



**EMITTER**  
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# TANK LEVEL GAUGE

## INS-08/RIS-08/TLGS-08

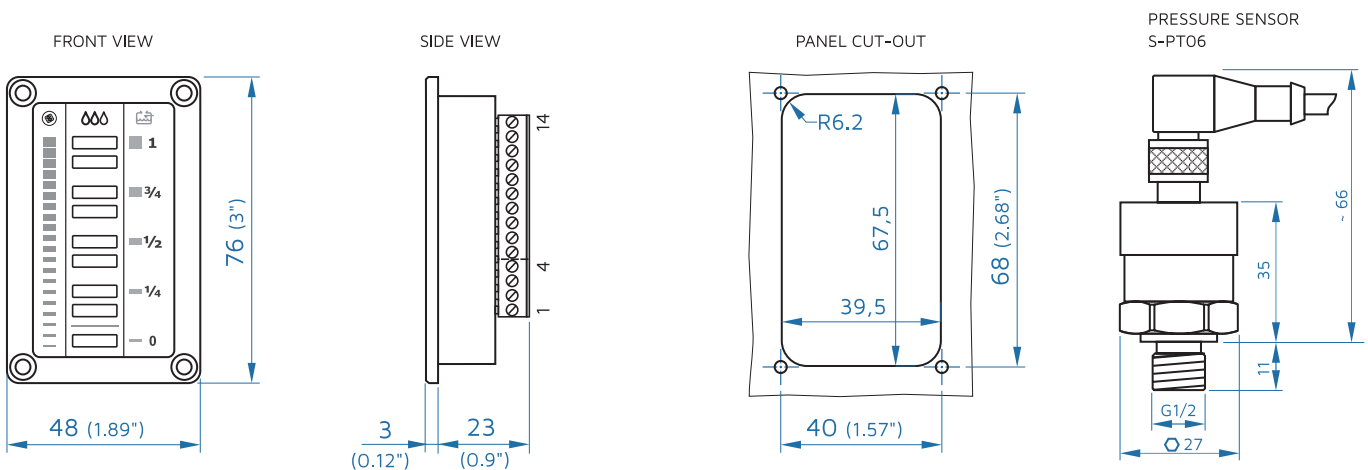


### Features and Benefits

- 1 **180° Viewing Angle**
- 2 **I/O Driver For Low Water Warning, Autofill-Hysteresis, Mute Input, Etc.**
- 3 **CAN Bus Interface**
- 4 **Super Bright LEDs**
- 5 **Dimmable-Light Sensor, Backlit**
- 6 **Low Installation Depth**
- 7 **Multiple sensor input**

INS-08 types of Tank Level Gauges are designed to display liquid's volume at an accuracy of 1/8 of the tank level using ultra-bright LEDs. The transducer measures the column of the liquid in the tank above the sensor process input and provides a signal that is proportional to the tank high. The unit standardly uses a pressure transducer with output 0.5-4.5 V

The sensor input is widely configurable and it can also be used for 0-10 V transducers, 4-20 mA transmitters or even resistive probe.

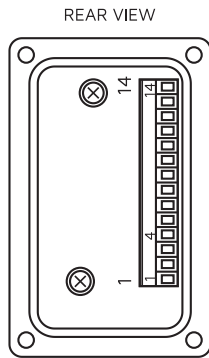


Optional I/O driver can be integrated for low level warning output, autofill-hysteresis output, mute input, etc.

The Tank Level Gauge can be used as a stand-alone system or as a part of MMX system

connected via CAN bus to IO Controller. Several slave indicators (remote - RIS) can be connected to a master indicator INS to show the same value on different locations or in combination with a XL remote indicator (RIXL) for the vehicle sides.

## Connection



### CONNECTION Terminal Block 4 or 14-way

PIN	DESCRIPTION
1	BATTERY + ("15")
2	BATTERY - / GND
3	CAN L
4	CAN H
5	SENSOR [V]/[MA] VCC+
6	SENSOR [V]/[MA] SIGNAL
7	SENSOR [V] GND
8	DIGITAL IN1
9	OUT1 HIGH SIDE 2 A (LOW W/F)
10	OUT2 HIGH SIDE 2 A (HYST.)
11	OUT3 HIGH SIDE 2 A
12	OUT4 HIGH SIDE 2 A
13	OUT5 LOW SIDE 0.5 A
14	DIGITAL IN2 NEG. (CONFIG.)

