

Special Purpose Pressure Transmitters for Mobile Hydraulic Applications Type MH-2

WIKA Datasheet MH-2

Applications

- Mobile hydraulic systems
- Load Monitoring

Special Features

- Pressure ranges from 100 psi to 8,000 psi
- 4-20 mA, 1-5V, 0-10V, 0.5-4.5V ratiometric outputs available
- Durable thin film sensor technology
- CDS system for protection from pressure spikes and cavitation
- IP 69K high pressure steam wash-down protection available
- MTTF values > 100 years

Description

MH-2 pressure transmitters are precision engineered for off road and mobile hydraulic applications where performance and durability are critical. Extreme shock and vibration resistance, available high pressure steam wash-down protection and the WIKA CDS system (cavitation dampening system) provide one of the most rugged pressure transmitters available today. Pressure ranges from 1,000 psi to 8,000 psi meet all standard mobile hydraulic pressure applications.

The all-welded thin film measuring cell eliminates the need for additional soft sealing materials that may deteriorate over time. The thin film sensor uses sputtered technology that provides excellent long-term stability in applications producing frequent pressure cycles. The rugged glass reinforced PBT plastic case has been used in under hood automotive applications for many years.



MH-2 pressure transmitters

A metal sleeve inside the case provides excellent EMI protection to 100v/m. Several NEMA 4 / IP 67 electrical connections are available. The cable version provides environmental protection to IP 69K for resistance to high-pressure steam wash-down cleaning procedures.

The MH-2 is specifically designed for OEM applications in the mobile hydraulics and automotive industry. It is manufactured on a fully automated production line to provide large quantities of transmitters with consistent quality and highly competitive pricing.

Custom modifications are available for large quantity requirements.

Specifications
Type MH-2

Pressure range	-30 InHG/100 psi	-30 InHG/100 psi	100 psi	150 psi	250 psi	300 psi	500 psi
Maximum pressure*	1,740 psi	2,900 psi	290 psi	464 psi	725 psi	725 psi	1,160 psi
Burst pressure**	7,970 psi	11,600 psi	1,450 psi	2,320 psi	3,625 psi	3,625 psi	5,800 psi
Pressure range	1,000 psi	1,500 psi	2,000 psi	3,000 psi	5,000 psi	17,500 psi	8,000 psi
Maximum pressure*	1,740 psi	2,900 psi	4,600 psi	7,200 psi	11,600 psi	17,400 psi	17,400 psi
Burst pressure**	7,970 psi	11,600 psi	14,500 psi	17,400 psi	26,500 psi	34,800 psi	34,800 psi

*Pressure applied up to the maximum rating will cause no permanent change in specifications but may lead to zero and span shifts

**Exceeding the burst pressure may result in destruction of the transmitter and possible loss of media

Materials:			
■ Wetted parts		Stainless steel	
■ Case		Fiberglass-reinforced polybutylene terephthalate (PBT)	
Power supply U_B		Signal output	Power supply U_B Maximum load R_A
Signal output and		4 ... 20 mA, 2-wire	10 ... 36 DC V $R_A \leq (U_B - 10V) / 0.02 A$ with
Maximum load R_A			R_A in Ohm and U_B in Volt
		1 ... 5 V, 3-wire	8 ... 36 DC V $R_A > 2.5 k\Omega$
		0 ... 10 V, 3-wire	14 ... 36 DC V $R_A > 5 k\Omega$
		0.5 ... 4.5 V, ratiometric	5 ± 0.5 DC V $R_A > 4.5 k\Omega$
		Others on request	
Response time (10 ... 90 %)	ms	≤ 2	
Isolation voltage	VDC	500	
Accuracy	% of span	≤ 0.5 (BFSL)	
	% of span	≤ 1.0 (limit point calibration)	
		(Includes non-linearity, hysteresis, zero point and full scale error per IEC 61298-2)	
Non-repeatability	% of span	≤ 0.2	
Non-linearity	% of span	≤ 0.4 (BFSL) according to IEC 61298-2	
1-year stability	% of span	≤ 0.3 (at reference conditions)	
Permissible temperature of:			
■ Media *)		-40 ... +257 °F	-40 ... +125 °C
■ Ambient *)		-40 ... +212 °F	-40 ... +100 °C
■ Storage *)		-40 ... +248 °F	-40 ... +120 °C
		*) Also complies with EN 50178, Tab. 7, Operation (C) 4K4H, Storage (D) 1K4, Transport (E) 2K3	
Compensated temperature range		+32 ... +176 °F	0 ... + 80 °C
Temperature coefficients (TC) within compensated temperature range:			
■ Mean TC of zero	% of span	≤ 0.15 / 10K (special pressure ranges may have increased zero TC)	
■ Mean TC of range	% of span	≤ 0.15 / 10K	
Total error band (TEB)	% of span	From -40...+257 °F (-40...+125 °C) Typ +/- 2.0%, max +/- 3.5% (over operating range)	
CE conformity		2004/108/EC interference emission and immunity see EN 61 326 interference emission limit class A and B 97/23/EG Pressure equipment directive	
Shock resistance	g	500 according to IEC 60068-2-27 (mechanical shock)	
Vibration resistance	g	20 according to IEC 60068-2-6 (vibration under resonance)	
■ Short circuit protection		S+ towards U-	
■ Reverse polarity protection		S+ towards U- {available with ratiometric signal upon request}	
Weight	oz	Approximately 2.1	

