.27	569.0 568.83	-68°C -83°C
F100*****(R,H,S,T)*Z*****	29.9	262.1	207.7	-40°C
F100*****(R,H,S,T)*Z***** CIC A2	7.5	84.95 77.27	569.0 568.83	-68°C -83°C
F200*****(R,H,S,T)*Z*****	9.4	37.4	148.3	-40°C
F200*****(R,H,S,T)*Z***** CIC A1	9.4	37.4 27.5 18.43	148.3 148.17 148.03	-40°C -90°C -138°C
F300*****(R,H,S,T)*Z*****	11.75	83.5	7.9	-40°C
F300*****(R,H,S,T)*Z***** CIC A4	11.75	57.8	129	-100°C
F300*****(R,H,S,T)*6*****	11.75	57.8	129	-100°C

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 negligible

Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
F025*****(R,H,S,T)*Z*****	6.9	105	0	-40°C
F025*****(R,H,S,T)*Z***** CIC A2	7.5	84.95 77.27	0-569 0-568.83	-68°C -83°C
F050*****(R,H,S,T)*Z*****	6.9	105	0	-40°C
F050*****(R,H,S,T)*Z***** CIC A2	7.5	84.95 77.27	0-569 0-568.83	-68°C -83°C
F100*****(R,H,S,T)*Z*****	6.9	105	0	-40°C
F100*****(R,H,S,T)*Z***** CIC A2	7.5	84.95 77.27	0-569 0-568.83	-68°C -83°C
F200*****(R,H,S,T)*Z*****	23.8	182.5	0	-40°C
F200*****(R,H,S,T)*Z***** CIC A1	12.4	128.4 94.3 63.21	0-569.3 0-568.73 0-568.19	-40°C -90°C -138°C
F300*****(R,H,S,T)*Z*****	12.4	128.4	0-569.3	-40°C
F300*****(R,H,S,T)*Z***** CIC A4	12.4	88.6	0-568.63	-100°C
F300*****(R,H,S,T)*6*****	12.4	88.6	0-568.63	-100°C

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1.3 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		

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]
F300*****(R,H,S,T)*Z*****	N/A	N/A	42.2 to 44.3	-40°C
F300*****(R,H,S,T)*Z***** CIC A4	N/A	N/A	42.2 to 44.3	-100°C
F300*****(R,H,S,T)*6*****	N/A	N/A	42.2 to 44.3	-100°C

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 F025*****(R,H,S,T)*Z***** , F050*****(R,H,S,T)*Z*****, F100*****(R,H,S,T)*Z***** and F200*****(R,H,S,T)*Z***** with J-box,

Not changed

1.4.2 For types F025*****(R,H,S,T)*Z***** and F050*****(R,H,S,T)*Z***** with Construction Identification Code (CIC) marking A2 with J-box connected to non-MVD transmitters (i.e. 9739)

Not changed

1.4.3 For type F100*****(R,H,S,T)*Z***** with Construction Identification Code (CIC) marking A2 with J-box connected to non-MVD transmitters (i.e. 9739)

Not changed

1.4.4 For type F200*****(R,H,S,T)*Z***** with Construction Identification Code (CIC) marking A1 with J-box connected to non-MVD transmitters (i.e. 9739)

Not changed

1.4.5 For types F025*****(R,H,S,T)*Z***** and F050*****(R,H,S,T)*Z***** with Construction Identification Code (CIC) marking A2 with J-box connected to MVD transmitters (i.e. 1700/2700)

Not changed

1.4.6 For type F100*****(R,H,S,T)*Z***** with Construction Identification Code (CIC) marking A2 with J-box connected to MVD transmitters (i.e. 1700/2700)

Not changed

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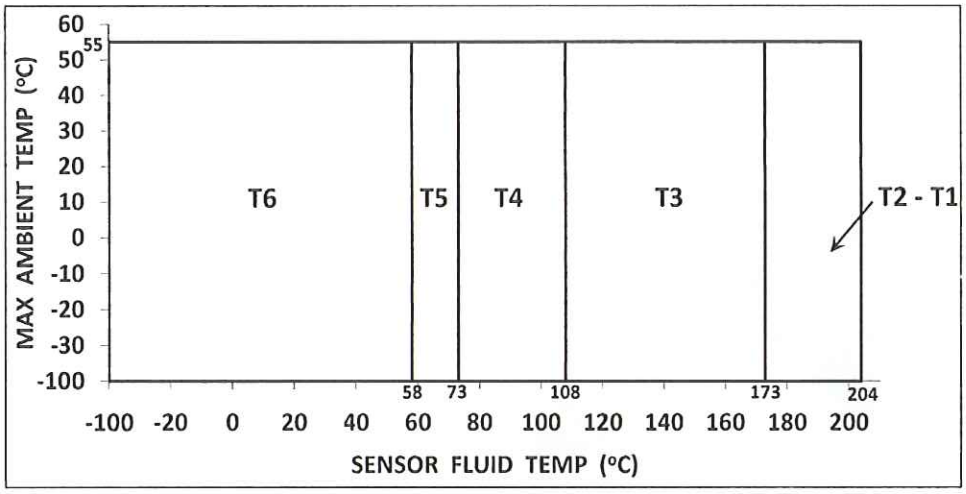
1.4.7 For type F200*****(R,H,S,T)*Z***** with Construction Identification Code (CIC) marking A1 with J-box connected to MVD transmitters (i.e. 1700/2700)

Not changed

1.4.8 For type F300*****(R,H,S,T)*Z***** with J-box connected to MVD transmitters (i.e. 1700/2700)

Not changed

1.4.9 For types F300*****(R,H,S,T)*Z***** with Construction Identification Code (CIC) marking A4 and F300*****(R,H,S,T)*6***** with J-box connected to MVD transmitters (i.e. 1700/2700)



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: 226 °C. The minimum ambient temperature allowed for dust is -40°C.

Ambient temperature range -100 °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 F***(A,B,C,E)****(R,S)*Z*****

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

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Sensor type	Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
F025(A,B,C,E)****(R,S)*Z*****	1.8	19.8	55.3	-50 °C
F025(A,B,C,E)****(R,S)*Z***** C.I.C. A3	0.9	13.5	38.5	-50 °C
F050(A,B,C,E)****(R,S)*Z*****	1.8	19.8	55.3	-50 °C
F050(A,B,C,E)****(R,S)*Z***** C.I.C. A3	0.9	13.5	38.5	-50 °C
F100(A,B,C,E)****(R,S)*Z*****	1.8	19.8	55.3	-50 °C
F100(A,B,C,E)****(R,S)*Z***** C.I.C. A3	0.9	13.5	38.5	-50 °C
F300(A,B,C,E)****(R,S)*Z*****	7.75	54.3	19.8	-50 °C

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]
F025(A,B,C,E)****(R,S)*Z*****	1.8	19.8	0 – 569.2	-50 °C
F025(A,B,C,E)****(R,S)*Z***** C.I.C. A3	0.9	13.5	0 – 569.2	-50 °C
F050(A,B,C,E)****(R,S)*Z*****	1.8	19.8	0 – 569.2	-50 °C
F050(A,B,C,E)****(R,S)*Z***** C.I.C. A3	0.9	13.5	0 – 569.2	-50 °C
F100(A,B,C,E)****(R,S)*Z*****	1.8	19.8	0 – 569.2	-50 °C
F100(A,B,C,E)****(R,S)*Z***** C.I.C. A3	0.9	13.5	0 – 569.2	-50 °C
F300(A,B,C,E)****(R,S)*Z*****	6.5	41.1	0 – 569.2	-50 °C

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		

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]
F025(A,B,C,E)****(R,S)*Z*****	N/A	N/A	42,2 to 44,3	-50°C
F025(A,B,C,E)****(R,S)*Z***** C.I.C. A3	N/A	N/A	42,2 to 44,3	-50°C
F050(A,B,C,E)****(R,S)*Z*****	N/A	N/A	42,2 to 44,3	-50°C
F050(A,B,C,E)****(R,S)*Z***** C.I.C. A3	N/A	N/A	42,2 to 44,3	-50°C
F100(A,B,C,E)****(R,S)*Z*****	N/A	N/A	42,2 to 44,3	-50°C
F100(A,B,C,E)****(R,S)*Z***** C.I.C. A3	N/A	N/A	42,2 to 44,3	-50°C
F300(A,B,C,E)****(R,S)*Z*****	N/A	N/A	42,2 to 44,3	-50°C

2.4 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:

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2.4.1 For types F025(A, B)****(R,S)*Z***** C.I.C. A3 or no marking, F050(A, B)****(R,S)*Z***** C.I.C. A3 or no marking, F100(A, B)****(R,S)*Z***** or no marking C.I.C. A3 and F300(A, B)****(R,S)*Z***** no marking with J-box connected to MVD transmitters

Not changed

2.4.2 For types F025(C, E)****(R,S)*Z***** C.I.C. A3 or no marking, F050(C, E)****(R,S)*Z***** C.I.C. A3 or no marking, F100(C, E)****(R,S)*Z***** C.I.C. A3 or no marking and F300(C, E)****(R,S)*Z***** no marking with J-box connected to MVD transmitters

Not changed

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

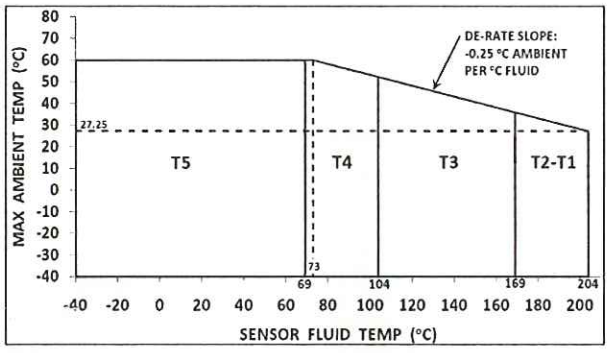
3.1 Input circuits (terminals 1 and 2)

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 is shown in the following graphs:

3.2.1 For types F025*****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z*****, F050*****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z*****, F100*****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z***** and F200*****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z***** no marking



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: 230 °C.

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

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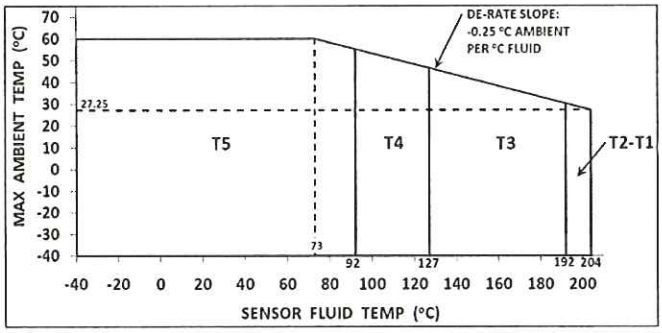
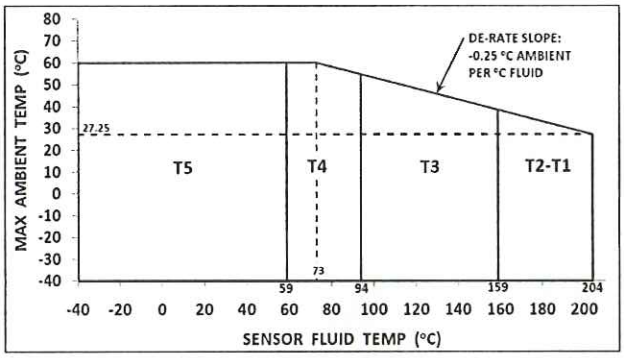
3.2.2 For types F025*****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z***** and F050*****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z***** with Construction Identification Code (CIC) marking A2



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

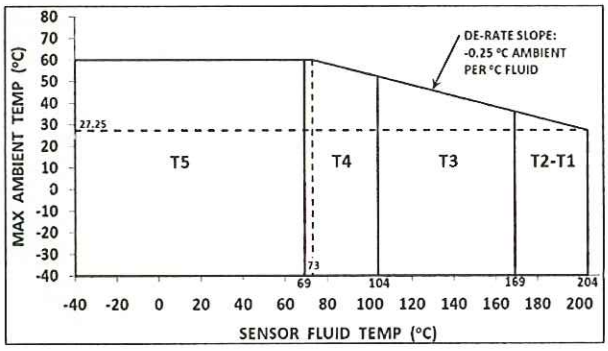
3.2.3 For type F100*****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z***** with Construction Identification Code (CIC) marking A2



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: 240 °C.

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

3.2.4 For type F200*****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z***** with Construction Identification Code (CIC) marking A1



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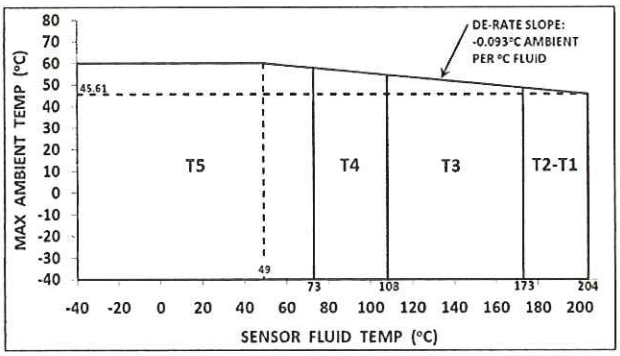
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 230 °C.

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

3.2.5 For types F300*****(2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, Q, V, W, Y)*Z***** with Construction Identification Code (CIC) marking A4 or no marking and F300*****(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 and T1: 226 °C.

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

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

Removed option codes F*** (A, B, C, E)****(4, 5, 8, 9, B, E, V, Y)*Z*****
No other changes.

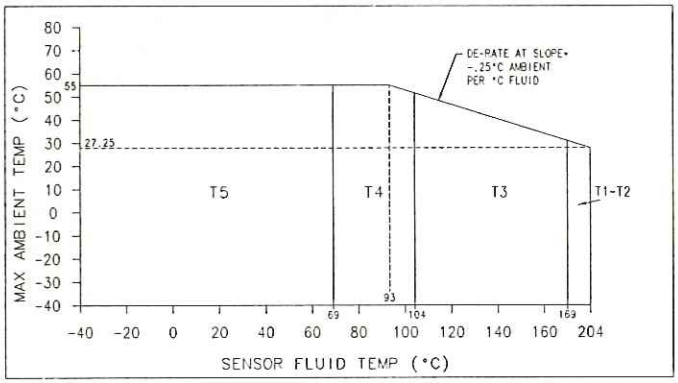
5 Type F*** *****(C, F)*Z*****

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 is shown in the following graphs:

5.2.1 For types F025*****(C,F)*Z*****, F050*****(C,F)*Z*****, F100*****(C,F)*Z***** and F200*****(C,F)*Z***** no marking



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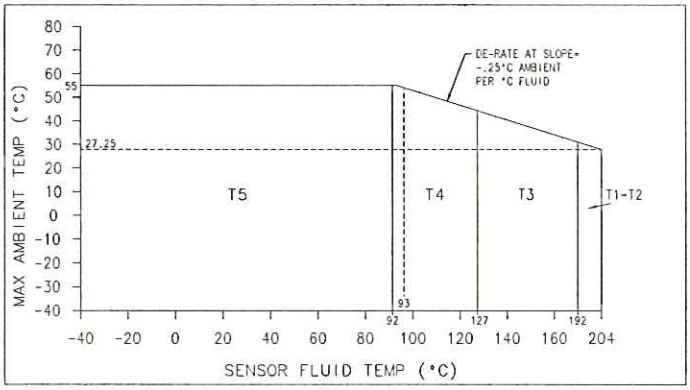
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 230 °C.

