

KM11 Pressure Transducer

FEATURES

- Broad temperature capability
- All-welded pressure construction
- Stainless steel housing
- High EMI/RFI rating
- Ranges 1 bar through 2000 bar
- IP67 Ingress rating (IP69K available)

APPLICATIONS

- Off-Road equipment
- Construction machinery
- Compressor control
- Pump monitoring
- Agricultural/irrigation equipment
- Diagnostic kits
- Engine monitoring
- Process automation & controls
- Hydraulic and pneumatic sensing



KM11
Pressure Transducer



PERFORMANCE SPECIFICATIONS

Reference Temperature:	21 °C ±2 °C (70 °F ±2 °F)
Static Accuracy:	±0,5 % of span, optional 0,25 % of span Terminal Point Method includes: hysteresis, linearity, repeatability, offset and span
Durability:	> 10,000,000 cycles
Stability:	≤ ±0.25 % of span/year at reference conditions

MECHANICAL SPECIFICATIONS

Process Connection:	G 1/4 A Male acc. DIN 3852 Part 11 Form E (≤ 1000 bar) 1/4 NPT Male acc. ASME B1.20.1 (≤ 1000 bar) M18x1,5 Male High pressure connection
Weather Protection:	IP67, up to IP69K (depending on electrical connection & mating)

ENVIRONMENTAL SPECIFICATIONS

Thermal Coefficients:	Compensated Range -20 to 85 °C Mean TC offset % of the range 0,15 / 10 K Mean TC range % of the range 0,15 / 10 K
Total error % of the range:	2 % at -40 °C 2 % at 105 °C
Temperature Limits:	Storage: -40 °C to 125 °C (-40 °F to 257 °F) Ambient: -40 °C to 105 °C (-40 °F to 221 °F) Media: -40 °C to 125 °C (-40 °F to 257 °F)
Humidity:	0-100 % R.H. (non-condensing)

FUNCTIONAL SPECIFICATIONS

Response Time (Output):	< 1ms (voltage outputs) / < 2ms (4-20 mA outputs)
Gauge/Compound Pressure Ranges:	-1 to 2000 bar Vacuum to 30,000 psig (see Table 6 at page 7)
Shock:	Drop: 1000 g acc. to DIN EN 60068-2-32 – free fall Constant: 50 g acc. to DIN EN 60068-2-27 – shock
Vibration:	20 g in all directions acc. to DIN EN 60068-2-6 – vibration sinusoidal
Overload:	See table 1 at page 2

KEY BENEFITS

- Wide selection of electrical and process connections available
- Customizable configurations

ELECTRICAL SPECIFICATIONS

Connection:	Shielded cable Hirschman EN 175301-803 Form A or C M12 or M18 round connector type S763 or S714-4 others see coding table at page 3
Max. Loop-resistance:	≤ (U _B - 10 V) / 0,02 A
Insulation: (Case/Connection)	> 100 MΩ at 50 Vdc
Withstand/Breakdown:	50 Vdc, optional 500/710 Vdc
Supply Current:	≤ 10 mA

ELECTRICAL SPECIFICATIONS

VOLTAGE OUTPUT	EXCITATION	MAX. SUPPLY CURRENT
0-5 Vdc (3 Wire)	0-5 Vdc	10 mA
0-10 Vdc (3 Wire)	12-32 Vdc	10 mA
1-5 Vdc (3 Wire)	8-32 Vdc	10 mA
0-20 mA (3 Wire)	9-30 Vdc	40 mA
4-20 mA (2 Wire)	10-32 Vdc	23 mA
4-20 mA (3 Wire)	9-30 Vdc	23 mA
0,5-4,5 Vdc (3 Wire); ratiometric	5 Vdc ± 10 %	7,5 mA

KM11 Pressure Transducer

WETTED MATERIAL

Process Connection:	Stainless steel 304 (1.4301)
Sensor:	Stainless steel 17-4H (1.4542/1.4548) with a polysilicon cell

