Melt Pressure Sensor HART — MEMP-T

Characteristics

- Input:	0...50 bar up to 0...1200 bar
- Output:	4...20 mA HART, 2-wire / CANopen
- Supply:	by current loop 12...32 VDC
- Accuracy:	<0,5% of terminal value
- Process connection:	1/2"-20UNF-2A with / without capillary tube
- Electr. connection:	MIL (standard), M12, cable outlet
- Environmental temp.:	-20...+85 °C
- Medium temperature:	-30...+410 °C
- Setting:	Software
- Material:	1.4571 CrNi stainless steel
- Protection class:	at least IP65 / IP68

Technical Data

Input

Pressure:	Range:	0...50 bar up to 0...1200 bar
	Overpressure safety:	2x pressure range (no influence on operating parameters)

Output

Current signal:	4...20 mA with superimposed communication signal HART
Signal interference:	3,6 mA (sensor short-circuit, underflow) 21 mA (sensor break, sensor circuit open, overflow)
Option:	Output CANopen

Performance Parameters

Sensor:	Accuracy:	<0,5% of span (at reference conditions)

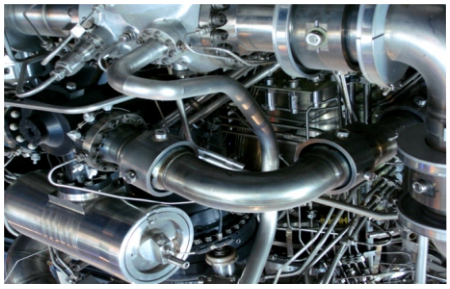
Includes non-linearity, hysteresis, zero point and terminal value deviation
(complies with measurement deviation as per IEC 61298-2)

	Calibration:	at vertical fitting position, processor connection down
	Non-linearity:	<0,2% of span (BFSL as per IEC 61298-2)
	Non-repeatability:	<0,1% of span (as per IEC 61298-2)
	Stability per year:	<0,2% of span (at reference conditions)
	Temperature coefficient:	mean temperature coefficient (TC) in compensated range
		TC zero point: <0,2% of span / 10 K
		<0,4% of span / 10 K for ranges <250 mbar
		TC span: <0,2% of span / 10 K
	Reference conditions:	15...25 °C / 860...1060 mbar / 45...75% r. h. / 24 VDC

80% Calibration:	Gives out a test signal, which corresponds to 80% of the terminal value.
Tara-Teach:	This function can be set via magnet at the signal cap. (Not applicable when output CANopen is used.)

Applications

Suitable for application in industrial facilities, plastics engineering and extrusion technology. The robust and via HART-software programmable sensor with his specialized process connections is especially suitable for demanding applications.



Technical Data (Continued)

Performance Parameter (Continued)

Measuring amplifier:	Resolution:	16 Bit
	Accuracy:	0,3% of range
	Filter setting:	0...99 s
	Transmission behavior:	linear with pressure
	Measuring rate:	10 measurements/s
	Configuration:	via software (HART-communication/CANbus)
	Turn-on delay:	<5 s
	Response time:	20 ms

Supply

Voltage:	HART current loop: 12...32 VDC
Load:	R = (U_B-12 V) / 21 mA
Reverse voltage prot.:	available (no function, no damage)

Environmental Conditions

Temperature:	Operating range:	-20...85 °C 0...+85 °C (compensated range)
	Storage:	-20...+85 °C
	Medium:	-30...+410 °C
Condensation:	uncritical	
CE-conformity:	Pressure equipment directive: 2014/68/EU / EMC directive: 2014/30/EU	
Shock resistance:	1000 g as per IEC 60068-2-27 (mechanical shock)	
Vibration resistance:	20 g as per IEC 60068-2-6 (vibration under resonance)	

Mechanics

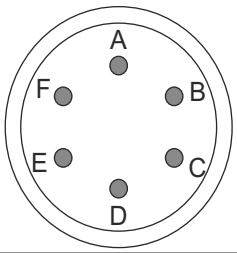
Dimensions:	see page 3	
Pressure connection:	1/2"-20UNF-2A with 457 mm capillary tube / 1/2"-20UNF-2A	
Electrical connection:	MIL, M12, cable outlet	
Material:	Process connection:	1.4571 stainless steel CrNi (in contact with medium)
	Body:	1.4571 stainless steel CrNi
	Sides/cap:	PBT GF30
Transmission fluid:	synthetic oil (internal), no transmission fluid at measurement ranges >25 bar	
Weight:	ca. 499 g	
with capillary tube:	ca. 613 g	
Device protection:	Protection class:	at least IP65 (electronics) PCB: Potted

