

F02 Safety

Pressure sensors

KEY FEATURES

- Safety pressure transmitter for applications that require a Performance Level PL d according to EN ISO 13849-1:2015 or AgPL d according to ISO 25119:2010 respectively SIL 2 according to IEC 61508:2010
- For mobile hydraulics, alternative drives (CNG, LPG) and industrial sectors
- Maximum flexibility through modular design, customization and individualization possible
- High media compatibility
- Designed for OEM needs
- With ECE type approval

TECHNICAL DATA

- Pressure ranges from 0 ... 10 bar to 0 ... 1200 bar (relative) with welded stainless steel measurement cell
- Operating temperature range -40 ... +85 °C / -40 ... +185 °F with media temperatures up to +125 °C / +257 °F
- Redundant inverse output signal (either analog current or ratiometric voltage)
- Protection class IP67 and IPX9K

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TECHNICAL DATA

Available Standard Pressure Ranges (Other Ranges Available) and Sensor Parameters

Component	Description/Value
Pressure reference	Relative R (gauge G)
Standard pressure range	10 bar 25 bar 50 bar 100 bar 250 bar 400 bar 800 bar 1200 bar
Overload pressure (per DIN EN 60770-1)	40 bar 40 bar 100 bar 200 bar 500 bar 800 bar 1000 bar 1600 bar
Bursting pressure (per DIN EN 60770-1)	70 bar 70 bar 500 bar 1000 bar 2500 bar 4000 bar > 4000 bar > 4000 bar
Media temperature	-40 ... +125 °C / -40 ... +257 °F
Operating temperature	-40 ... +85 °C / -40 ... +185 °F
Storage temperature	-40 ... +100 °C / -40 ... +212 °F
Material with medium contact	Stainless Steel AISI 630 (EN 1.4542), AISI 316 L (EN 1.4435) on request
Overall accuracy under reference conditions (load 100 Ω, temperature in steady state, accuracy valid for SIG1)	≤ 1.0 %FS (0 ... +85 °C) / (+32 ... +185 °F) ≤ 1.5 %FS (-25 ... 0 °C) / (-13 ... +32 °F) ≤ 2.5 %FS (-40 ... -25 °C) / (-40 ... -13 °F)
Thereof linearity, pressure hysteresis and repeatability (Linearization with limit point setting)	< 0.5 %FS
Long-term stability	< 0.2 %FS p.a.

Available Outputs

Type	Component	Description/Value
Analog	Output signal	2 x 4 ... 20 mA (3-wire technique) or 2 x 10 ... 90 %VCC, second output inverted
	Electrical connection	M12 connector (plastic or stainless steel), DT04-4P, cable output Other connectors on request

TECHNICAL DATA

Mechanical Data

Component	Description/Value
Pressure connection	G 1/4", 1/4" NPT, SAE04 (7/16-20UNF), SAE06 (9/16-18UNF), other pressure connectors like M10, M12, M14, M16, G 1/8" on request, possible limitations of the pressure range. Pressure connections are available with a reduced diameter of the pressure channel to dampen pressure peaks.
Material housing	Stainless steel, AISI 304 (EN 1.4301)
Material connector	Glass-fiber reinforced plastic (PBT) or AISI 304 (EN 1.4301)
Weight	F02 G 1/4" with M12x1 PBT: approx. 50 g F02 G 1/4" with M12x1 stainless steel: approx. 70 g
Installation torque	Max. 35 Nm
Protection class	IP67 and IPX9K (depends on the electrical connection)

Power Supply, Cable Connection

Parameter	Description
Voltage supply (DC)	U_{VCC} : 9 ... 32 V (for current output), 5 V \pm 10 % (for ratiometric voltage output)
Electrical protection	Short circuit protected, signal on GND/VCC and inverse polarity protection (supply lines)
Maximum cable length	For CE conformity (EMC), the maximum overall cable length must not exceed 30 m

