

PL20H - Adaptive trigger

PL20H-1#####.11#012.A0302#0#000#

Overview

- Adaptive trigger
- Problem solver for adhesions
- Two adjustable switching outputs
- Possibility for analog output
- Applicable for use in open tanks
- 360° visible multicolor LED
- IO-Link interface



Technical data

Performance characteristics		Ambient conditions	
Trigger modes	Adaptive trigger Window trigger Analog output	Vibration (EN 61373:2010)	Category 2 (bogie-mounted) Functional test: 5.4 m/s ² , 5...250 Hz, 10 min. per axis Life-time: 30.6 m/s ² , 5...250 Hz, 5 h per axis
Measuring principle	CleverLevel level switches (Frequency Sweep)	Shock (EN 61373:2010)	Category 2 (bogie-mounted) 300 m/s ² , 18 ms, 3 impulses per axis and direction
Hysteresis	± 1 mm	Output signal	
Repeatability	± 1 mm	Output type	PNP NPN Digital (push-pull) 4...20 mA
Media characteristics	DC > 1.5	Switching logic	Normally open (NO) Normally closed (NC) Active high Active low
Response time	< 150 ms	Voltage drop	PNP: (+Vs -1.4 V) ± 0.5 V, Rload ≥ 10 kΩ NPN: (-Vs +0.6 V) ± 0.3 V, Rload ≥ 10 kΩ
Damping	0 ... 10 s , adjustable	Current rating	100 mA , max.
Process conditions		Off leak current	< 100 µA , max.
Process temperature	Refer to section "Operating conditions"	Short circuit protection	Yes
Process pressure	Refer to section "Operating conditions"	Interface	IO-Link 1.1
Process connection		IO-Link interface	
Connection variants	Refer to section "Dimensional drawings"	Version	1.1
Mounting position	Any, top, bottom, side	Port type	Class A
Wetted parts material	PEEK Natura AISI 316L (1.4404)	Transmission rate	38,4 kbaud (COM2)
Surface roughness wetted parts	Ra ≤ 0.8 µm	Min. cycle time	6.4 ms
Ambient conditions		SIO-mode	Yes
Operating temperature range	-40 ... 85 °C -40 ... 60 °C , with 4 ... 20 mA output signal	Housing	
Storage temperature range	-40 ... 85 °C	Style	Compact transmitter
Degree of protection (EN 60529)	IP 67 IP 69K , with appropriate cable	Overall size	Refer to section "Dimensional drawings"
Humidity	< 98 % RH , condensing		

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Technical data

Housing		Factory settings – Adaptive trigger	
Material	Stainless steel	Steady detection	Active
Electrical connection		Factory settings – Window trigger	
Connector	M12-A, 4-pin, polycarbonate M12-A, 4-pin, stainless steel	Switching logic	Normally open (NO)
Power supply		Switch window, min.	0 %
Voltage supply range	8 ... 35 V DC	Switch window, max.	75.3 %
Current consumption (no load)	25 mA , typ. 53 mA , max.	Switch window, hysteresis	2.4 %
Power-up time	< 1.5 s	Damping	0.1 s
Reverse polarity protection	Yes	Compliance and approvals	
Factory settings – Adaptive trigger		EMC Emission	EN 61326-1:2013 EN 50121-3-2:2016
Switching logic	Normally open (NO)	EMC Immunity	EN 61326-1:2013 EN 50121-3-2:2016
Advanced setup	Disabled	Hygiene	3-A (pending) EHEDG (pending) FDA (21 CFR 177.2415)
Set point low	0 %		
Set point high	100 %		
Damping	0 ms		

