

Data Sheet

OEM Pressure Transducer for Heavy Duty Applications Type IPS4 and IPS4S

FEATURES

- ATEX Intrinsically-Safe approval
- Thin film sensor technology
- Ranges from 6 through 600 bar
- IP65 or 67 Ingress rating
- Accuracy 0.5 % of span

TYPICAL USES

- Heavy construction machinery
- Presses
- Engine monitoring
- Hydraulic & pneumatic sensing
- Machine equipment
- Oxygen



IPS4
Heavy Duty
Transducer



PERFORMANCE SPECIFICATIONS

Reference Temperature:	21 °C ±2 °C (70 °F ±2 °F)
Static Accuracy:	±0.5 % 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) 1/4 NPT Male
Ingress Rating:	IP65 (with manting connectors) IP67 (with M12 or PVC cable connection)
Weight:	~120 g

ENVIRONMENTAL SPECIFICATIONS

Thermal Coefficients:	≤±0.3 % / 10 K of span
Temperature Limits:	Storage: -40 °C to 85 °C Operating: -40 °C to 85 °C (IPS4) -20 °C to 60 °C (IPS4S in zone 0) -40 °C to 70 °C (IPS4S 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 600 bar (see Table 1 at page 2)
Shock:	500 g, 1 ms (DIN EN60068-2-27)
Vibration:	Random: 20 g RMS 25-2000 Hz (DIN EN60068-2-6)

KEY BENEFITS

- High sensitive thin film sensor
- Heavy duty applications
- 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:	$R_{max} = [(V_s - V_{s min}) / 0.02 A] \Omega$
	3-wire:	$R_{min} = 10 k\Omega$
Current Consumption:	2-wire:	max. 25 mA
	3-wire (Voltage):	max. 7 mA (max. 20 mA short-circuit current)
	3-wire (ratiometric):	typical 3 mA
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 316Ti (1.4571)
Gasket:	FKM (Viton) for G 1/4 A male (DIN 3852-part 11 Form E) sensor welded to process connection, no seal others on request
Diaphragm:	Stainless steel 630 (1.4542)

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
ATEX	EU-Type Examination Certificate IExU22ATEX1002X 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:	IPS4	5	MGA	42	FC	X	10BR	X6W
Model										
IPS4	OEM Pressure Transducer for heavy duty applications	IPS4								
IPS4S	OEM Pressure Transducer with ceramic sensor element, intrinsically safe ATEX approval (with output signal 4-20 mA only)	IPS4								
Accuracy										
5	0.5 % of span			5						
Process Connection										
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	IP65								
DC	Hirschmann EN175301-803 Form C	IP65								
EW	M12x1 (4-Pin)	IP67								
FC	PVC cable (Cable colours acc. to IEC 60757)	IP67					FC			
Mating Connector										
M	With mating connector									
X	Without mating connector							X		
Ranges (all available ranges see below at table 1)										
10BR	10 bar								10BR	
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 Heavy Duty Applications Type IPS4 and IPS4S

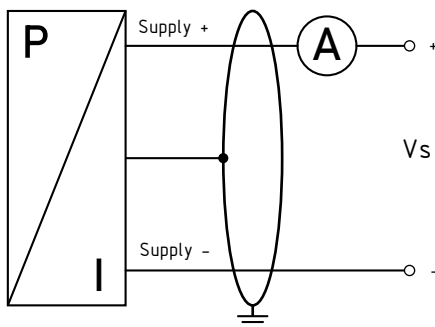
**TABLE 1:
PROOF & BURST
PRESSURE**

Sensor Range	Proof	Burst
in bar		
6	12	30
10	20	50
16	32	80
25	50	125
40	80	200
60	120	300
100	200	500
160	320	800
250	500	1400
400	800	2000
600	1200	3000

