

# Hygienic Pressure Measurement

## Alfa Laval Electronic Pressure Transmitter

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**Application**

The Alfa Laval electronic pressure transmitter is designed to fulfill the demands of pressure measurement in the hygienic industries. It is suitable in filtration systems, pump systems, measuring pressure and liquid level in vessels and tanks, valve matrices, etc.

The main features are:

- Touch display with preconfigured display modes
- Good accuracy (0,1 or 0,25% of FS)
- Quick response time (0,3s)

**Working principle**

The TE67L pressure transmitter is based on the piezoresistive pressure cell technology. The measuring cell is built into a small stainless steel housing, which is integrated into the process connection. The measuring cell is protected by ultra-thin stainless steel diaphragm and a small FDA approved oil filling is transferring the applied pressure from the front of the diaphragm to the measuring cell.

**Standard range**



**TECHNICAL DATA**

Accuracy: 0,10% or 0,25% of Full Scale (FS) at 20°C

**Measuring ranges:**

Type	Range	Calculated Accuracy in mBar	
		Measuring < 0.25% @ 20 °C	< 0.1% @ 20 °C
TE67L1xxxxxxx	-1..0 Bar	<± 5 mBar	<± 2 mBar
TE67L2xxxxxxx	-1..1 Bar	<± 5 mBar	<± 2 mBar
TE67L3xxxxxxx	-1..5 Bar	<± 15 mBar	<± 6 mBar
TES7LAxxxxxxx	0..345 mBar	<± 0.5 mBar	-
TES7LBxxxxxxx	0..1 Bar	<± 5 mBar	<± 2 mBar
TES7LCxxxxxxx	0..1.6 Bar	<± 15 mBar	<± 2 mBar
TES7LDxxxxxxx	0..2.5 Bar	<± 15 mBar	<± 6 mBar
TE67LExxxxxxx	0..4 Bar	<± 15 mBar	<± 6 mBar
TES7LFxxxxxxx	0..6 Bar	<± 52 mBar	<± 21 mBar
TE67LGxxxxxxx	0..10 Bar	<± 52 mBar	<± 21 mBar
TE67LHxxxxxxx	0..16 Bar	<± 52 mBar	<± 21 mBar
TE67LIxxxxxxx	0..25 Bar	<± 88 mBar	<± 35 mBar
TE67LJxxxxxxx	0..40 Bar	<± 173 mBar	<± 69 mBar
TES7LKxxxxxxx	0..60 Bar	<± 173 mBar	<± 69 mBar

**Protection class:**

IP67 with cable gland IP69K with M12 connector and IP69K approved cable and correct torque

**PHYSICAL DATA**

**Surface Roughness**

Non Hygienic versions (G1/2A, G1", DN32, DN40, DN50) Ra ≤ 0.8 µm  
 Clamp DN38, DN51 ISO2852 Ra ≤ 0.4 µm  
 Clamp Flush Flushable (CFF) Ra ≤ 0.8 µm

**Wetted parts:**

Process connection . . . . .AISI 316L, 1.4404  
 Flush diaphragm . . . . .AISI 316L, 1.4435

**Non wetted parts:**

Housing: . . . . .AISI 304, 1.4301  
 Filling: . . . . .FDA approved silicone oil

**Electrical connections:**

Cable Gland . . . . .Polycarbonate or Stainless steel, AISI 304, 1.4404  
 M12 connector . . . . .Stainless Steel, AISI 304, 1.4404

**Display:**

Housing Polycarbonate plastic  
 Operating temperature Wetted parts: . . . . .-10 to 125 °C up to 150 °C. for < 60 minutes  
 Maximum temperature range: .200 °C. (with cooling neck)  
 Ambient temperature: . . . . .-40..85 °C

**Cable outlet:**

Electrical data:

Power supply: . . . . . 10-35 VDC

Output:

Pressure: . . . . . 4-20 mA or 4-20 mA HART

Relay: . . . . . 2 galvanic insulated relays included in the display

**Connection:**

M12 plug, 5 pin (4-20 mA output only)

plug, 8 pin (4-20 mA + relay output)

M16 or M20 cable gland

Response time: ≤ 0.3 seconds

Certificates:

- 5 point calibration certificate (option)
- 3.1 certificate (option)

**Operating temperature**

Wetted parts: . . . . . -10 to 125 °C

up to 150 °C. for < 60 minutes

Maximum temperature range: . . . . . 200 °C. (with cooling neck)

Ambient temperature: . . . . . -40..85 °C Process connections

Clamp DN 38 (ISO2852) / Clamp DN 40 (DIN32676)

Clamp DN 51 (ISO2852) / Clamp DN 50 (DIN32676)

