



Mobile Hydraulic Pressure Transmitters

Type MH-1 - 1000 PSI to 10,000 PSI

Tronic

(Previous model number 891.24.545)

- 4-20 mA 2-wire or 1-5 V 3-wire output signal
- Highly resistant to pressure spikes and vibration
- Shock resistance to 1000g
- Stainless steel case and wetted parts
- Available with high pressure steam washdown environmental protection (IP 69K)

The WIKAI Type MH-1 are engineered to meet the demanding requirements of off-road pressure measurement applications.

Extreme shock, vibration, and pressure spike resistance is combined with environmental protection up to IP 69K. These features are ideal for the rough service conditions encountered in most mobile hydraulic applications.

The all welded construction of the sensor assembly eliminates additional sealing materials and provides long term leak-free service. The thin film sensor is manufactured with high grade stainless steel using a vacuum deposition process called sputtering. This process produces excellent long term stability in applications subject to wide, rapid pressure fluctuations.

For additional mechanical protection, the thin film sensor is countersunk into the hex (see figure 2). This protects against oil loss in the event the transducer is severely damaged while in operation. The rugged design withstands shocks to 1000 g and vibration up to 50 g in accordance to DIN IEC 770. CE certification provides reliable operation even under extreme EMI conditions.

The MH-1 is available with a wide range of electrical connections. Cable versions are available with environmental ratings of IP 69K for protection during high pressure steam cleaning maintenance procedures.

A CANBUS transmitter for mobile hydraulic applications is available. Contact the factory for information.

STANDARD RANGES

RANGE	MAXIMUM*	BURST**
0-1000 PSI	1800 PSI	8000 PSI
0-2000 PSI	4600 PSI	14,500 PSI
0-3000 PSI	7200 PSI	17,500 PSI
0-5000 PSI	11,600 PSI	25,000 PSI
0-10,000 PSI	17,500 PSI	33,000 PSI

Notes:

* Pressure applied up to the maximum rating will cause no permanent change in specifications

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



DIN 43 650 plug



4 pin locking plug
M 12 x 1



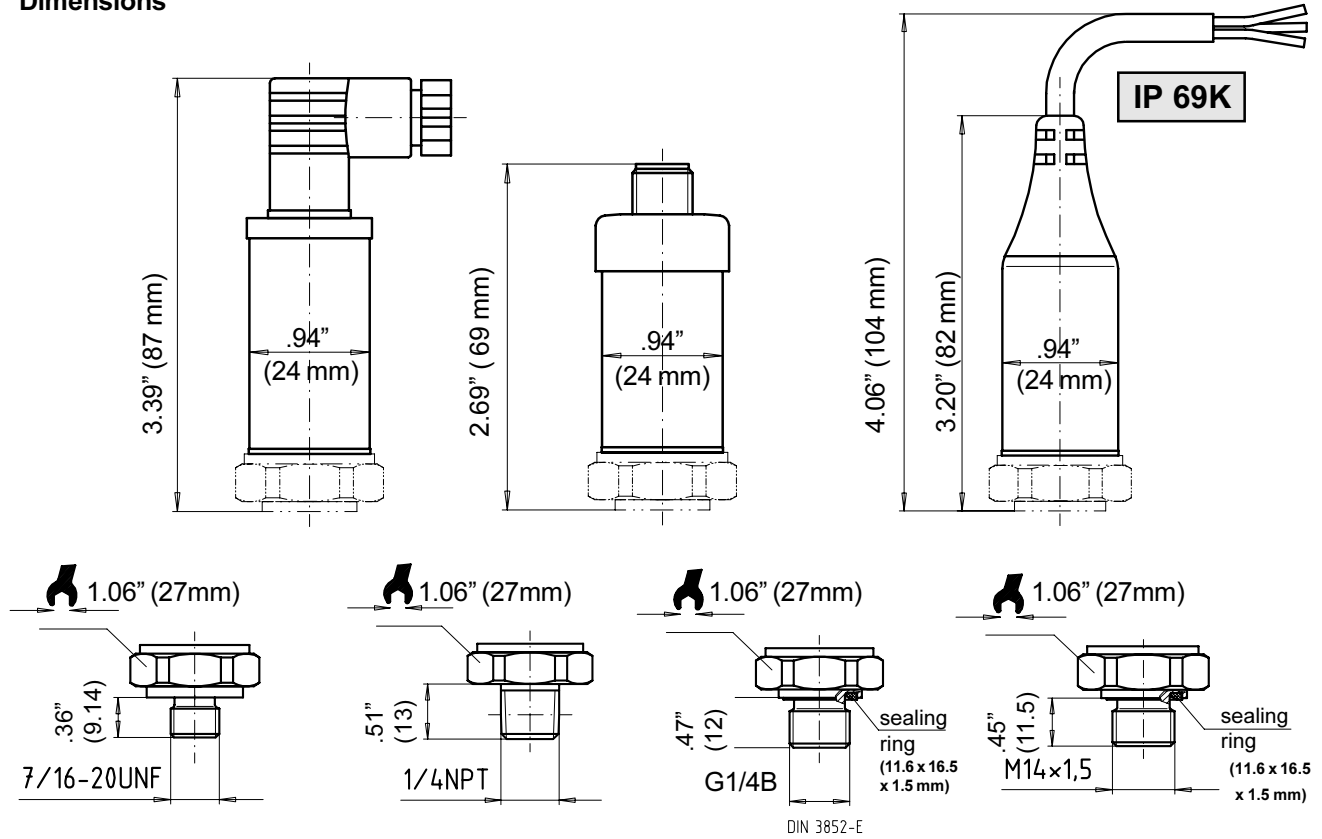
Flying leads with
IP 69K high pressure
steam washdown protection

