

Industrial Pressure Transducer for Low Pressure Applications Type IPS5 and IPS5S

FEATURES

- ATEX Intrinsically-Safe approval
- Piezoresistive sensor technology
- Ranges from 100 mbar through 60 bar
- IP65, IP67 or 68 Ingress rating
- Accuracy 0.5 % of span

TYPICAL USES

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



IPS5
Low Pressure
Transducer



PERFORMANCE SPECIFICATIONS

Reference Temperature:	21 °C ±2 °C (70 °F ±2 °F)
Static Accuracy:	±0.25 % of span for ranges ≥ 400 mbar ±0.50 % of span for ranges < 400 mbar Point Method includes: hysteresis, linearity, repeatability, offset and span acc. IEC 60770
Durability:	10 ⁸ load cycles
Stability:	≤±0.1 % of span/year at reference conditions

PHYSICAL SPECIFICATION

Process Connection Size:	G 1/2 A or G 1/4 A (DIN 3852 Form E) G 1/2 B or G 1/4 B (EN 837) 1/2 NPT Male or 1/4 NPT Male
Ingress Rating:	IP65 (with manting connectors) IP67 (with M12 or PVC cable connection) IP68 (with ventilated PVC cable)
Weight:	~200 g

ENVIRONMENTAL SPECIFICATIONS

Thermal Co:	Range:	Tolerance band:	Compensated:
	-1/0 bar	≤±0.75 %	-20...85 °C
	< 400 mbar	≤±1.00 %	0...70 °C
	≥ 400 mbar	≤±0.75 %	-20...85 °C
Temperature Limits:	Storage:	-40 °C to 85 °C	
	Operating:	-40 °C to 85 °C (IPS5) -20 °C to 60 °C (IPS5S in zone 0) -40 °C to 70 °C (IPS5S 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
Gauge Pressure Ranges:	-1 to 60 bar and absolute (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

- High sensitive piezoresistive sensor
- Excellent thermal behaviour and long term stability
- Reliable performance for price-sensitive applications

ELECTRICAL SPECIFICATIONS

Electrical Connection:	Hirschmann EN175301-803 Form A M12x1 Cable outlet (2 m and PVC) optional ventilated Binder Series 723 MIL DTL 26482 10 6-Pin
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Permissible Load in Ohm [Ω]:	2-wire:	$R_{max} = [(V_s - V_{smin}) / 0.02 A] \Omega$
	3-wire:	$R_{max} = 240 \Omega$
	3-wire (voltage):	$R_{min} = 10 k\Omega$

Current Consumption:	2- or 3-wire:	max. 25 mA
	3-wire (Voltage):	max. 7 mA

Short-circuit:	Permanent protection
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Circuit Protection:	Reverse polarity protected
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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
0-20 mA (3-wire)	14 Vdc	30 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 316L (1.4404)
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Gasket:	FKM (Viton) EPDM
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Diaphragm:	Stainless steel 316L (1.4435)
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NON-WETTED COMPONENTS

Housing:	Stainless steel 316L (1.4404)
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APPROVAL

CE	EMC Directive 2014/30/EU
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 IIC T135°C Da application in zone 0 : Ta = -20 to +60 °C application in zone 1 and higher: Ta = -40 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:	IPS5	5	MGA	42	FV	X	FKM	10BR
Model										
IPS5	Industrial Pressure Transducer for low pressure applications	IPS5								
IPS5S	Industrial Pressure Transducer for low pressure applications, intrinsically safe ATEX approval (with output signal 4-20 mA only)									
Accuracy										
3	0.25 % of span (not admissible for ranges < 0,4 bar)									
5	0.50 % of span			5						
Process Connection										
MGA	G 1/4 A male (DIN 3852-part 11 Form E)				MGA					
MGB	G 1/2 B male (DIN 3852-part 11 Form E)									
MG2	G 1/4 B male (EN 837-1)									
MG4	G 1/2 B male (EN 837-1)									
M02	1/4" NPT Male									
M04	1/2" NPT Male									
Electrical Output										
42	4-20 mA (2-wire)					42				
10	0-10 Vdc (3-wire)									
20	0-20 mA (3-wire)									
Electrical Connection (check pin configuration below at table 2)										
DA	Hirschmann EN175301-803 Form A					IP65				
EW	M12x1 (4-Pin)					IP67				
FC	PVC cable (Wire colours acc. to IEC 60757)					IP67				
FV	PVC cable, ventilated (Wire colours acc. to IEC 60757)					IP68	FV			
BI	Binder Type 723 5-Pin					IP67				
B6	Bayonet MIL DTL 26482 10 6-Pin					IP67				
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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**TABLE 1:
PROOF & BURST
PRESSURE**

