

OEM Pressure Transducer for General Applications Type IPS2 and IPS2S

FEATURES

- ATEX Intrinsically-Safe approval
- Ceramic based sensor technology
- Ranges from 1 through 400 bar
- Absolute pressure (p_{abs})
- IP65 or 67 Ingress rating
- Accuracy 1% or 0.5 % of span

TYPICAL USES

- Construction machinery
- Agricultural equipment
- Engine monitoring
- Hydraulic & pneumatic sensing
- Renewable Energy
- Machine equipment



IPS2
Absolute Pressure
Transducer



PERFORMANCE SPECIFICATIONS

Reference Temperature:	21 °C ±2 °C (70 °F ±2 °F)
Static Accuracy:	±0.5 % or 1.0 % of span Terminal Point Method includes: hysteresis, linearity, repeatability, offset and span acc. IEC 60770
Durability:	10 ⁸ load cycles
Stability:	≤±0.3 % of span/year at reference conditions

PHYSICAL SPECIFICATION

Process Connection Size:	G 1/4 A (DIN 3852 Form E) or G 1/4 B (EN 837) G 1/2 B (EN 837) 1/4 NPT Male
Ingress Rating:	IP65 (with mating connectors) IP67 (with M12 or PVC cable connection)
Weight:	~120 g

ENVIRONMENTAL SPECIFICATIONS

Thermal Coefficients:	Span: ≤±0,3 % / 10 K
Temperature Limits:	Storage: -40 °C to 85 °C Operating: -25 °C to 85 °C (IPS2) -20 °C to 60 °C (IPS2S in zone 0) -20 °C to 70 °C (IPS2S in zone 1 or higher)
	Media: -25 °C to 125 °C Compensated: 0 °C to 85 °C
Humidity:	0-100 % R.H. (non-condensing)

FUNCTIONAL SPECIFICATIONS

Response Time:	2-wire: ≤ 10 ms 3-wire: ≤ 3 ms
Measuring Rate:	1 kHz
Gauge Pressure Ranges:	0 to 400 bar (see Table 1 at page 2)
Shock: (DIN EN60068-2-27)	500 g, 1 ms
Vibration: (DIN EN60068-2-6)	Random: 10 g RMS 25-2000 Hz

KEY BENEFITS

- Ceramic-based diaphragm with all its advantages
- Reliable performance for price-sensitive applications

ELECTRICAL SPECIFICATIONS

Electrical Connection:	Hirschmann EN175301-803 Form A or Form C M12x1 or Cable outlet (2 m and PVC)	
Permissible Load in Ohm [Ω]:	2-wire: $R_{max} = [(V_s - V_{smin}) / 0.02 A] \Omega$ 3-wire: $R_{min} = 10 k\Omega$	
Current Consumption:	2-wire: max. 25 mA 3-wire (Voltage): max. 7 mA 3-wire (ratiometric): typical 1.5 mA (max. 20 mA short-circuit current)	
Short-circuit:	Permanent protection (no protection for 3-wire ratiometric execution)	
Circuit Protection:	Reverse polarity protected	
Output Signal:	Supply Voltage: (unregulated) Min. Max. 4-20 mA (2-wire) 8 Vdc 32 Vdc 0-10 Vdc (3-wire) 14 Vdc 30 Vdc 10-90 % of V_{supply} (ratiometric) 2.7 Vdc 5 Vdc	

Cable:	2 m length, PVC insulated (-5 °C to 70 °C) other lengths and cable types on request
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WETTED COMPONENTS

Process Connection:	Stainless steel 304 (1.4301)
Seal:	FKM (Viton)
Oxygen cleaned:	FKM Vi 567 (for max. 25 bar/150 °C) others on request
Diaphragm:	Ceramics Al ₂ O ₃ , 96 %

NON-WETTED COMPONENTS

Housing:	Stainless steel 304 (1.4301)
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OEM Pressure Transducer for General Applications Type IPS2S