G1/2A DIN 3852

G1" Flush Cone

DN 32 (DIN11851)

DN 40 (DIN11851)

DN 50 (DIN11851)

Clamp front flushable (CFF)

**Measuring ranges and overpressure safety**

Meas. range	-1..0	-1..1	-1..5	0..0.345	0..1	0..1.6	0..2.5	0..4	0..6	0..10	0..16	0..25	0..40	0..68
Over pressure	3	3	15	1	3	15	15	15	60	60	60	70	135	135
Burst Pressure	6	6	30	2	6	30	30	30	120	120	120	170	270	270

**Electrical installation with M12 connectors**

5-pin M12 connector with common relay output



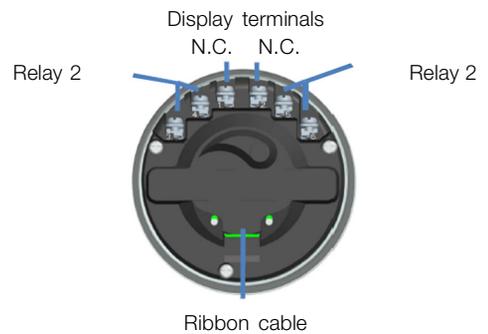
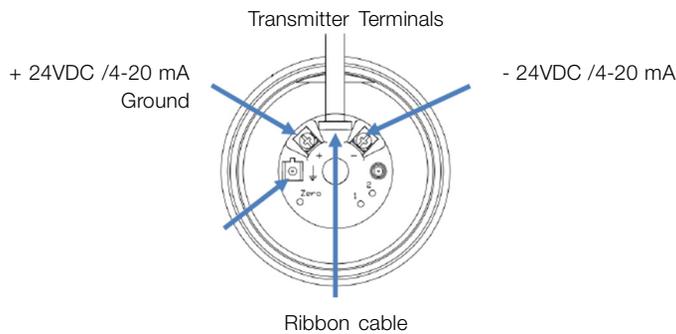
- |                 |               |               |
|-----------------|---------------|---------------|
| 1: Brown        | Supply (+)    | (4 ... 20 mA) |
| 2: White        | Common relays |               |
| 3: Blue         | Supply (-)    | (4 ... 20mA)  |
| 4: Black        | Relay 1       |               |
| 5: Yellow/Green | Relay 2       |               |

8-pin M12 connector with separated relay output



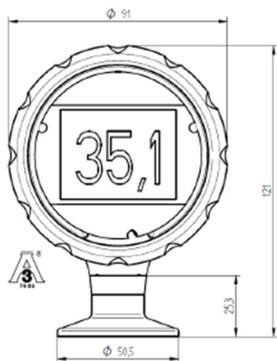
- |              |            |               |
|--------------|------------|---------------|
| 1: White     | n.c.       |               |
| 2: Brown     | Supply (+) | (4 ... 20mA)  |
| 3: Green     | Relay 2    |               |
| 4: Yellow    | Relay 2    |               |
| 5: Grey      | Relay 1    |               |
| 6: Light red | Relay 1    |               |
| 7: Blue      | Supply (-) | (4 ... 20 mA) |
| 8: Red       | n.c.       |               |

**Electrical installation with M16 or M20 cable gland**

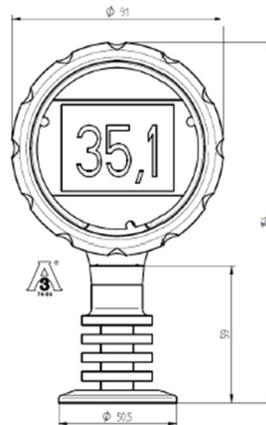


Dimensions

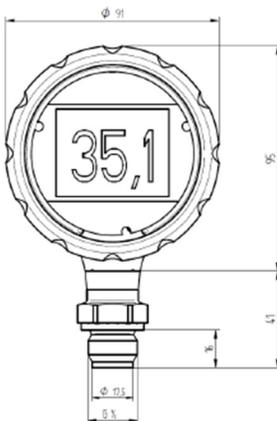
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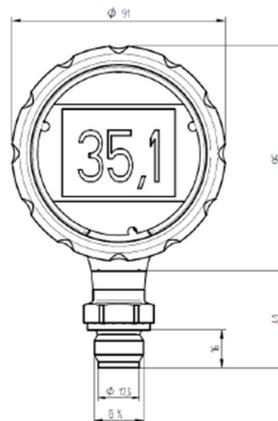
Clamp DN38 (ISO2852)  
TE67Lx1xxxEx4x