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

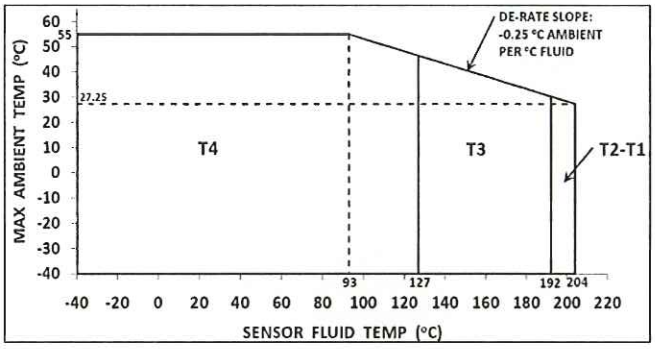
5.2.2 For types F025*****(C,F)*Z***** and F050*****(C,F)*Z***** with Construction Identification Code (CIC) marking A2



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 +55 °C

When used with 1700/2700 Transmitter with Wireless HART Output Option Code "4" (*700*1*4******):



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

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

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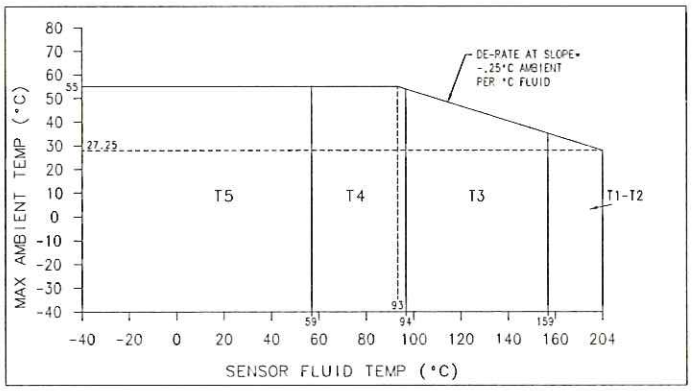
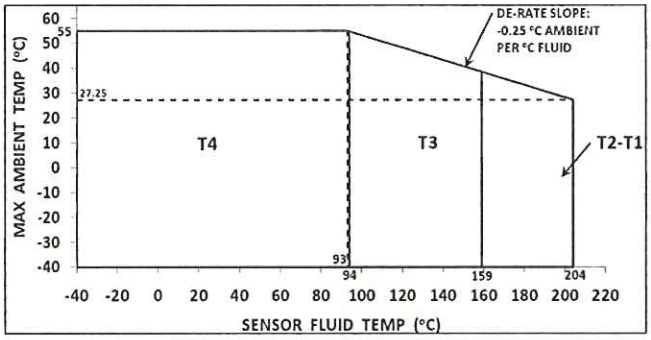
5.2.3 For type F100*****(C,F)*Z***** with Construction Identification Code (CIC) marking A2



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: 240 °C.

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

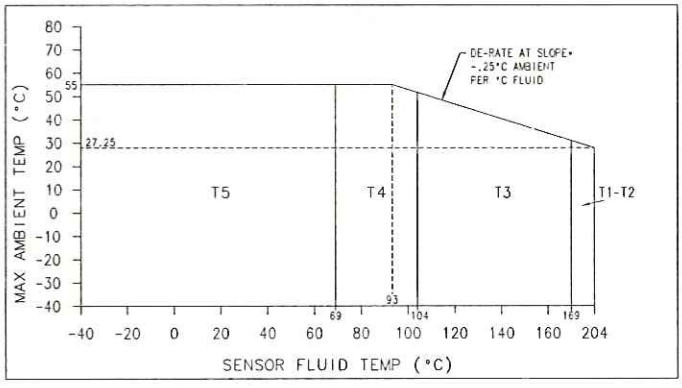
When used with 1700/2700 Transmitter with Wireless HART Output Option Code "4" (*700*1*4******):



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

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

5.2.4 For type F200*****(C,F)*Z***** with Construction Identification Code (CIC) marking A1



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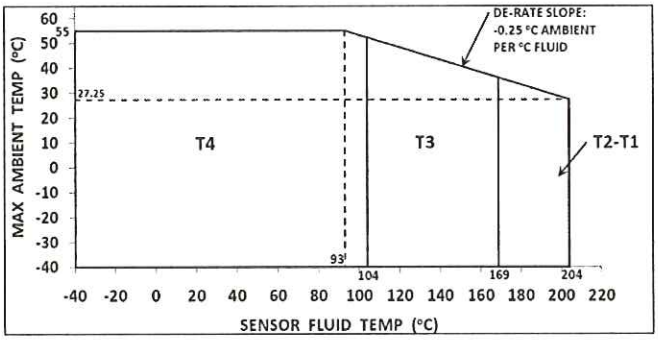
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 and T1: 230 °C.

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

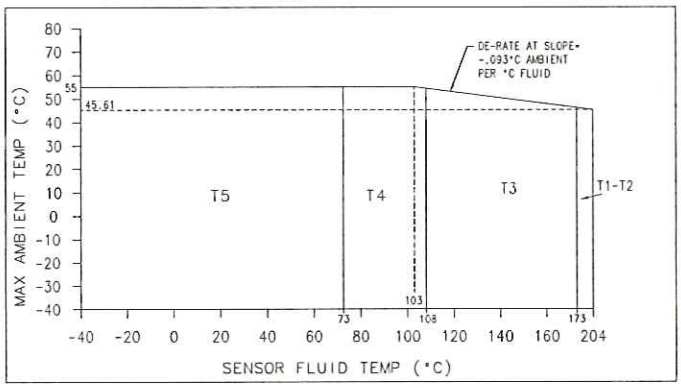
When used with 1700/2700 Transmitter with Wireless HART Output Option Code "4" (*700*1*4******):



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

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

5.2.5 For types F300*****(C,F)*Z***** with Construction Identification Code (CIC) marking A4 or no marking and F300*****(C,F)*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 and T1: 226 °C.

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

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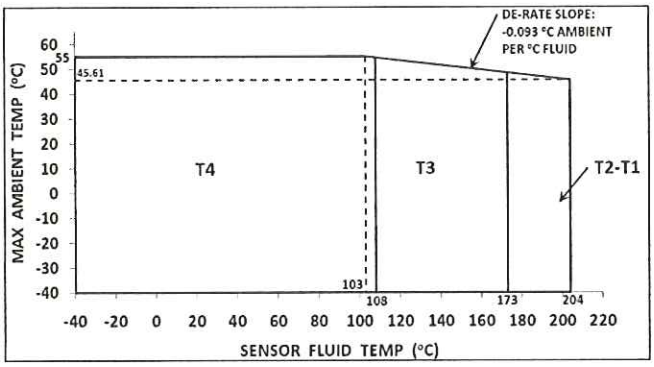
When used with 1700/2700 Transmitter with Wireless HART Output Option Code "4" (*700*1*4******):



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

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

6 Type F***(A,B,C,E)****C*Z*****

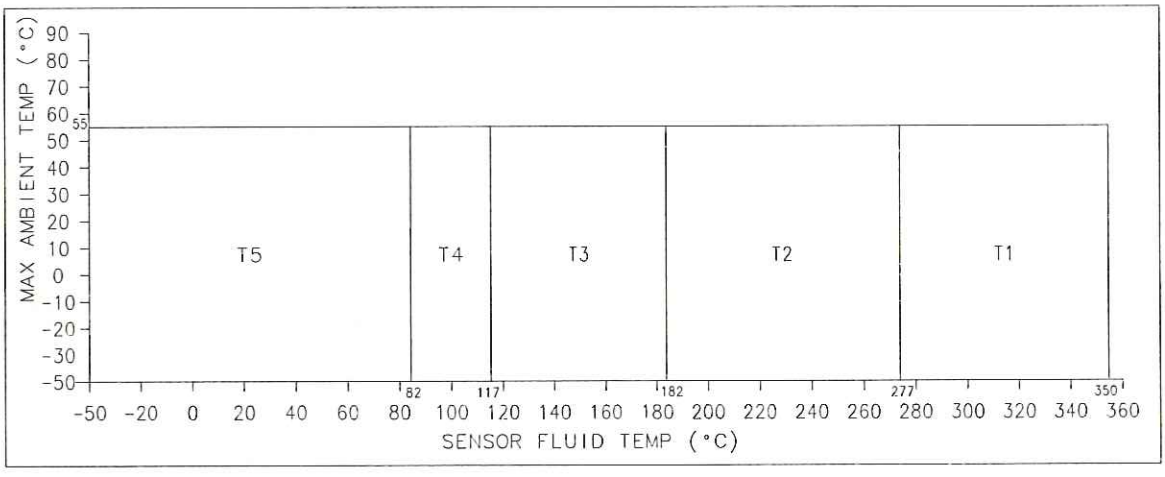
Removed option code F*** (A,B,C,E)****F*Z*****
No other changes.

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 is shown in the following graphs:

6.2.1 For types F025(A, B)****C*Z***** C.I.C. A3 or no marking, F050(A, B)****C*Z***** C.I.C. A3 or no marking, F100(A, B)****C*Z***** or no marking C.I.C. A3 and F300(A, B)****C*Z***** no marking



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 temperature allowed for dust is -40°C.

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

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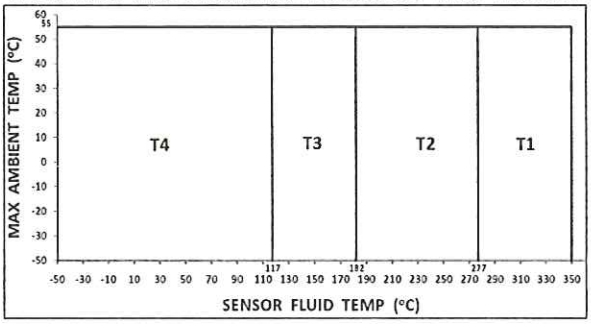
The use of the sensor at higher ambient temperatures is possible, if the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose and provided that the ambient temperature does not exceed the maximum temperature of the medium, taking into account the temperature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

When used with 1700/2700 Transmitter with Wireless HART Output Option Code "4" (*700*1*4******):

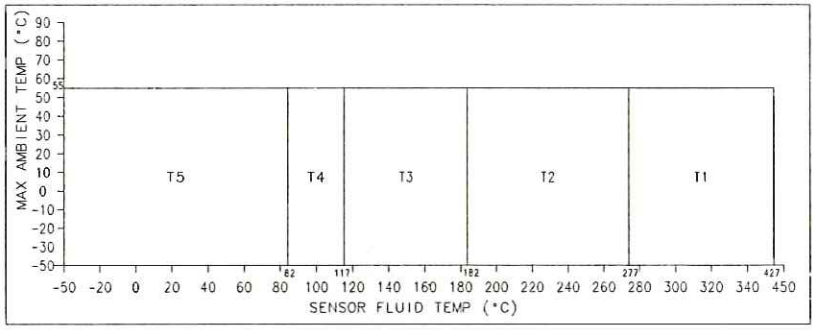


Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.

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

The use of the sensor at higher ambient temperatures is possible, if 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 F025(C, E)****C*Z***** C.I.C. A3 or no marking, F050(C, E)****C*Z***** C.I.C. A3 or no marking, F100(C, E)****C*Z***** or no marking C.I.C. A3 and F300(C, E)****C*Z***** no marking



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 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, if 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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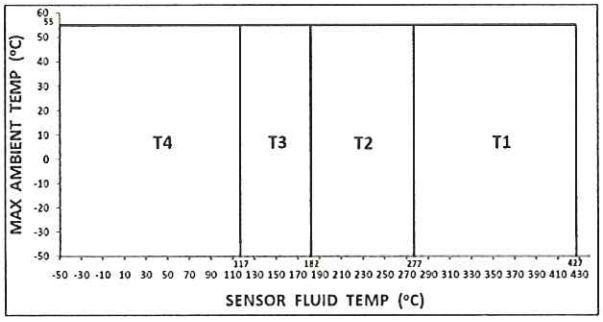
When used with 1700/2700 Transmitter with Wireless HART Output Option Code "4" (*700*1*4******):



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, if 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 Type F********(J,U)******* except type F***(A,B,C,E)****J*******

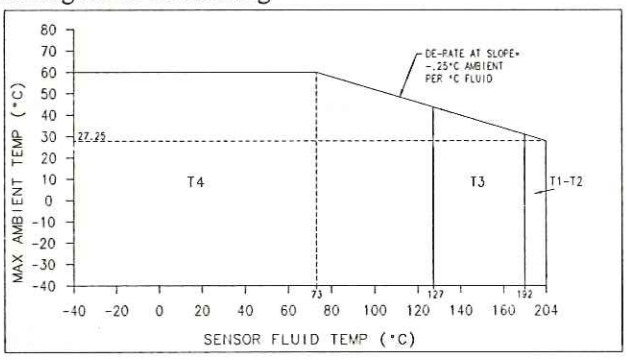
7.1 Input circuits (terminals 1 and 2)

Voltage	Ui	DC	28	V
Current	Ii		120	mA
Power	Pi		0.84	W
Effective internal capacitance	Ci		2200	pF
Effective internal inductance	Li		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 graphs:

7.2.1 For types F025*****(J,U)*Z***** and F050*****(J,U)*Z***** with Construction Identification Code (CIC) marking A2 or no marking



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 and T1: 207 °C.

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

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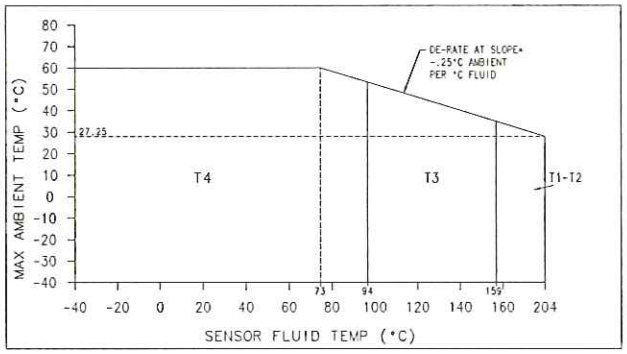
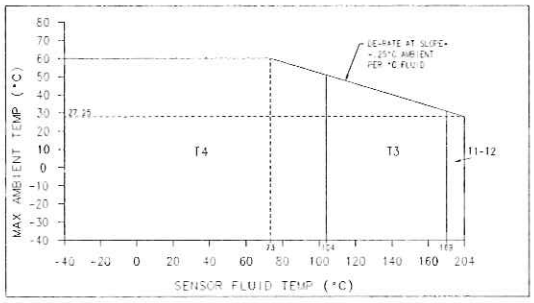
7.2.2 For type F100*****(J,U)*Z***** with Construction Identification Code (CIC) marking A2 or no marking



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 and T1: 240 °C.

