

## 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



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) 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

### 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
<b>10</b>	<b>10BR</b>	<b>20</b>	<b>30</b>
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
<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



## 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	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]**

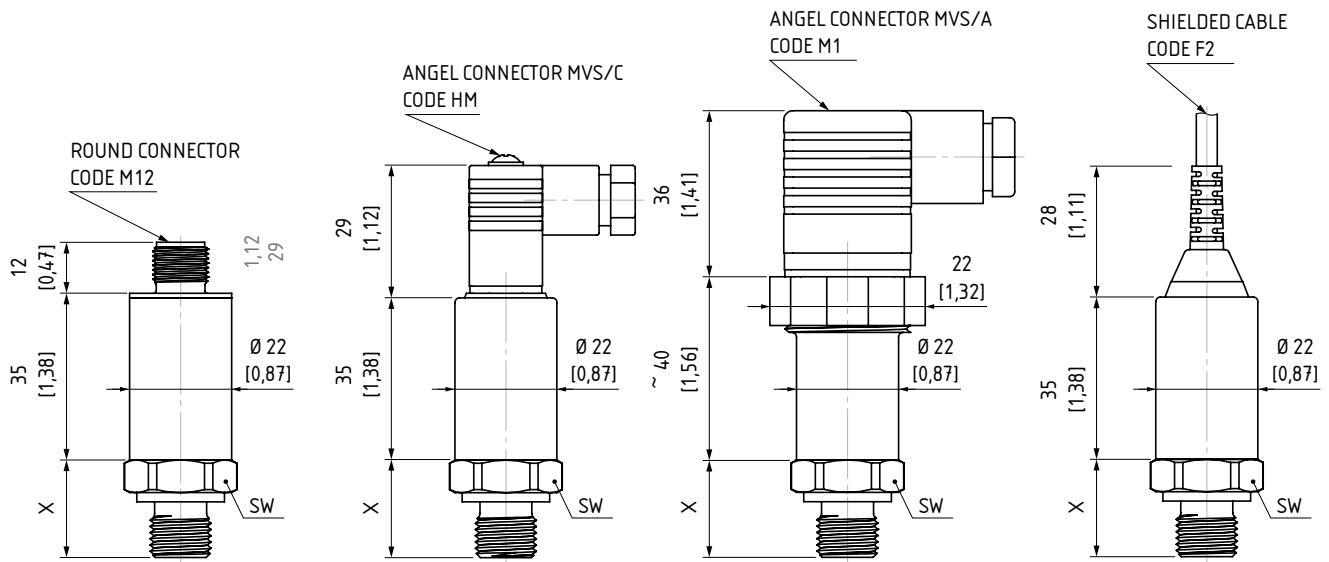
HIRSCHMAN EN 175301-803 FORM A	HIRSCHMAN EN 175301-803 FORM C	M12 4-PIN	DEUTSCH DT04 3-PIN
<b>Code: M1 – IP66 (NEMA 4X)</b>	<b>Code: HM – IP66 (NEMA 4X)</b>	<b>Code: M12 – IP66 (NEMA 4X)</b>	<b>Code: DT – IP66 (NEMA 4X)</b>
-40 °C to 85 °C (-40 °F to 185 °F)	-40 °C to 85 °C (-40 °F to 185 °F)	-40 °C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

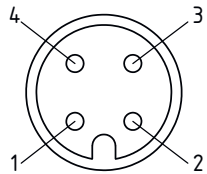
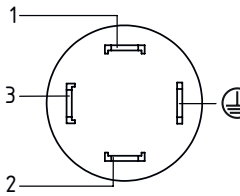
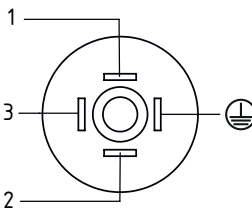


Find dimension "X" and "SW" on page 2 at table 3 "PRESSURE CONNECTION DIMENSION"



## 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