## Transducer-OEM

### SPECIFICATION AND CONNECTION

<b>Pressure Range</b>	0-600 mbar (0 - 6 m tank height)
<b>Signal Output</b>	0.5-4.5 V
<b>IP Class (IEC529)</b>	IP67
<b>Transducer Material</b>	Stainless steel 316L
<b>Pressure Port</b>	1/4"
<b>Transducer Cable</b>	3 x 0.35 mm <sup>2</sup> with M12 connector
<b>M12 Connection</b>	1:Ub, 3:GND, 4:Signal+

## Specifications

POWER	
<b>Supply Voltage</b>	8-32 V DC
<b>Current</b>	0.5 A maximum, no outputs active
<b>Electrical Protection</b>	overvoltage, transients, reverse polarity, load dump
INTERFACES	
<b>CAN</b>	1 x CAN
<b>CAN termination</b>	120 ohm, DIP switch
I/O	
<b>Sensor input</b>	0.5-4.5 V, 0-5V, 0-10V, 4-20 mA, resistive probe
<b>Digital Input IN1</b>	configurable active low/high levels 0..Ub with solder pad on PCB, protected active low level, config. input
<b>Digital Input IN2</b>	
<b>Digital Output OUT1</b>	*Only version with integrated I/O driver positive switching (high-side), max. 2 A (Low water warning)
<b>OUT2</b>	
<b>OUT3-OUT4</b>	
<b>OUT5</b>	
<b>Loads</b>	
<b>Miscellaneous</b>	protection from short circuit and overload

ENVIRONMENT	
<b>IP Class (IEC529)</b>	front panel IP67, back IP20
<b>EMC Conformity</b>	EN61000-6-2 noise immunity EN61000-6-4 radiation of interference
<b>Temperature Range</b>	storage -40° to +85°C (-40° to 185°F) operating -40° to +85°C (-40° to 185°F)
ENCLOSURE	
<b>Housing Material</b>	aluminium
<b>Mounting</b>	in-dash, with 4 screws M3 or 3.5 mm (#8) tapping screws
<b>Connector</b>	terminal block 4 or 14-way depending of options selected
MISCELLANEOUS	
<b>Indicator increments</b>	1/8 Standardly, 1/4 optional
<b>Day/Night operation</b>	automatic – integrated light sensor
<b>Front panel</b>	backlit, colour coded for water and foam
<b>Detectable substances</b>	water, fire-smothering foam, gasoline, etc
SIZE AND WEIGHT	
<b>W x H x D</b>	48 x 76 x 26 mm (1.9" x 3" x 1") with connector
<b>Weight</b>	0.10 kg (0.55 lbs)

## How to order (use characters in bold to create order code)

### SET of master indicator small INS, sensor PT06-U4, sensor cable

Ordering code example:

T	L	G	S	-	O	8	W	-	O	5	R	H	L	M
					<b>08</b> DISPLAY INCREM.1/8 <b>04</b> DISPLAY INCREM.1/4		<b>W</b> : WATER <b>F</b> : FOAM			<b>05</b> : 5 M (20") <b>10</b> : 10 M (40") <b>15</b> : 15 M (60")	<b>R</b> : LOW LEVEL WARNING	<b>H</b> : AUTOFILL HYST. xx/xx % <b>R</b> : ADD. OUTPUT	<b>L</b> : LLD5 DRIVER OUTPUTS	<b>M</b> : MUTE OUT1

### Remote Indicator - Small

Ordering code example:

R	I	S	-	O	8	W	O	-	R	H	L	M
					<b>08</b> DISPLAY INCREM.1/8 <b>04</b> DISPLAY INCREM.1/4	<b>W</b> : WATER <b>F</b> : FOAM	<b>I</b> : INSIDE <b>O</b> : OUTSIDE		<b>R</b> : LOW LEVEL WARNING	<b>H</b> : AUTOFILL HYST. xx/xx % <b>R</b> : ADD. OUTPUT	<b>L</b> : LLD5 DRIVER OUTPUTS	<b>M</b> : MUTE OUT1

### Master Indicator - Small

Ordering code example:

I	N	S	-	O	8	W	U	4	R	H	L	M
					<b>08</b> DISPLAY INCREM.1/8 <b>04</b> DISPLAY INCREM.1/4	<b>W</b> : WATER <b>F</b> : FOAM	<b>U4</b> : 0.5-4.5V <b>U1</b> : 0-10 V <b>I2</b> : 4-20 MA		<b>R</b> : LOW LEVEL WARNING	<b>H</b> : AUTOFILL HYST. xx/xx % <b>R</b> : ADD. OUTPUT	<b>L</b> : LLD5 DRIVER OUTPUTS	<b>M</b> : MUTE OUT1



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