Dimensions in inches (mm)

Electrical connections

Circular connector
M12 x 1, 4 pin,
NEMA 4 / IP 67
Order code: M4

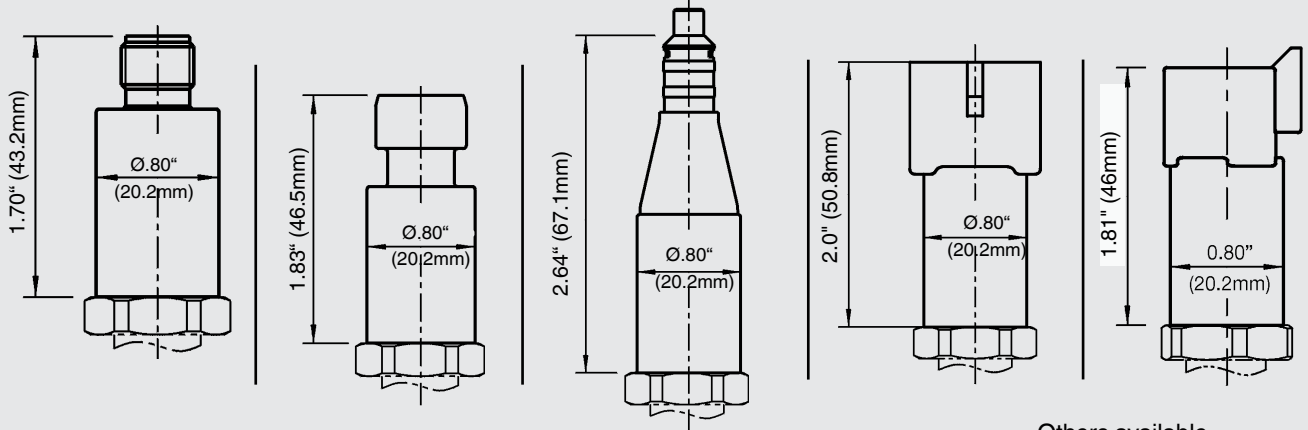
Metri Pack Connector
Series 150
NEMA 4 / IP 67
Order code: R3

Cable with free ends
IP69K high pressure
steam washdown
Order code: FN

Ingress Protection (IP) per IEC 60 529

Connector
AMP Superseal 1.5
NEMA 4 / IP 67
Order code: S3

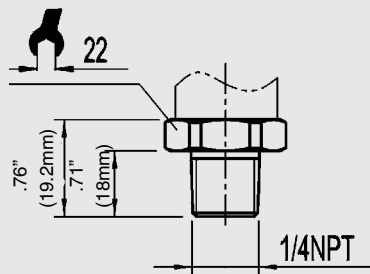
Deutsch 3-Pin
DT04-3P
Order Code: G3



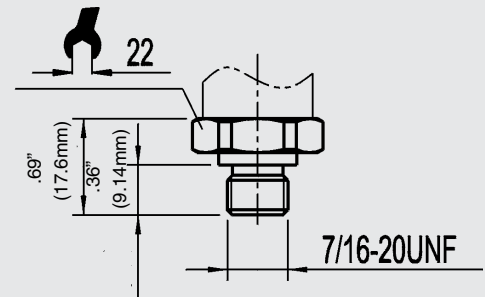
Others available

Pressure connections *)

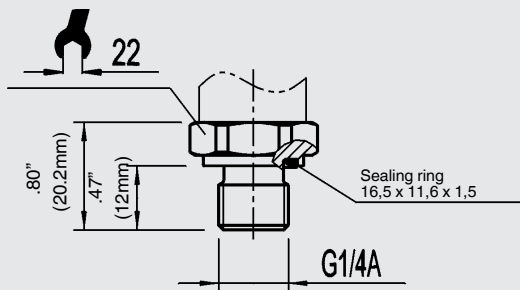
1/4 NPT male
Order code: NB



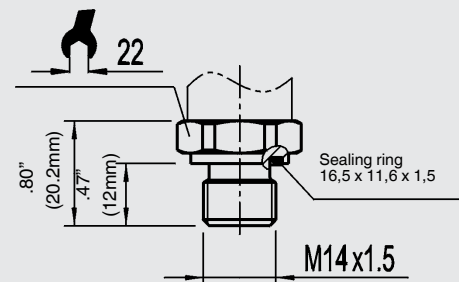
SAE #4 7/16-20 UNF-2A
male o-ring boss
Order code: MV



