

Manual



truflo®


RoHS CE
Compliant

Read the user's manual carefully before starting to use the unit.
Producer reserves the right to implement changes without prior notice.

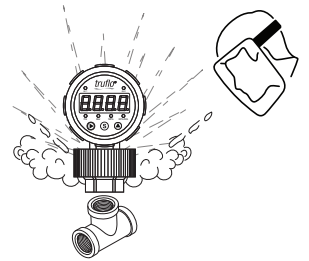
Truflo® — OBS-LE Series

LED Digital Pressure Gauge | Transmitter | Switch

ICON™ Corrosion-Free
PROCESS CONTROLS Instrumentation Equipment™

Safety Information

- De-pressurize and vent system prior to installation or removal
- Confirm chemical compatibility before use
- **DO NOT** exceed maximum temperature or pressure specifications
- **ALWAYS** wear safety goggles or face-shield during installation and/or service
- **DO NOT** alter product construction



Warning | Caution | Danger

Indicates a potential hazard. Failure to follow all warnings may lead to equipment damage, or failure, injury, or death.



Note | Technical Notes

Highlights additional information or detailed procedure.



Personal Protective Equipment (PPE)

Always utilize the most appropriate PPE during installation and service of Truflo® products.



Pressurized System Warning

Sensor may be under pressure. Take caution to vent system prior to installation or removal. Failure to do so may result in equipment damage and/or serious injury.

Before installation, be certain the appropriate gauge has been selected when considering operating pressure/full scale pressure/proof pressure, wetted material requirements, media compatibility, operating temperature, vibration, pulsation, desired accuracy and any other gauge component related to the service application. This includes the potential need for protective attachments and/or special installation requirements.

Failure to do so could result in equipment damage, gauge failure and/or personal injury.

Only qualified personnel should be permitted to install and maintain pressure gauges.

Applicable Standards

EN 837-1: Bourdon tube pressure gauges, dimensions, metrology, requirements and testing.

EN 837-2: Selection and installation recommendations for pressure gauges.

ASME B40.100: Pressure gauges and gauge attachments

2014/68/EC: Pressure equipment directive.

Specifications: Please refer to the respective OBS-LE Series Data sheet.

Product Description

The **OBS-LE** Series is an integral molded One-Piece Plastic Pressure Transmitter and Gauge Guard.

Designed with a bright LED that changes from green to red in any upset conditions and a 4-20mA output + 2 Relays, OBS-LE pressure transmitters are truly industry leading and unique when it comes to pressure measurements in corrosive environments.

All **OBS-LE** transmitters are available in PVC, PP & PVDF and are equipped with a Teflon® Diaphragm, making the entire unit completely corrosion resistant and the perfect pressure gauge for chemical applications.

Gauge guards are utilized to protect the pressure gauge from any corrosive media in the process system via an isolator.

Engineering the entire body in plastic housing rather than just the guard allows users to be confident that the complete unit can withstand even the most corrosive environments.



PVC

PP

PVDF



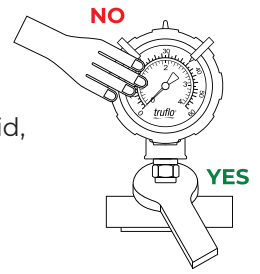
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Installation Instructions

- Do not tighten by grasping the case of the gauge as this may cause damage.
Always Pressure Test Connections for Leaks with Water Prior to Use on Chemical Service.
- Before installing the OBS Series pressure gauge, ensure attention is given to the Process Liquid, Chemical Compatibility, Temperature, Vibration, Pressure Spikes, and other climatic and application conditions that may adversely affect the performance.
- The user shall ensure that the correct gauge pressure range and the correct materials of construction are selected.



Storage

- Gauge should remain in original packaging until installation. This will protect from mechanical damage as well as environmental conditions.

Maintenance & Repairs

Check regularly to ensure the gauge is in good working order.

When removing the gauge from the application make sure there is no pressure in the system and all system media has been isolated from the gauge. If gauge is damaged or out of calibration, a new gauge must be installed.

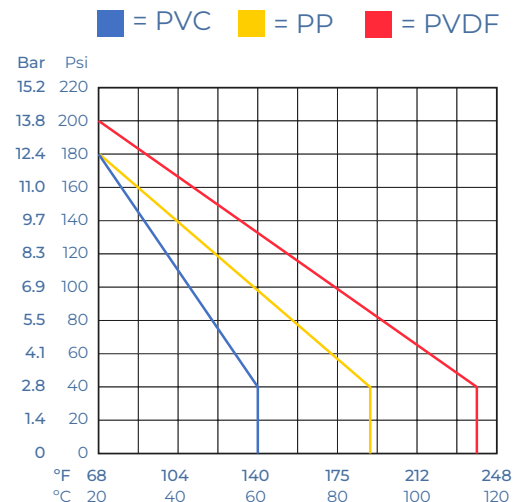
IMPORTANT : These gauges are not to be re-calibrated.