Functional safety

Standard	Description	Parameters of the current variant	Parameters of the ratiometric voltage variant
IEC 61508:2010	Safety Integrity Level (SIL)	SIL 2	SIL 2
	Architecture	1oo1 (single channel)	1oo1 (single channel)
	Hardware Failure Tolerance (HFT)	0	0
	Safe Failure Fraction (SFF)	95.8 %	93.1 %
	Average frequency of dangerous failure per hour (PFH)	6.1×10^{-9} 1/h	4.9×10^{-9} 1/h

TECHNICAL DATA

Functional safety

Standard	Description	Parameters of the current variant	Parameters of the ratiometric voltage variant
EN ISO 13849-1:2015	Performance Level (PL)	PL d	PL d
	Architecture	Category 2	Category 2
	average Diagnostic Coverage (DC_{avg})	94.7 % with an external monitoring (for details see safety manual)	91.0 % with an external monitoring (for details see safety manual)
	Common Cause Failures (CCF)	70 points	70 points
	Mean Time To Dangerous Failure ($MTTF_D$)	100 years	100 years
ISO 25119:2010	Agricultural Performance Level (AgPL)	AgPL d	AgPL d
	Architecture	Category 2	Category 2
	average Diagnostic Coverage (DC_{avg})	94.7 % with an external monitoring (for details see safety manual)	91.0 % with an external monitoring (for details see safety manual)
	Mean Time To Dangerous Failure ($MTTF_{dC}$)	981 years	2090 years
	Software Requirement Level (SRL)	Not relevant	Not relevant
SN 29500	Mean Time To Failure (MTTF)	498 years	1060 years

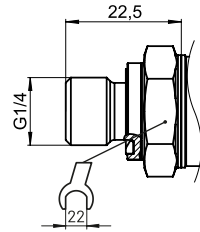
TECHNICAL DRAWINGS AND PIN ASSIGNMENTS

Available Standard Pressure Connections

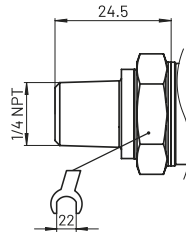
Connection

Drawing

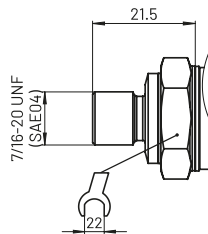
G1/4", DIN EN ISO 1179-2:2014-03 (formerly DIN 3869:1994-05)



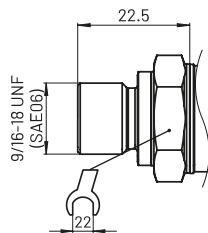
1/4" NPT per „Nominal width for US-standard bevelled pipe thread NPT“



SAE04 (7/16-20UNF) - O-Ring



SAE06 (9/16-18UNF) - O-Ring



Available Electrical Connections, Protection Class

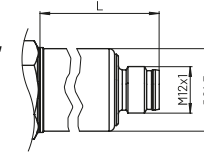
Connection

Drawing

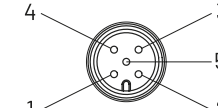
Pins

Pin Assignment

Circular plug-in connector M12x1, 5-pole, IP67



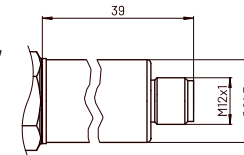
PBT-GF30
L = 30.8
L = 24.4 ratiometric



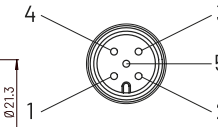
Pin	Signal name
1	VCC
2	SIG2
3	GND
4	SIG1
5	-

Do not connect the pins marked with „-“!

Circular plug-in connector M12x1, 5-pole, IP67



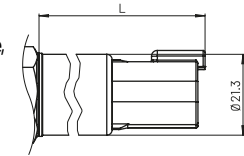
stainless steel



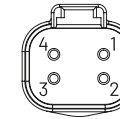
Pin	Signal name
1	VCC
2	SIG2
3	GND
4	SIG1
5	-

Do not connect the pins marked with „-“!