G 1/4 per DIN 3852-E
Order code: HD



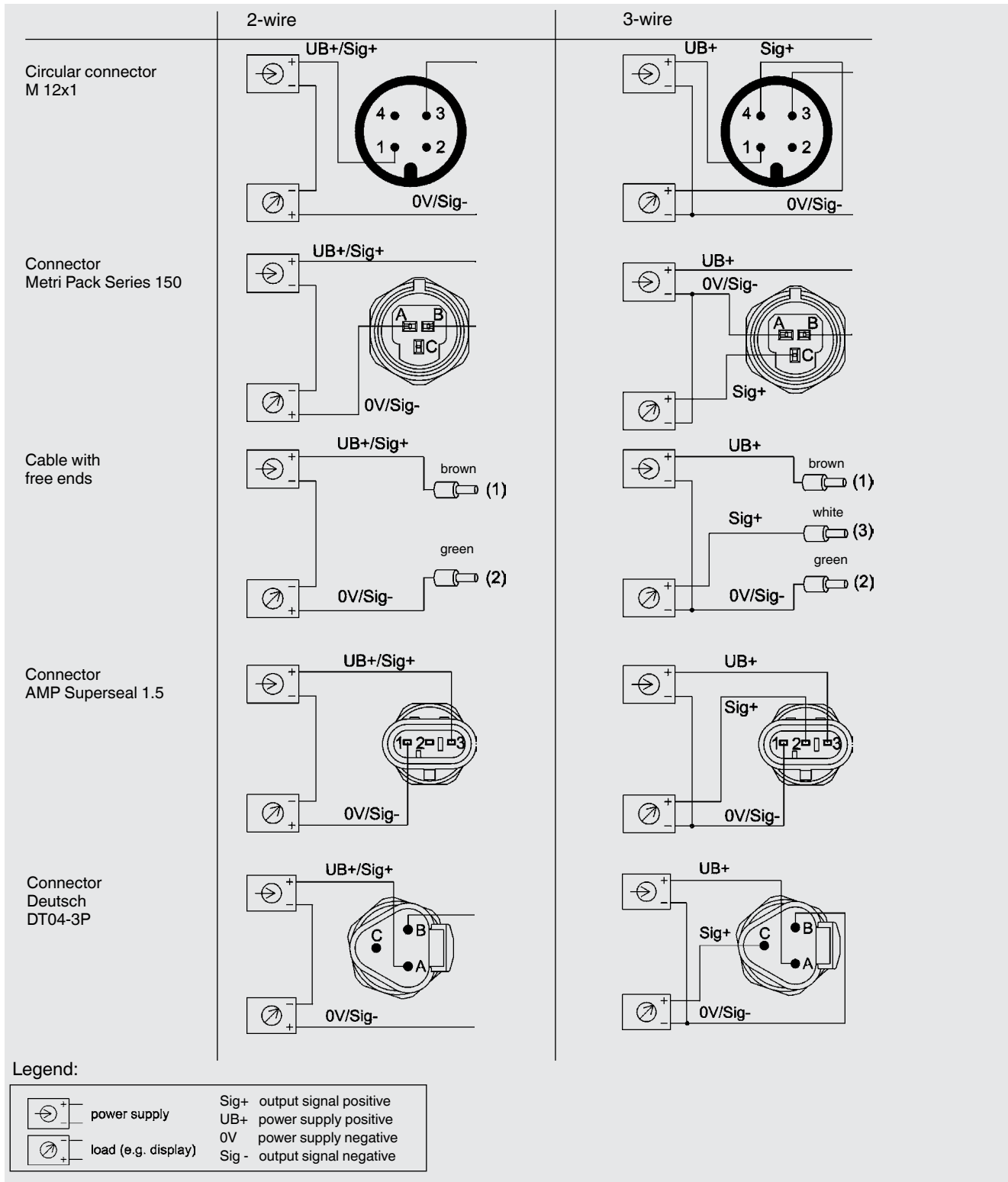
M 14 x 1.5 per DaIN 3852-E
Order code: HN



Others available

*) pressure connections incorporate the WIKA CDS system. This includes a reduced diameter pressure port for protection against pressure spikes and cavitation.

Electrical connections



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