Misuse or misapplication of gauge could most certainly result in gauge failure, equipment damage and/or personal injury.

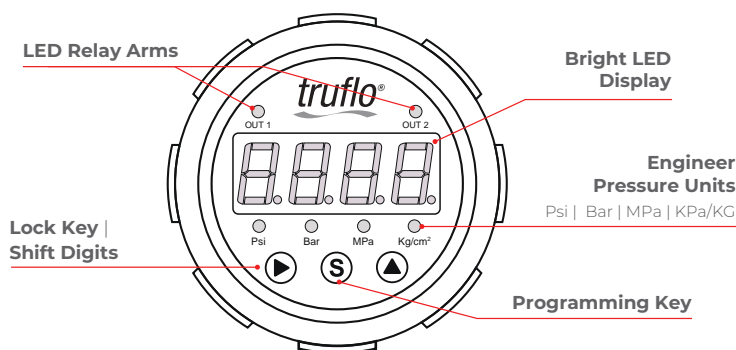
Temperature | Pressure Graphs | Non-Shock

NOTE:

The pressure/temperature graphs are specifically for the Truflo® Pressure Gauges. During system design, the specifications of all components must be considered.



Display Description & Button Functions



- = • Press + HOLD 3 SEC to Lock Sensor.
• Press to Shift Cursor while in Programming Mode.
- = • Press + HOLD 3 SEC to Enter Programming Mode.
• Press to Scroll through Menu.
• Pressing Key Quickly will allow operator to Scroll through different Pressure engineering units.
- = • Press + HOLD 3 SEC to Unlock Sensor Alarm.
• Press Key for 1 SEC to change units.

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System Programming

Press + HOLD 3 SEC. to LOCK Sensor Press + HOLD 3 SEC. UNLOCK Sensor

STEPS	DISPLAY	OPERATION
1 Main Display ▶ 		Main Display
2 Relay Selection ▶ 		Relay 1 or Relay 2 Use Key to Change. · [-1-] = Relay 1 · [-2-] = Relay 2
3 Hysteresis ▶ 		Relay Hysteresis Mode. (Prevents Relay Chatter)
4 Relay Type ▶ 		Normally Open or Normally Closed Output Use Key to Change. · [no] = Normally Open · [nc] = Normally Closed
5 PNP NPN ▶ 		PNP or NPN Use Key to Change.
6 High Pressure Value ▶ 		High Pressure Value Use Key to Change Digit. Use to Move Cursor.
7 Low Pressure Value ▶ 		Low Pressure Value Use Key to Change Digit. Use to Move Cursor.
8 Load ▶ 		If Setting Value is Correct, display will show Load.
9 Error ▶		If Setting Value is Wrong (LP>HP), ERR will show for 3 sec. and move to Step 6.

