

Differential Pressure Transmitter

with Diaphragm, Pressure rating PN 40/100/250 bar

Standard • Model 891.34.1884

Ⓢ -Version • Model 892.34.1884

TRONIC LINE

- Pressure ranges from 0 ... 40 mbar to 0 ... 25 bar
- Wetted parts and case of stainless steel and NiCrCo alloy (Duratherm) and FPM (Viton)
- Pressure connections 2 x G ½ female
- For gaseous, liquid and aggressive media, and in aggressive environments
- Differential pressure measurement at points with a high differential pressure overload and/or a high working pressure
- Max. working pressure (static pressure) alternatively 40, 100 or 250 bar
- High overload value either side alternatively 40, 100 or 250 bar
- Transmitter with Hall sensor and amplifier
- Industrial standard signals 4 ... 20 mA or 0 ... 20 mA
- Electrical connection via cable box
- Ingress protection IP 65



General features

The principle feature of these differential pressure gauges with mounted transmitter is their high overload value in conjunction with high working pressures.

The differential pressure transmitter consists mainly of a mechanical measuring system with elastic pressure element of Model 732.14, magnetic-field-dependent sensor (Hall sensor) with amplifier and case with the connecting parts for the electronics. A permanent magnet rigidly coupled to the pressure element influences the flow field of a sensor. The resulting differential voltage is amplified to a standard current signal.

Standard output signals of 4 ... 20 mA (2 wire system) or 0 ... 20 mA (3 wire system) can be provided from a non-stabilized DC supply of 10 ... 30 V.

Upon request, the transmitters may also be supplied in intrinsically safe ex-approved design with the output signal 4 ... 20 mA.

For recalibration, zero and span can be adjusted by means of easily accessible potentiometers.

The use of high-quality stainless steel material is intended for applications within the chemical industry for gaseous, liquid and aggressive media. Typical applications are, for example, the monitoring of pumps, filters and compressors.

Wetted parts made of special materials can be supplied where increased resistance to corrosion is required.

Electrical connection is made by means of a cable box with screwed cable gland M 20 x 1.5.

Supplementary data sheets

- | | |
|--|--------------------------|
| • Differential pressure transmitter
Pressure rating PN 2.5/25/40 bar
(see data sheet PE 81.70) | Model 89X.34.1998 |
| • Pressure transmitter
high overpressure safety
(see data sheet PE 81.74) | Model 89X.34.2166 |
| • Absolute pressure transmitter
(see data sheet PE 81.76) | Model 89X.34.2082 |
| • Transmitter to combine with pressure gauges
(see data sheet AE 08.02) | Model 89X.34 |


Gauge head geometry [□ mm]	Pressure ranges	Working pressure (static pressure) maximum [bar]	Overpressure safe (either side) maximum [bar]
		alternatively	
140	0 ... 40 mbar to 0 ... 60 mbar	40, 100 or 250	up to respective working pressure max. (static pressure)
80	0 ... 0.1 bar to 0 ... 25 bar		

Process connections: 2 x G ½ female (optional: 2 x ½ NPT female, 2 x ½ NPT male with adaptors
2 x G ½ B male with adaptors, pressure connection per DIN 19 213)