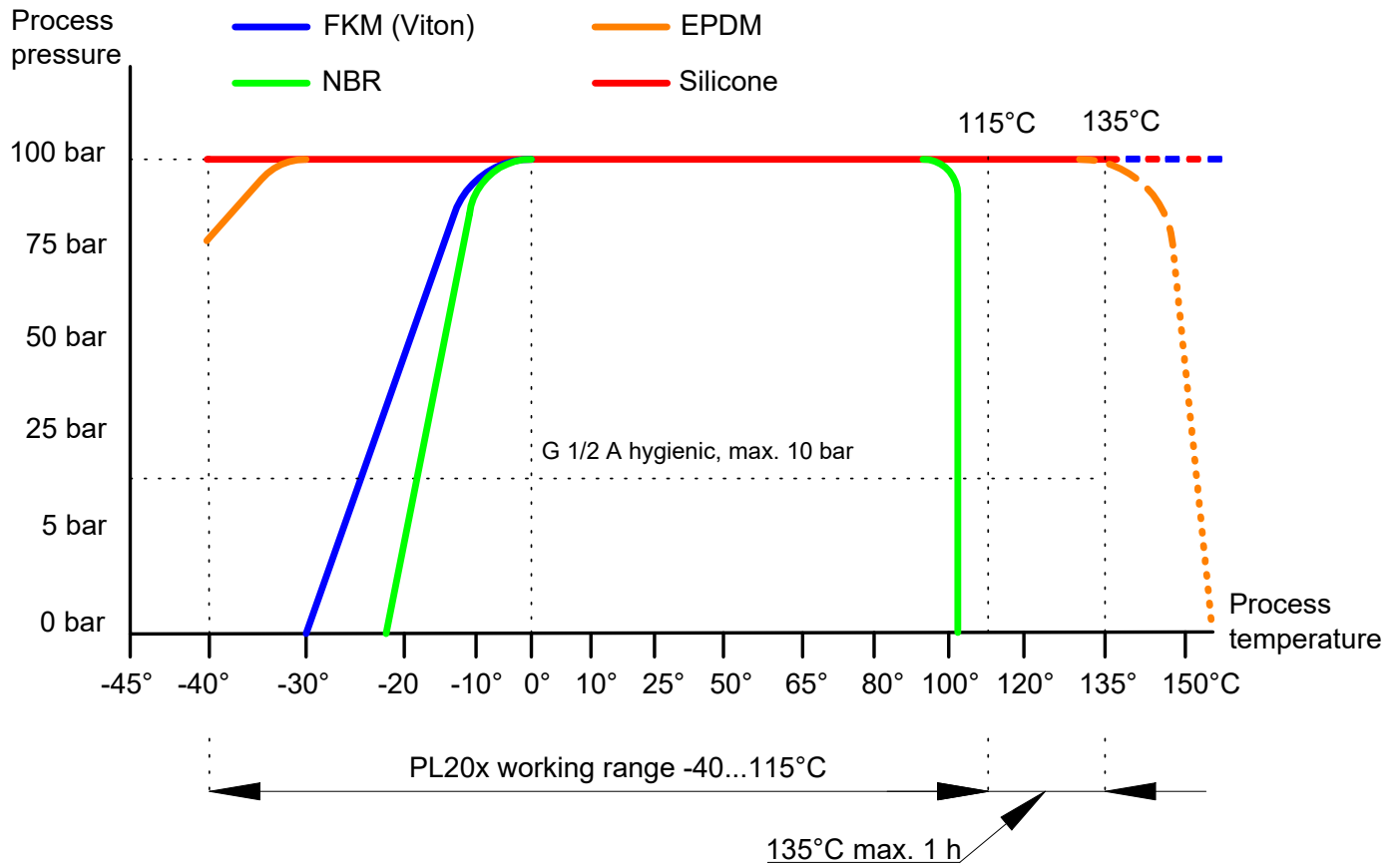
Operating conditions

Ordering key	Process connection	BCID	Continuous		Temporary (t < 1 h)	
			Process temperature @ Tamb < 50 °C	Process pressure	Process temperature max. @ Tamb < 50 °C	Process pressure @ Process temperature max.
			(° C)	(bar)	(° C)	(bar)
A030	G 1/2 A hygienic	A03	-40 ... 115	-1 ... 10	135	-1 ... 5

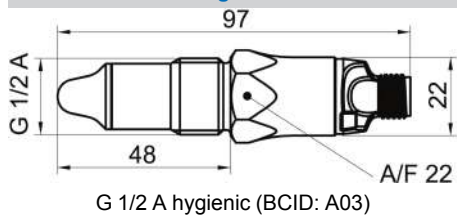
For further information regarding operating conditions please see the graph of the different types of internal O-rings.

Operating conditions

Internal O-ring type



Dimensional drawings



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Electrical connection

Process connection

Output type	Equivalent circuit	Electrical connection	Function	Pin assignment
Programmable output IO-Link PNP			+Vs	1
			SW1 (IO-Link)	4
			SW2	2
Programmable output IO-Link NPN			+Vs	1
			SW1 (IO-Link)	4
			SW2	2
Programmable output IO-Link Digital (push-pull)			+Vs	1
			SW1 (IO-Link)	4
			SW2	2
			GND (0 V)	3
			Frame Ground	Plug thread

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PL20H-1####.11#012.A0302#0#000#

Electrical connection

Process connection

Output type	Equivalent circuit	Electrical connection	Function	Pin assignment
Programmable output IO-Link + Analog 4...20 mA PNP			+Vs	1
			SW1 (IO-Link)	4
			Iout	2
Programmable output IO-Link + Analog 4...20 mA NPN			+Vs	1
			SW1 (IO-Link)	4
			Iout	2
Programmable output IO-Link + Analog 4...20 mA Digital (push-pull)			+Vs	1
			SW1 (IO-Link)	4
			Iout	2
			GND (0 V)	3
			Frame Ground	Plug thread

Ordering information

Ordering key - Configuration possibilities see website

	PL20H	-	1	#	#	#	#	.	1	1	#	0	1	2	.	A030	2	#	0	#	0	0	0	#
Product	Level switches																							
Version	Adaptive trigger																							
Trigger mode Switch 1	Adaptive trigger																							
	Window trigger																							
Trigger mode Switch 2	Adaptive trigger																							
	Window trigger																							
	Analog (4...20 mA)																							
Output type switch 1	PNP																							
	NPN																							
	Digital (push-pull)																							

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Ordering information

Ordering key - Configuration possibilities see website

	PL20H	-	1	#	#	#	#	.	1	1	#	0	1	2	.	A030	2	#	0	#	0	0	0	0	#
Output type switch 2																									
PNP												1													
NPN												2													
Digital (push-pull)												3													
Analog (4...20 mA)												4													
Interface																									
I/O-link												1													
Protection class																									
IP 67, IP69K												1													
Electrical connection																									
M12-A, 4-pin, polycarbonate (with LED)												1													
M12-A, 4-pin, stainless steel (without LED)												2													
Cable length																									
Without cable												0													
Process temperature																									
-40...115 °C												1													
Max. process pressure																									
10 bar																									
Process connection																									
G 1/2 A hygienic (A03)																									
Wetted parts material																									
AISI 316L (1.4404)																									
Surface roughness																									
Ra ≤ 0,8 µm																									
Ra ≤ 0,4 µm																									
Gasket material (external)																									
Without																									
Sealing-/ O-ring (internal)																									
NBR																									
FKM /Viton																									
EPDM																									
Silicone																									
Explosion protection																									
Without																									
Industrial approvals																									
Standard																									
Special approvals																									
Standard																									
Configuration																									
Factory settings																									
Customer-specific																									