

# Pressure Transmitters

## For Food Industry and Special Applications

### TRONIC LINE

**Standard Series • Model 891.13.525**  
**Standard Series with Cooling Element • Model 891.13.527**  
**For Homogenisers • Model 891.23.560**  
**Low Pressure from 0 ... 25 mbar to 0 ... 60 mbar • Model 891.13.501**

- Pressure ranges from 0 ... 0,1 bar to 0 ... 25 bar
- Case and wetted parts of stainless steel
- Special connections for food and hygienic industry, homogenisers, etc.
- Wiring with plug or flying lead
- Weather protection IP 65 to IP 68
- CE-conformity

#### General features

Pressure transmitters models 891.13.525 and 891.13.527 have been specially developed to meet the requirements of special connections for food industry applications.

The need to provide connections free from dead areas is met by a G 1 A flush diaphragm connection with metal sealing cone. Standard pressure connections used in the food industry, such as union nuts to DIN 11 851, clamp, varivent, flange, and DRD can be provided by means of screw on adapters.

Wetted parts are made of stainless steel and are completely welded to eliminate the risk of conflict between soft sealing material and process medium. The compact case is also manufactured from stainless steel, and provides protection to IP 65 as standard (special versions up to IP 68).

The range is further enhanced by model 891.13.501 which enables low pressure ranges from 0 ... 25 mbar up to 0 ... 60 mbar to be supplied. With dies model the silicon sensor element is in direct contact with the process medium. For dies reason, these transmitters are only suitable for use for measuring dry, non-aggressive gases.

Power can be supplied by means of non-stabilized DC 10 (14)...30 V. All standard output signals can be offered.

Pressure transmitter model 891.23.560 meets with the demands for special connections for homogenisers.

#### Supplementary data sheet:

- Standard pressure transmitter (see data sheet PE 81.01) **Model 89X.X3.5XX**
- Submersible pressure transmitter (see data sheet PE 81.09) **Model 891.13.535**
- Field casing transmitters (see data sheet PE 81.11) **Model 89X.X3.9X0**