Technical data		Model 891.34.1884 and Model 892.34.1884 (Ex-version)
Power supply U_B for non-Ex-class Models for Ex-class Models	DC V	$10 < U_B \leq 30$ see under section Ex-class protection
Supply voltage effect	% of span/10V	≤ 0.1
Permissible residual ripple	% ss	≤ 10
Output signal and permissible max. load R_A		for non-Ex-class version, Model 891.34.1884: 4 ... 20 mA, 2-wire system $R_A \leq (U_B - 10V) / 0.02A$ with R_A in Ohm and U_B in Volt 0 ... 20 mA, 3-wire system $R_A \leq (U_B - 10V) / 0.02A$ with R_A in Ohm and U_B in Volt {0 ... 10V, 3-wire system $R_A \leq (U_B - 10V) / 0.02A$ with R_A in Ohm and U_B in Volt} for Ex-class version, Model 892.34.1884: 4 ... 20 mA, 2-wire system $R_A \leq (U_B - 12.5V) / 0.02A$ with R_A in Ohm and U_B in Volt
Effect of load	% of span	≤ 0.1
Response time	s	approx. 1 (optional approx. 0.05)
Output signal adjustment		
Zero point, electrical	% of span	± 15
Span, electrical	% of span	± 30
Linearity	% of span	± 1.2 {0.8} (limit point calibration)
Hysteresis	% of span	≤ 0.8 {0.5}
Permissible		
Medium temperature ¹⁾	°C	-25 ... +100
Ambient temperature ¹⁾	°C	-20 ... +60
Compensated temperat. range	°C	-25 ... +60
Temperature coefficient in compensated temperat. range		
average T_C on zero point	% of span/10K	≤ 0.3
average T_C on span	% of span/10K	≤ 0.3
Ex-class protection		according to EC-Type Examination Certificate DMT 01 ATEX E 021 for Model 892.34
Output signal		4 ... 20 mA, 2-wire
Ex certification		Ex II 2G EEx ia IIC T6 and I M2 EEx ia I
Conformity specifications		
Power supply	DC V	12.5 ... 28
Short circuit rating	mA	100
Rating	mW	1000
Internal capacitance	nF	$C_i \leq 24$
Internal inductance	mH	$L_i \leq 0.2$
Medium temperature	°C	-20 ... +60
Ambient temperature	°C	-20 ... +60
CE-Conformity		Interference emission and immunity per EN 61 326
Wiring		Terminal box (screw terminals up to 2.5 mm ²)
Wiring protection		Protected against reverse polarity and overvoltage
Ingress protection per EN 60 529 / IEC 529		IP65
Weight		
non-Ex-class Models	kg	approx. 12.5 (gauge head □ 140 mm) or approx. 3.6 (gauge head □ 80 mm), respect.
Ex-class Models	kg	approx. 12.6 (gauge head □ 140 mm) or approx. 3.9 (gauge head □ 80 mm), respect.
Dimensions	mm	see drawings
Items in curved {} brackets are optional extras for additional price.		

1) for maximum values of Ex-class versions: see Ex-class protection



Power supply devices for Differential Pressure Transmitter Model 891.34.1884 under non--operation


For non--operation the following power supply devices are available for DC-supply of transmitter Model 891.34.1884:

Model A-VA-1 (old Model 903.30.400) - Power supply, line voltage AC 230 V, output voltage DC 24 V, 70 mA max.

Model KFA6-STR-1.24.500 - Power supply, line voltage AC 90 ... 253 V, 48 ... 63 Hz, output voltage DC 24 V, 500 mA max.

-Line transformer for Differential Pressure Transmitter Model 892.34.1884 under -operation

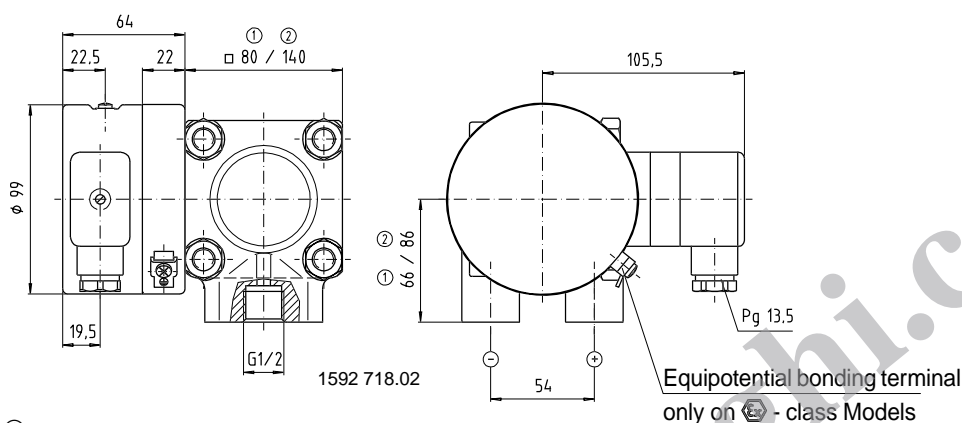
For -operation the following -line transformers are available for galvanical separation and transfer of power supply for transmitter Model 892.34.1884:

Model KFD2-STC4-Ex1 - -line transformer, line voltage: DC 20 ... 32 V, output voltage: DC 25.4 V maximum, 88.2 mA max.

