Data sheet

Temperature sensor with integrated transmitter for industrial applications, MBT 3560

Features

- Designed for use in harsh industrial enviroments where reliable, robust and accurate equipment is required
- Acid-resistant stainless steel enclosure (AISI 316L)
- Output signals: 4 - 20 mA or Ratiometric
- A wide selection of process and electrical connections
- Ultra compact design
- Temperature range -50 °C - +200°C

Ordering standard MBT 3560

- Electrical connection DIN 43650-A, Pg 9
- Protection tube ∅ 8 mm
- Element Pt 1000, EN 60751, Class B
- Process connection G1/4A

Insertion length [mm]	Electrical connection	Transmitter output	Transmitter setting [C°]	Extension length [mm]	Code no.
50	2 wire	4 to 20 mA	0 to 100	None	**084Z4030**
100				None	**084Z4031**
150				None	**084Z4032**
200				None	**084Z4033**
250				None	**084Z4034**
50	2 wire	4 to 20 mA	0 to 200	33	**084Z4035**
100				33	**084Z4036**
150				33	**084Z4037**
200				33	**084Z4038**
250				33	**084Z4039**

Pocket for MBT 3560 standard programme

MBT 3560 Insertion length [mm]	Pocket insertion length [mm]	Process connection	Protection tube [mm]	Code no.
50	37.5	G½A	ø11	**084Z7258**
100	87.5			**084Z7259**
150	137.5			**084Z7260**
200	187.5			**084Z7261**
250	237.5			**084Z7262**

Technical data

Main specifications

Pressure connections	See page 3
Measuring ranges	Any combinations between –50°C and +200°C
Minimum span	25°C
Output signals	4-20 mA - Ratiometric
Electrical connections	See page 4

Performance

Accuracy	< ± 0.5 % FS (typ.) < ± 1 % FS (max.)	
Response times	Water 0.2 m/s	
	$t_{0.5}$ = 10 sec	$t_{0.9}$ = 30 sec
	Air 1 m/s	
	$t_{0.5}$ = 95 sec	$t_{0.9}$ = 310 sec
Max. load protection tube	100 bar	

Electrical specifications

	Nom. Output signal (short-circuit protected)	
	4 to 20 mA	ratiometric
Supply voltage[U_S] polarity protected	10 to 30 V d.c.	4.75 to 8 V d.c. 5 V d.c. (Nom.)
Supply - current consumption	–	< 4 mA at 5 V d.c.
Supply voltage dependency	< ±0.05% FS/ 10 V	–
Current limitation	30 mA	–
Output impedance	–	< 25 ohm
Load [R_L]	R_L<(U_s-10)/(0.02A) ohm	R_L> 5 kohm at 5 V d.c.