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

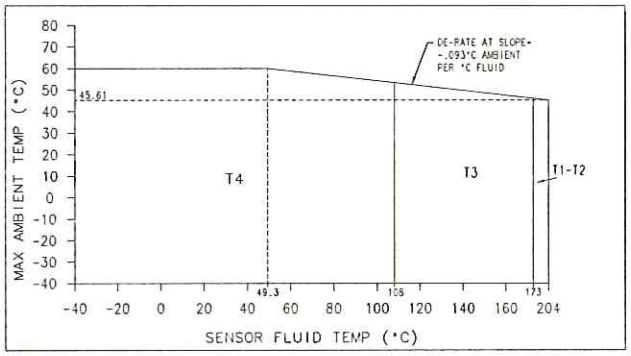
7.2.3 For type F200*****(J,U)*Z***** with Construction Identification Code (CIC) marking A1 or no marking



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 and T1: 230 °C.

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

7.2.4 For types F300*****(J,U)*Z***** with Construction Identification Code (CIC) marking A4 or no marking and F300*****(J,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 and T1: 226 °C.

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

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8 Type F***(A,B,C,E)****J*Z*****

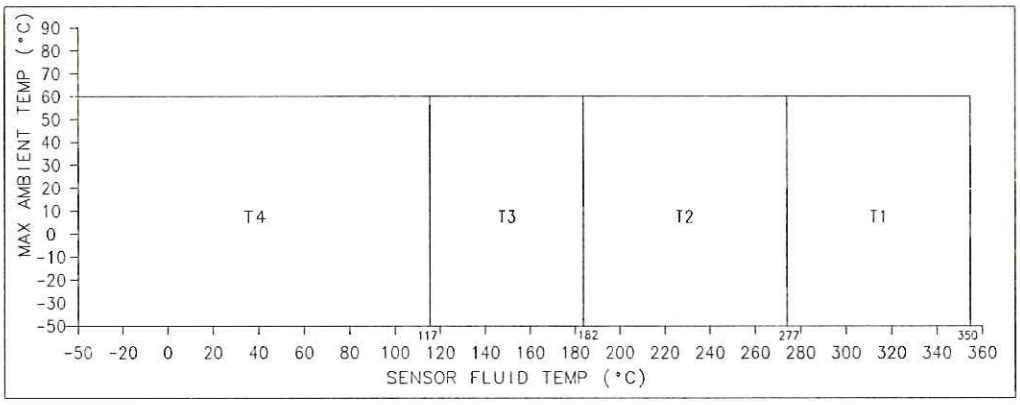
8.1 Input circuits (terminals 1 and 2)

Voltage	Ui	DC	28	V
Current	Ii		120	mA
Power	Pi		0.84	W
Effective internal capacitance	Ci		2200	pF
Effective internal inductance	Li		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 graphs:

8.2.1 For types F025(A, B)****J*Z***** C.I.C. A3 or no marking, F050(A, B)****J*Z***** C.I.C. A3 or no marking, F100(A, B)****J*Z***** or no marking C.I.C. A3 and F300(A, B)****J*Z***** no marking



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 and T1: 363 °C.
The minimum ambient temperature allowed for dust is -40°C.

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

The use of the sensor at higher ambient temperatures is possible, if 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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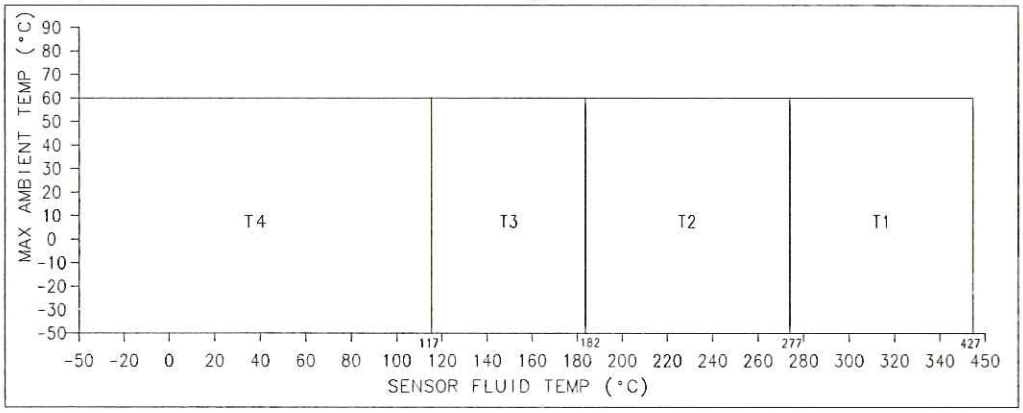
8.2.2 For types F025(C, E)****J*Z***** C.I.C. A3 or no marking, F050(C, E)****J*Z***** C.I.C. A3 or no marking, F100(C, E)****J*Z***** C.I.C. A3 or no marking and F300(C, E)****J*Z***** no marking



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 and T1: 440 °C. The minimum ambient temperature allowed for dust is -40°C.

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

The use of the sensor at higher ambient temperatures is possible, if 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.

9 Type F*** *****I *Z***** except F300 *******Z*****, F025 (A,B,C,E) ******Z*****, F050 (A,B,C,E) ******Z*****, F100 (A,B,C,E) ******Z***** and F300 (A,B,C,E) ******Z*****.

Not changed

The marking of the equipment shall include the following:

II 2G
II 2D with additional marking required by the standards mentioned in the following tables:

Type	Type of protection gas	Type of protection dust
F025*****[1]*Z*****	Ex ib IIC T1-T6	Ex tD A21 IP65T [3] °C
F050*****[1]*Z*****	Ex ib IIC T1-T6	Ex tD A21 IP65T [3] °C
F100*****[1]*Z*****	Ex ib IIC T1-T6	Ex tD A21 IP65T [3] °C
F200*****[1]*Z*****	Ex ib IIC T1-T6	Ex tD A21 IP65T [3] °C
F200*****[1]*Z***** C.I.C A1	Ex ib IIC T1-T6	Ex tD A21 IP65T [3] °C
F300*****[1]*Z*****	Ex ib IIB T1-T6	Ex tD A21 IP65T [3] °C
F300*****[1]*Z***** C.I.C A4	Ex ib IIC T1-T6	Ex tD A21 IP65T [3] °C
F300*****[1]*6*****	Ex ib IIC T1-T6	Ex tD A21 IP65T [3] °C
F025 *****I*Z*****	Ex ib IIC T1-T6	
F025 *****I*Z***** C.I.C A2	Ex ib IIC T1-T6	
F050 *****I*Z*****	Ex ib IIC T1-T6	
F050 *****I*Z***** C.I.C A2	Ex ib IIC T1-T6	
F100 *****I*Z*****	Ex ib IIC T1-T6	
F100 *****I*Z***** C.I.C A2	Ex ib IIC T1-T6	
F200 *****I*Z*****	Ex ib IIC T1-T6	

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Type	Type of protection gas	Type of protection dust
F200 *****I*Z***** C.I.C A1	Ex ib IIC T1-T6	
F025*****[2]*Z*****	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F025*****[2]*Z***** C.I.C A2	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F050*****[2]*Z*****	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F050*****[2]*Z***** C.I.C A2	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F100*****[2] *Z*****	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F100*****[2] *Z***** C.I.C A2	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F200*****[2]*Z*****	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F200*****[2]*Z***** C.I.C A1	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F300*****[2]*Z*****	Ex ib IIB T1-T5	Ex tD A21 IP65T [3] °C
F300*****[2]*Z***** C.I.C A4	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F300*****[2]*6*****	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F025[4]****[2]*Z*****	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F025[4]****[2]*Z***** C.I.C. A3	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F050[4]****[2]*Z*****	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F050[4]****[2]*Z***** C.I.C. A3	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F100[4]****[2]*Z*****	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F100[4]****[2]*Z***** C.I.C. A3	Ex ib IIC T1-T5	Ex tD A21 IP65T [3] °C
F300[4]****[2]*Z*****	Ex ib IIB T1-T5	Ex tD A21 IP65T [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
F025*****[1]*Z***** C.I.C A2	Ex ib IIC T1-T6	-68 °C	Ex tD A21 IP65T [3] °C
F050*****[1]*Z***** C.I.C A2	Ex ib IIC T1-T6	-68 °C	Ex tD A21 IP65T [3] °C
F100*****[1]*Z***** C.I.C A2	Ex ib IIC T1-T6	-68 °C	Ex tD A21 IP65T [3] °C
F200*****[1]*Z***** C.I.C A1	Ex ib IIC T1-T6	-90 °C	Ex tD A21 IP65T [3] °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	Type of protection dust
F025*****[1]*Z***** C.I.C A2	Ex ib IIC T1-T6	-83 °C	Ex tD A21 IP65T [3] °C
F050*****[1]*Z***** C.I.C A2	Ex ib IIC T1-T6	-83 °C	Ex tD A21 IP65T [3] °C
F100*****[1]*Z***** C.I.C A2	Ex ib IIC T1-T6	-83 °C	Ex tD A21 IP65T [3] °C
F200*****[1]*Z***** C.I.C A1	Ex ib IIC T1-T6	-138 °C	Ex tD A21 IP65T [3] °C
F300*****[1]*Z*****	Ex ib IIB T1-T6	-40 °C	Ex tD A21 IP65T [3] °C
F300*****[1]*Z***** C.I.C A4	Ex ib IIC T1-T6	-100 °C	Ex tD A21 IP65T [3] °C
F300*****[1]*6*****	Ex ib IIC T1-T6	-100 °C	Ex tD A21 IP65T [3] °C
F025[4]****[1]*Z*****	Ex ib IIC T1-T6	-50 °C	Ex tD A21 IP65T [3] °C
F025[4]****[1]*Z*****C.I.C. A3	Ex ib IIC T1-T6	-50 °C	Ex tD A21 IP65T [3] °C
F050[4]****[1]*Z*****	Ex ib IIC T1-T6	-50 °C	Ex tD A21 IP65T [3] °C
F050[4]****[1]*Z*****C.I.C. A3	Ex ib IIC T1-T6	-50 °C	Ex tD A21 IP65T [3] °C
F100[4]****[1]*Z*****	Ex ib IIC T1-T6	-50 °C	Ex tD A21 IP65T [3] °C
F100[4]****[1]*Z*****C.I.C. A3	Ex ib IIC T1-T6	-50 °C	Ex tD A21 IP65T [3] °C
F300[4]****[1]*Z*****	Ex ib IIB T1-T6	-50 °C	Ex tD A21 IP65T [3] °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.

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Special conditions for safe use

By mounting the sensor directly to the 2200S transmitter the use of the unit will be modified according to the following table:

Sensor type	F025*****(J,U)*Z***** F025*****(J,U)*Z***** CIC A2 F050*****(J,U)*Z***** F050*****(J,U)*Z***** CIC A2 F100*****(J,U)*Z***** F100*****(J,U)*Z***** CIC A2 F200*****(J,U)*Z***** F200*****(J,U)*Z***** CIC A1 F300*****(J,U)*Z***** CIC A4 F300*****(J,U)*6***** F025(A,B,C,E) ****J*Z***** F050(A,B,C,E) ****J*Z***** F100(A,B,C,E) ****J*Z***** F025(A,B,C,E) ****J*Z***** CIC A3 F050(A,B,C,E) ****J*Z***** CIC A3 F100(A,B,C,E) ****J*Z***** CIC A3	F300*****(J,U)*Z***** F300(A,B,C,E) ****J*Z*****
Transmitter type 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
Transmitter type 2200S*(5,6)*1*Z****	Ex ib IIC T1-T4	Ex ib IIB T1-T4

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

By mounting the sensor directly to the *700 transmitter the use of the unit will be modified according to the following table:

Sensor type	F025*****(C,F)*Z***** F025*****(C,F)*Z***** CIC A2 F050*****(C,F)*Z***** F050*****(C,F)*Z***** CIC A2 F100*****(C,F)*Z***** F100*****(C,F)*Z***** CIC A2 F200*****(C,F)*Z***** F200*****(C,F)*Z***** CIC A1 F300*****(C,F)*Z***** CIC A4 F300*****(C,F)*6***** F025(A,B,C,E)****C*Z***** F050(A,B,C,E)****C*Z***** F100(A,B,C,E)****C*Z***** F025(A,B,C,E)****C*Z***** CIC A3 F050(A,B,C,E)****C*Z***** CIC A3 F100(A,B,C,E) ****C*Z***** CIC A3	F300*****(C,F)*Z***** F300(A,B,C,E)****C*Z*****
Transmitter type *700*1(1,2)*******	Ex ib IIB+H_2 T1-5 Ex tD A21 IP 65 T [1] °C	Ex ib IIB T1-5 Ex tD A21 IP 65 T [1] °C
Transmitter type *700*1(3,4,5)*******	Ex ib IIC T1-5 Ex tD A21 IP 65 T [1] °C	Ex ib IIB T1-5 Ex tD A21 IP 65 T [1] °C
Transmitter type *700*1(1,2)D******	Ex ib IIB+H_2 T1-5 Ex tD A21 IP 65 T [1] °C	Ex ib IIB T1-5 Ex tD A21 IP 65 T [1] °C
Transmitter type *700*1(3,4,5)D******	Ex ib IIC T1-5 Ex tD A21 IP 65 T [1] °C	Ex ib IIB T1-5 Ex tD A21 IP 65 T [1] °C
Transmitter type 2700*1(1,2)(E,G)******	Ex ib IIB+H_2 T1-5 Ex tD A21 IP 65 T [1] °C	Ex ib IIB T1-5 Ex tD A21 IP 65 T [1] °C

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Transmitter type 2700*1(3,4,5)(E,G)******	Ex ib IIC T1-5 Ex tD A21 IP 65 T [1] °C	Ex ib IIB T1-5 Ex tD A21 IP 65 T [1] °C
Transmitter type *700*1(1,2)4******	Ex ib IIB+H_2 T1-4	Ex ib IIB T1-4
Transmitter type *700*1(3,4,5)4******	Ex ib IIC T1-4	Ex ib IIB T1-4

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

Test and assessment report

BVS PP 03.2117 EG as of 04.11.2009

DEKRA EXAM GmbH
Bochum, dated 04. November 2009

Signed: Simanski
Certification body

Signed: Dr. Wittler
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, 04.11 2009
BVS-Schu/Her A 20090521

DEKRA EXAM GmbH

Certification body

Special services unit

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(until 31.03.2007 EXAM BBG Prüf- und Zertifizier GmbH)

DEKRA

DEKRA EXAM GmbH · Postfach 10 27 48 · 44727 Bochum

Micro Motion, Inc.
7070 Winchester Circle
Boulder, Co. 80301
USA

DEKRA EXAM GmbH
Certification Body
Dinnendahlstraße 9
44809 Bochum, Germany
Telefon +49.234.3696-105
Telefax +49.234.3696-110

Contact	Dipl.-Ing. Günther Schumann
Phone	+49.234.3696-358
Fax	+49.234.3696-300
E-Mail	guenther.schumann@dekra.com
Date	10.03.2011

Our reference:	BVS-Schu/Her	A 20110054
Your sign:	H. van Holland	
Your reference:	21.01.2011	

Dear Sir or Madame,

we added the Revision Report as of 10.03.2011 to the Test and Assessment Report BVS PP 03.2117 EG.