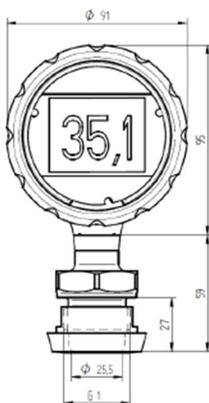
Clamp DN38  
with cooling neck  
TE67Lx1xxxEx4x



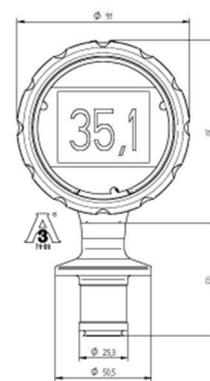
G1/2A DIN 3852  
TE67Lx4xxxEx4x



G1" Flush Cone  
TE67Lx6xxxEx4x



DN32 (DIN11851)  
TE67LxAxxxEx4x



Clamp Flush Flushable  
(CFF)  
TE67LxDxxxEx4x

Product code: 5629

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Item No.	PPL EUR	Description	Selection features
TE67L1xx1xxxx TE67L2xx1xxxx TE67L3xx1xxxx TE67LAxx1xxxx TE67LBxx1xxxx TE67LCxx1xxxx TE67LDxx1xxxx TE67LExx1xxxx TE67LFxx1xxxx TE67LGxx1xxxx TE67LHxx1xxxx TE67Lxx1xxxx TE67LJxx1xxxx TE67LKxx1xxxx	<b>1051</b>	Measuring range: -1..0 Bar (only relative) -1..1 Bar (only relative) -1..5 Bar (only relative) 0..345 Bar (only relative and accuracy <0.25%) 0..1 Bar 0..1.6 Bar 0..2.5 Bar 0..4 Bar 0..6 Bar 0..10 Bar 0..16 Bar 0..25 Bar 0..40 Bar 0..68 Bar	
<b>Add-on prices on options:</b>			
TE67Lx1x1xxxx TE67Lx2x1xxxx TE67Lx7x1xxxx TE67Lx8x1xxxx TE67Lx4x1xxxx TE67Lx6x1xxxx TE67LxAx1xxxx TE67LxBx1xxxx TE67LxCx1xxxx TE67LxDx1xxxx	<b>0</b> <b>119</b> <b>274</b> <b>337</b> <b>0</b> <b>0</b> <b>43</b> <b>43</b> <b>66</b> <b>216</b>	Process Connection: Clamp DN 38 (ISO2852) / Clamp DN 40 (DIN32676) Clamp DN 50 (ISO2852) / Clamp DN 51 (DIN32676) Clamp DN 38 (ISO2852) / Clamp DN 40 (DIN32676) with cooling neck Clamp DN 50 (ISO2852) / Clamp DN 51 (DIN32676) with cooling neck G $\frac{1}{2}$ A DIN 3852 G1" Flush Cone DN 32 (DIN11851) DN 40 (DIN11851) DN 50 (DIN11851) Clamp front flushable (CFF)	
TE67Lxx11xxxx TE67Lxx21xxxx	<b>0</b> <b>39</b>	Pressure type: Relative Absolute	
TE67Lxxxx1xxxx TE67Lxxxx2xxxx	<b>0</b> <b>113</b>	Electrical output: 4..20mA output 4..20 mA. HART ®	
TE67Lxx11Exxx TE67Lxx11Fxxx	<b>0</b> <b>0</b>	Electrical output and housing: ø80 mm Housing bottom with display 4..20mA ø80 mm Housing rear with display 4..20mA	
TE67Lxxx11x1xx TE67Lxxx11x2xx	<b>0</b> <b>163</b>	Accuracy: < 0,25% < 0,1 %	
TE67Lxxx11xx2x TE67Lxxx11xx3x TE67Lxxx11xx4x TE67Lxxx11xx5x TE67Lxxx11xx6x TE67Lxxx11xx7x	<b>56</b> <b>36</b> <b>0</b> <b>33</b> <b>0</b> <b>33</b>	Electrical connection: 1 x M12 Connector 8 wire, Stainless Steel (individual relays) 1 x M12 Connector 5 wire, Stainless Steel (common relays) 1 x Cable gland M16, Plastic 1 x Cable gland M16, Stainless Steel 1 x Cable gland M20, Plastic 1 x Cable gland M20, Stainless Steel	
TE67Lxxxxxxxx1 TE67Lxxxxxxxx2 TE67Lxxxxxxxx6 TE67Lxxxxxxxx0	<b>165</b> <b>61</b> <b>224</b> <b>0</b>	Certificates: Calibration Certificate 3.1.B Certificate Calibration Certificate + 3.1. Certificate None	