NON-WETTED MATERIAL

Case:	Stainless steel 304 (1.4301)
-------	------------------------------

APPROVALS

CE	2014/35/EU "Electrical equipment designed for use within certain voltage limits" EN 61010-1:2011-07 2014/30/EU CISPR11:2009 EN 61000-4-2:2009 EN 61000-4-3:2011 EN 61000-4-4:2013 EN 61000-4-5:2015 EN 61000-4-6:2014 EN 61000-4-8:2010 2011/65/EU "Directive for the restriction of the use of certain hazardous substances in electrical and electronic equipment" 2014/68/EU "Pressure Equipment Directive (PED)"
SIL	Safety Integrated Level or Performance Level SIL 2, PL: d

TABLE 1: PROOF & BURST PRESSURE

Sensor Range in bar	Code	Sensor - 17-4PH Stainless steel	
		Proof in bar	Burst in bar
1	1BR	6	9
1,6	1P6BR	6	9
2	2BR	6	9
2,5	2P5BR	6	9
4	4BR	10	15
6	6BR	20	30
10	10BR	20	30
16	16BR	40	60
20	20BR	40	60
25	25BR	100	150
40	40BR	100	150
60	60BR	200	300
100	100BR	200	300
160	160BR	400	600
200	200BR	400	600
250	250BR	750	1000
400	400BR	750	1000
600	600BR	840	1050
1000	1000BR	1200	1500
1600	1600BR	2400	3000
2000	2000BR	2400	3000



KM11 Pressure Transducer

ORDERING CODE		EXAMPLE:	KM11	025	MG2	42	HM	4BR	G	XNH
Model										
KM11	Stainless steel pressure transducer									
Accuracy										
025	0,25 % of full span									
050	0,50 % of full span									
Connection Size										
F09	9/16-18 UNF-2B Aminco									
M02	¼ NPT male (only for ranges ≤ 1000 bar)									
M04	½ NPT male (only for ranges ≤ 1000 bar)									
MG2	G ¼ B male acc. to EN 837-1 (only for ranges ≤ 1000 bar)									
MG4	G ½ B male acc. to EN 837-1 (only for ranges ≤ 1000 bar)									
MG9	G ¼ A male acc. DIN 3852 part 11 form E (only for ranges ≤ 600 bar)									
MM18HP	M18x1,5 male high pressure with sealing cone gasket									
Output Signal										
05	0-5 Vdc (3 Wire)									
10	0-10 Vdc (3 Wire)									
15	1-5 Vdc (3 Wire)									
20	0-20 mA (3 Wire)									
42	4-20 mA (2 Wire)									
42-3L	4-20 mA (3 Wire)									
RM	0,5-4,5 Vdc (3 Wire); ratiometric									
Electrical Connection										
A50	Amphenol 5 PIN connecto									
DT	Deutsch DT Series DT04-3P, no mating connector									
F2	Shielded cable (Length customizable)									
HM	Hirschman EN 175301-803 Form C									
M1	Hirschman EN 175301-803 Form A									
M12	M12x1 round connector, Type S763									
M18	M18x1 round connector, Binder type S714-4									
Range (coding example only, see range table on page 2 for all standard ranges)										
4BR	4 bar									
Pressure Type										
G	Gauge pressure									
A	Absolute pressure (ranges 1 to 35 bar only)									

Continued at page 4



KM11 Pressure Transducer

ORDERING CODE	EXAMPLE:	KM11	025	MG2	42	HM	4BR	G	XNH
---------------	----------	------	-----	-----	----	----	-----	---	-----

Options (If choosing an option(s) must include a "X")

Approval

SIL Safety Integrated Level or Performance Level SIL 2, PL: d

Cable length

0 Without cable
 0,5...101 Cable length in 0,1 m steps

Case

IP69K Ingress protection IP69K

Calibration

CL Calibration according customer specification
 HD1 Advanced overpressure

Dampening

TU Throttle plug

Cleaning

6B Cleaned for oxygen service
 6W Cleaned for oxidizing processes

Marking/Tagging

NH Stainless steel tag, wired to case

Testing/Certificates

CD2 Material test report according to EN 10204 / 2.2
 C4 Individual calibration chart
 ML Mass spectrometer leak test
 HY Hydrostatic testing



KM11 Pressure Transducer

TABLE 3 - PRESSURE CONNECTION DIMENSIONS IN MM [INCH]