We confirm, that the Certificate

BVS 03 ATEX E 176 X as of 30.06.2003, last modification as of 04.11.2009

is still valid.

Yours sincerely
DEKRA EXAM GmbH

i.V. Christian Simanski i.V. Dr. Michael Wittler

Christian Simanski Dr. Michael Wittler

Enclosures

DEKRA

DEKRA EXAM GmbH · Postfach 10 27 48 · 44727 Bochum

Micro Motion, Inc.
7070 Winchester Circle
Boulder, Co.

USA

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Certification Body
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Contact	Dipl.-Ing. Günther Schumann
Phone	+49.234.3696-358
Fax	+49.234.3696-300
E-Mail	guenther.schumann@dekra.com
Date	17.06.2011

Our reference:	BSV-Schu/Sch A 20110443
Your sign:	H. van Holland
Your reference:	11.05.2011

Dear Sir or Madame,

We added the Revision Report as of 17.06.2011 to the Test and Assessment Report BVS PP 03.2117 EG.

We confirm, that the Certificate

BVS 03 ATEX E 176 X as of 30.06.2003, last modification as of 04.11.2009

is still valid.

Yours sincerely
DEKRA EXAM GmbH

i.V. Christian Simanski

i.V. Dr. Franz Eickhoff

Enclosures Revision Report
Descriptive documents

Translation

(1) # 9. 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 03 ATEX E 176 X**

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

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

(6) Address: **7070 Winchester Circle, 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 03.2117 EG.

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

EN 60079-0:2012 General requirements
EN 60079-11:2012 Intrinsic safety "i"

(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:

II 2G
II 2D Ex ib IIIC T* °C Db IP66 See cl. 15.3.9

DEKRA EXAM GmbH
Bochum, dated 31st July 2013

Signed: Dr. Eickhoff
Certification body

Signed: Dr. Wittler
Special services unit

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(13) Appendix to

(14) **9. Supplement to the EC-Type Examination Certificate**
BVS 03 ATEX E 176 X

(15) 15.1 Subject and type

Sensor type F**********

15.2 Description

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

Some temperature graphs have been modified.
The series resistors for the drive coil of types F025, F050 and F100 have been modified.
A modified junction box can be used.

Also the sensor has been assessed in acc. with the actual standard versions; a modified marking is the result.

15.3 Parameters

15.3.1 Type F********(R,H,S,T)******* with J-box except type F***(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]
F025*****(R,H,S,T)*Z*****	IIC	5.83	24.1	988.8	-40°C
F025*****(R,H,S,T)*Z***** CIC A2	IIC	7.5	68.57	568.63	-100°C
F050*****(R,H,S,T)*Z*****	IIC	5.83	24.1	988.8	-40°C
F050*****(R,H,S,T)*Z***** CIC A2	IIC	7.5	68.57	568.63	-100°C
F100*****(R,H,S,T)*Z*****	IIC	29.9	262.1	207.7	-40°C
F100*****(R,H,S,T)*Z***** CIC A2	IIC	7.5	84.95 77.27	71.12 71.1	-68°C -83°C
F200*****(R,H,S,T)*Z*****	IIC	9.4	37.4	148.3	-40°C
F200*****(R,H,S,T)*Z***** CIC A1	IIC	9.4	27.5 25.4	148.17 148.14	-90°C -100°C
F300*****(R,H,S,T)*Z*****	IIB	11.75	83.5	7.9	-40°C
F300*****(R,H,S,T)*Z***** CIC A4	IIC	11.75	57.8	129	-100°C
F300*****(R,H,S,T)*6*****	IIC	11.75	57.8	129	-100°C

15.3.1.2 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		negligible		

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Sensor type		Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
F025*****(R,H,S,T)*Z*****	IIC	6.9	105	0	-40°C
F025*****(R,H,S,T)*Z***** CIC A2	IIC	7.5	68.57	0-568.83	-100°C
F050*****(R,H,S,T)*Z*****	IIC	6.9	105	0	-40°C
F050*****(R,H,S,T)*Z***** CIC A2	IIC	7.5	68.57	0-568.83	-100°C
F100*****(R,H,S,T)*Z*****	IIC	6.9	105	0	-40°C
F100*****(R,H,S,T)*Z***** CIC A2	IIC	7.5	84.95 77.27	0-569 0-568.83	-68°C -83°C
F200*****(R,H,S,T)*Z*****	IIC	23.8	182.5	0	-40°C
F200*****(R,H,S,T)*Z***** CIC A1	IIC	12.4	94.3 88.6	0-568.73 0-568.63	-90°C -100°C
F300*****(R,H,S,T)*Z*****	IIB	12.4	128.4	0-569.3	-40°C
F300*****(R,H,S,T)*Z***** CIC A4	IIC	12.4	88.6	0-568.63	-100°C
F300*****(R,H,S,T)*6*****	IIC	12.4	88.6	0-568.63	-100°C

15.3.1.3 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]
F300*****(R,H,S,T)*Z*****	N/A	N/A	42.2 to 44.3	-40°C
F300*****(R,H,S,T)*Z***** CIC A4	N/A	N/A	42.2 to 44.3	-100°C
F300*****(R,H,S,T)*6*****	N/A	N/A	42.2 to 44.3	-100°C

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 graphs:

15.3.1.4.1

Sensor type	
F025*****(R,H,S,T)*Z*****	IIC
F050*****(R,H,S,T)*Z*****	IIC
F100*****(R,H,S,T)*Z*****	IIC
F200*****(R,H,S,T)*Z*****	IIC

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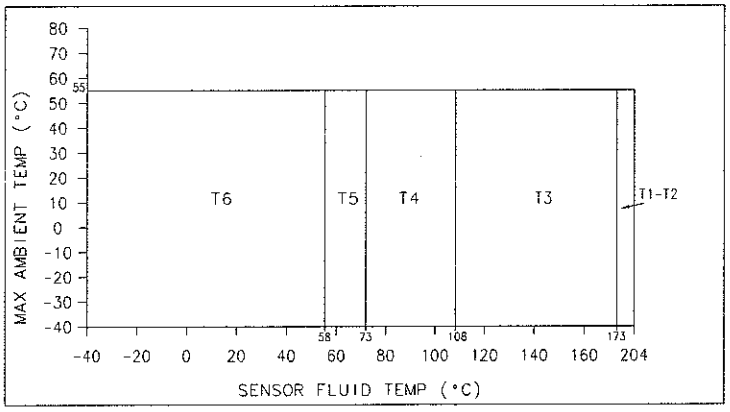
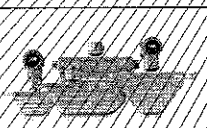


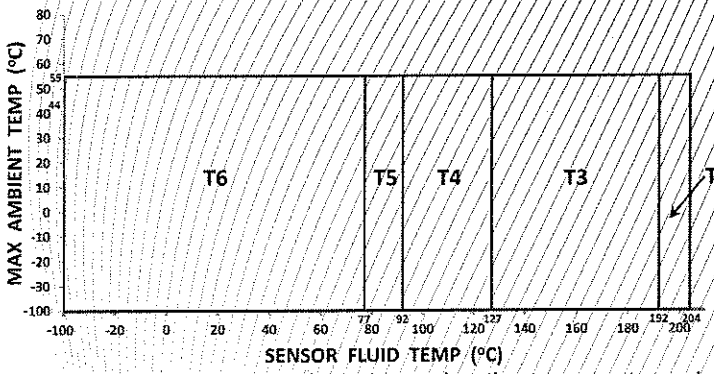
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: T80 °C, T5: T95 °C, T4: T130 °C, T3: T195 °C, T2 and T1: T226 °C.
The minimum ambient temperature allowed for dust is -40°C.

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.

15.3.1.4.2

Sensor type		
F025*****(R,H,S,T)*Z***** CIC A2	IIC	Connected to non MVD transmitters, e.g. IFT9701, RFT9739
F050*****(R,H,S,T)*Z***** CIC A2	IIC	



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: T80 °C, T5: T95 °C, T4: T130 °C, T3: T195 °C, T2 and T1: T207 °C.
The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range Ta -100 °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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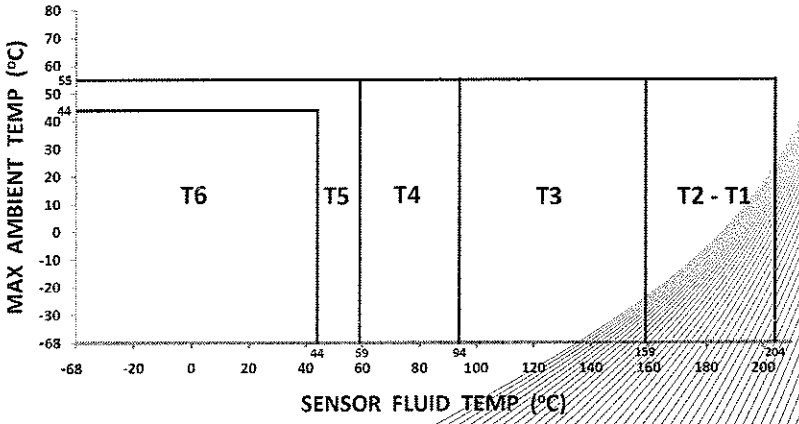
15.3.1.4.3

Sensor type		
F100*****(R,H,S,T)*Z***** CIC A2	IIC	Connected to non MVD transmitters. e.g. IFT9701, RFT9739

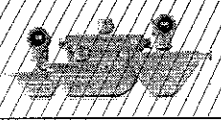


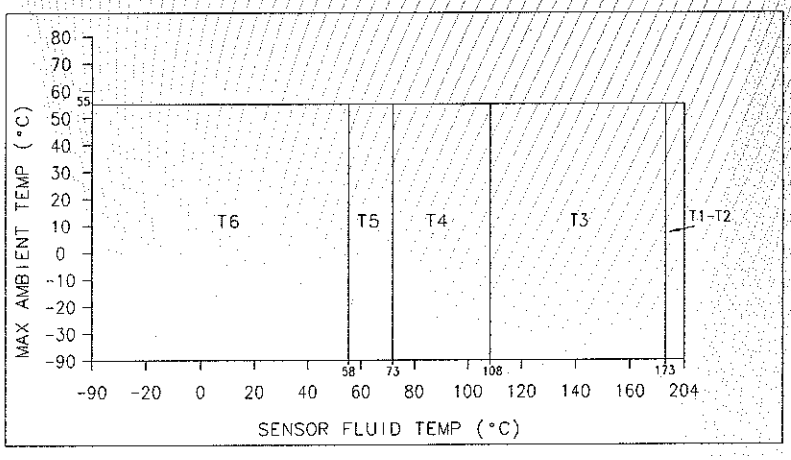
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: T80 °C, T5: T95 °C, T4: T130 °C, T3: T195 °C, T2 and T1: T240 °C. The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range Ta -68 °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

Sensor type		
F200*****(R,H,S,T)*Z***** CIC A1	IIC	Connected to non MVD transmitters. e.g. IFT9701, RFT9739



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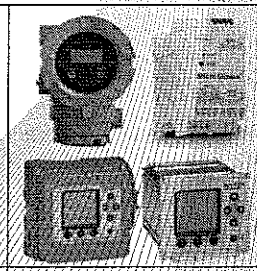
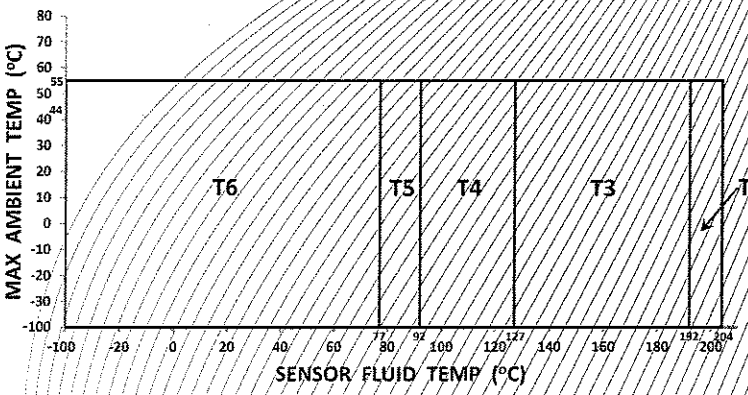
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: T80 °C, T5: T95 °C, T4: T130 °C, T3: T195 °C, T2 and T1: 226 °C.
The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range Ta -90 °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

Sensor type		
F025*****(R,H,S,T)*Z***** CIC A2	IIC	Connected to MVD transmitter, e.g. 1000/2000/3000MVD series
F050*****(R,H,S,T)*Z***** CIC A2	IIC	



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: T80 °C, T5: T95 °C, T4: T130 °C, T3: T195 °C, T2 and T1: 207 °C.
The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range Ta -100 °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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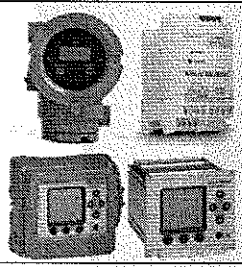
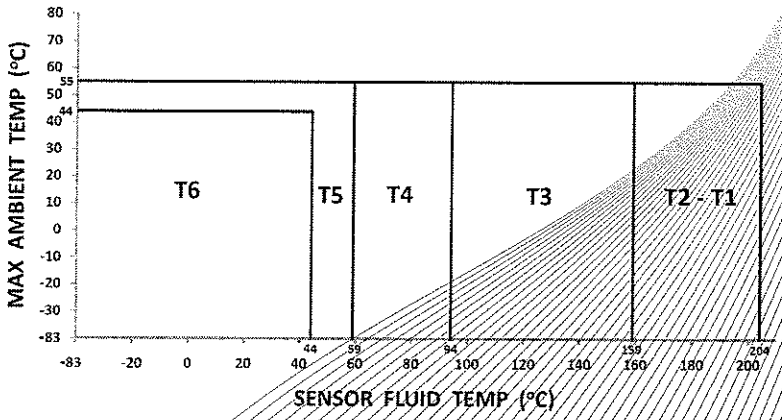
15.3.1.4.6

Sensor type		
F100*****(R,H,S,T)*Z***** CIC A2	IIC	Connected to MVD transmitter. e.g. 1000/2000/3000MVD series

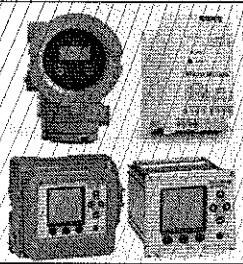


Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: T80 °C, T5: T95 °C, T4: T130 °C, T3: T195 °C, T2 and T1: T240 °C.
The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range Ta -83 °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.