Connector DT04-4P, 4-pole, IP67



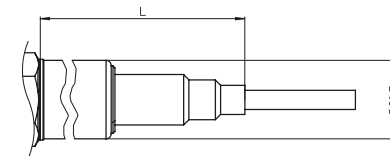
L = 43.7
L = 37.3 ratiometric



Pin	Signal name
1	VCC
2	GND
3	SIG2
4	SIG1

Do not connect the pins marked with „-“!

Cable output IP67/IPX9K (Oil-resistant cable on request)



L = 55.5
L = 49.1 ratiometric

Litz wire	Signal name
brown	VCC
white	SIG2
blue	GND
black	SIG1
grey	-

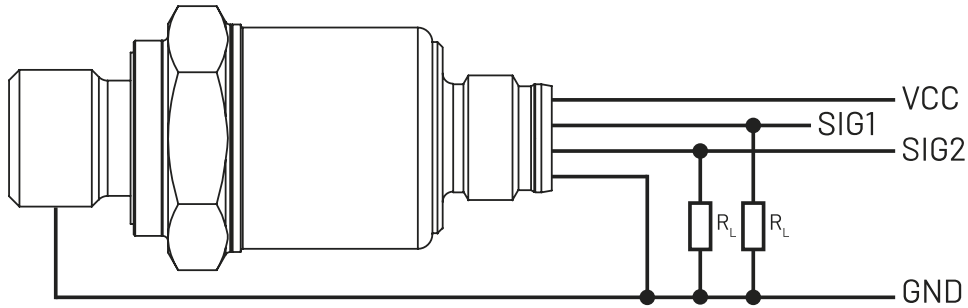
Do not connect the wires marked with „-“!

STW standard pin assignments are shown, other pin assignments on request. The actual pin assignment is shown on the product label.

TERMINAL LAYOUTS

Recommended terminal layout

3-wire technique



QUALIFICATION

Compliance Information

Standard

KBA (Kraftfahrt-Bundesamt)

Description



Conformity



Certification
According UN ECE Regulation No. 10

DETAILED QUALIFICATION

Electrical Safety

Standard	Test Description	Test Parameter	Current	Ratiometric
STW Company Standard	Supply voltage	<p>Current variant: Operation with $U_{max} = 32$ V DC and $U_{min} = 9$ V DC for a duration of 60 minutes each</p> <p>Ratiometric voltage variant: Operation with $U_{max} = 5.5$ V DC and $U_{min} = 4.5$ V DC for a duration of 60 minutes each</p>	Yes	Yes
STW Company Standard	Starting profile switch-on hysteresis	<p>Overvoltage and hysteresis: $U_{Test} = U_{max} + 3\%$ $t = 5$ min</p> <p>Undervoltage and hysteresis: $U_{Start} = U_{nom}$ $\Delta U = 0.1$ V $U_{min} = U_{switch-off}$ t at $U_{switch-on} = 5$ min</p>	Yes	Yes
STW Company Standard	Broken cable supply lines	<p>Interruption of supply lines</p> <p>Current variant: $U_{max} = 32$ V $U_{min} = 9$ V</p> <p>Ratiometric voltage variant: $U_{max} = 5.5$ V $U_{min} = 4.5$ V $t = 60$ sec</p>	Yes	Yes
STW Company Standard	Short circuits	Output signals to VCC or GND in each case $t = 60$ sec	Yes	Yes
STW Company Standard ISO 16750-2: 2012-11	Polarity Protection	Change supply polarity $t = 5$ min	Yes	Yes

DETAILED QUALIFICATION

Electrical Safety

Standard	Test Description	Test Parameter	Current	Ratiometric
		Current variant: No current limitation of supply necessary		
		Ratiometric voltage variant: Current limiting of supply to 2 A		
STW Company Standard	Current consumption	Supply current consumption without load	Yes	Yes
		Current variant: $I_{max} \leq 50 \text{ mA}$		
		Ratiometric voltage variant: $I_{max} \leq 20 \text{ mA}$		
STW Company Standard	Load test	48 hours at minimum temperature: 12 hours without operating, 36 hours with operating U_{min} and I_{min}	Yes	Yes
		48 hours at maximum temperature with operation U_{max} and I_{max}		
STW Company Standard ISO 16750-2: 2012-11	Insulation Resistance	Unpowered; 500 V DC; 60 sec; 50 % rh; 35 °C; between Connector pins and electric conductive housing without galvanic contact	Yes	Yes
		Insulation resistance > 10 MΩ		

