

## OEM Pressure Transducer for General Applications Type IPS1

### FEATURES

- Ceramic based sensor technology
- Ranges from 1.6 through 250 bar
- IP65 or 67 Ingress rating
- Accuracy 1% of span

### TYPICAL USES

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



IPS1  
Pressure Transducer



### PERFORMANCE SPECIFICATIONS

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

### PHYSICAL SPECIFICATION

Process Connection Size:	G 1/4 A (DIN 3852 Form E) 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: ≤±0,5 % / 10 K	
Temperature Limits:	Storage:	-40 °C to 85 °C
	Operating:	-25 °C to 85 °C
	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 250 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	

### 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:	$R_{min} = 10 \text{ k}\Omega$

### KEY BENEFITS

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

Current Consumption:	2-wire:	max. 25 mA
	3-wire (Voltage):	max. 7 mA (max. 20 mA short-circuit current)
	3-wire (ratiometric):	typical 1.5 mA
Short-circuit:	Permanent protection (no protection for 3-wire ratiometric execution)	
Circuit Protection:	Reverse polarity protected	
Output Signal:	Supply Voltage: (unregulated)	
		Min.
4-20 mA (2-wire)	8 Vdc	32 Vdc
0-10 Vdc (3-wire)	14 Vdc	30 Vdc
10-90 % of V <sub>supply</sub> (ratiometric)	2.7 Vdc	5 Vdc
Cable:	2 m length, PVC insulated (-5 °C to 70 °C) other lengths and cable types on request	

### WETTED COMPONENTS

Process Connection:	Stainless steel 304 (1.4301)
Seal:	FKM (Viton) others on request

Diaphragm:	Ceramics Al <sub>2</sub> O <sub>3</sub> , 96 %
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### NON-WETTED COMPONENTS

Housing:	Stainless steel 304 (1.4301)
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### 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

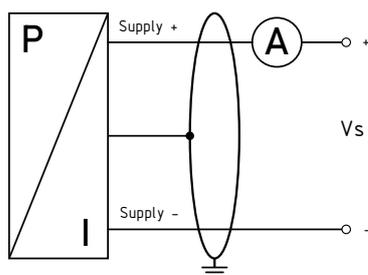
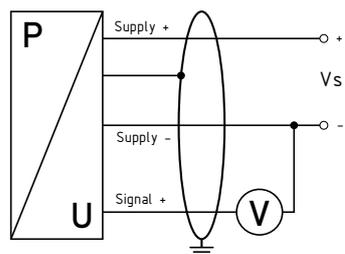
# OEM Transducer for Low Cost Applications

## Type IPS1

ORDERING CODE	EXAMPLE:	IPS1	7	MGA	42	DC	X	FKM	10BR	X
<b>Model</b>										
IPS1	OEM Pressure Transducer with ceramic sensor element	IPS1								
<b>Accuracy</b>										
7	1 % of span		7							
<b>Process Connection Size</b>										
MGA	G 1/4 A male (DIN 3852-part 11 Form E)			MGA						
MG2	G 1/4 B male (EN 837-1)									
M02	1/4 NPT Male									
<b>Electrical Output</b>										
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)									
<b>Electrical Connection (check pin configuration below at table 2)</b>										
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)									
<b>Mating Connector</b>										
M	With mating connector									
X	Without mating connector						X			
<b>Sealing</b>										
FKM	FKM Sealing							FKM		
<b>Ranges (all available ranges see below at table 1)</b>										
10BR	10 bar								10BR	
<b>Options (If choosing an option(s) must include a "X")</b>										
	on request									X

**TABLE 1: PROOF & BURST PRESSURE**

Sensor Range	Proof	Burst
in bar		
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

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

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

**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



# OEM Transducer for Low Cost Applications

## Type IPS1

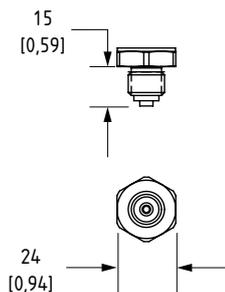
### DIMENSIONS IN MM [INCH]

For reference only, consult Ashcroft for specific dimensional drawings

### PROCESS CONNECTION

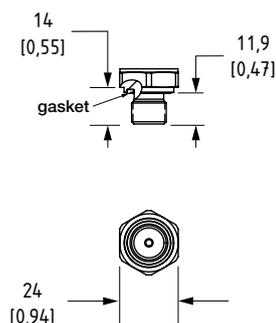
#### G $\frac{1}{4}$ B-Male (EN837-1)

Code: MG2



#### G $\frac{1}{4}$ A-MALE (stud end DIN 3852-E G $\frac{1}{4}$ )

Code: MGA

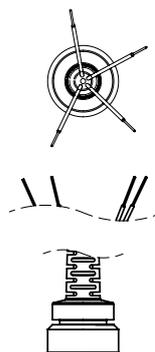


### ELECTRICAL CONNECTION

#### Over-Mold Cable

Code: FC – IP67

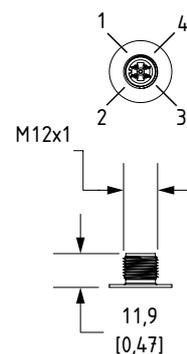
-5 °C to +70 °C



#### M12 4-Pin

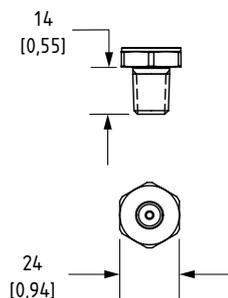
Code: EW – IP67

-25 °C to 85 °C



#### 1/4 NPT Male

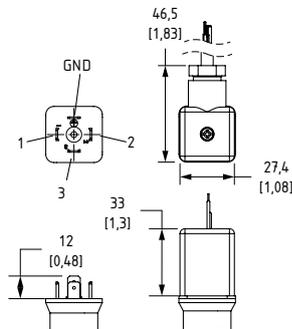
Code: M02



#### Hirschman EN 175301-803 Form A

Code: DA – IP66

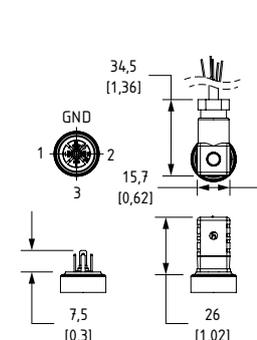
-25 °C to 85 °C



#### 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