APE MH-1
(APE 81.23)

Specifications	Units	Type MH-1
Sensing principle Pressure ranges Pressure reference	PSI	Thin film standard ranges as listed {custom ranges available} relative pressure
Pressure connection: Pressure channel Material: -wetted parts -case	mm diameter	SAE #4 (7/16-20 UNF) male O-ring boss; 1/4 NPT male, G1/4A per DIN 3852-E, M 14 x1.5 per DIN 3852-E, -F (Other pressure connections available on request) 3.5 (0.6mm available) 1.4571 and 1.4542 stainless steel (316 ss and PH17-4 ss) 1.4571 stainless steel (316 ss)
Supply voltage U_b Output and load limitations: Output signal and maximum load Response time (10...90%)	DC Volts milliseconds	10 - 30 4-20 mA 2-wire $R_A \leq (U_b - 12V) / 0.023 A$, with R_A in Ohms and U_b in V 1-5 V 3-wire system $R_A > 5 k\Omega$ ≤ 5
Accuracy (linearity, including hysteresis and repeatability) Repeatability Hysteresis 1 year stability	% of span % of span % of span	$\leq 0.5\%$ (B.F.S.L.) ≤ 0.1 $\leq 0.05\%$ ≤ 0.2 (under reference conditions)
Temperature Media Ambient Storage Compensated range Temperature error (reference 70°F) on zero point on span	% of span	-40°F to +257°F (-40°C to +125°C) -22°F to +185°F (-30°C to +85°C) { -40 °F to +185°F available } -40°F to +185°F (-40°C to +85°C) +32°F to +185°F (0°C to +85°C) ≤ 0.3 per 18°F (10°C) change ≤ 0.2 per 18°F (10°C) change
CE conformity		Interference emission per EN 50 081-1 (March 1993) and EN50 081-2 (March 94), Interference immunity per EN 50 082-2 (March 1995)
Shock resistance Vibration resistance	g g	1000 per IEC 770 for mechanical shock 50 per IEC 770 for vibration under resonance conditions
Electrical connection Weight Electrical protection Environmental protection	lb	4-pin miniature L - plug per DIN 43 650 {4-pin locking plug M 12 x 1} {5 foot flying lead} {custom plug and cable assemblies} approximately 0.4 (0.2 Kg) protected against reverse polarity, short circuit, and overvoltage IP 65 (NEMA 5) with 4-pin miniature L - plug per DIN 43 650 {IP 67 (NEMA 4) with 4 pin locking plug M 12 x 1} {IP 68 (NEMA 6) with 4 pin locking plug M 12 x 1} {IP 69K (NEMA 6P) with 5 foot flying lead}

Notes: Items in curved brackets { } are available as special order options

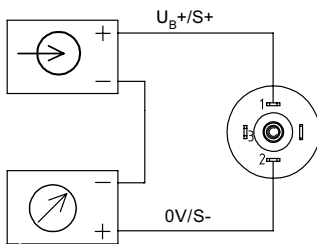
Dimensions



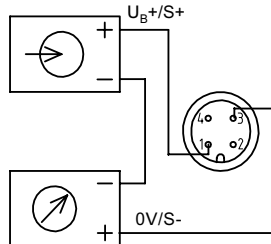
Wiring

2-wire system

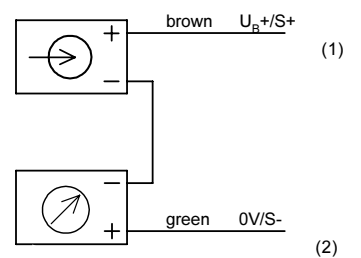
4-pin L-plug DIN 43 650



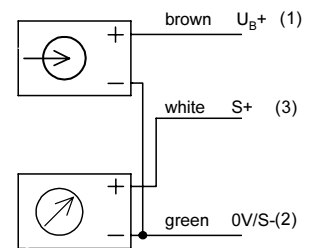
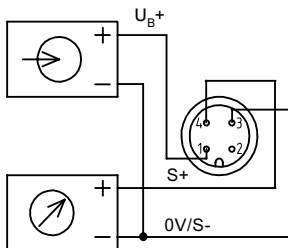
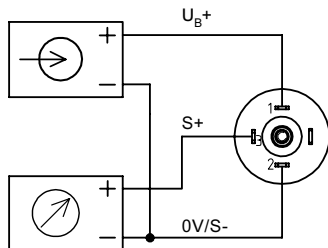
4-pin locking plug M 12 x 1



flying lead



3-wire system



2-wire system

Wire	Coding	DIN Plug	Wire Color
Supply +	$U_B+ / S+$	pin 1	brown
Signal -	$0V / S-$	pin 2	green

3-wire system

Wire	Coding	DIN Plug	Wire Color
Supply +	U_B+	pin 1	brown
Supply - Signal -	$0V / S-$	pin 2	green
Signal +	$S+$	pin 3	white



Figure 1
The solid internal construction of the MH-1 provides shock resistance to 1000 g and vibration resistance to 50 g per IEC 770.



Figure 2
The thin film sensor is countersunk into the transmitter hex. This provides additional protection against loss of hydraulic fluid even if the transmitter body is severely damaged.

THE MEASURE OF
Total Performance™

Ordering Information:

State computer part number (if available) / type number / range / output / process connection / electrical connection / other required options.

Specifications given in this data sheet represent the state of engineering at the time of printing. Modifications may take place and the specified materials may change without prior notice.

5/2000



WIKA Instrument Corporation

1000 Wiegand Boulevard

Lawrenceville, Georgia 30043-5868

Tel: 770-513-8200 Fax: 770-277-2641

<http://www.wika.com> e-mail: Tronic@wika.com