EMC industrial (CE)

Standard	Test Description	Test Parameter	Current	Ratiometric
DIN EN 61326-1:2013-07 DIN EN 61326-2-3:2013-07 DIN EN 55011:2009 + A1:2010	Emissions - Electrical equipment for measurement, control and laboratory use	Conducted emission 150 kHz to 30 MHz; Radiated emission 30 MHz to 1000 MHz, 3 m	Yes	Yes

DETAILED QUALIFICATION

EMC industrial (CE)

Standard	Test Description	Test Parameter	Current	Ratiometric
DIN EN 61326-1:2013-07 DIN EN 61326-2-3:2013-07 DIN EN 61000-4-2:2009	Immunity - Electrical equipment for measurement, control and laboratory use - Electrostatic discharge immunity test	330 Ω / 150 pF Contact discharge ±4 kV Air discharge ±8 kV	Yes	Yes
DIN EN 61326-1:2013-07 DIN EN 61326-2-3:2013-07 DIN EN 61000-4-3:2006 + A1:2008 + A2:2010	Immunity - Electrical equipment for measurement, control and laboratory use - Radiated, radio-frequency, electromagnetic field immunity test	80 MHz to 1.0 GHz → 10 V/m 1.4 GHz to 2 GHz → 3 V/m 2 GHz to 2.7 GHz → 1 V/m 3 m, horizontal and vertical AM 80 %, 1 kHz	Yes	Yes
DIN EN 61326-1:2013-07 DIN EN 61326-2-3:2013-07 DIN EN 61000-4-4:2004 + A1: 2010	Immunity - Electrical equipment for measurement, control and laboratory use - Electrical fast transient / burst immunity test	Supply lines ±2 kV data lines ±1 kV waveform: 5/50 ns tr/th repetition frequency 5 kHz	Yes	Yes
DIN EN 61326-1:2013-07 DIN EN 61326-2-3:2013-07 DIN EN 61000-4-5:2006	Immunity - Electrical equipment for measurement, control and laboratory use - Surge immunity test	Supply lines (symmetrical) ±1 kV Supply lines (asymmetrical) ±2 kV	Yes	—
DIN EN 61326-1:2013-07 DIN EN 61326-2-3:2013-07 DIN EN 61000-4-6: 2009	Immunity - Electrical equipment for measurement, control and laboratory use - Immunity to conducted disturbances, induced by radio-frequency fields	150 kHz to 80 MHz, 3 V 80 % AM, sine at 1 kHz	Yes	Yes
DIN EN 61326-1:2013-07 DIN EN 61326-2-3:2013-07 DIN EN 61000-4-8:2010	Immunity - Electrical equipment for measurement, control and laboratory use -Immunity power frequency magnetic field	Frequency: 50 hz, 60 hz Field strength: 30 A/m Test on all 3 axes	Yes	Yes

EMC automotive

Standard	Test Description	Test Parameter	Current	Ratiometric
UN ECE R10 DIN EN 55025:2003-11, IEC/CISPR 25:2002	Emissions - Radiated emissions from components - ALSE method	30 MHz to 1 GHz	Yes	Yes
IEC/CISPR 25:2002, DIN EN 55025:2003-11	Emissions - Conducted emission - voltage probe method	150 kHz - 108 MHz	Yes	Yes