Environmental conditions

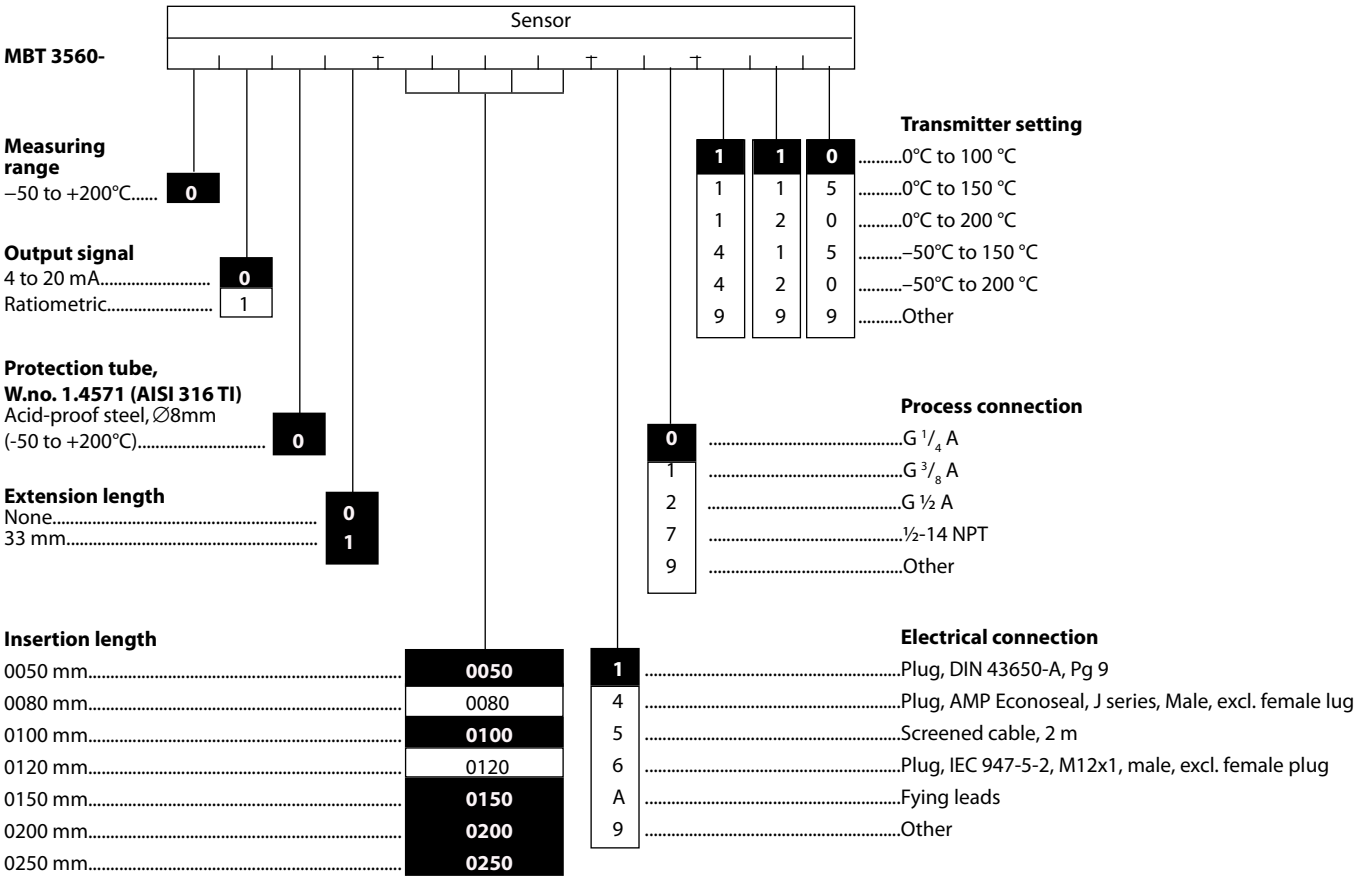
Media temperature (max. 120°C without extension length)		–50°C to + 200°C
Temperature on electronics[1)]		–40°C to +85°C
Transport temperature range		–50°C to 85°C
EMC - Emmision		EN 61000-6-3
EMC - Immunity		EN 61000-6-2
Vibration stability	Sinusoidal 15.9 mm-pp, 5 Hz-25 Hz	
	4 g, 25 Hz - 2 kHz	IEC 60068-2-6
	Random 7.5 $g_{ms.}$ 5Hz - 1 kHz	IEC 600868-2-34, IEC 60068-2-36
Shock resistance	Shock 500 g/ 1 ms	IEC 60068-2-27
	Free fall	IEC 60068-2-32
Enclosure (depending on electrical connections)		See page 4

Mechanical characteristics

Materials:	
Wetted parts	W.no. 1.4571 (AISI 316 Ti)
Enclosure	W.no. 1.4404 (AISI 316 L)
Measuring insert	fixed
Weight (Depending on design)	0.1 to 0.15 kg

[1)] Temperature of the electronics depends on the media temperature, extension length, ambient temperature and air velocity.