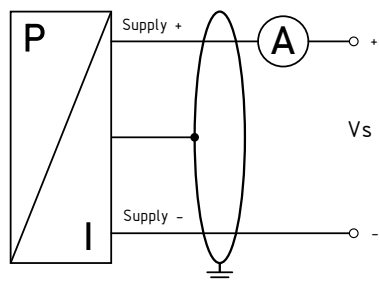
Sensor Range	Proof	Burst
in bar and bar (absolute)		
-1/0 *	5	7,5
0,1 *	0,5	1,5
0,16 *	1	1,5
0,25 *	1	1,5
0,4	2	3
0,6	5	7,5
1	5	7,5
1,6	10	15
2,5	10	15
4	20	25
6	40	50
10	40	50
16	80	120
25	80	120
40	105	210
60	105	210

* n/a in absolute pressure

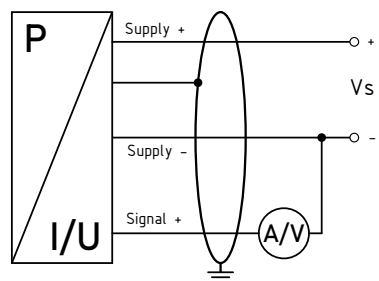
TABLE 2: PIN CONFIGURATION

	DA	EW	FC/FV	B6		M5
				2-wire	3-wire	
Supply +	1	1	White	A	A	3
Supply -	2	2	Brown	B	D	4
Signal + (3-wire only)	3	3	Green	-	B	1
Shield	Ground	4	Green/ Yellow	Process connection		5

ELECTRICAL WIRING 2-WIRE SYSTEM (CURRENT)



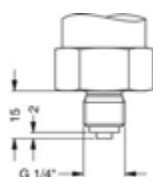
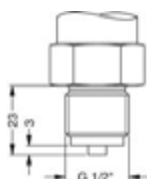
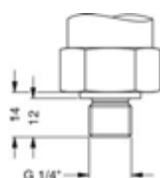
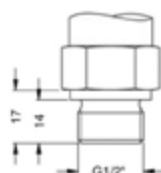
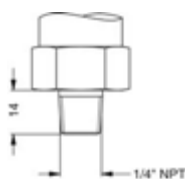
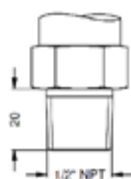
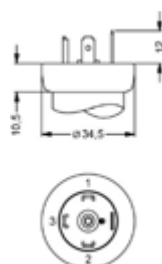
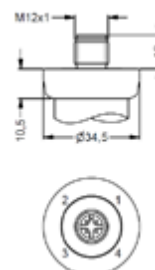
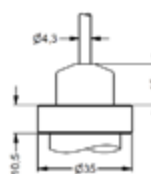
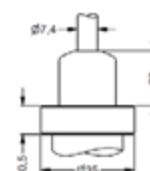
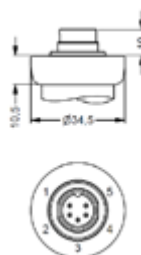
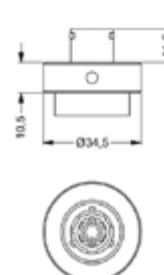
ELECTRICAL WIRING 3-WIRE SYSTEM (CURRENT/VOLTAGE)



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DIMENSIONS IN MM [INCH]

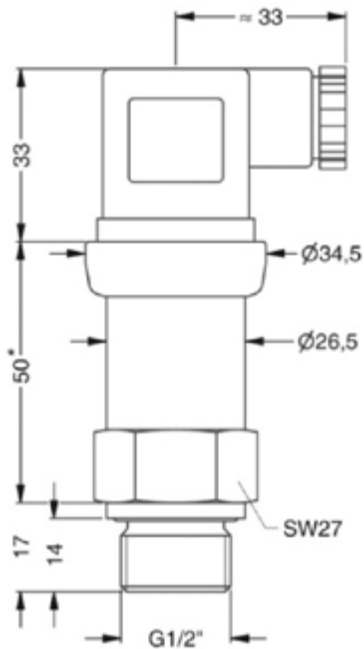
For reference only, consult Ashcroft for specific dimensional drawings

PROCESS CONNECTION
G 1/4 B-Male (EN837-1)
Code: MG2

G 1/2 B-Male (EN837-1)
Code: MG4

**G 1/4 A-MALE
(stud end DIN 3852-E)**
Code: MGA

**G 1/2 A-MALE
(stud end DIN 3852-E)**
Code: MGB

1/4 NPT Male
Code: M02

1/2 NPT Male
Code: M04

ELECTRICAL CONNECTION
**Hirschmann
EN 175301-803 Form A**
Code: DA – IP65
-40 °C to +85 °C

M12 4-Pin
Code: EW – IP67
-40 °C to +85 °C

Over-Mold Cable
Code: FC – IP67
-5 °C to +70 °C

Ventilated Over-Mold Cable
Code: FV – IP68
Temperature limit on request

**Binder Type 723
5-Pin**
Code: BI – IP67
-40 °C to +85 °C

MIL DTL 26482 10 6-Pin
Code: B6 – IP67
-40 °C to +85 °C


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GENERAL DIMENSIONS IN MM [INCH]

For reference only, consult Ashcroft for specific dimensional drawings



* Electrical connection option B6 (MIL DTL 26482 10 6-Pin) additional 5 mm length