Analog 4-20mA

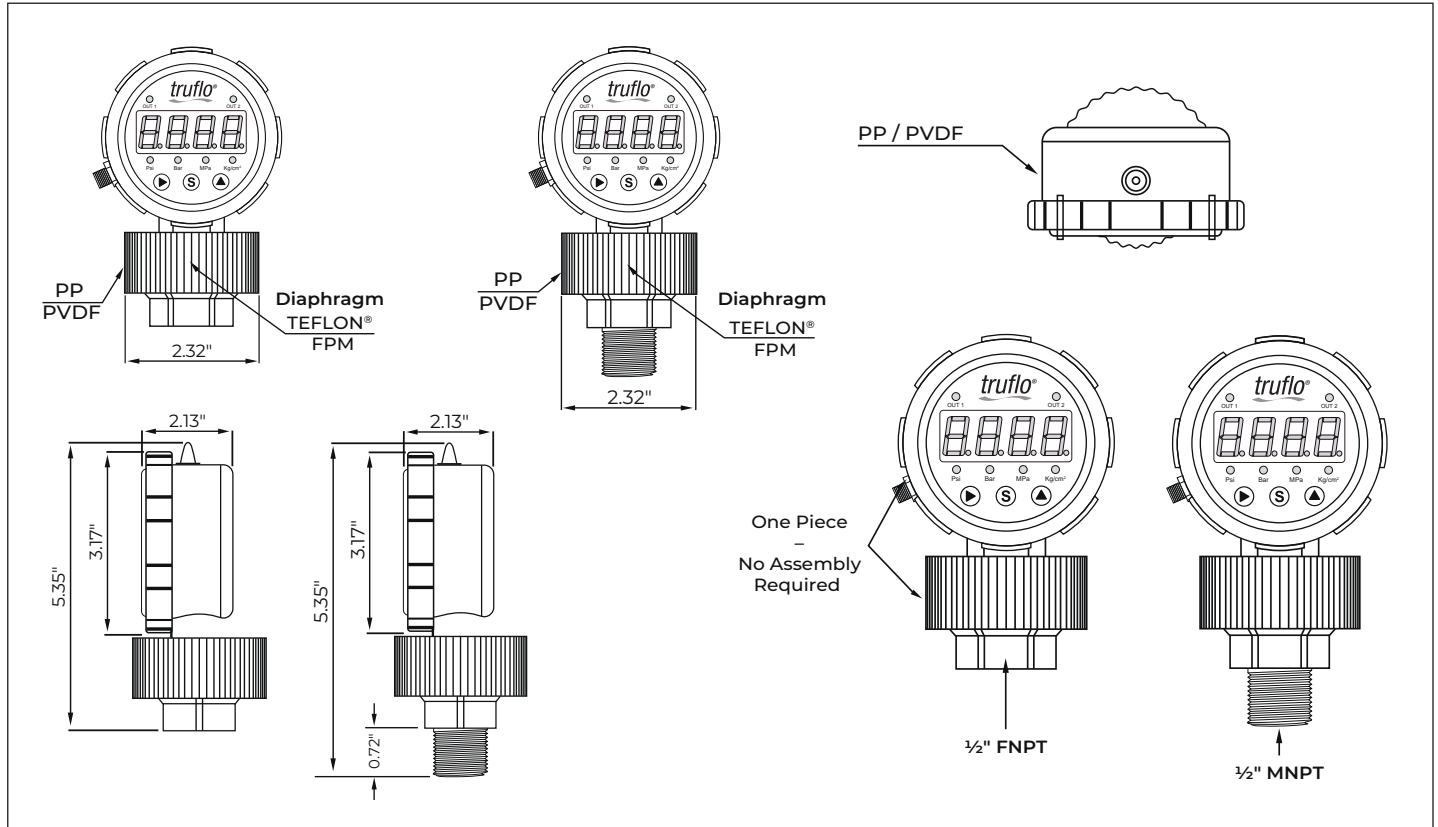
- Plus & Play Design - No Programming
- 4mA = 0 Psi
- 20mA = 150 Psi (Refer to wiring Diagram on Page 6)

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Dimensions



Hysteresis Mode

Hysteresis Mode (NO Type)

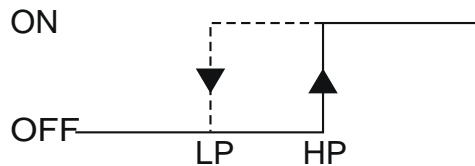


Fig - 1

Hysteresis Mode (NC Type)

