

Overview

- Any media from liquid to viscous, e.g. cooling agents (DC > 1.5)
- Particularly robust design for harshest ambient conditions
- Switching outputs individually adjustable with IO-Link (2) for definition of switching range or two-stage alarms (early warning)
- Optional multi-color process visualization through 360° of switching state



Technical data

Performance characteristics

Measuring principle	Air and gas bubble detection based on DC value
Media characteristics	DC > 1.5
Step response time	< 150 ms
Flow velocity	> 0.1 m/s
Conductivity	< 20 mS/cm

Process conditions

Process temperature	Refer to section "Operating conditions"
Process pressure	Refer to section "Operating conditions"

Process connection

Connection variants	Refer to section "Dimensional drawings"
Wetted parts material	PEEK Natura AISI 316L (1.4404)
Surface roughness wetted parts	Ra ≤ 0.8 μm

Ambient conditions

Operating temperature range	-40 ... 85 °C
Storage temperature range	-40 ... 85 °C
Degree of protection (EN 60529)	M12-A connector, stainless steel: IP67 , with appropriate cable IP69K , with appropriate cable KingCrown M12-A connector (proTect+): IP68 , with appropriate cable IP69K , with appropriate cable
Humidity	< 98 % RH , condensing

Output signal

Output type	PNP NPN Digital (push-pull)
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Output signal

Switching logic	Normally open (NO) Normally closed (NC) Active high Active low
Voltage drop	PNP: (+Vs -1.4 V) ± 0.5 V, Rload ≥ 10 kΩ NPN: (-Vs +0.6 V) ± 0.3 V, Rload ≥ 10 kΩ
Current rating	100 mA , max.
Off leak current	< 100 μA , max.
Short circuit protection	Yes
Interface	IO-Link 1.1

IO-Link interface

IO-Link version	1.1
IO-Link port type	Class A
Baud rate	38,4 kbaud (COM2)
Cycle time	≥ 6.4 ms
SIO-mode	Yes

Housing

Style	Compact transmitter
Overall size	Refer to section "Dimensional drawings"
Material	AISI 316L (1.4404)

Electrical connection

Connector	M12-A, 4-pin, stainless steel (without LED) M12-A, 4-pin, stainless steel KingCrown (with LED)
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Power supply

Voltage supply range	8 ... 35 V DC
Current consumption (no load)	25 mA , typ. 53 mA , max.
Power-up time	< 1.5 s
Reverse polarity protection	Yes

Technical data

Factory settings

Switching logic	Normally open (NO)
Sensitivity	100
Threshold	500
Min. switching time	500 ms