DETAILED QUALIFICATION

EMC automotive

Standard	Test Description	Test Parameter	Current	Ratiometric
UN ECE R10 ISO 11452-2:2004, ISO 11452-4:2011-12	Immunity - For components to electromagnetic Energy	ALSE - 200 MHz - 2000 MHz, 200 V/m BCI - 20 MHz - 400 MHz, 100 mA	Yes	Yes
ISO 7637-2:2004	Emissions - Voltage transient emissions	12 V: +75/-100 V	Yes	—
ISO 7637-2:2004	Emissions - Voltage transient emissions	24 V: +150/-450 V	Yes	—
UN ECE R10 ISO 7637-2:2004-09	Immunity - Electrical transient conduction along supply lines only (24V System) - Level 4	Pulse 1 (24 V) -600 V, 5000 pulses Pulse 2a (24 V) +50 V, 5000 pulses Pulse 2b (24 V), +20 V, 10 pulses Pulse 3a (24 V), -200 V, 1 h Pulse 3b (24 V), +200 V, 1 h Pulse 4 (24 V), -16 V, 1 pulse	Yes	—
UN ECE R10 ISO 7637-2:2004-09	Immunity - Electrical transient conduction along supply lines only (12V System) - Level 4	Pulse 1 (12 V) -150 V, 5000 pulses Pulse 2a (12 V) +50 V, 5000 pulses Pulse 2b (12 V), +10 V, 10 pulses Pulse 3a (12 V), -150 V, 1 h Pulse 3b (12 V), +100 V, 1 h Pulse 4 (12 V), -7 V, 1 pulse	Yes	—
ISO 7637-3:2016-07	Immunity - Electrical transient transmission by capacitive and inductive coupling via lines other than supply lines (12V System) - Level 4	CCC Pulse 3a: -110 V, 10 min. Pulse 3b: +75 V, 10 min. ICC Pulse Slow-: -110 V, 10 min. Pulse Slow+: +75 V, 10 min.	Yes	Yes
ISO 7637-3:2016-07	Immunity - Electrical transient transmission by capacitive and inductive coupling via lines other than supply lines (24V System) - Level 4	CCC Pulse 3a: -150 V, 10 min. Pulse 3b: +150 V, 10 min. ICC Pulse Slow-: -150 V, 10 min. Pulse Slow+: +150 V, 10 min.	Yes	Yes
ISO 10605:2008-07	Immunity - ESD component test method -Powered-up test	330 Ω/330 pF, 330 Ω/150 pF Contact discharge: ±2, ±4, ±6, ±8 kV	Yes	Yes

DETAILED QUALIFICATION

EMC automotive

Standard	Test Description	Test Parameter	Current	Ratiometric
ISO 10605:2008-07	Immunity - ESD component test method - Packaging and Handling test (unpowered test)	Air discharge: $\pm 4, \pm 8, \pm 15$ kV Indirect contact discharge: $\pm 2, \pm 4, \pm 6, \pm 8$ kV 330 Ω /150 pF Contact discharge on pins and contacts: $\pm 2, \pm 4$ kV Air discharge on surfaces: $\pm 4, \pm 8, \pm 15$ kV	Yes	Yes

EMC (Functional Safety with Normal Condition)

Standard	Test Description	Test Parameter	Current	Ratiometric
DIN EN 61326-3-1:2008-11 DIN EN 61326-2-3:2013-07 DIN EN 61000-4-2:2009	Immunity - Electrical equipment for measurement, control and laboratory use - Electrostatic discharge immunity test	330 Ω / 150 pF Contact discharge ± 6 kV Air discharge $\pm 2, \pm 4, \pm 8$ kV Indirect contact discharge ± 6 kV	Yes	Yes
DIN EN 61326-3-1:2008-11 DIN EN 61326-2-3:2013-07 DIN EN 61000-4-3:2011-04	Immunity - Electrical equipment for measurement, control and laboratory use - Radiated, radio-frequency, electromagnetic field immunity test	80 MHz to 1.0 GHz \rightarrow 20 V/m 1.4 GHz to 2 GHz \rightarrow 10 V/m 2 GHz to 2.7 GHz \rightarrow 3 V/m 3 m, horizontal and vertical AM 80 %, 1 kHz	Yes	Yes
DIN EN 61326-3-1:2008-11 DIN EN 61326-2-3:2013-07 DIN EN 61000-4-4:2013-04	Immunity - Electrical equipment for measurement, control and laboratory use - Electrical fast transient / burst immunity test	Supply lines ± 3 kV data lines ± 2 kV waveform: 5/50 ns tr/th repetition frequency 5 kHz	Yes	Yes
DIN EN 61326-3-1:2008-11 DIN EN 61326-2-3:2013-07 DIN EN 61000-4-5:2007-06	Immunity - Electrical equipment for measurement, control and laboratory use - Surge immunity test	Supply lines $\pm 0.5, 1, 2$ kV	Yes	—
DIN EN 61326-3-1:2008-11 DIN EN 61326-2-3:2013-07 DIN EN 61000-4-6: 2012-11	Immunity - Electrical equipment for measurement, control and laboratory use - Immunity to conducted disturbances, induced by radio-frequency fields	150 kHz to 80 MHz, 10 V 80 % AM, sine at 1 kHz	Yes	Yes

