

Product Data Sheet

SD 8615-2E02

August 2008

Damcos® MAS G048

Inclinometer



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Process Management

Damcos® MAS G048

General description

The MAS G048 inclinometer unit is an electronic angle measurement system, intended for Trim and/or Heel measurements on board any vessel. The angle measurement is performed upon the signal from a solid state gravity sensor. This signal is amplified, and converted into 4 - 20 mA standard loop.

Mount the box or unit either vertically or horizontally on bulkhead or in a panel.

Mount the box or unit longitudinal or across.

Likewise both longitudinal and cross mounting will be possible, whether Trim or Heel measuring is desired.

The inclinometer has 3 ranges:

- $\pm 1.5^\circ$
- $\pm 4.5^\circ$
- $\pm 45^\circ$

Selection is easily done by means of jumper setting.

Installation of the inclinometer

Due to the sensitive angle measuring nature of this device, the inclinometer unit must be mounted with care:

- Mount the box or unit vertically.
- Mount on a rigid construction longitudinal or across.

- If possible, mount in locations with fairly stable ambient temperature (e.g. in accommodation quarters).
- With reference to even keel, the horizontal edge of the unit has to be mounted within $\pm 5^\circ$.

Combination details

Each combination is specified as follows:	
MAS G048B-1:	Single inclinometer intended for Trim or Heel (intended for mounting in an existing panel).
MAS G048B-2:	Single inclinometer intended for Trim or Heel. Incorporated in a polyester box.
MAS G048B-3:	Dual inclinometer intended for Trim or Heel. Incorporated in a polyester box.

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Type:	MAS G048B-1	MAS G048B-2	MAS G048B-3
Supply voltage:		24 VDC -25/+30%	
Power consumption:		Max. 1 W	
Ambient temperature:		-25/+65° C	
Output signal:		4-20 mA (12±8 mA)	
Linear range:		±45°	
Accuracy 10-40° C:		±0.015° (±0.26 mm/m)	
Enclosure:			
Case:	-	Polyester (grey)	
Sealing:	-	IP 65	IP 65
Dimension mm:	110 x 75 x 50	250 x 255 x 120	
Glands entry		1 pcs. PG21 and 16 pcs. PG13.5	1 pc. PG21 and 16 pcs. PG13.5
Weight kg:	1.5	4.25	4.45
Mounting:	Bulkhead/ mounted in an existing panel	Bulkhead	Bulkhead

Mounting instructions

Outline drawing.

Blind plugs: 2 pcs PG 21/ 26 pcs 13.5 PG.

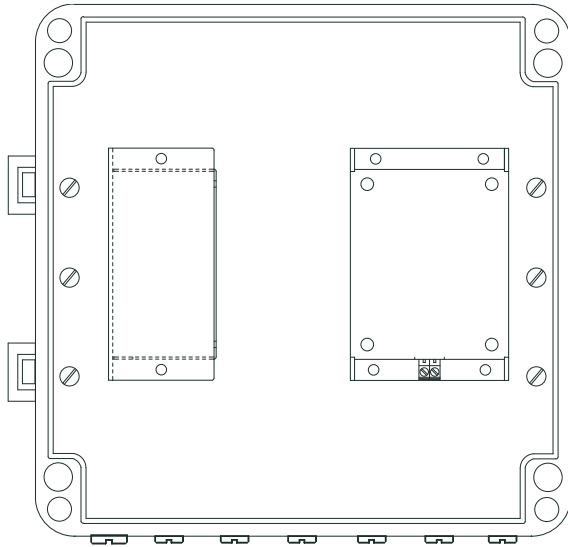
Interface box.

Bottom plate.

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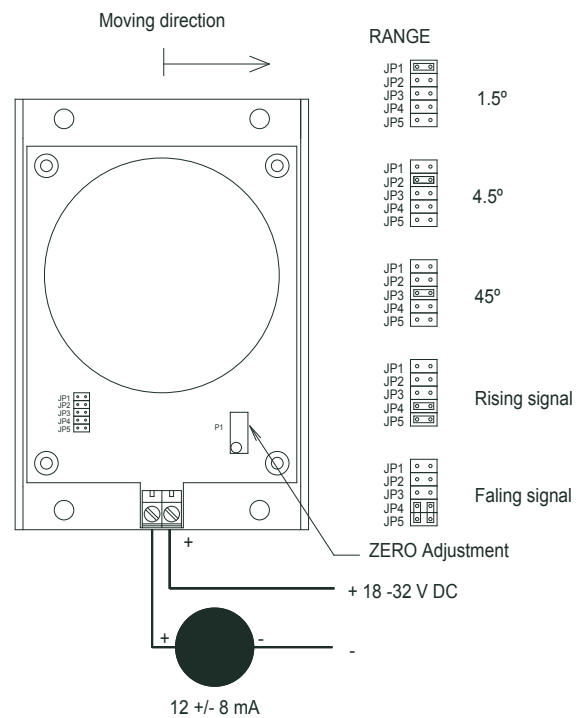
Location of components

This drawing shows a dual inclinometer box.



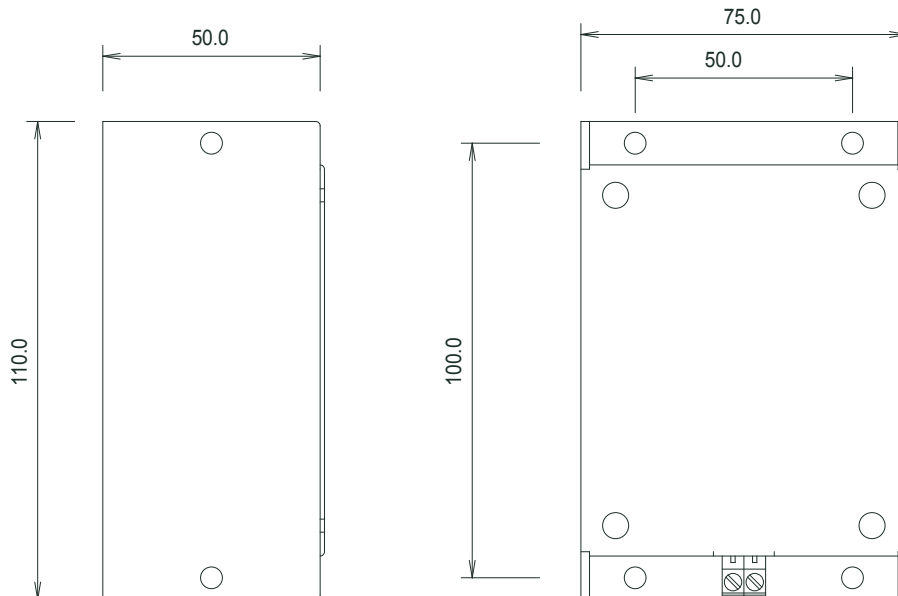
Calibration procedure

- Connect power supply and signal cables according to the drawing under point 2.4.1.
- Select the desired range (1.5, 4.5, or 45 degrees) by means of simple jumper set ting.
- When the vessel is steady, and on even keel, apply power (allow 1 min. for warm up) and rotate the inclinometer(s) to null position (12 ± 0.2 mA).
- If the rotation polarity is wrong, it is necessary to shift the position of jumper jp4 and jp5.
- Remember to secure mounting screws and re-check null position/signal.
- Adjustment to 12.00 mA is done by means of the trim potentiometer P1, located on the PCB (printed circuit board).



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Main dimensions



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