Model 891.13.525

Model 891.13.527



Varivent-connection



Clamp-connection



DRD-connection



Flange-connection

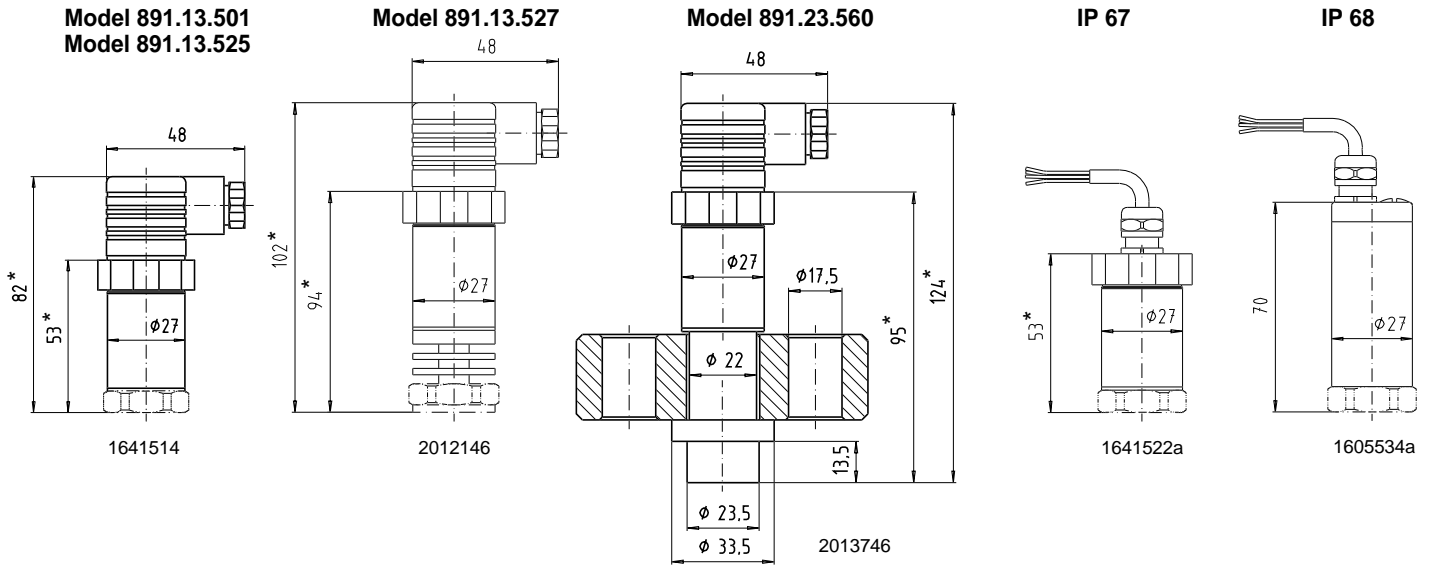
Specifications		Model 891.13.501	Model 891.13.525/527	Model 891.23.560
Sensing principle		piezoresistive	piezoresistive	thin-film strain gauge
Pressure ranges	bar	0.025 0.04 0.06	0.1 0.16 0.25 0.4 0.6 1 1.6 2.5 4 6 10 16 25	60 100 160 250 400 600
Overpressure safety	bar	0.25 0.25 0.25	1 1.5 2 2 4 5 10 10 17 35 35 80 80	120 200 320 500 800 1200
Burst pressure sensor element	bar	0.25 0.25 0.25	2 2 2 2 4 5 10 10 17 35 35 80 80	550 800 1000 1200 1700 2400
Pressure reference		relative pres.	relative pressure {absolute pressure: 0...0.25 bar abs to 0...16 bar abs} {special pressure range 800 ... 1200 mbar abs}	relative pressure
Pressure connection model 891.13.501 model 891.13.525/527		G ½ A per DIN 16 288 (½ NPT) G 1 A flush diaphragm with metal sealing cone 1) {via connection adapter: union nut DIN 11 851 DN 40 PN 40 or DN 50 PN 25, clamp-connection DN 2" PN 16 or DN 1½" PN 16, DRD-connection, flange-connection, varivent-connection, other connections on request} homogeniser flange 95 x 43 x 28 mm		
model 891.23.560				
Material		stainless steel 1.4571 (model 891.13.501: stainless steel, aluminium, silicon, gold)		
wetted parts		stainless steel 1.4301		
case		vegetable oil (model 891.13.501 without internal transmitting fluid)		
Internal transmitting fluid				
Power supply U <sub>B</sub>	DC V	10 < U <sub>B</sub> ≤ 30 (14 ... 30 V with signal output 0 ... 10 V)		
Signal output and maximum load R <sub>A</sub>		4 ... 20 mA, 2-wire system	R <sub>A</sub> [Ohm] ≤ (U <sub>B</sub> [V]-10[V]) / 0,02[A]	
		0 ... 20 mA, 3-wire system	R <sub>A</sub> [Ohm] ≤ (U <sub>B</sub> [V]-10[V]) / 0,02[A]	