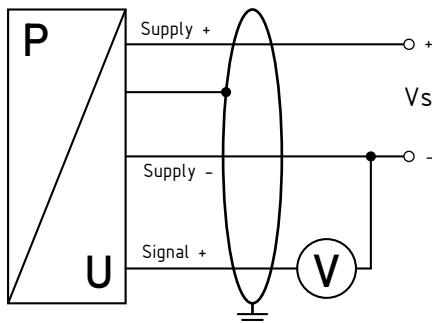
TABLE 2: PIN CONFIGURATION

	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)



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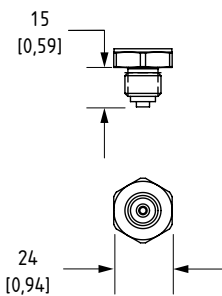
DIMENSIONS IN MM [INCH]

For reference only, consult Ashcroft for specific dimensional drawings

PROCESS CONNECTION

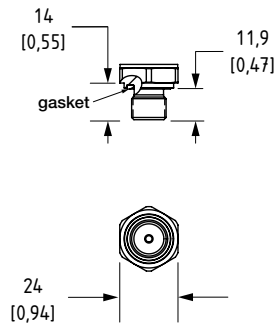
G 1/4 B-Male (EN837-1)

Code: MG2



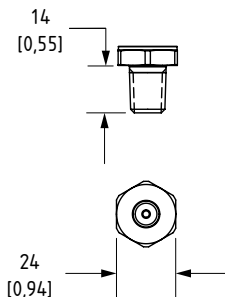
G 1/4 A-MALE (stud end DIN 3852-E G1/4)

Code: MGA



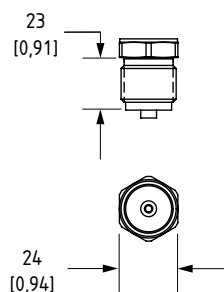
1/4 NPT Male

Code: M02



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

Code: MG4

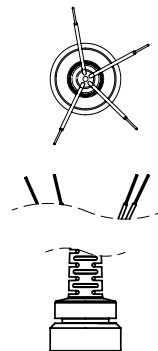


ELECTRICAL CONNECTION

Over-Mold Cable

Code: FC – IP67

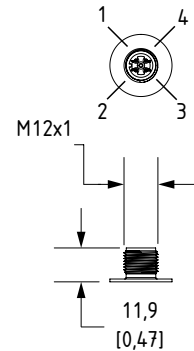
-5 °C to +70 °C



M12 4-Pin

Code: EW – IP67

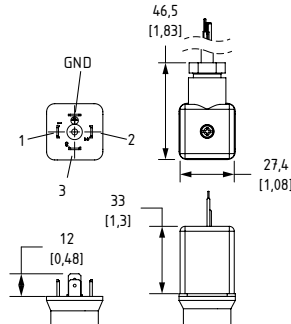
-25 °C to 85 °C



Hirschman EN 175301-803 Form A

Code: DA – IP66

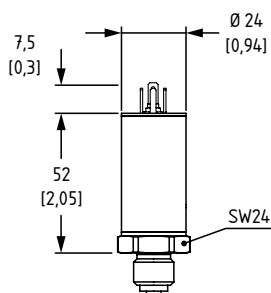
-25 °C to 85 °C



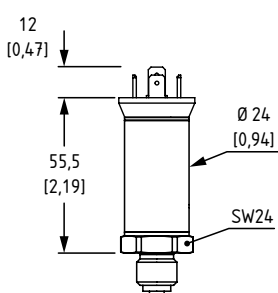
GENERAL DIMENSIONS IN MM [INCH]

For reference only, consult Ashcroft for specific dimensional drawings

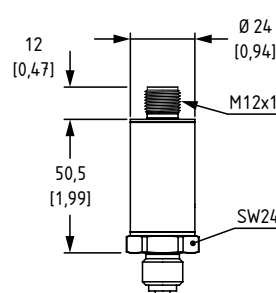
DC



DA



EW



FC