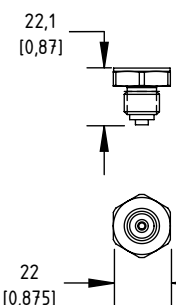
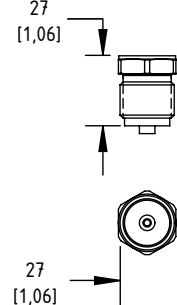
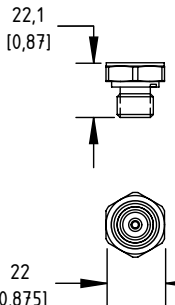
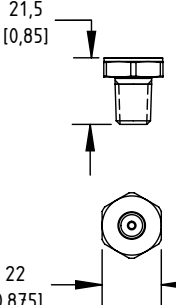
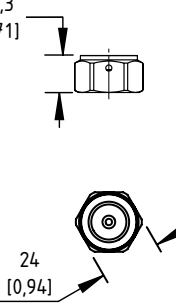
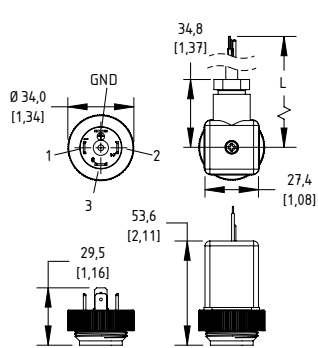
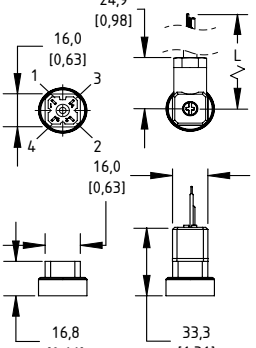
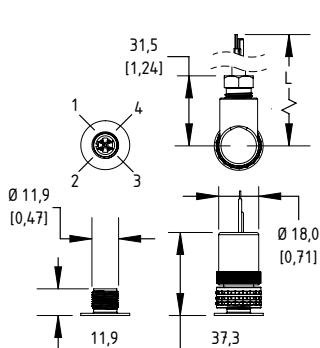
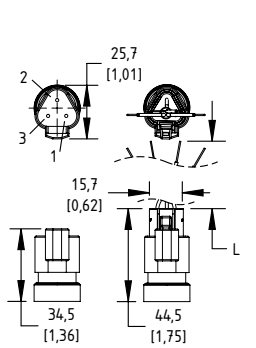
G ¼ B MALE EN837-1	G ½ B MALE EN837-1	G ¼ A MALE DIN 3852 PT. 11 TYPE E	¼ NPT MALE	9/16-18 UNF-2B FEMALE
Code: MG2	Code: MG4	Code: MG9	Code: M02	Code: F09
MAWP:1000 bar / 14,000 psi	MAWP:1000 bar / 14,000 psi	MAWP:1000 bar / 14,000 psi	MAWP:1000 bar / 14,000 psi	MAWP: 2000 bar / 30,000 psi
 22,1 [0,87] 22 [0,875]	 27 [1,06] 27 [1,06]	 22,1 [0,87] 22 [0,875]	 21,5 [0,85] 22 [0,875]	 18,3 [0,71] 24 [0,94]

TABLE 4 - ELECTRICAL CONNECTION DIMENSIONS IN MM [INCH]

