

## 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)
- Explosion proof (intrinsically safe) for zone 1 and 2 acc. ATEX

### APPLICATIONS

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

### 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 ¼ A Male acc. DIN 3852 Part 11 Form E (≤ 1000 bar) ¼ 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) ATEX (Ambient): -40 °C to 85 °C (-40 °F to 185 °F) ATEX (Media): -40 °C to 85 °C (-40 °F to 185 °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
Pressure (ATEX):	See table 1 at page 2



KM11  
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### 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 <sub>B</sub> - 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 (2 Wire); ATEX ia	12-24 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

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### 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

**ATEX** Declaration of Conformity  
 TÜV 06 ATEX 2975  
**CE** 0044  II 2G Ex ia IIC T4 Gb  
 Ta = -40 °C to +85 °C  
 (File No. 15203167374 at notified body 0044, TÜV NORD CERT)  
 Used harmonized standards:  
 EN 61000-6-3:2002  
 "Electro Magnetic Compatibility (EMC)"  
 EN 61326-1:2013  
 EN 61326-2-3:2013

**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
<b>40</b>	<b>40BR</b>	<b>100</b>	<b>150</b>
60	60BR	200	300
100	100BR	200	300
<b>160</b>	<b>160BR</b>	<b>400</b>	<b>600</b>
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
<b>Model</b>									
KM11	Stainless steel pressure transducer								
<b>Accuracy</b>									
025	0,25 % of full span								
050	0,50 % of full span								
<b>Connection Size</b>									
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								
<b>Output Signal</b>									
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								
<b>Electrical Connection</b>									
A50	Amphenol 5 PIN connector (Not available for ATEX execution)								
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								
<b>Range (coding example only, see range table on page 2 for all standard ranges)</b>									
4BR	4 bar								
<b>Pressure Type</b>									
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**

ATEXG      ATEX approval Ex II 2G Ex ia IIC T4 Gb  
 (only available for gauge pressure type)

SIL      Safety Integrated Level or Performance Level SIL 2, PL: d (only available for 4...20 mA and Non-ATEX execution)

**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

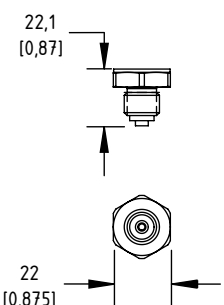
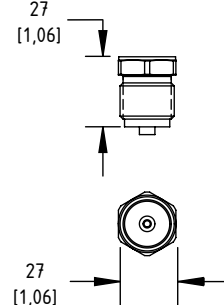
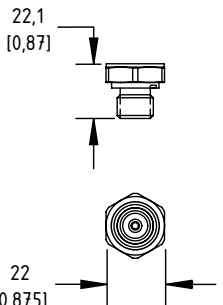
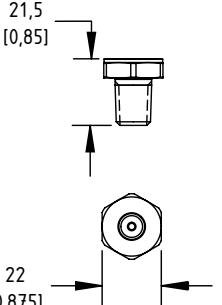
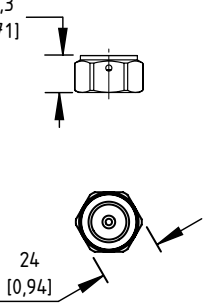
ML      Mass spectrometer leak test

HY      Hydrostatic testing

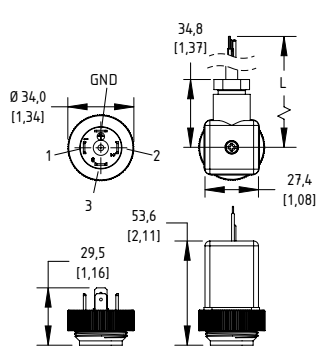
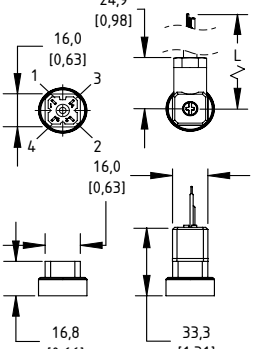
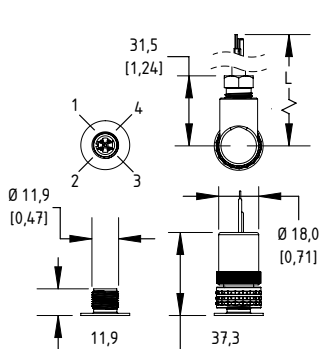
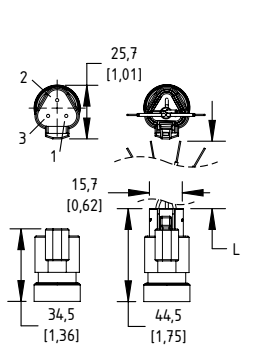