		{0 ... 5 V, 3-wire system}	R <sub>A</sub> ≥ 5 kOhm	
		{0 ... 10 V, 3-wire system}	R <sub>A</sub> ≥ 10 kOhm	
Adjustability zero/span	%	± 10		
Response time (10 ... 90%)	ms	≤ 1		
Accuracy	% of span	± 0.5 {0.25 } (limit point calibration)		(calibrated in vertical mounting position)
	% of span	± 0.25 {0.125 } (BFSL)		(with bottom pressure connection)
Hysteresis	% of span	± 0.1		
Repeatability	% of span	± 0.05		
1-year stability	% of span	± 0.2 (at reference conditions)		
permissible temperature of medium	°C	Model 891.13.501	Model 891.13.525	Model 891.13.527
	°F	-30 ... +100	-10 ... +125	-10 ... +150
ambient	°C	-22 ... +212	-14 ... +257	-14 ... +302
	°F	-20 ... +80	-10 ... +80	-10 ... +80
storage	°C	-4 ... +176	-14 ... +176	-14 ... +176
	°F	-40 ... +100	-10 ... +100	-10 ... +100
	°F	-40 ... +212	-14 ... +212	-14 ... +212
Compensated temp. range	°C (°F)	0 ... +80 (+32 ... +176)		
Temperature coefficient in compensated temp. range: mean TC of zero	% of span/10K	± 0.2 (< 0.4 with pressure ranges 0 ... 0.1 and 0 ... 0.16 bar)		
mean TC of span	% of span/10K	± 0.2		
CE - conformity		Interference emission per EN 50 081-1 (March 93) and EN 50 081-2 (March 94), Interference immunity per EN 50 082-2 (March 95); declaration of conformity on request		
Electrical connection		4-pin L-plug per DIN 43 650 {cable: 1.5 m, vented, flying lead; 5-pin plug; 6-pin MIL-plug}		
Wiring protection		protected against reverse polarity, overvoltage, and short circuiting		
Degree of protection per EN 60 529 / IEC 529		IP 65 {IP 67 with cable or MIL-plug; IP 68 with cable and special case}		
Weight				
model 891.13.501	kg	approx. 0.2		
model 891.13.525	kg	approx. 0.37		
model 891.13.527	kg	approx. 0.41		
model 891.23.560	kg	approx. 0.95		
Dimensions		see drawings		