15.3.1.4.7

Sensor type		
F200*****(R,H,S,T)*Z***** CIC A1	IIC	Connected to MVD transmitter. e.g. 1000/2000/3000MVD series

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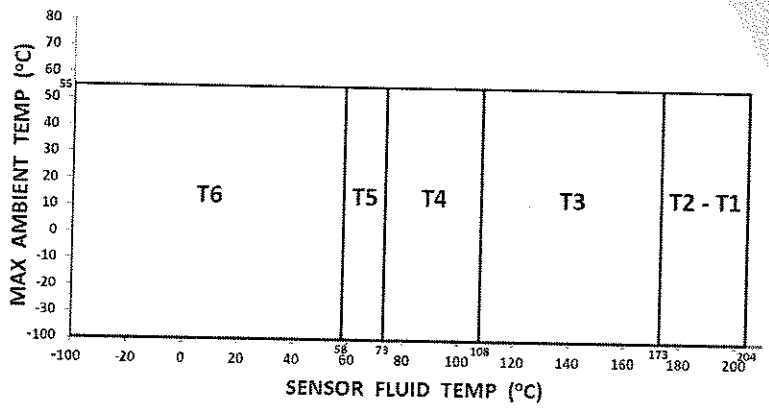
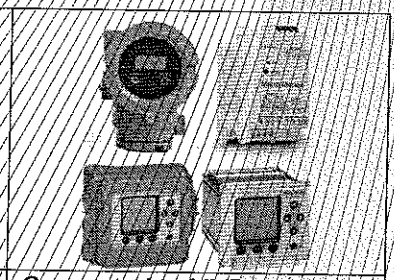


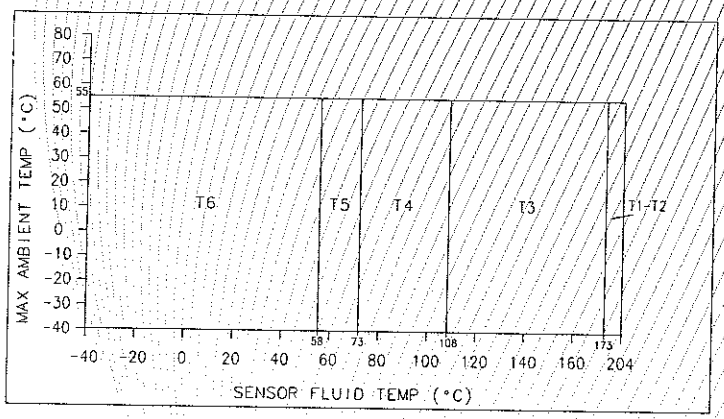
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: T80 °C, T5: T95 °C, T4: T130 °C, T3: T195 °C, T2 and T1: T226 °C.
The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range Ta -100 °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.

15.3.1.4.8

Sensor type		
F300*****(R,H,S,T)*Z*****	IIB	Connected to MVD transmitter 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: T80 °C, T5: T95 °C, T4: T130 °C, T3: T195 °C, T2 and T1: T226 °C.
The minimum ambient temperature allowed for dust is -40 °C.

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

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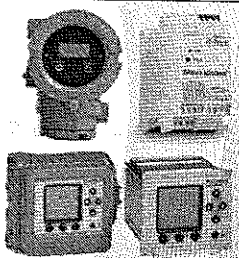
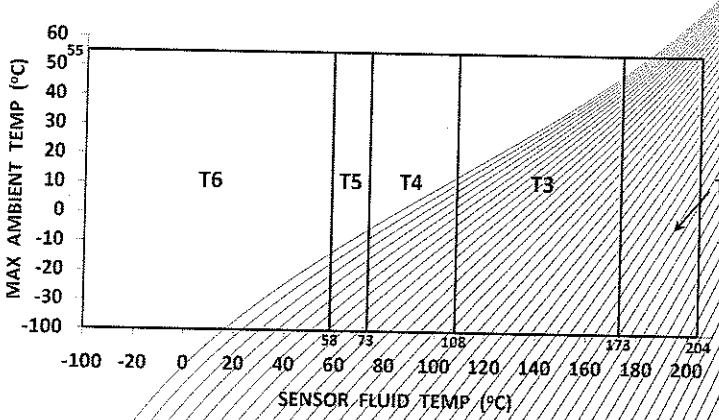
The use of the sensor at higher ambient temperatures is possible. provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.

15.3.1.4.9

Sensor type		
F300*****(R,H,S,T)*Z***** CIC A4	IIC	Connected to MVD transmitter. e.g. 1000/2000/3000MVD series
F300*****(R,H,S,T)*6*****	IIC	



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: T80 °C, T5: T95 °C, T4: T130 °C, T3: T195 °C, T2 and T1: T226 °C.
The minimum ambient temperature allowed for dust is -40 °C.

Ambient temperature range Ta -100 °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 All sensors listed in cl. 15.3.1 can also be executed with the alternate junction box assembly type 800/2400 Splined J-Box covered in BVS 09 ATEX E 071 U.

15.3.2 Type F***(A,B,C,E)****(R,S)*Z*****

15.3.2.1 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

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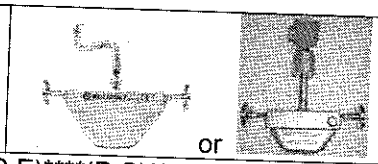
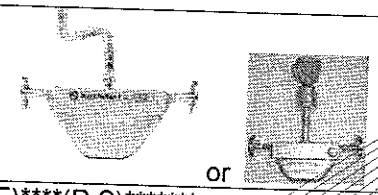
Sensor type  or		Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
F025(A,B,C,E)****(R,S)*******	IIC	1.8	19.8	55.3	-50
F025(A,B,C,E)****(R,S)******* CIC A3	IIC	0.9	13.5	38.5	-50
F050(A,B,C,E)****(R,S)*******	IIC	1.8	19.8	55.3	-50
F050(A,B,C,E)****(R,S)******* CIC A3	IIC	0.9	13.5	38.5	-50
F100(A,B,C,E)****(R,S)*******	IIC	1.8	19.8	55.3	-50
F100(A,B,C,E)****(R,S)******* CIC A3	IIC	0.9	13.5	38.3	-50
F300(A,B,C,E)****(R,S)*******	IIB	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	Ui	DC	21.13	V
current	Ii		18.05	mA
power	Pi		45	mW
effective internal capacitance			negligible	

Sensor type  or		Inductance [mH]	Coil resistance [Ω]	Serial resistor [Ω]	Minimum Ambient/Fluid Temperature [°C]
F025(A,B,C,E)****(R,S)*******	IIC	1.8	19.8	0-569.2	-50
F025(A,B,C,E)****(R,S)******* CIC A3	IIC	0.9	13.5	0-569.2	-50
F050(A,B,C,E)****(R,S)*******	IIC	1.8	19.8	0-569.2	-50
F050(A,B,C,E)****(R,S)******* CIC A3	IIC	0.9	13.5	0-569.2	-50
F100(A,B,C,E)****(R,S)*******	IIC	1.8	19.8	0-569.2	-50
F100(A,B,C,E)****(R,S)******* CIC A3	IIC	0.9	13.5	0-569.2	-50
F300(A,B,C,E)****(R,S)*******	IIB	6.5	41.1	0-569.2	-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]
F025(A,B,C,E)****(R,S)*Z*****	N/A	N/A	42.2 to 44.3	-50°C
F025(A,B,C,E)****(R,S)*Z***** CIC A3	N/A	N/A	42.2 to 44.3	-50°C
F050(A,B,C,E)****(R,S)*Z*****	N/A	N/A	42.2 to 44.3	-50°C
F050(A,B,C,E)****(R,S)*Z***** CIC A3	N/A	N/A	42.2 to 44.3	-50°C
F100(A,B,C,E)****(R,S)*Z*****	N/A	N/A	42.2 to 44.3	-50°C
F100(A,B,C,E)****(R,S)*Z***** CIC A3	N/A	N/A	42.2 to 44.3	-50°C
F300(A,B,C,E)****(R,S)*Z*****	N/A	N/A	42.2 to 44.3	-50°C

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 graphs:

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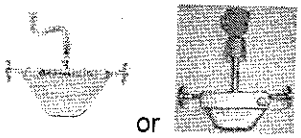
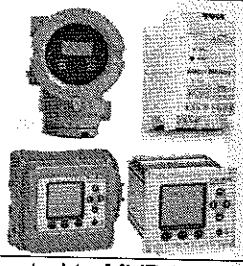
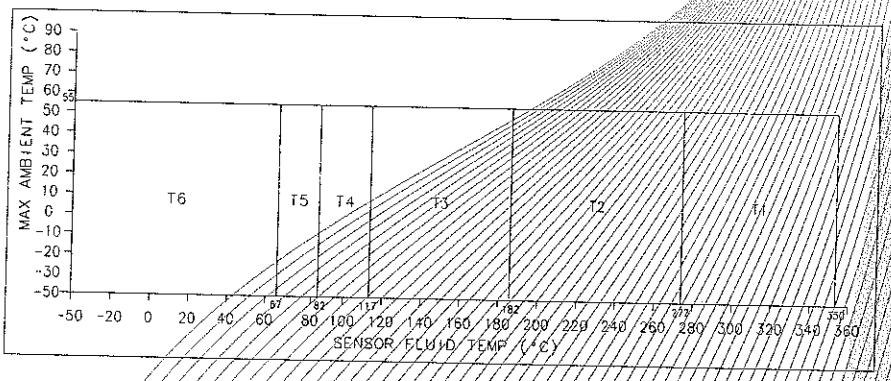
15.3.2.4.1

Sensor type		
F025(A,B)****(R,S)*******	IIC	Connected to MVD transmitter e.g. 1000/2000/3000MVD series
F025(A,B)****(R,S)******* CIC A3	IIC	
F050(A,B)****(R,S)*******	IIC	
F050(A,B)****(R,S)******* CIC A3	IIC	
F100(A,B)****(R,S)*******	IIC	
F100(A,B)****(R,S)******* CIC A3	IIC	
F300(A,B)****(R,S)*******	IIB	



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: T80 °C, T5: T95 °C, T4: T130 °C, T3: T195 °C, T2: T290 °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.

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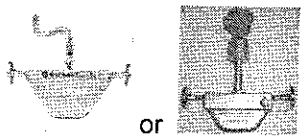
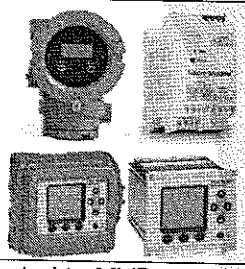
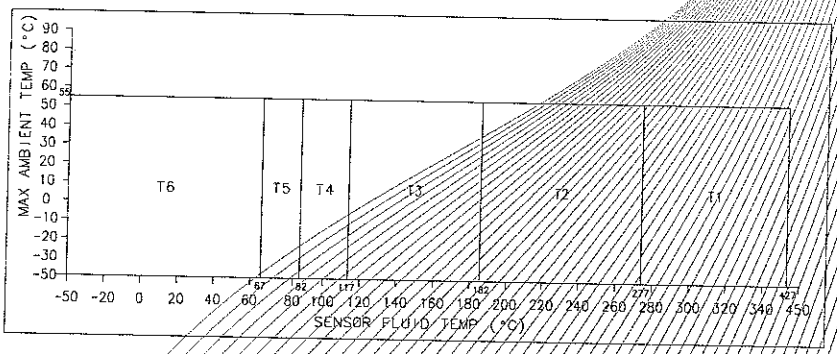
15.3.2.4.2

Sensor type	 or	

F025(C,E)****(R,S)*******	IIC	Connected to MVD transmitter. e.g. 1000/2000/3000MVD series
F025(C,E)****(R,S)******* CIC A3	IIC	
F050(C,E)****(R,S)*******	IIC	
F050(C,E)****(R,S)******* CIC A3	IIC	
F100(C,E)****(R,S)*******	IIC	
F100(C,E)****(R,S)******* CIC A3	IIC	
F300(C,E)****(R,S)*******	IIB	



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: T80 °C, T5: T95 °C, T4: T130 °C, T3: T195 °C, T2: T290 °C, T1: T440 °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.

15.3.2.4.3 All sensors listed in cl. 15.3.2 can also be executed with the alternate junction box assembly type 800/2400 Splined J-Box covered in BVS 09 ATEX E 071 U.

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

15.3.3.1 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

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 is shown in the following graphs:

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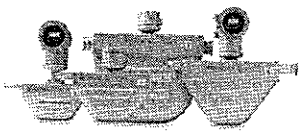
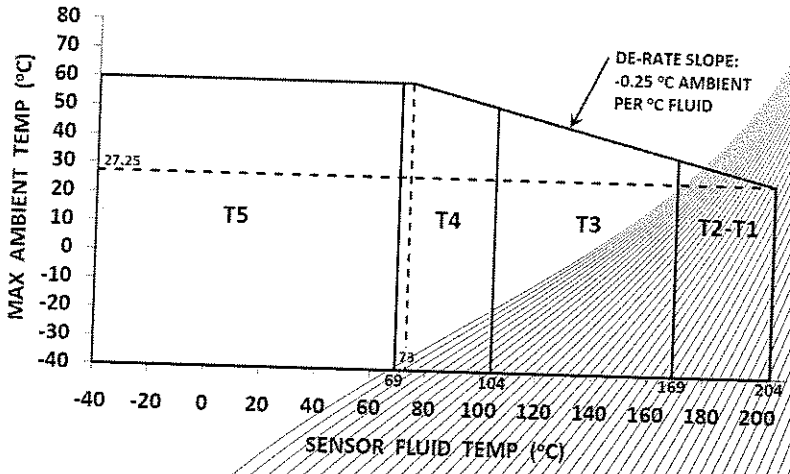
15.3.3.2.1

Sensor type		
F025*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z*****	IIC	with integral core processor
F050*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z*****	IIC	
F100*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z*****	IIC	
F200*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z*****	IIC	

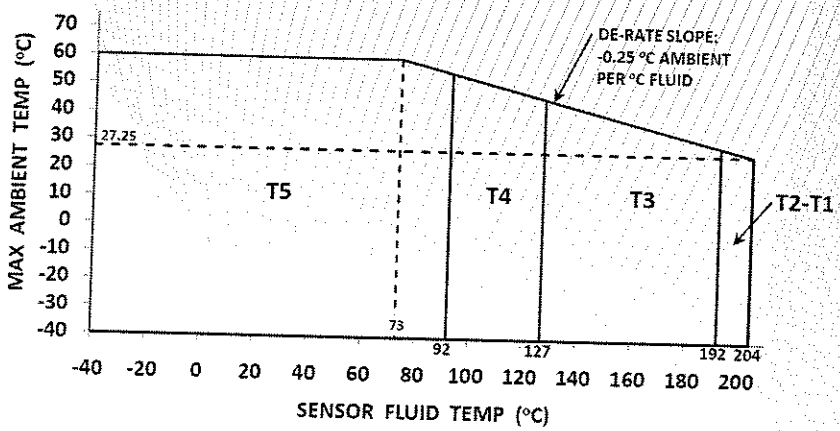


Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: T95 °C, T4: T130 °C, T3: T195 °C, T2 and T1: T230 °C.