APPROVAL

CE	EMC Directive 2014/30/EU PED Directive 2014/68/EU (Module A) only applicable for ≥ 200 bar
REACH & RoHS	Directive 2011/65/EU and 2015/863
ATEX	EU-Type Examination Certificate IBExU22ATEX1002X II 1G Ex ia IIC T4 Ga II 1D Ex ia IIIC T135°C Da application in zone 0 : Ta = -20 to +60 °C application in zone 1 and higher: Ta = -20 to +70 °C Used harmonized standards: EN IEC 60079-0:2018 EN 60079-11:2012 IEC 60079-0: 2011 Edition 6 IEC 60079-11: 2011 Edition 6

ORDERING CODE
EXAMPLE:
IPS2 5 MGA 42 DC X FKM 10BR X6W
Model

IPS2	OEM Pressure Transducer with ceramic sensor element	IPS2
IPS2S	OEM Pressure Transducer with ceramic sensor element, intrinsically safe ATEX approval (with output signal 4-20 mA only)	

Accuracy

5	0.5 % of span	5
7	1.0 % of span	

Process Connection Size

MGA	G 1/4 A male (DIN 3852-part 11 Form E)	MGA
MG2	G 1/4 B male (EN 837-1)	
MG4	G 1/2 B male (EN 837-1)	
M02	1/4 NPT Male	

Electrical Output

42	4-20 mA (2-wire)	42
10	0-10 Vdc (3-wire)	
RM	0.5-4.5 Vdc ratiometric to 5 Vdc supply (3-wire)	

Electrical Connection (check pin configuration below at table 2)

DA	Hirschmann EN175301-803 Form A	
DC	Hirschmann EN175301-803 Form C	DC
EW	M12x1 (4-Pin)	
FC	PVC cable (Cable colours acc. to IEC 60757)	

Mating Connector

M	With mating connector	
X	Without mating connector	X

Sealing

FKM	FKM (Viton) Sealing	FKM
EPDM	EPDM Sealing	

Ranges (all available ranges see below at table 1)

10BR	10 bar	10BR
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Options (If choosing an option(s) must include a "X")

6B	Cleaned for oxidizing agents	
6W	Cleaned for non-oxidizing agents	6W



OEM Pressure Transducer for General Applications Type IPS2S

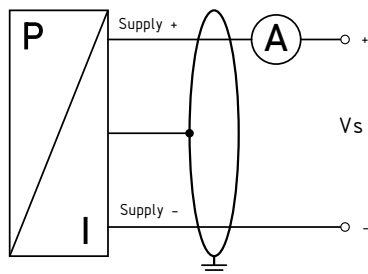
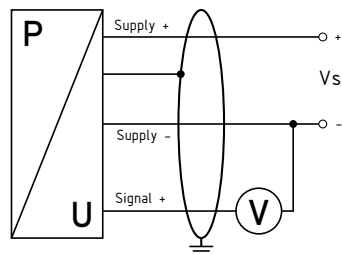
**TABLE 1:
PROOF & BURST
PRESSURE**

Sensor Range	Proof	Burst
in bar and bar (absolute)		
-1/0 *	3	4
1	3	4
1.6	5	7
2.5	5	7.5
4	12	15
6	12	18
10	20	30
16	50	70
25	50	75
40	120	150
60	120	180
100	200	300
160	400	500
250	400	750
400	650	1000

* n/a in absolute pressure

TABLE 2: PIN CONFIGURATION

	DA	DC	EW	FC IEC 60757
Supply +	1	1	1	White
Supply -	2	2	2	Brown
Signal + (3-wire only)	3	3	3	Green
Shield	Ground	Ground	4	Green/ Yellow

**ELECTRICAL WIRING
2-WIRE SYSTEM (CURRENT)**

**ELECTRICAL WIRING
3-WIRE SYSTEM (VOLTAGE)**


OEM Pressure Transducer for General Applications

Type IPS2S

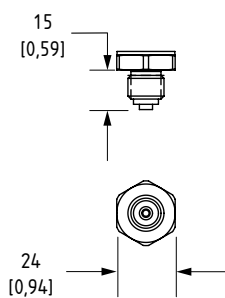
DIMENSIONS IN MM [INCH]

