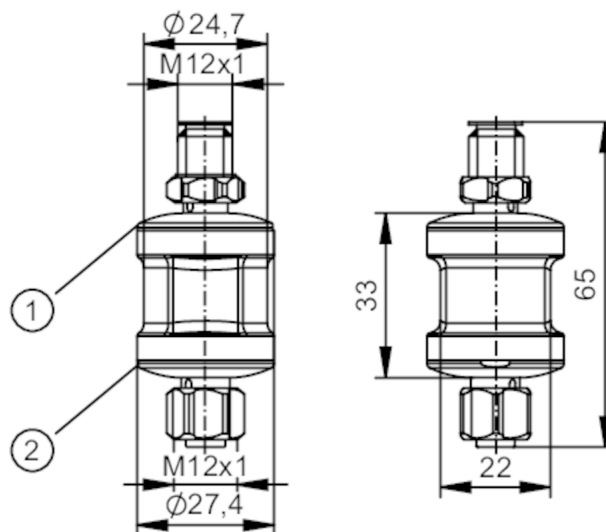


TP2003



Temperature plug for hygienic applications

TP-FDC-AFZVG/US/



- 1 LED switching status indication
2 LED voltage indication



Product characteristics

Number of inputs and outputs	Number of digital outputs: 1; Number of analog outputs: 1
Measuring range [°F]	-148...572
Communication interface	IO-Link

Application

Special feature	gold-plated contacts
Application	for Pt100 and Pt1000 measuring elements

Electrical data

Operating voltage [V]	18...32 DC
Protection class	III
Reverse polarity protection	yes
Overtoltage category	II
Power-on delay time [s]	2
Integrated watchdog	yes

Inputs / outputs

Number of inputs and outputs	Number of digital outputs: 1; Number of analog outputs: 1
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Outputs

Total number of outputs	2
Output signal	analog signal; IO-Link; switching signal; (configurable)
Electrical design	PNP/NPN
Number of digital outputs	1
Output function	normally open / closed; (configurable)
Max. voltage drop switching output DC [V]	2



Temperature plug for hygienic applications

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Permanent current rating of switching output DC	[mA]	100
Number of analog outputs		1
Analog current output	[mA]	4...20
Max. load	[Ω]	(Ub-13,5)/0,0215
Short-circuit protection		yes
Type of short-circuit protection		not locked in place
Overload protection		yes
Measuring/setting range		
Measuring range	[°F]	-148...572
Factory setting		0...300 °F
Resolution of analog output	[K]	0.032; (MS: 0...300 °F)
Accuracy / deviations		
Precision analog output	[K]	± 0,18; (MS: 0...300 °F) ; or ± (0,067 % MS)
Precision IO-Link	[K]	± 0,09
Temperature coefficient analog output		< 0,1
	[% of the span / 10 K]	
Temperature coefficient IO-Link		< 0,06
	[% of the span / 10 K]	
Reaction times		
Max. measuring/display cycle	[ms]	350
Software / programming		
Parameter setting options		scaling of the analog output; calibration adjustment; hysteresis / window; switching logic; simulation mode
Interfaces		
Communication interface		IO-Link
Transmission type		COM2 (38,4 kBaud)
IO-Link revision		1.1.3
Profiles	Smart Sensor - SSP 3.1	Measuring Sensor
	BLOB	Binary Large Object transfer
	Common - I&D	Identification and Diagnosis
	Function	ProductURI
Min. process cycle time	[ms]	3.2
IO-Link resolution temperature	[K]	0.02
Supported DeviceIDs	Type of operation	DeviceID
	default	1327
Operating conditions		
Ambient temperature	[°C]	-25...80
Storage temperature	[°C]	-40...85
Max. relative air humidity	[%]	90; (non condensing)
Max. height above sea level	[m]	2000
Protection		IP 68; IP 69K

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Pollution degree	3
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Tests / approvals

EMC	DIN EN 61000-6-2	if frequencies above 40 MHz occur, the housing must be grounded
	DIN EN 61000-6-3	
Shock resistance	DIN EN 68000-2-27	50 g (11 ms)
Vibration resistance	DIN EN 60068-2-6	20 g (10...2000 Hz)
MTTF [years]	462	

Mechanical data

Weight [g]	53.7
Housing	tubular
Dimensions [mm]	Ø 27.4 / L = 65
Material	LED: PA; housing: stainless steel (1.4404 / 316L)
Sealing material	FKM

Displays / operating elements

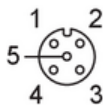
Display	status	1 x LED, green
	Switching status	1 x LED, orange

Remarks

Remarks	MS = set measuring span
Pack quantity	1 pcs.

Electrical connection - Sensor connection

Connector: 1 x M12; coding: A; Contacts: 4, gold-plated; Locking: stainless steel (1.4404 / 316L); sealing: FKM



2-wire

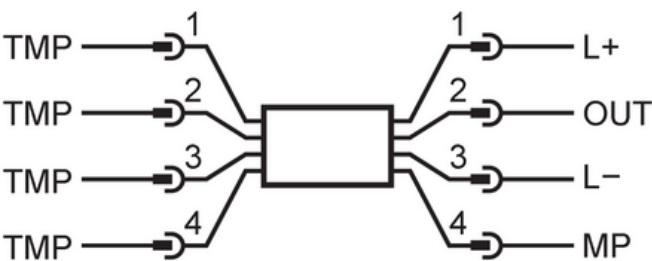
1	TMP	(bridged Pin 2)
2	TMP	R
3	TMP	R
4	TMP	(bridged Pin 3)
5	n.c.	

4-wire

1	TMP	R
2	TMP	R
3	TMP	R
4	TMP	R
5	n.c.	

Electrical connection

Connection



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Temperature plug for hygienic applications

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Electrical connection - Process connection

Connector: 1 x M12; coding: A; Contacts: 4, gold-plated; Locking: stainless steel (1.4404 / 316L)



2-wire

1	L+	
2	OUT	AO

3-wire

1	L+	
2	OUT	AO
3	L-	
4	MP	DO (NO/NC), IO-Link