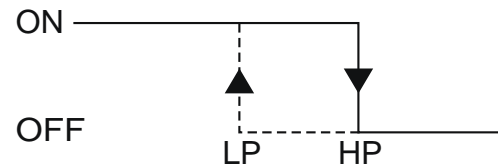


Fig - 2

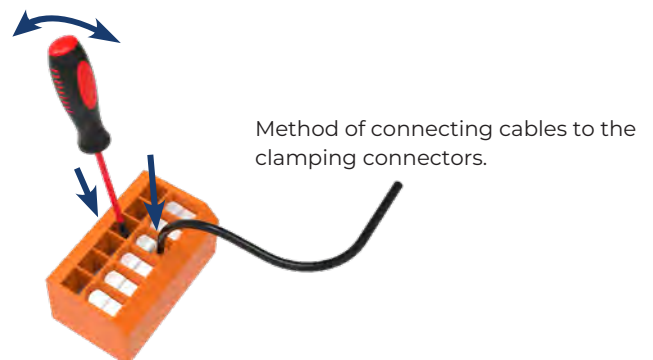
Wiring Installation

Example : TVL Series Controller + Display

Use Screw Driver Provided

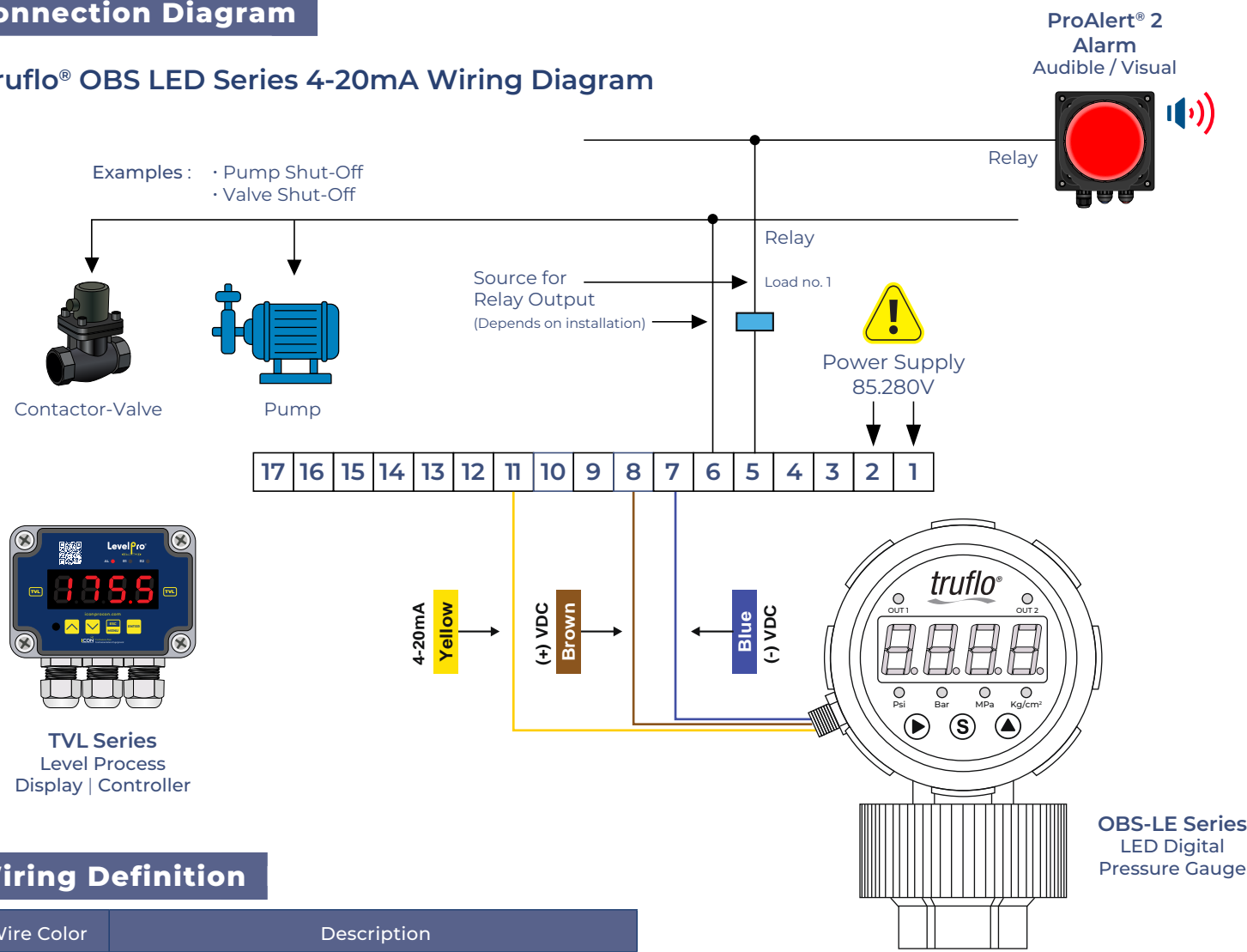
Wire Installation

- Insert screwdriver and push wire locking mechanism open
- Insert wire
- Remove screwdriver



Connection Diagram

Truflo® OBS LED Series 4-20mA Wiring Diagram



Wiring Definition

Wire Color	Description
Blue	Power Ground (-)
Black	Digital Output1 (NPN PNP) 100 mA, 30VDC max.
Yellow	Analog Output (+)
Brown	Supply Power (+) 10~30VDC
White	Digital Output2 (NPN PNP) 100mA, 30VDC max.

Even when Not Using 4-20mA Output, the Blue Power (-) and Analogue Output Wire MUST be Connected (Blue + Yellow) to Power Supply VDC (-).