For reference only, consult Ashcroft for specific dimensional drawings

PROCESS CONNECTION

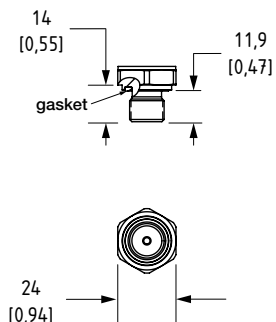
G 1/4 B-Male (EN837-1)

Code: MG2



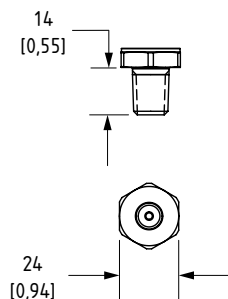
G 1/4 A-MALE (stud end DIN 3852-E G1/4)

Code: MGA



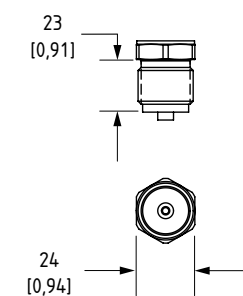
1/4 NPT Male

Code: M02



G 1/2 B-Male (EN837-1)

Code: MG4

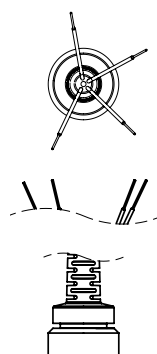


ELECTRICAL CONNECTION

Over-Mold Cable

Code: FC – IP67

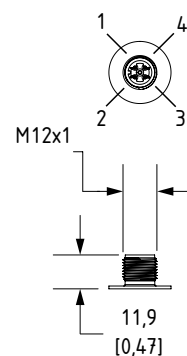
-5 °C to +70 °C



M12 4-Pin

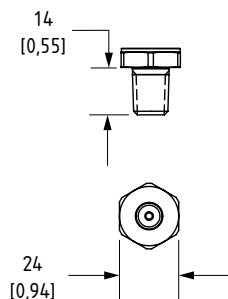
Code: EW – IP67

-25 °C to 85 °C



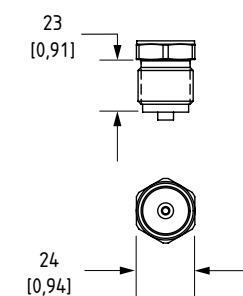
1/4 NPT Male

Code: M02



G 1/2 B-Male (EN837-1)

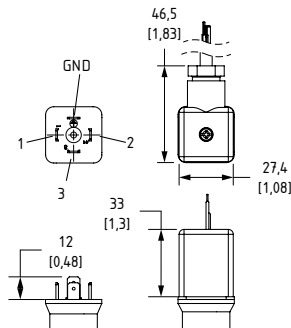
Code: MG4



Hirschman EN 175301-803 Form A

Code: DA – IP66

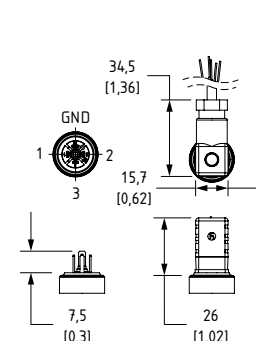
-25 °C to 85 °C



Hirschman EN 175301-803 Form C

Code: DC – IP65

-25 °C to 85 °C

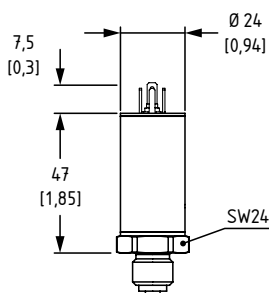


GENERAL DIMENSIONS IN MM [INCH]

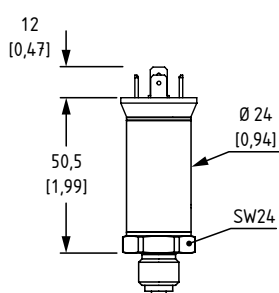
For reference only, consult Ashcroft for specific dimensional drawings

Note: 400 bar execution length is increased by 12 mm

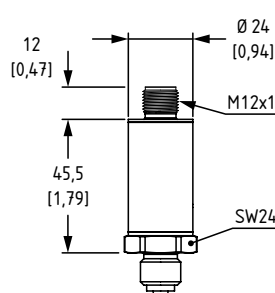
DC



DA



EW



FC