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

15.3.3.2.2

Sensor type		
F025*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z***** CIC A2	IIC	with integral core processor
F050*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z***** CIC A2	IIC	



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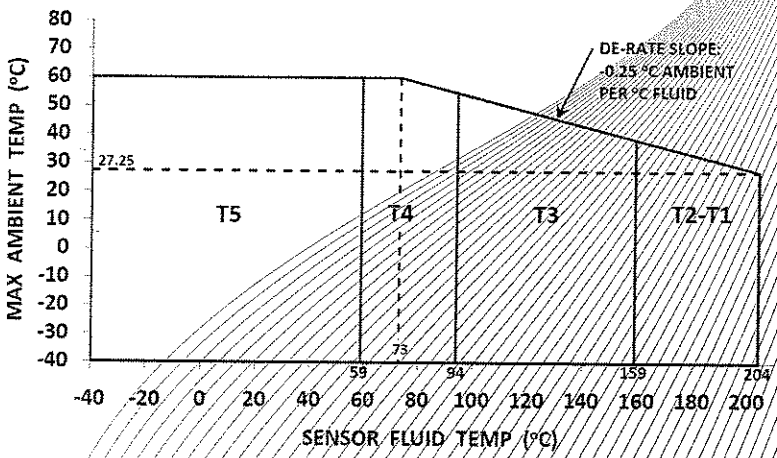
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: T95 °C, T4: T130 °C, T3: T195 °C, T2 and T1: T207 °C.

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

15.3.3.2.3

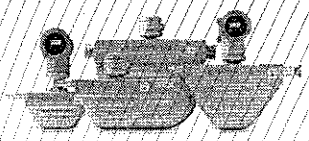
Sensor type		
F100*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z***** CIC A2	IIC	with integral core processor



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: T95 °C, T4: T130 °C, T3: T195 °C, T2 and T1: T240 °C.

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

15.3.3.2.4

Sensor type		
F200*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z***** CIC A1	IIC	with integral core processor

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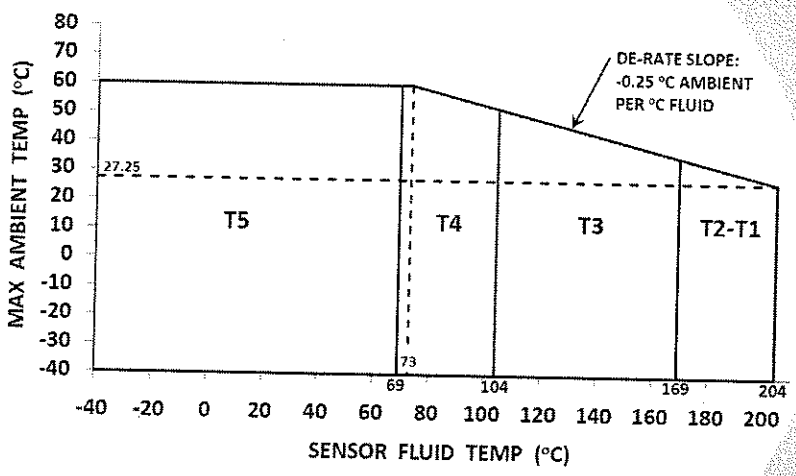
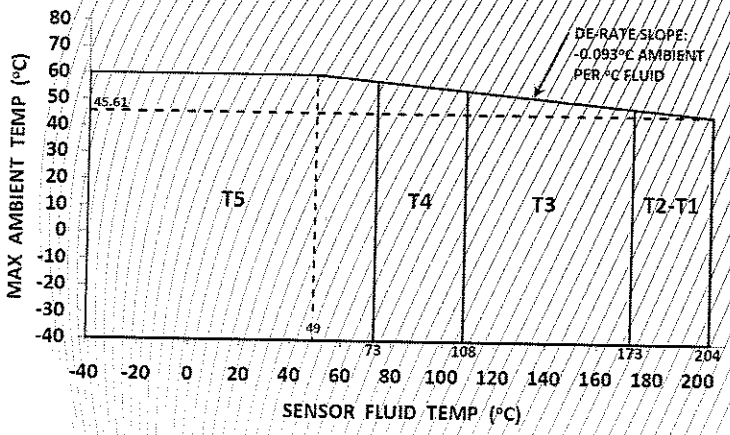


Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: T95 °C, T4: T130 °C, T3: T195 °C, T2 and T1: T230 °C.

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

15.3.3.2.5

Sensor type		
F300*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z*****	IIB	with integral core processor
F300*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z***** CIC A4	IIC	
F300*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6*****	IIC	



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: T95 °C, T4: T130 °C, T3: T195 °C, T2 and T1: T226 °C.

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

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15.3.4 Type F***(A.B.C.E)****(2.3.6.7.A.D.Q.W)*Z*****

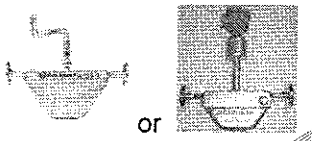
15.3.4.1 Input circuits (terminals 1 - 4)

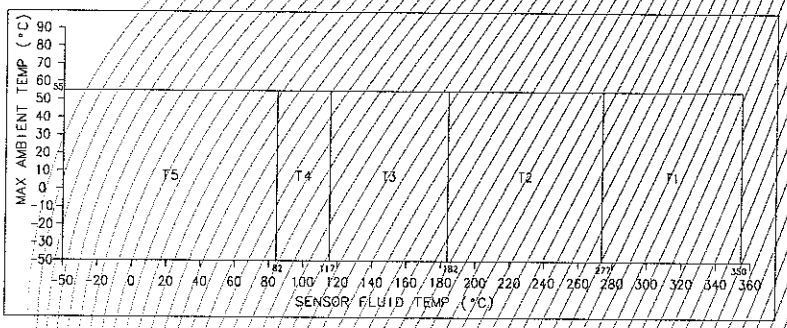
Voltage	Ui	DC	17.3	V
Current	Ii		484	mA
Power	Pi		2.1	W
Effective internal capacitance	Ci		2200	pF
Effective internal inductance	Li		30	µH

15.3.4.2 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 is shown in the following graphs.

15.3.4.2.1

Sensor type		
	 or 	
F025(A.B)****(2,3,6,7,A,D,Q,W)*******	IIC	with integral core processor
F025(A.B)****(2,3,6,7,A,D,Q,W)******* CIC A3	IIC	
F050(A.B)****(2,3,6,7,A,D,Q,W)*******	IIC	
F050(A.B)****(2,3,6,7,A,D,Q,W)******* CIC A3	IIC	
F100(A.B)****(2,3,6,7,A,D,Q,W)*******	IIC	
F100(A.B)****(2,3,6,7,A,D,Q,W)******* CIC A3	IIC	
F300(A.B)****(2,3,6,7,A,D,Q,W)*******	IIB	



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: T95 °C, T4: T130 °C, T3: T195 °C, T2: T290 °C, T1: T363 °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, if the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose or 0.23 meter away from the sensor by means of a rigid pipe extender 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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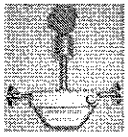
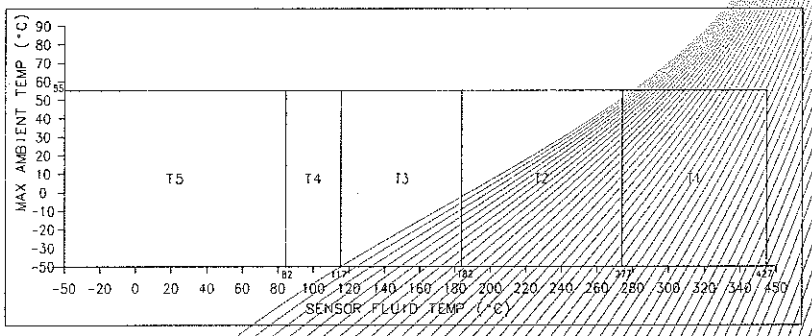
15.3.4.2.2

Sensor type	 or 	
F025(C.E)****(2,3,6,7,A,D,Q,W)*******	IIC	with integral core processor
F025(C.E)****(2,3,6,7,A,D,Q,W)******* CIC A3	IIC	
F050(C.E)****(2,3,6,7,A,D,Q,W)*******	IIC	
F050(C.E)****(2,3,6,7,A,D,Q,W)******* CIC A3	IIC	
F100(C.E)****(2,3,6,7,A,D,Q,W)*******	IIC	
F100(C.E)****(2,3,6,7,A,D,Q,W)******* CIC A3	IIC	
F300(C.E)****(2,3,6,7,A,D,Q,W)*******	IIB	



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: T95 °C, T4: T130 °C, T3: T195 °C, T2: T290 °C, T1: T440 °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, if the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose or 0.23 meter away from the sensor by means of a rigid pipe extender 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 F********(J,U)******* except type F***(A,B,C,E)****J*******

15.3.5.1 Input circuits (terminals 1 - 2)

Voltage	Ui	DC	28	V
Current	Ii		120	mA
Power	Pi		0.84	W
Effective internal capacitance	Ci		2200	pF
Effective internal inductance	Li		45	µH

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 is shown in the following graphs:

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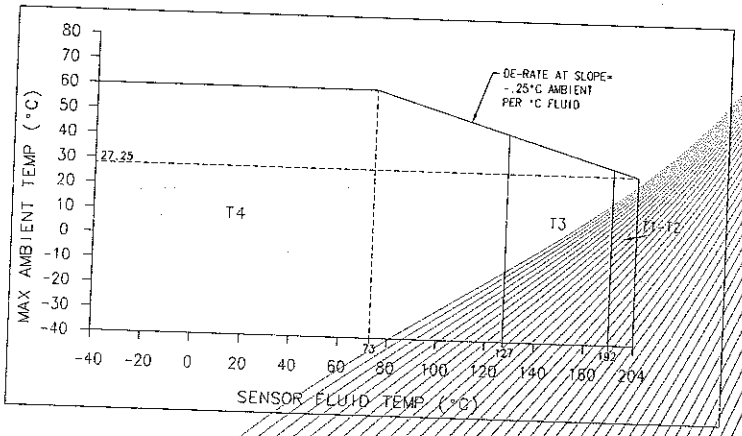
15.3.5.2.1

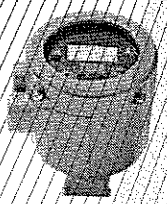
Sensor type		
F025 *****(J,U)*Z*****	IIC	with integral transmitter 2200S
F025 *****(J,U)*Z***** CIC A2	IIC	
F050 *****(J,U)*Z*****	IIC	
F050 *****(J,U)*Z***** CIC A2	IIC	

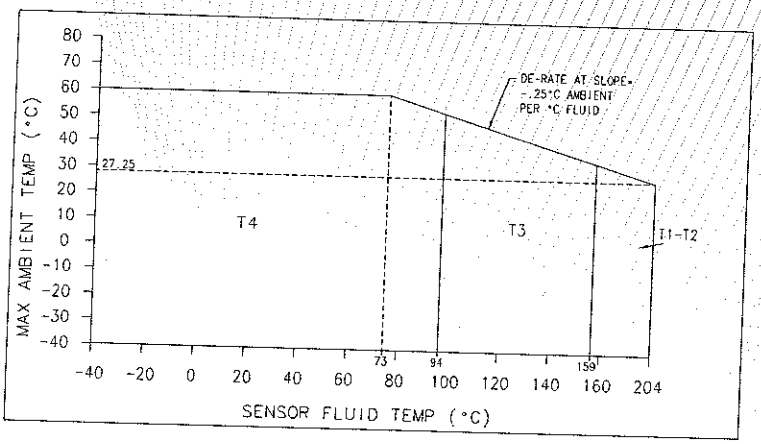


Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T4: T130 °C, T3: T195 °C, T2 and T1: T207 °C.

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

15.3.5.2.2

Sensor type		
F100 *****(J,U)*Z*****	IIC	with integral transmitter 2200S
F100 *****(J,U)*Z***** CIC A2	IIC	



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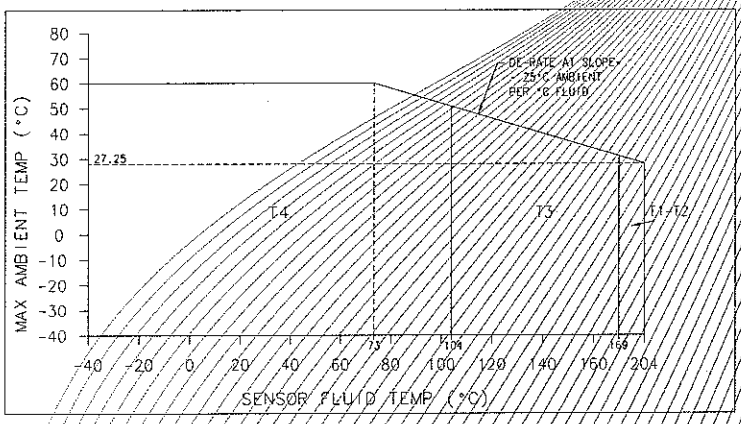
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T4: T130 °C, T3: T195 °C, T2 and T1: T240 °C.

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

15.3.5.2.3

Sensor type			
F200 *****(J,U)*Z*****	IIC	with integral transmitter 2200S	
F200 *****(J,U)*Z***** CIC A1	IIC		



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: T130 °C, T3: T195 °C, T2 T1: T230 °C.

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

15.3.5.2.4

Sensor type			
F300 *****(J,U)*Z*****	IIB	with integral transmitter 2200S	
F300 *****(J,U)*Z***** CIC A4	IIC		
F300 *****(J,U)*6*****	IIC		

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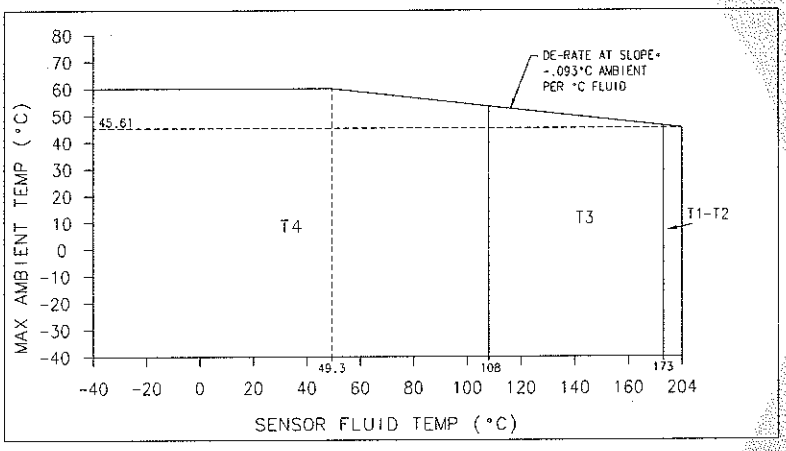


Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T4: T130 °C, T3: T195 °C, T2 and T1: T226 °C.