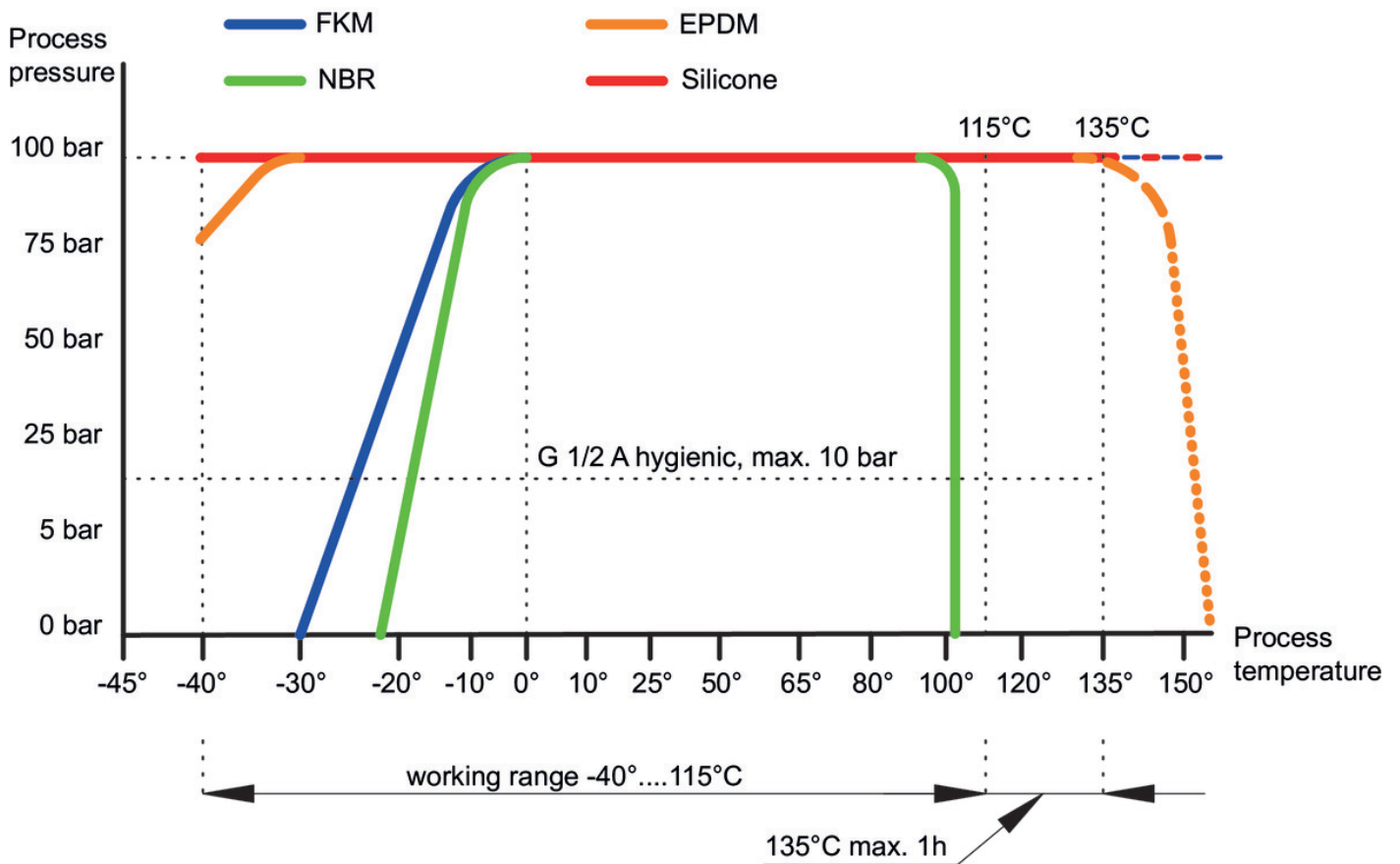
Compliance and approvals

EMC	EN 61326-1
Hygiene	FDA (21 CFR 177.2415)
Safety	cULus listed, E365692

Operating conditions

Ordering key	Process connection	BCID	Continuous		Temporary (t < 1 h)	
			Process temperature @ Tamb < 50 °C (° C)	Process pressure (bar)	Process temperature max. @ Tamb < 50 °C (° C)	Process pressure @ Process temperature max. (bar)
G070	G 1/2 A ISO 228-1 BSC	G07	-40 ... 115	-1 ... 100	135	-1 ... 100

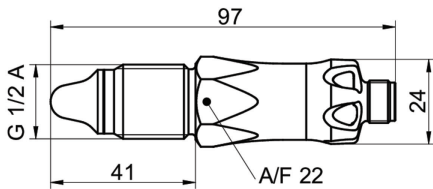
Internal O-ring-typ



Operating conditions

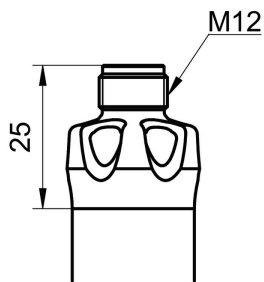
Material	Resistance
NBR	High resistance to petroleum, dilute acid, ethylene glycol, lye, mineral oils, aliphatic hydrocarbons and water. NBR is not suitable for CIP cleaning.
FKM	High resistance to mineral oils, acid, aliphatic hydrocarbons and chlorinated hydrocarbons. FKM is not suitable for steam and lye.
EPDM	High resistance to water, steam, glycol, alcohols, acid, lye and solvents and chemicals used in the Food & Beverage production. EPDM is not suitable for mineral oils.
Silicone	High resistance to water, alcohols and dilute acid. Silicone is not suitable for steam and concentrated acids and bases.