1. NPN Mode

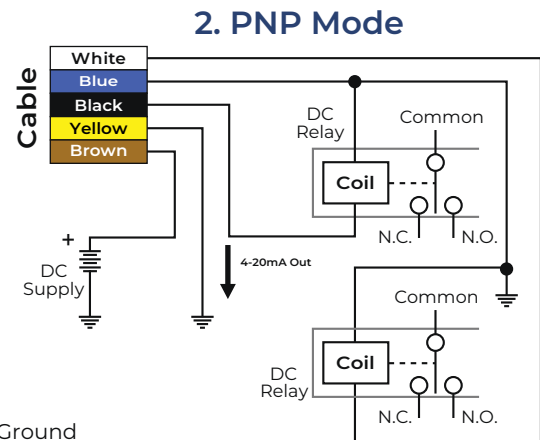
Cable

- White
- Blue
- Black
- Yellow
- Brown

Wiring:

- White wire to Common terminal
- Blue wire to N.C. terminal
- Black wire to N.O. terminal
- Yellow wire to DC Supply (+)
- Brown wire to DC Supply (-)

Relay: DC Relay, Coil, Common, N.C., N.O.



Brown (+) VDC
Power Blue (-) Ground
Yellow 4-20mA (+) Analog Output

OBS-LE — All Plastic Pressure Gauge + Guard

1/2" FNPT is standard

Add Suffix -

'M' - Male 1/2" NPT

'F' - Flanged

'S' - 1/2" Socket

*Consult Factory for Flanged Pricing | Alternative Pressure Ratings



½" FNPT is standard

Add Suffix -

'M' - Male 1/2" NPT

'F' - Flanged

'S' - 1/2" Socket

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Warranty, Returns and Limitations

Warranty

Icon Process Controls Ltd warrants to the original purchaser of its products that such products will be free from defects in material and workmanship under normal use and service in accordance with instructions furnished by Icon Process Controls Ltd for a period of one year from the date of sale of such products. Icon Process Controls Ltd obligation under this warranty is solely and exclusively limited to the repair or replacement, at Icon Process Controls Ltd option, of the products or components, which Icon Process Controls Ltd examination determines to its satisfaction to be defective in material or workmanship within the warranty period. Icon Process Controls Ltd must be notified pursuant to the instructions below of any claim under this warranty within thirty (30) days of any claimed lack of conformity of the product. Any product repaired under this warranty will be warranted only for the remainder of the original warranty period. Any product provided as a replacement under this warranty will be warranted for the one year from the date of replacement.

Returns

Products cannot be returned to Icon Process Controls Ltd without prior authorization. To return a product that is thought to be defective submit a customer return (MRA) request form and follow the instructions therein. All warranty and non-warranty product returns to Icon Process Controls Ltd must be shipped prepaid and insured. Icon Process Controls Ltd will not be responsible for any products lost or damaged in shipment.

Limitations

This warranty does not apply to products which:

1. are beyond the warranty period or are products for which the original purchaser does not follow the warranty procedures outlined above;
2. have been subjected to electrical, mechanical or chemical damage due to improper, accidental or negligent use;
3. have been modified or altered;
4. anyone other than service personnel authorized by Icon Process Controls Ltd have attempted to repair;
5. have been involved in accidents or natural disasters; or
6. are damaged during return shipment to Icon Process Controls Ltd

Icon Process Controls Ltd reserves the right to unilaterally waive this warranty and dispose of any product returned to Icon Process Controls Ltd where:

1. there is evidence of a potentially hazardous material present with the product;
2. or the product has remained unclaimed at Icon Process Controls Ltd for more than 30 days after Icon Process Controls Ltd has dutifully requested disposition.

This warranty contains the sole express warranty made by Icon Process Controls Ltd in connection with its products. ALL IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION, THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY DISCLAIMED. The remedies of repair or replacement as stated above are the exclusive remedies for the breach of this warranty. IN NO EVENT SHALL Icon Process Controls Ltd BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND INCLUDING PERSONAL OR REAL PROPERTY OR FOR INJURY TO ANY PERSON. THIS WARRANTY CONSTITUTES THE FINAL, COMPLETE AND EXCLUSIVE STATEMENT OF WARRANTY TERMS AND NO PERSON IS AUTHORIZED TO MAKE ANY OTHER WARRANTIES OR REPRESENTATIONS ON BEHALF OF Icon Process Controls Ltd. This warranty will be interpreted pursuant to the laws of the province of Ontario, Canada.

If any portion of this warranty is held to be invalid or unenforceable for any reason, such finding will not invalidate any other provision of this warranty.



by



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