Maximum overpressure safety: 2x measurement range

Electrical Connection

M12x1	MIL	Cable
		
4-, 5-, 8-pole	6-pole	4-pole

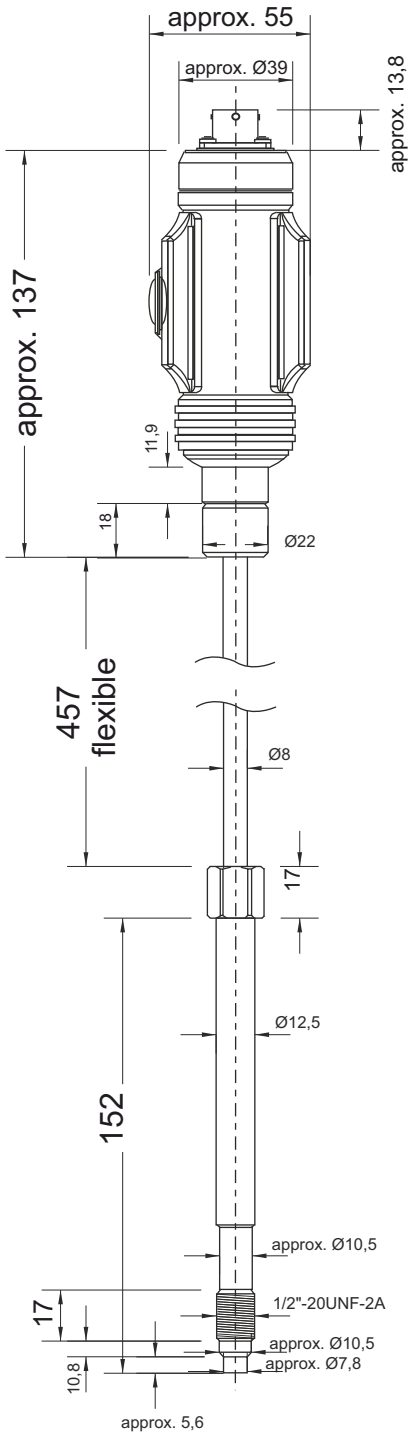
Connection example MIL round plug, 6-pole



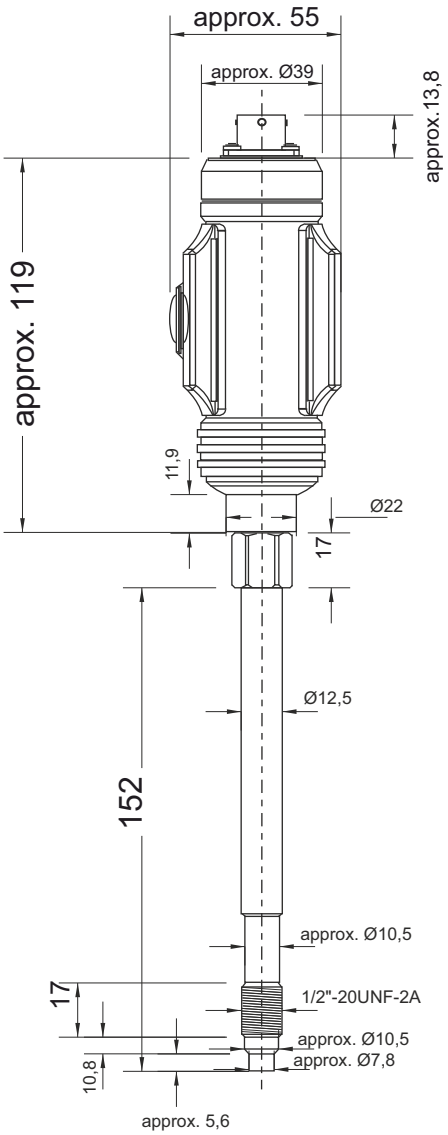
PIN	Function
A	+signal
B	-signal
C	-
D	-
E	80% cal.
F	80% cal.

Dimensions and Process Connection (in mm)

Process connection 1/2"-20UNF-2A with capillary tube



Process connection 1/2"-20UNF-2A



Ordering Code

A	C	X	X	X	X	X	-	X	X

Pressure range:	200 bar (standard)	0
	Option[1]	1
Output:	4...20 mA, 2-wire	0
	CANopen	1
Accuracy:	0,5% of terminal value (standard)	0
	0,25% of terminal value	1
Process connection:	1/2"-20UNF-2A	0
	1/2"-20UNF-2A with 457 mm capillary tube	1
Electr. connection:	MIL, 6-pole	0
	M12, 4-pole	1
	M12, 5-pole	2
	M12, 8-pole	3
	Cable outlet, 4-pole	4
Configuration:	Factory setting[2]	0
	Customized (please specify)	1
Special model:	No	0
	Yes (please specify)	1

1) A range from 0...50 bar up to 0...1200 bar can be selected.

2) Measurement range: 200 bar, 0,5% accuracy

Accessories:

DEV-HM (HART-interface, USB, software) Best.-Nr.: **01310-00220**

HART-Communication

The HART-Tool is a graphical user interface for the ME series with menu-driven progam for configuration. It can be used for putting into operation, configuration, analysis of signals, data backup and documentation of the device. Connection via HART interface DEV-HM or handset HART communicator for operating systems: Windows 2000, Windows XP, Windows 7, 8.1 and 10.

Settings:
- Adjustment output current
- Measurement value limits
- 2-point-calibration
- Simulation output current
- Linear output signal
- Filter function
- HART-Address

Please note: When communicating via HART-modem, allow for a communication resistance of 250 Ω.