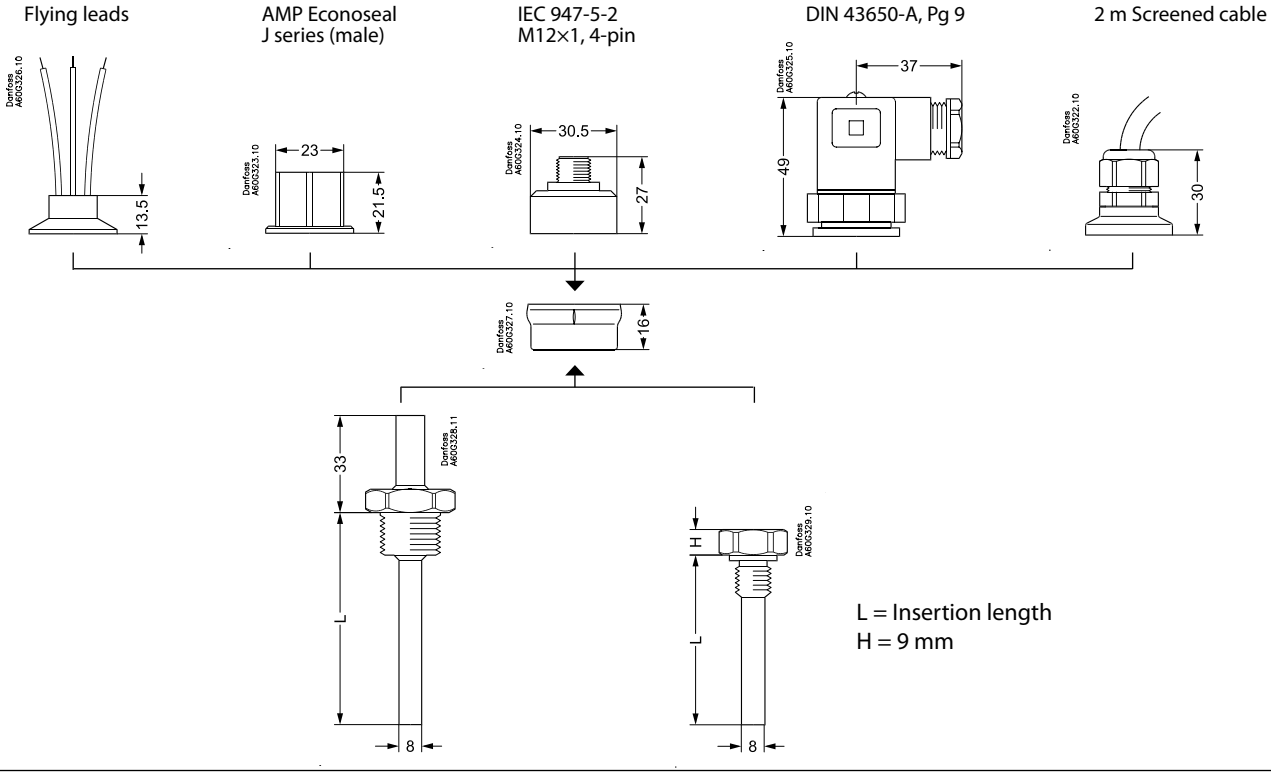
Ordering, Standard versions



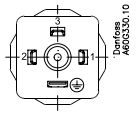
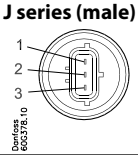
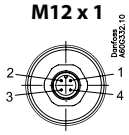
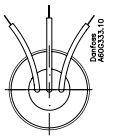
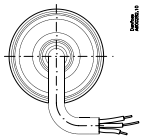
■ = Standard programme

Non-standard build up combinations may be selected. However, minimum order quantities may apply, please contact your local Danfoss office for more information

Dimensions



Electrical connections

DIN 43650-A	AMP Econoseal I J series (male)	IEC 947-5-2 M12 x 1	Flying leads	2 m screened cable
				
Enclosure				
IP 65	IP 67	IP 67	IP 67	IP 67
Materials				
Glass filled polyamid, PA 6.6	Glass filled polyamid, PA 6.6	Glass filled polyamid, PA 6.6	Glass filled polyamid, PA 6.6	PUR
Electrical connection, 4-20 mA output (2 wire)				
Pin 1: +supply Pin 2: ÷supply Pin 3: Not used Earth: Not connected to MBT housing	Pin 1: +supply Pin 2: ÷supply Pin 3: Not used	Pin 1: +supply Pin 2: Not used Pin 3: Not used Pin 4: ÷supply	Red wire: +supply Black wire: ÷supply	Red wire: +supply Black wire: ÷supply White wire: Not used Brown wire: Not used Green wire: Not used Screen: Not connected to MBT housing
Electrical connection, Ratio metric (3-wire)				
Pin 1: +supply Pin 2: ÷supply Pin 3: Output Earth: Not connected to MBT housing	Pin 1: +supply Pin 2: ÷supply Pin 3: Output	Pin 1: +supply Pin 2: not used Pin 3: Output Pin 4: ÷supply	Red wire: +supply Black wire: ÷supply Blue wire: Output	Red wire: +supply Black wire: ÷supply White wire: Output Brown wire: Not used Green wire: Not used Screen: Not connected to MBT housing

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