Items in curved brackets { } are optional extras for additional price.

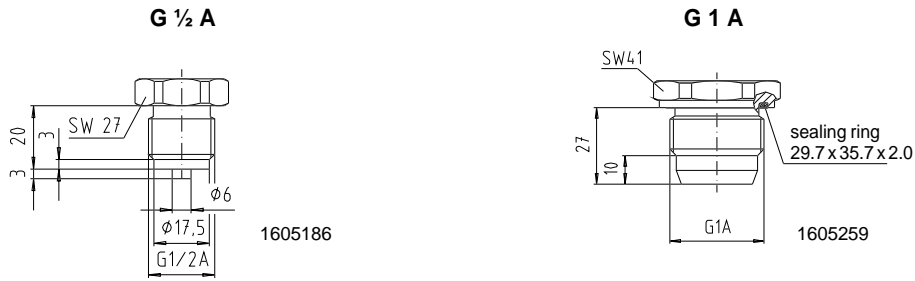
1) permissible tightening torque ≤ 50 Nm, zero deviation of max. 1% can occur. However this can be adjusted using the zero potentiometer

2) with pressure ranges ≥ 0 ... 0.25 bar only

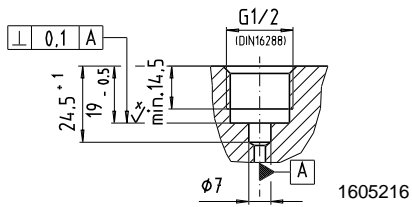
Dimensions in mm



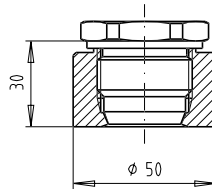
Pressure connection



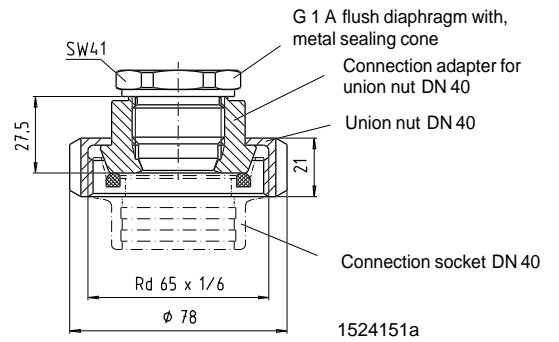
Socket



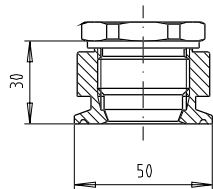
Weld-on-adapter



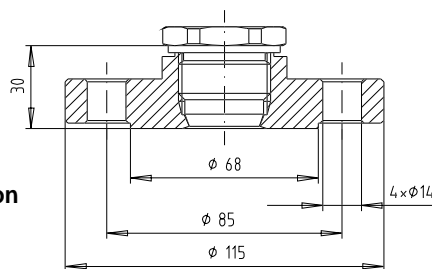
Adapter for union nut DIN 11 851



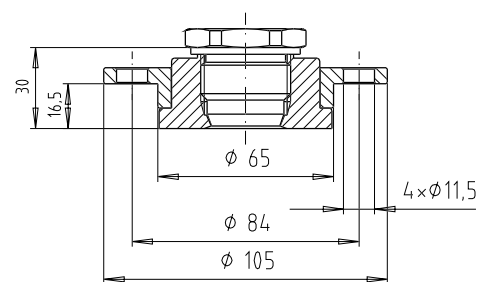
Adapter for clamp-connection



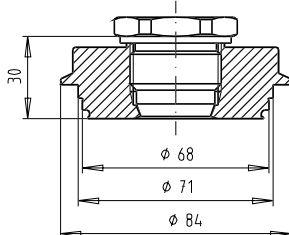
Adapter for flange-connection



Adapter for DRD-connection



Adapter for varivent-connection

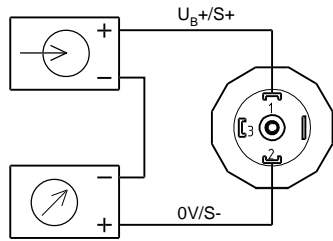


\* with optional extras the diameters \* increase 22 mm.

## Wiring details

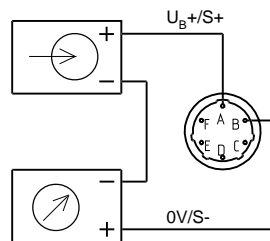
### 2-wire system

DIN 43 650 plug



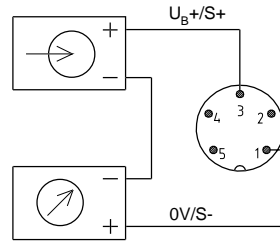
1605372

MIL-plug PT 02 E-10-6P



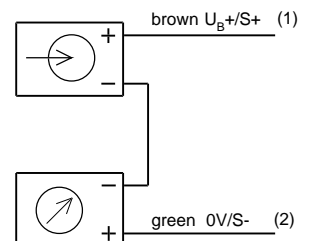
1605380

5-pin plug



1605399

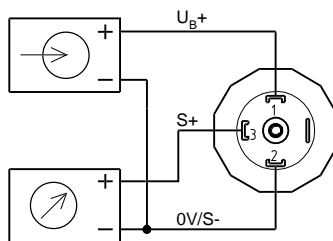
flying lead



1523988

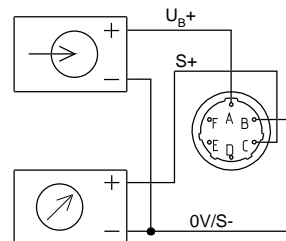
### 3-wire system

DIN 43 650 plug



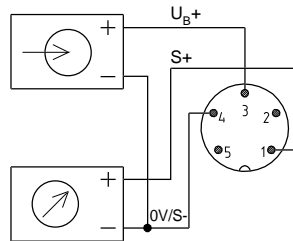
1605402

MIL-plug PT 02 E-10-6P



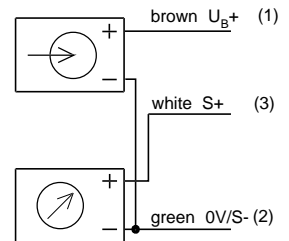
1605410

5-pin plug



1605429

flying lead



1524097

## Ordering information

Model / Pressure range / Signal output / Pressure connection / Optional extras

### Ordering examples:

891.13.501 / 0 ... 0.06 bar / 4 ... 20 mA / G 1/2 A

891.13.527 / 0 ... 6 bar / 0 ... 20 mA / G 1 A / Connection adapter union nut DIN 11 851 DN 40 PN 40

891.23.560 / 0 ... 160 bar / 4 ... 20 mA

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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