DETAILED QUALIFICATION

EMC (Functional Safety with Fail-safe Condition)

Standard	Test Description	Test Parameter	Current	Ratiometric
DIN EN 61326-3-1:2008-11 DIN EN 61326-2-3:2013-07 DIN EN 61000-4-2:2009	Immunity - Electrical equipment for measurement, control and laboratory use - Electrostatic discharge immunity test	330 Ω / 150 pF Contact discharge ±6 kV Air discharge ±2, ±4, ±8 kV Indirect contact discharge ±6 kV	Yes	Yes
DIN EN 61326-3-1:2008-11 DIN EN 61326-2-3:2013-07 DIN EN 61000-4-3:2011-04	Immunity - Electrical equipment for measurement, control and laboratory use - Radiated, radio-frequency, electromagnetic field immunity test	80 MHz to 1.0 GHz → 20 V/m 1.4 GHz to 2 GHz → 10 V/m 2 GHz to 2.7 GHz → 3 V/m 3 m, horizontal and vertical AM 80 %, 1 kHz	Yes	Yes
DIN EN 61326-3-1:2008-11 DIN EN 61326-2-3:2013-07 DIN EN 61000-4-4:2013-04	Immunity - Electrical equipment for measurement, control and laboratory use - Electrical fast transient / burst immunity test	Supply lines ±3 kV data lines ±2 kV waveform: 5/50 ns tr/th repetition frequency 5 kHz	Yes	Yes
DIN EN 61326-3-1:2008-11 DIN EN 61326-2-3:2013-07 DIN EN 61000-4-5:2007-06	Immunity - Electrical equipment for measurement, control and laboratory use - Surge immunity test	Supply lines ±0.5, 1, 2 kV	Yes	—
DIN EN 61326-3-1:2008-11 DIN EN 61326-2-3:2013-07 DIN EN 61000-4-6: 2012-11	Immunity - Electrical equipment for measurement, control and laboratory use - Immunity to conducted disturbances, induced by radio-frequency fields	150 kHz to 80 MHz, 10 V 80 % AM, sine at 1 kHz	Yes	Yes

Climatic and mechanical tests

Standard	Test Description	Test Parameter	Current	Ratiometric
ISO 16750-4:2010-04	Tests at constant temperature: Low temperature - storage	-40 °C for 24 h	Yes	Yes
ISO 16750-4:2010-04	Tests at constant temperature: High temperature - storage	+85 °C for 96 h	Yes	Yes
DIN EN 60068-2-14:2010-04	Temperature cycling test - Rapid change of Temperature	100 cycles, -40 °C to +125 °C Transfer time ≤ 30 s Dwell time: 60 min.	—	Yes