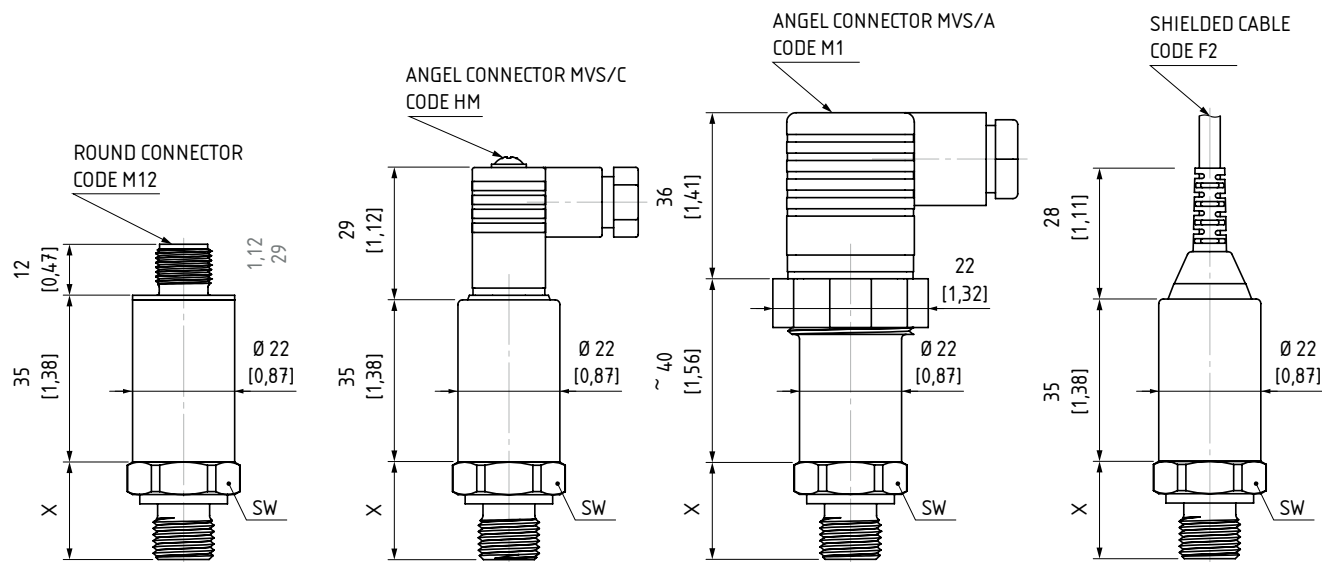
HIRSCHMAN EN 175301-803 FORM A	HIRSCHMAN EN 175301-803 FORM C	M12 4-PIN	DEUTSCH DT04 3-PIN
Code: M1 – IP66 (NEMA 4X)	Code: HM – IP66 (NEMA 4X)	Code: M12 – IP66 (NEMA 4X)	Code: DT – IP66 (NEMA 4X)
-40 °C to 85 °C (-40 °F to 185 °F)	-40 °C to 85 °C (-40 °F to 185 °F)	-40 °C to 85 °C (-40 °F to 185 °F)	-40 °C to 85 °C (-40 °F to 185 °F)
 Ø 34,0 [1,34] GND 1 2 3 34,8 [1,37] 27,4 [1,08] 53,6 [2,11] 29,5 [1,16]	 24,9 [0,98] 16,0 [0,63] 16,0 [0,63] 16,8 [0,66] 33,3 [1,31]	 31,5 [1,24] Ø 11,9 [0,47] 11,9 [0,47] 37,3 [1,47] Ø 18,0 [0,71]	 25,7 [1,01] 15,7 [0,62] 34,5 [1,36] 44,5 [1,75]



KM11 Pressure Transducer

DIMENSIONS IN MM [INCH]

For reference only, consult Ashcroft for specific dimensional drawings

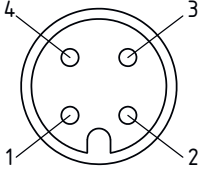
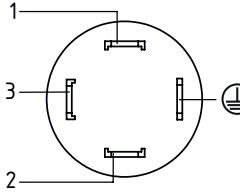
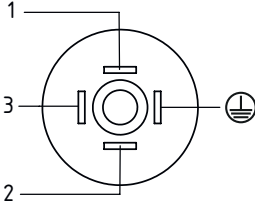


Find dimension "X" and "SW" on page 2 at table 3 "PRESSURE CONNECTION DIMENSION"



KM11 Pressure Transducer

ELECTRICAL CONNECTION

PLUG M12X1 TYPE S763	CABLE	HIRSCHMANN EN 175301-803 FORM A	HIRSCHMANN EN 175301-803 FORM C ("MINI")
			
2-WIRE CONFIGURATION			
1: UB+ 2: nc 3: out 4: nc	red: UB+ black: nc white: out	1: UB+ 2: out 3: nc ⊕: nc	1: UB+ 2: out 3: nc ⊕: nc
3-WIRE CONFIGURATION			
1: UB+ 2: nc 3: UB- 4: out	red: UB+ black: UB- white: out	1: UB+ 2: UB- 3: out ⊕: nc	1: UB+ 2: UB- 3: out ⊕: nc