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

15.3.6 Type F***(A,B,C,E)****J*******

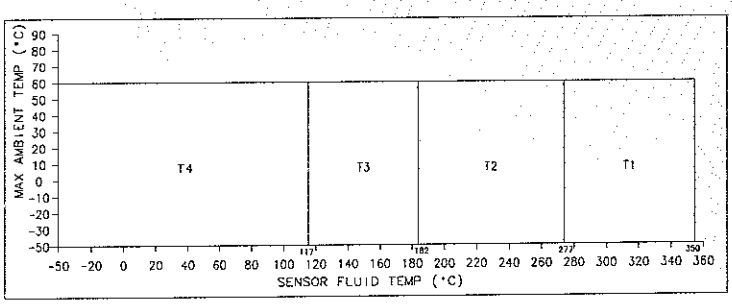
15.3.6.1 Input circuits (terminals 1 - 2)

Voltage	Ui	DC	28	V
Current	Ii		120	mA
Power	Pi		0.84	W
Effective internal capacitance	Ci		2200	pF
Effective internal inductance	Li		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 is shown in the following graphs.

15.3.6.2.1

Sensor type		
	or	
F025(A,B)****J*******	IIC	with integral transmitter 2200S
F025(A,B)****J******* CIC A3	IIC	
F050(A,B)****J*******	IIC	
F050(A,B)****J******* CIC A3	IIC	
F100(A,B)****J*******	IIC	
F100(A,B)****J******* CIC A3	IIC	
F300(A,B)****J*******	IIB	



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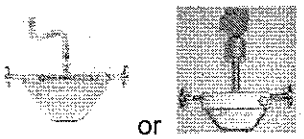
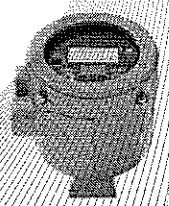
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: T95 °C, T4: T130 °C, T3: T195 °C, T2: T290 °C and T1: T363 °C.

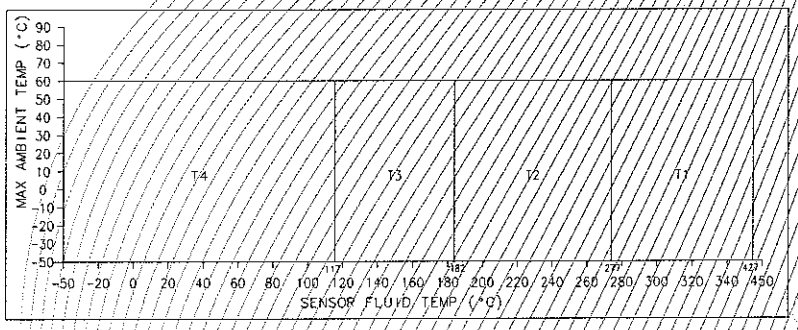
Ambient temperature range Ta -50 °C up to +60 °C

The use of the sensor at higher ambient temperatures is possible, if the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose or 0.23 meter away from the sensor by means of a rigid pipe extender 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.

15.3.6.2.2

Sensor type	 or 	
F025(C,E)****J*******		IIC
F025(C,E)****J******* CIC A3		IIC
F050(C,E)****J*******		IIC
F050(C,E)****J******* CIC A3		IIC
F100(C,E)****J*******		IIC
F100(C,E)****J******* CIC A3		IIC
F300(C,E)****J*******		IIB

with integral 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: T5: T95 °C, T4: T130 °C, T3: T195 °C, T2: T290 °C and T1: T440 °C.

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

The use of the sensor at higher ambient temperatures is possible, if the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose or 0.23 meter away from the sensor by means of a rigid pipe extender 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 Type F*** *****(C,F)*Z***** except type F*** (A,B,C,E)****C*Z*****.

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

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 is shown in the following graphs:

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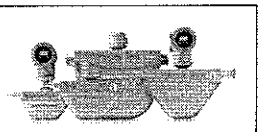
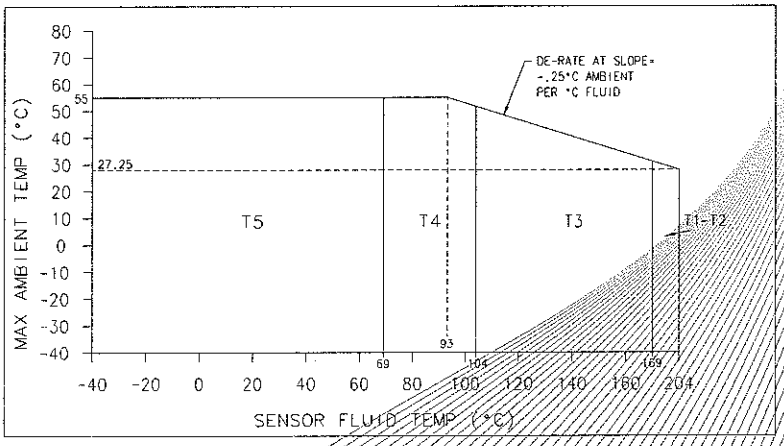
15.3.7.2.1

Sensor type	
F025*****(C,F)*Z*****	IIC
F050*****(C,F)*Z*****	IIC
F100*****(C,F)*Z*****	IIC
F200*****(C,F)*Z*****	IIC

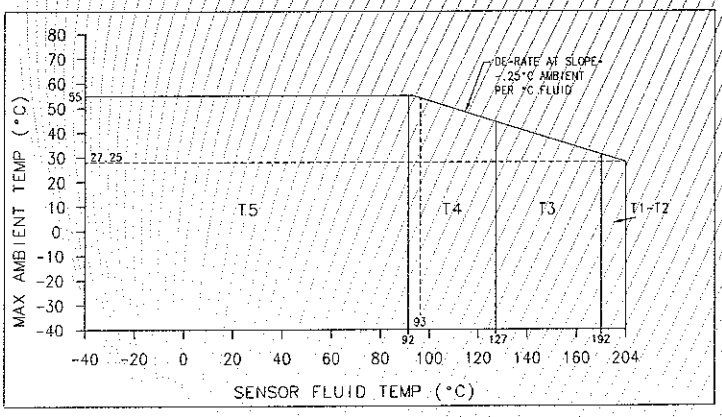


Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T5: T95 °C, T4: T130 °C, T3: T195 °C, T2 and T1: T230 °C.

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

15.3.7.2.2

Sensor type	
F025*****(C,F)*Z***** CIC A2	IIC
F050*****(C,F)*Z***** CIC A2	IIC



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: T95 °C, T4: T130 °C., T3: T195 °C, T2 and T1: T207 °C.

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

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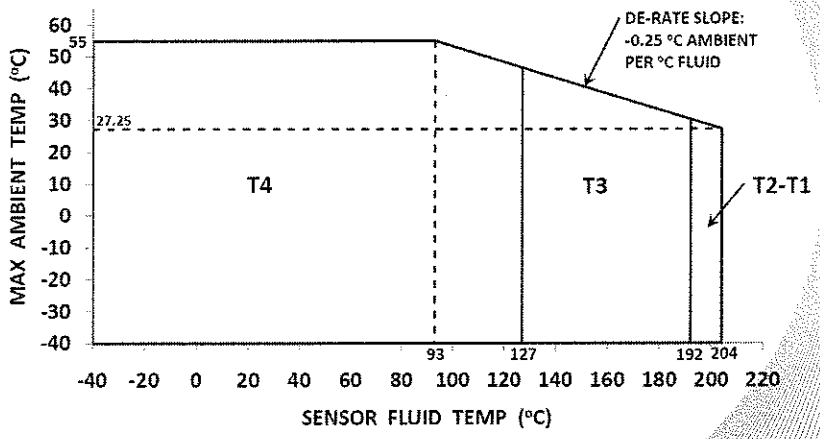
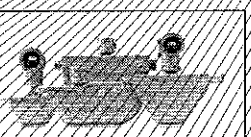
When used with 1700/2700 Transmitter with Wireless HART Output Option Code "4" (*700*1*4******):

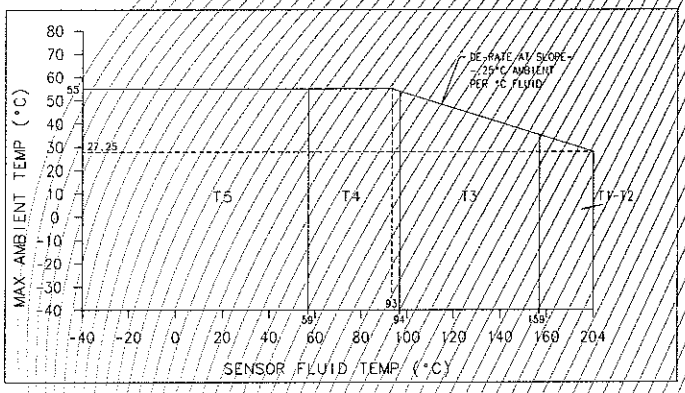


Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.

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

15.3.7.2.3

Sensor type	
F100*****(C,F)*Z***** CIC A2	IIC



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: T95 °C, T4: T130 °C, T3: T195 °C, T2 and T1: T240 °C.

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

When used with 1700/2700 Transmitter with Wireless HART Output Option Code "4" (*700*1*4******):

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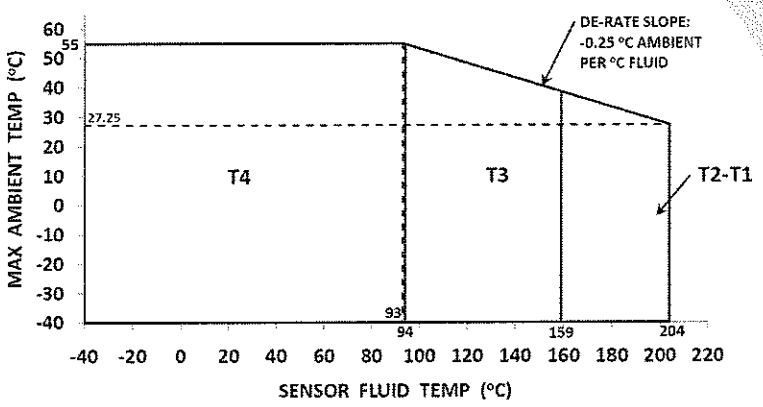
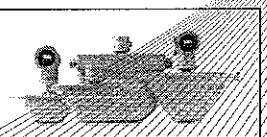
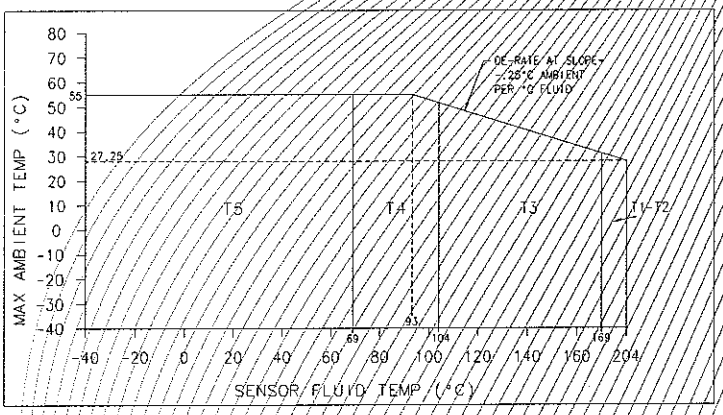


Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.

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

15.3.7.2.4

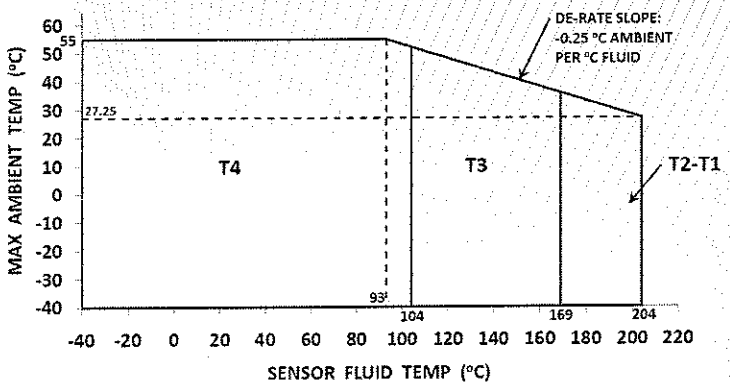
Sensor type	
F200*****(C,F)*Z***** CIC A1	IIC



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: T95 °C, T4: T130 °C, T3: T195 °C, T2 and T1: T230 °C.

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

When used with 1700/2700 Transmitter with Wireless HART Output Option Code "4" (*700*1***4******):



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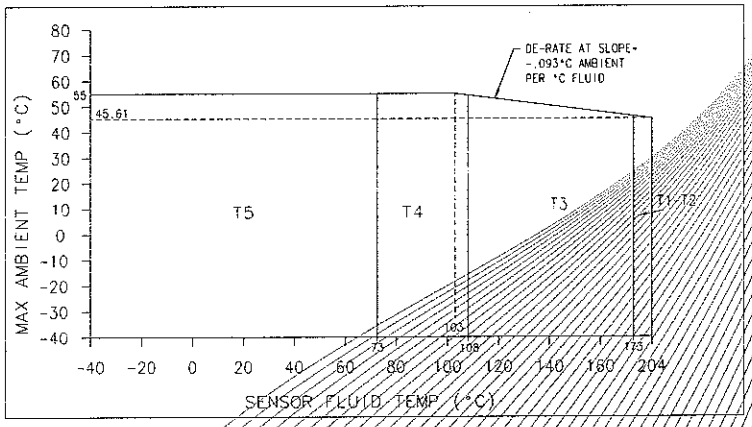
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.