DETAILED QUALIFICATION

Climatic and mechanical tests

Standard	Test Description	Test Parameter	Current	Ratiometric
DIN EN 60068-2-14:2010-04	Temperature cycling test - Rapid change of Temperature	100 cycles, -40 °C to +85 °C Transfer time ≤ 30 s Dwell time: 60 min.	Yes	—
DIN EN 60068-2-14:2010-04	Temperature cycling test - specified change rate of Temperature	10 cycles, -40 °C to 125 °C Temp. Change rate: 3K/min. Dwell time: 60 min. In operation	—	Yes
DIN EN 60068-2-14:2010-04	Temperature cycling test - specified change rate of Temperature	10 cycles, -40 °C to 85 °C Temp. Change rate: 3K/min. Dwell time: 60 min. In operation	Yes	—
ISO 16750-4:2010-04	Ice water shock test - Submersion test	number of cycles: 10 h olding time(th) at Tmax +85 °C: 1 h water temperature: 0 °C to +4 °C immersion time: 5 min. In operation	Yes	Yes
DIN EN 60068-2-30:2005	Humid heat - Damp heat cyclic test	+25 °C to +55 °C and 96 % relative humidity 6 cycles à 24 h	Yes	Yes
DIN EN 60068-2-78:2002-09	Damp heat, steady-state test	+40 °C and 96% relative humidity Not in operation for 20 days 23 h In operation for the last hour Duration: 21 days	Yes	Yes
ISO 16750-4:2010-04 IEC 60068-2-60	Corrosion test with flow of mixed gas	Test Ke, Method 4 Duration: 21 days SO ₂ , H ₂ S, NO ₂ , CL ₂	Yes	Yes
DIN EN 60068-2-14 Na:2000-08	Life-time Temperature cycling test - Rapid change of Temperature (Weibull)	Test duration: 9 days Min. temperature: -50 °C Max. temperature: +125 °C Holding time: 30 min. Cycles: 216	Yes	Yes

DETAILED QUALIFICATION

Climatic and mechanical tests

Standard	Test Description	Test Parameter	Current	Ratiometric
DIN EN 60068-2-6:2008 DIN EN 60068-2-14:2009	Vibration (sinusoidal) with temperature superimposition	5 - 2000 - 5 Hz, 1 oct/min., 20 g 5 h/axis, 3 axes Test Nb, Temperature superimposition: -40 °C to +125 °C, 3 K/min. Duration time= 15 min., Change= 60 min. 2 Temp. cycles/axis	Yes	Yes
ISO 16750-3:2012 Test VII	Vibration (random) with temperature superimposition	10 - 2000 hz, 32 h/axis, 3 axes, random vibration Temperature superimposition: -40 °C to +85 °C, 4 cycles	Yes	Yes
DIN EN 60068-2-27:2009	Mechanical shock	Acceleration: 50 g, half sine Time: 11 ms 3 Shocks/direction, 6 directions	Yes	Yes
DIN EN 60068-2-27:2009	Bump	Acceleration: 30 g, half sine Time: 6 ms 1000 Shocks/direction, 6 directions	Yes	Yes
ISO 16750-3: 2012 DIN EN 60068-2-31:2009-04	Free fall	3 devices, 2 falls every device on the opposite side of the housing drop height: 1 m to concrete ground or steel plate	Yes	Yes
SAE J 1211 part 4.4:1978-11	Immersion and splash	Agents: gasoline, diesel, de-greaser, anti- freezing agent After test: drying at +125 °C, 48 h	Yes	Yes
ISO 16750-5:2010	Chemical resistance	Agents: diesel, motor oil, hydraulic oil, gear oil, bio-diesel, E10, urea "Caelo" After test: drying at +70 °C, 48 h	Yes	Yes
DIN EN 60529:1991	IP Protection grade	IP67 (depending on connector type)	Yes	Yes
DIN 40050-9:1993-05	IP Protection grade	IP6K7, IPX9K (depending on the connector type)	Yes	Yes



ORDER CODES

Model			Pressure Range				Unit			Reference		Output		Pressure Connection		Electrical Connection			
F	0	2	-					-				-		-			-		
									b	a	r	R	0	6	0	1	0	1	
									p	s	i	Relative	10 ... 90 %VCC		G 1/4"		M12 (plastic)		
													1	1	0	4	0	6	
													4 ... 20 mA (3-wire technique)		1/4" NPT		Cable (2.5 m)		
															1	0	0	7	
															SAE04 (7/16-20UNF) - O-Ring		Cable (5 m)		
													1	1	1	1	0	9	
															SAE06 (9/16-18UNF) - O-Ring		DT04-4P		
															...		M12 (stainless steel)		
													9	9	custom specific				

Minimum order quantity and shipment lot sizes may apply.