Model SI 815-52 - -line transformer with power supply transfer for 2-wire system 4 ... 20 mA.

The line transformer is usable with power supply or electronic indicating instrument with integrated power supply for transmitter. When calculating the permissible max. load R_A a voltage drop of 7.7 V at the line transformer has to be considered.

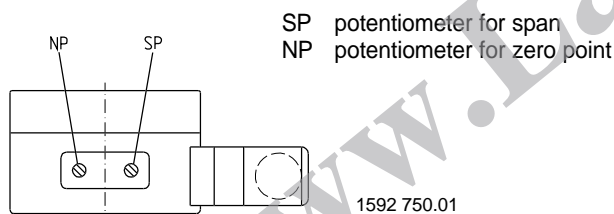
Dimensions in mm



- ① Gauge head □ 80 mm (pressure ranges ≥ 100 mbar)
- ② Gauge head □ 140 mm (pressure ranges < 100 mbar)

Position of the potentiometers in the electronics case

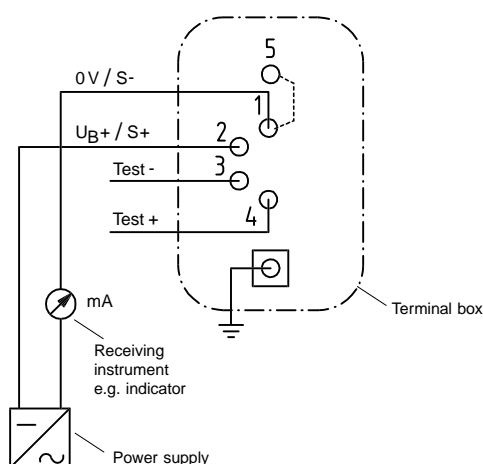
The potentiometers are accessible after unscrewing the screw plugs in the top of the casing.



Connection details

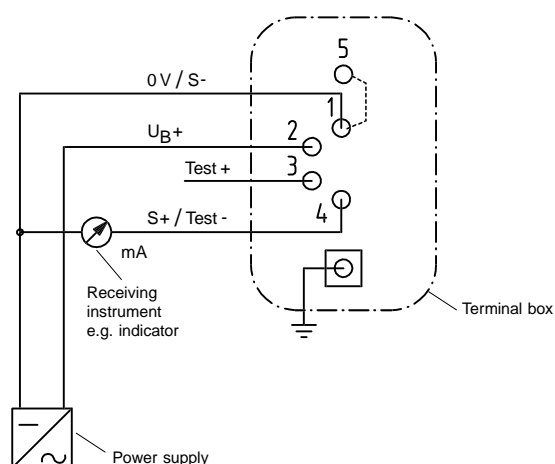
The terminals 1 and 5 are bridged internally in the terminal box providing two terminals for the 0 V / S- connection.

4 ... 20 mA 2-wire system



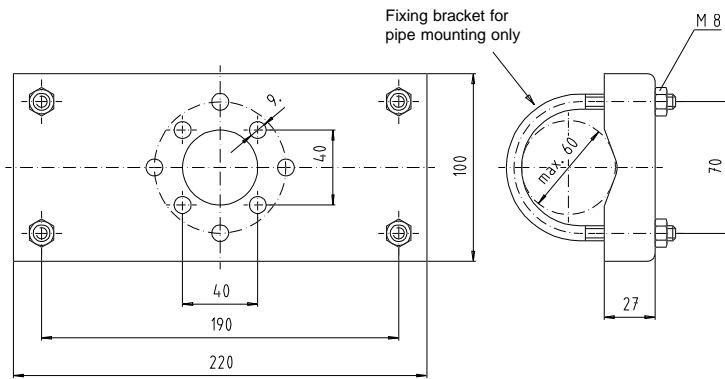
1416 324.03

0 ... 20 mA 3-wire system



Optional version

Mounting device for surface or pipe mounting



1330 926.01

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Ordering information

Model / Pressure range / Working pressure max. (static pressure rating) ... bar / Size and location of connection / Output signal / Optional extras required

Specifications and dimensions given in this leaflet represent the state of engineering at the time of printing. Modifications may take place and materials specified may be replaced by others without prior notice.



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