Dimensional drawings (mm)

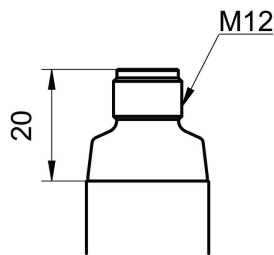


G 1/2 A ISO 228-1 BSC (BCID: G07)

Housing



Connector M12-A, 4-pin, stainless steel (with LED), KingCrown



Connector M12-A, 4-pin, stainless steel (without LED)

Electrical connection

Output type	Equivalent circuit	Electrical connection	Function	Pin assignment										
Programmable output IO-Link PNP			<table border="1"> <tr><td>+Vs</td><td>1</td></tr> <tr><td>SW1 (IO-Link)</td><td>4</td></tr> <tr><td>SW2</td><td>2</td></tr> <tr><td>GND (0 V)</td><td>3</td></tr> <tr><td>Frame Ground</td><td>Plug thread</td></tr> </table>	+Vs	1	SW1 (IO-Link)	4	SW2	2	GND (0 V)	3	Frame Ground	Plug thread	
+Vs	1													
SW1 (IO-Link)	4													
SW2	2													
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Frame Ground	Plug thread													
Programmable output IO-Link NPN			<table border="1"> <tr><td>+Vs</td><td>1</td></tr> <tr><td>SW1 (IO-Link)</td><td>4</td></tr> <tr><td>SW2</td><td>2</td></tr> <tr><td>GND (0 V)</td><td>3</td></tr> <tr><td>Frame Ground</td><td>Plug thread</td></tr> </table>	+Vs	1	SW1 (IO-Link)	4	SW2	2	GND (0 V)	3	Frame Ground	Plug thread	
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Frame Ground	Plug thread													
Programmable output IO-Link Digital (push-pull)			<table border="1"> <tr><td>+Vs</td><td>1</td></tr> <tr><td>SW1 (IO-Link)</td><td>4</td></tr> <tr><td>SW2</td><td>2</td></tr> <tr><td>GND (0 V)</td><td>3</td></tr> <tr><td>Frame Ground</td><td>Plug thread</td></tr> </table>	+Vs	1	SW1 (IO-Link)	4	SW2	2	GND (0 V)	3	Frame Ground	Plug thread	
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Ordering information

Ordering key - Configuration possibilities see website

	PAD20S	-	B0	#	.	#	#	G070	.	3	0	#	.	0	0	0	#
Product	PAD20S																
Output signal	IO-Link, programmable output V																
Output type																	
PNP																	
NPN																	
Digital (push-pull)																	
Protection class																	
IP67, IP69K																	
Baumer proTect+ (IP68, IP69K)																	
Electrical connection																	
M12-A, 4-pin, stainless steel (without LED)																	
M12-A, 4-pin, stainless steel KingCrown (with LED)																	
Process connection																	
G 1/2 A ISO 228-1 (G07)																	
Wetted parts material																	
PEEK / AISI 316L (1.4404)																	
Surface roughness																	
Standard																	

2023-08-02 The product features and technical data specified do not express or imply any warranty. Technical modifications subject to change.

Ordering information

Ordering key - Configuration possibilities see website

	PAD20S	-	B0	#	.	#	#	G070	.	3	0	#	.	0	0	0	#
Sealing-/ O-ring (internal)																	
NBR																	1
FKM																	2
EPDM																	3
Silicone																	4
Explosion protection																	
Without																	0
Industrial approvals																	
Standard																	0
Special approvals																	
Standard																	0
Configuration																	
Factory settings																	0
Customer-specific																	1