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

15.3.7.2.5

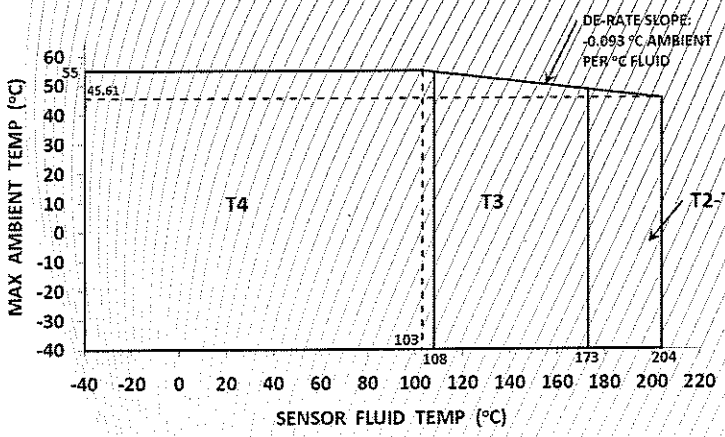
Sensor type	
F300*****(C,F)*Z*****	IIB
F300*****(C,F)*Z***** CIC A4	IIC
F300*****(C,F)*6*****	IIC



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: T95 °C, T4: T130 °C, T3: T195 °C, T2 and T1: T226 °C

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

When used with 1700/2700 Transmitter with Wireless HART Output Option Code "4" (*700*1***4******):



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

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

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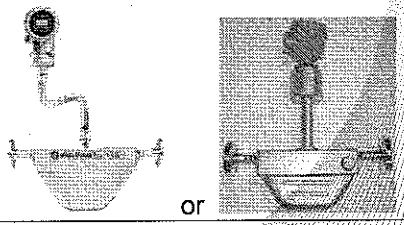
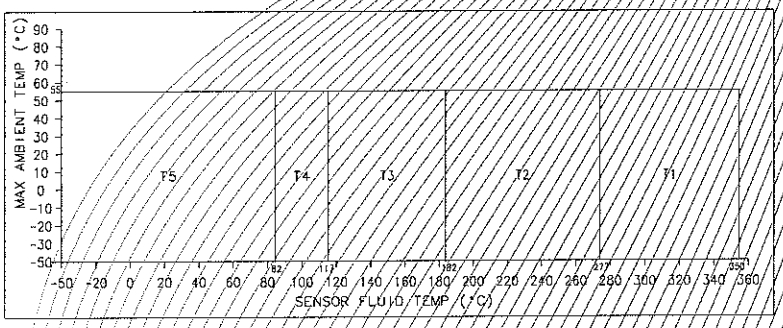
15.3.8 Type F***(A,B,C,E)****C*Z*****

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

15.3.8.2 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 graphs:

15.3.8.2.1

Sensor type	 or
F025(A,B)****C*******	IIC
F025(A,B)****C******* CIC A3	IIC
F050(A,B)****C*******	IIC
F050(A,B)****C******* CIC A3	IIC
F100(A,B)****C*******	IIC
F100(A,B)****C******* CIC A3	IIC
F300(A,B)****C*******	IIB



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: T95 °C, T4: T130 °C, T3: T195 °C, T2: T290 °C, T1: T363 °C.

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

The use of the sensor at higher ambient temperatures is possible, if the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose or 0.23 meter away from the sensor by means of a rigid pipe extender 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 1700/2700 Transmitter with Wireless HART Output Option Code "4" (*700*1***4******):

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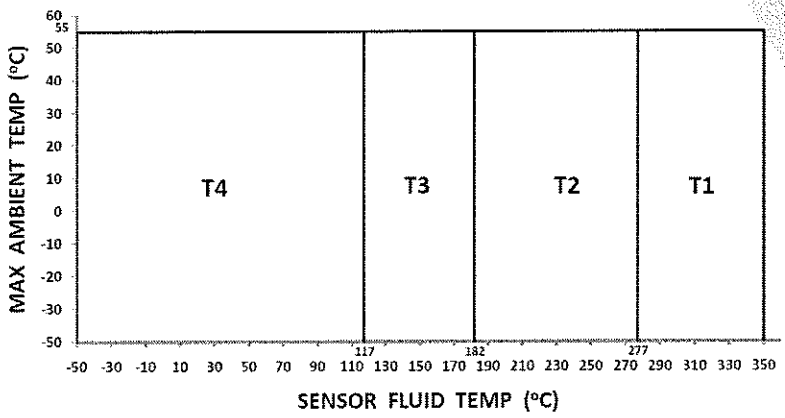
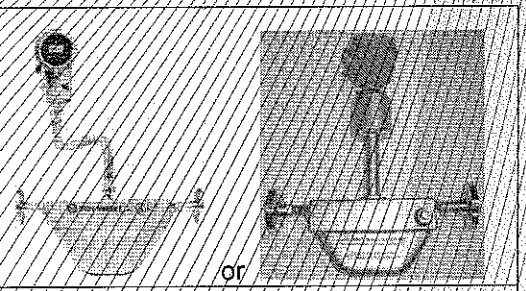


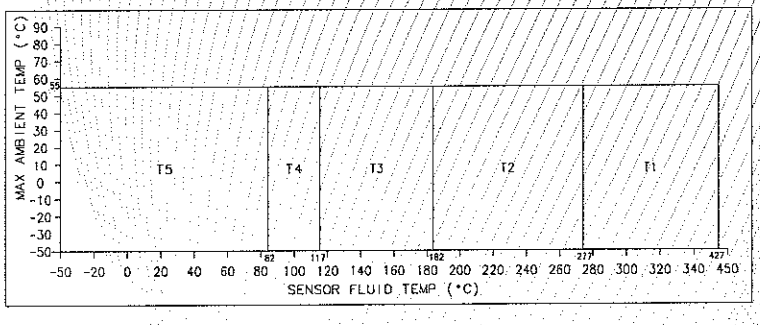
Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.

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

The use of the sensor at higher ambient temperatures is possible, if the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose or 0.23 meter away from the sensor by means of a rigid pipe extender 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

15.3.8.2.2

Sensor type	 or
F025(C,E)****C*******	IIC
F025(C,E)****C******* CIC A3	IIC
F050(C,E)****C*******	IIC
F050(C,E)****C******* CIC A3	IIC
F100(C,E)****C*******	IIC
F100(C,E)****C******* CIC A3	IIC
F300(C,E)****C*******	IIB



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: T95 °C, T4: T130 °C, T3: T195 °C, T2: T290 °C and T1: T440 °C.

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

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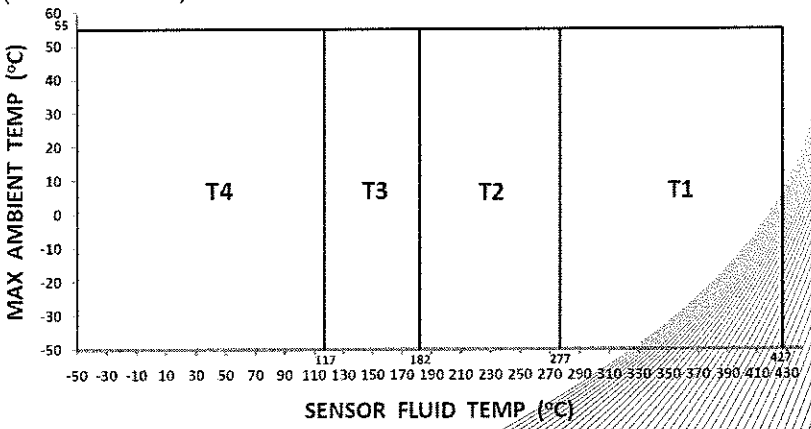
The use of the sensor at higher ambient temperatures is possible, if the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose or 0.23 meter away from the sensor by means of a rigid pipe extender and provided that the ambient temperature does not exceed the maximum temperature of the medium, taking into account the temperature classification and the maximum operating temperature of the sensor.

When used with 1700/2700 Transmitter with Wireless HART Output Option Code "4" (*700*1***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, if the electronics are mounted min. 1 meter away from the sensor by means of a flexible stainless steel hose or 0.23 meter away from the sensor by means of a rigid pipe extender 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.

15.3.9 The marking shall contain the following:

⟨Ex⟩ II 2G with additional marking required by the standards mentioned in the following tables:
II 2D Ex ib IIIC T [1)] °C Db IP66

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 [1)]
F025*****(R,H,S,T)*Z*****	Ex ib IIC T1-T6 Gb	-40 °C
F025*****(R,H,S,T)*Z***** CIC A2	Ex ib IIC T1-T6 Gb	-100 °C
F050*****(R,H,S,T)*Z*****	Ex ib IIC T1-T6 Gb	-40 °C
F050*****(R,H,S,T)*Z***** CIC A2	Ex ib IIC T1-T6 Gb	-100 °C
F100*****(R,H,S,T)*Z*****	Ex ib IIC T1-T6 Gb	-40 °C
F100*****(R,H,S,T)*Z***** CIC A2	Ex ib IIC T1-T6 Gb	-68 °C
F200*****(R,H,S,T)*Z*****	Ex ib IIC T1-T6 Gb	-40 °C
F200*****(R,H,S,T)*Z***** CIC A1	Ex ib IIC T1-T6 Gb	-90 °C

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For types with J-box connected to MVD-transmitter (e. g. 1700/2700):

Type	Type of protection gas	Min. ambient/ fluid temp. gas [1]
F025*****(R,H,S,T)*Z*****	Ex ib IIC T1-T6 Gb	-40°C
F025*****(R,H,S,T)*Z***** CIC A2	Ex ib IIC T1-T6 Gb	-100°C
F050*****(R,H,S,T)*Z*****	Ex ib IIC T1-T6 Gb	-40°C
F050*****(R,H,S,T)*Z***** CIC A2	Ex ib IIC T1-T6 Gb	-100°C
F100*****(R,H,S,T)*Z*****	Ex ib IIC T1-T6 Gb	-40°C
F100*****(R,H,S,T)*Z***** CIC A2	Ex ib IIC T1-T6 Gb	-83°C
F200*****(R,H,S,T)*Z*****	Ex ib IIC T1-T6 Gb	-40°C
F200*****(R,HS,T)*Z***** CIC A1	Ex ib IIC T1-T6 Gb	-100°C
F300*****(R,H,S,T)*Z*****	Ex ib IIB T1-T6 Gb	-40°C
F300*****(R,H,S,T)*Z***** CIC A4	Ex ib IIC T1-T6 Gb	-100°C
F300*****(R,H,S,T)*6*****	Ex ib IIC T1-T6 Gb	-100°C
F025(A,B,C,E)****(R,H,S,T)*Z*****	Ex ib IIC T1-T6 Gb	-50 °C
F025(A,B,C,E)****(R,H,S,T)*Z*****CIC A3	Ex ib IIC T1-T6 Gb	-50 °C
F050(A,B,C,E)****(R,H,S,T)*Z*****	Ex ib IIC T1-T6 Gb	-50 °C
F050(A,B,C,E)****(R,H,S,T)*Z*****CIC A3	Ex ib IIC T1-T6 Gb	-50 °C
F100(A,B,C,E)****(R,H,S,T)*Z*****	Ex ib IIC T1-T6 Gb	-50 °C
F100(A,B,C,E)****(R,H,S.T)*Z*****CIC A3	Ex ib IIC T1-T6 Gb	-50 °C
F300(A,B,C,E)****(R,H,S,T)*Z*****	Ex ib IIB T1-T6 Gb	-50 °C

For types with integral core processor:

Type	Type of protection gas	Min. ambient/ fluid temp. Gas [1]
F025*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z*****	Ex ib IIC T1-T5 Gb	-40 °C
F025*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z***** CIC A2	Ex ib IIC T1-T5 Gb	-40 °C
F050*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z*****	Ex ib IIC T1-T5 Gb	-40 °C
F050*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z***** CIC A2	Ex ib IIC T1-T5 Gb	-40 °C
F100*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z*****	Ex ib IIC T1-T5 Gb	-40 °C
F100*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z***** CIC A2	Ex ib IIC T1-T5 Gb	-40 °C
F200*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z*****	Ex ib IIC T1-T5 Gb	-40 °C
F200*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z***** CIC A1	Ex ib IIC T1-T5 Gb	-40 °C
F300*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z*****	Ex ib IIB T1-T5 Gb	-40 °C
F300*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z***** CIC A4	Ex ib IIC T1-T5 Gb	-40 °C
F300*****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*6*****	Ex ib IIC T1-T5 Gb	-40 °C
F025(A,B,C,E)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z*****	Ex ib IIC T1-T5 Gb	-50 °C
F025(A,B,C,E)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z***** CIC A3	Ex ib IIC T1-T5 Gb	-50 °C
F050(A,B,C,E)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z*****	Ex ib IIC T1-T5 Gb	-50 °C
F050(A,B,C,E)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z***** CIC A3	Ex ib IIC T1-T5 Gb	-50 °C
F100(A,B,C,E)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,V,W,Y)*Z*****	Ex ib IIC T1-T5 Gb	-50 °C
F100(A,B,C,E)****(2,3,4,5,6,7,8,9,A.B,D,E,Q,V,W,Y)*Z***** CIC A3	Ex ib IIC T1-T5 Gb	-50 °C
F300(A,B,C,E)****(2,3,4,5,6,7,8,9,A,B,D,E,Q,VW,Y)*Z*****	Ex ib IIB T1-T5 Gb	-50 °C

[1] Max. surface temperature T for dust for types F********** see temperature graphs and manufacturer´s instructions. Min. ambient and process temperature for dust is -40 °C.

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(16) Test and assessment report

BVS PP 03.2117 EG as of 31st July 2013

(17) Special conditions for safe use

By mounting the sensor directly to the 2200S transmitter the use of the unit will be modified according to the following table:

Sensor type	F025*****(J,U)*Z***** F025*****(J,U)*Z***** CIC A2 F050*****(J,U)*Z***** F050*****(J,U)*Z***** CIC A2 F100*****(J,U)*Z***** F100*****(J,U)*Z***** CIC A2 F200*****(J,U)*Z***** F200*****(J,U)*Z***** CIC A1 F300*****(J,U)*Z***** CIC A4 F300*****(J,U)*6***** F025(A,B,C,E) ****J*Z***** F050(A,B,C,E) ****J*Z***** F100(A,B,C,E) ****J*Z***** F025(A,B,C,E) ****J*Z***** CIC A3 F050(A,B,C,E) ****J*Z***** CIC A3 F100(A,B,C,E) ****J*Z***** CIC A3	F300*****(J,U)*Z***** F300(A,B,C,E) ****J*Z*****
Transmitter type 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
Transmitter type 2200S*(5.6)*1*Z****	Ex ib IIC T1-T4	Ex ib IIB T1-T4

[1] Max. surface temperature T for dust for types F********** see temperature graphs and manufacturer´s instructions.

By mounting the sensor directly to the *700 transmitter the use of the unit will be modified according to the following table:

Sensor type	F025*****(C,F)*Z***** F025*****(C,F)*Z***** CIC A2 F050*****(C,F)*Z***** F050*****(C,F)*Z***** CIC A2 F100*****(C,F)*Z***** F100*****(C,F)*Z***** CIC A2 F200*****(C,F)*Z***** F200*****(C,F)*Z***** CIC A1 F300*****(C,F)*Z***** CIC A4 F300*****(C,F)*6***** F025(A,B,C,E)****C*Z***** F050(A,B,C,E)****C*Z***** F100(A,B,C,E)****C*Z***** F025(A,B,C,)****C*Z***** CIC A3 F050(A,B,C,E)****C*Z***** CIC A3 F100(A,B,C,E) ****C*Z***** CIC A3	F300*****(C,F)*Z***** F300(A,B,C,E)****C*Z*****
Transmitter type *700*1(1.2)*******	Ex ib IIB+H_2 T1-T5 Ex tb IIIC T [1] °C Db	Ex ib IIB T1-T5 Ex tb IIIC T [1] °C Db
Transmitter type *700*1(3.4.5)*******	Ex ib IIC T1-T5 Ex tb IIIC T [1] °C Db	Ex ib IIB T1-T5 Ex tb IIIC T [1] °C Db
Transmitter type *700*1(1.2)4******	Ex ib IIB+H_2 T1-T4	Ex ib IIB T1-T4
Transmitter type *700*1(3.4.5)4******	Ex ib IIC T1-T4	Ex ib IIB T1-T4

[1] Max. surface temperature T for dust for types F********** see temperature graphs and manufacturer´s instructions.

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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. 31st July 2013
BVS-Schu/Ma A20130583

Certification body

Special services unit

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