

TANK LEVEL GAUGES

INS-20/RIS-20/TLGS-20



KEY FEATURES

- + **Super Bright** 2 1/2 -Digit LED Display
- + **I/O Driver** For Low Water Warning, Autofill-Hysteresis, Mute input, Etc.
- + **CAN Bus** Interface
- + **Multiple** sensor input
- + **Low** Installation Depth
- + **Wide** Viewing Angle

INS-20 types of Tank Level Gauges are designed to display liquid's volume at an accuracy of 1/20 (5%) of the tank level, using ultra-bright 7-segment LED Displays. 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 height. The unit standardly uses pressure transducer with an output 0.5-4.5 V by which also broken sensor cable can be detected. The sensor input is widely configurable and can also be used for 0-10 V or 4-20 mA output signal.

Optionally, an 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 - remote indicators (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.

SPECIFICATIONS

POWER

Supply Voltage	8-30 V DC
Current	0.5 A maximum, no outputs active
Electrical Protection	overvoltage, transients, reverse polarity

INTERFACES

CAN	1 x CAN
CAN termination	120 ohm, DIP switch

I/O

Sensor input	0.5-4.5 V standardly, 0-5V, 0-10V, 4-20 mA, resistive
Digital Input	configurable active low/high levels 0..Ub with solder pad on PCB, protected
Digital Output	<i>*Only version with integrated I/O driver</i>
OUT1	positive switching (high-side), max. 2 A (Low water warning)
OUT2	positive switching (high-side), max. 2 A (Autofill-Hysteresis)

Loads Inductive, capacitive, resistive

Miscellaneous protection from short circuit and overload

ENVIROMENT

IP Class (IEC529)	IP67 front panel, IP20 from the back
EMC Conformity	EN61000-6-2 noise immunity EN61000-6-4 radiation of interference
Temperature Range	storage -40° to +85°C (-40° to 185°F) operating -40° to +85°C (-40° to 185°F)

ENCLOSURE

Housing Material	aluminium
Mounting	in-dash, with 4 screws M3 or 3.5 mm (#8) tapping screws
Mating Connector	Terminal block 8- or 10-way depending of options selected

MISCELLANEOUS

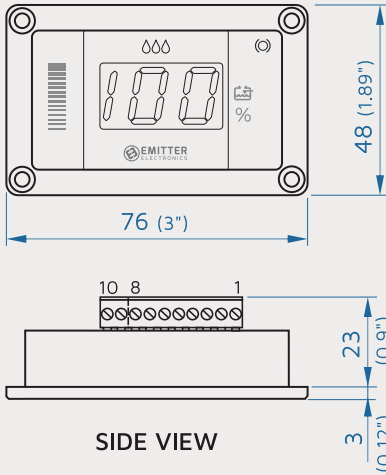
Indicator increments	1/20 of tank height (5%)
Day/Night operation	automatic - integrated ambient light sensor
Front panel	backlit, colour coded for water and foam
Detectable substances	water, fire-smothering foam, gasoline, etc

SIZE & WEIGHT

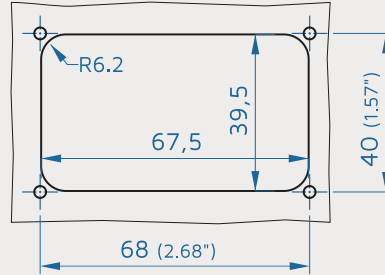
W x H x D	48 x 76 x 26 mm with connector
Weight	0.10 kg

DIMENSIONS

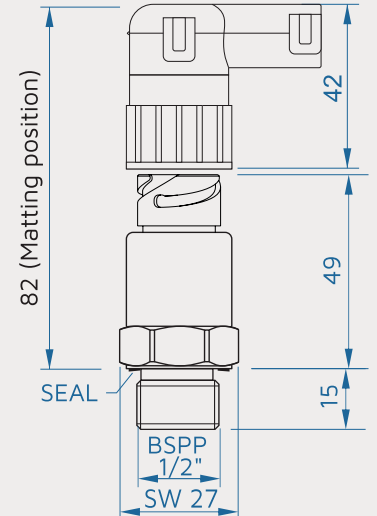
FRONT VIEW



PANEL CUT-OUT

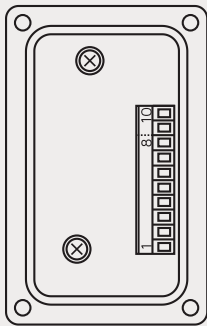


PRESSURE SENSOR
PT05-BWK, PT02-BWK



CONNECTIONS

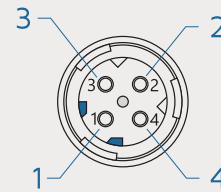
REAR VIEW



CONNECTION TERMINAL BLOCK 8/10-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 (OPTIONAL)
10	OUT2 HIGH SIDE 2 A (OPTIONAL)

TRANSDUCER OEM



CONNECTION TWIST LOCK (ISO 15170)

PIN	VOLTAGE SENSOR	CURRENT SENSOR
1	BATTERY +	BATTERY +
2	GND	SIGNAL 4-20 MA
3	SIGNAL 0.5-4.5V	N/C
4	N/C	N/C

PRODUCT CODE

SET of indicator small INS-20, sensor PT05-U4 and mating connectors Ordering code example:

T	L	G	S	-	2	0	W	-	0	5	R	H
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20 DISPLAY INCREM. 1/20 (5%)	W: WATER F: FOAM	CABLE LENGTH, METERS (INCH) 05: 5 M (20") 10: 10 M (40") 15: 15 M (60")	OUT1 R: LOW LEVEL WARNING	OUT2 H: AUTOFILL HYST. xx/xx % R: ADD. OUTPUT
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Indicator Small

Ordering code example:

I	N	S	-	2	0	W	U	4	R	H
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20 DISPLAY INCREM. 1/20 (5%)	W: WATER F: FOAM	SENSOR INPUT / PROBE U4: 0,5-4,5V U1: 0-10 V I2: 4-20 MA R0: RESISTIVE IN	OUT1 R: LOW LEVEL WARNING	OUT2 H: AUTOFILL HYST. xx/xx % R: ADD. OUTPUT
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