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**TABLE 3 - PRESSURE CONNECTION DIMENSIONS IN MM [INCH]**

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	⅜-18 UNF-2B FEMALE
<b>Code: MG2</b>	<b>Code: MG4</b>	<b>Code: MG9</b>	<b>Code: M02</b>	<b>Code: F09</b>
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
				

**TABLE 4 - ELECTRICAL CONNECTION DIMENSIONS IN MM [INCH]**

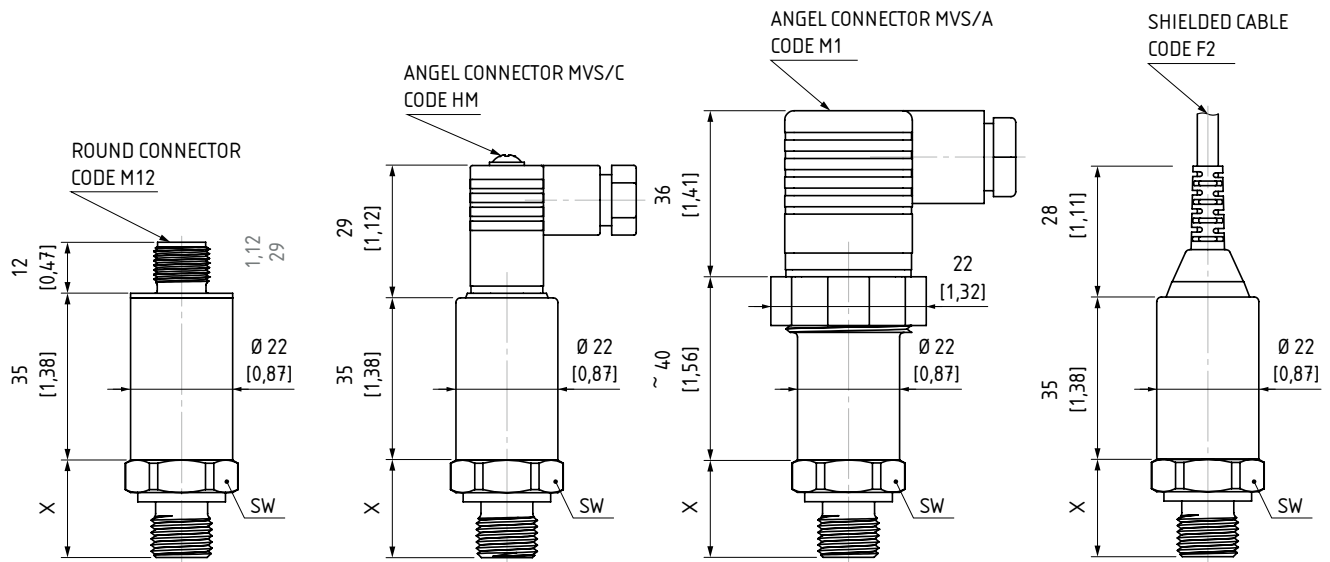
HIRSCHMAN EN 175301-803 FORM A	HIRSCHMAN EN 175301-803 FORM C	M12 4-PIN	DEUTSCH DT04 3-PIN
<b>Code: M1 – IP66 (NEMA 4X)</b>	<b>Code: HM – IP66 (NEMA 4X)</b>	<b>Code: M12 – IP66 (NEMA 4X)</b>	<b>Code: DT – IP66 (NEMA 4X)</b>
-40 °C to 85 °C (-40 °F to 185 °F)	-40 °C to 85 °C (-40 °F to 185 °F)	-40 °C to 85 °C (-40 °F to 185 °F)	-40 °C to 85 °C (-40 °F to 185 °F)
			



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### DIMENSIONS IN MM [INCH]

For reference only, consult Ashcroft for specific dimensional drawings

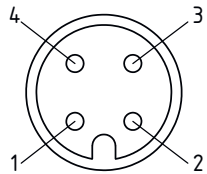
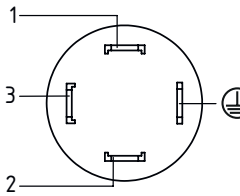
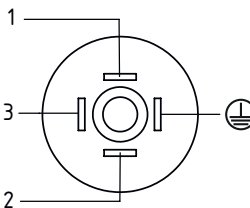


Find dimension "X" and "SW" on page 2 at table 3 "PRESSURE CONNECTION DIMENSION"



# KM11 Pressure Transducer

## ELECTRICAL CONNECTION

PLUG M12X1 TYPE S763	CABLE	HIRSCHMANN EN 175301-803 FORM A	HIRSCHMANN EN 175301-803 FORM C ("MINI")
			
<b>2-WIRE CONFIGURATION</b>			
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
<b>3-WIRE CONFIGURATION</b>			
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

