

# TS2000-SPT

PRESSURE TRANSMITTER - SWITCH



## Features

- Piezo Resistive Sensor
- Durable SS-316 Enclosure offering superior corrosion resistance
- IP-68 Protection for reliable operation in harsh and wet environments
- Backlit LCD display
- Switch Functionality for versatile control and monitoring
- RS-485 (MODBUS RTU) Communication for easy system integration and remote access



## Technical Specifications

| Performance Characteristics |                                                                  |
|-----------------------------|------------------------------------------------------------------|
| Sensor Type                 | Piezo Resistive                                                  |
| Pressure Range              | AP URL : From 100 kPa to 600 kPa                                 |
|                             | GP URL : From 70 Kpa to 100000 kPa                               |
| Measuring unit              | bar                                                              |
|                             | kPa                                                              |
|                             | Pascal                                                           |
|                             | mmWc                                                             |
|                             | kg/cm <sup>2</sup>                                               |
| Power Supply                | 18-36 V DC                                                       |
| Display                     | Backlight LCD                                                    |
| Accuracy                    | ± 0.25% M.V.                                                     |
| Non Linearity               | 0.2% of Span                                                     |
| Non Repeatability           | < 0.1% of Span                                                   |
| Response Time               | 1 Sec                                                            |
| Over Pressure Safety        | 1.5 times max. Pressure range                                    |
| Burst Pressure              | 3 times max. Pressure range                                      |
| Output                      | 4 to 20 mA                                                       |
| Alarm or Relay Output       | 1 Relay Output (Optional)                                        |
| Communication Output        | RS-485 MODBUS RTU (Optional)                                     |
| Process Temperature         | 120°C max                                                        |
| Material of Construction    | All wetted parts SS-316                                          |
| Enclosure                   | Weather Proof IP-68                                              |
| MOC of Electronics          | SS-316                                                           |
| Electrical Connection       | M12 Connector                                                    |
| Ambient Conditions          | Temperature : -20°C to 75°C / Humidity : 5 to 95% non-condensing |
| Insulation Resistance       | >100 Mohm at 100 VDC                                             |
| Process Connection          | Refer ordering information                                       |
| Mounting                    | Direct Line mount (Vertical) / 2" Pipe Mount                     |
| Weight                      | Less than 3 kg                                                   |

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## Assembly Overview

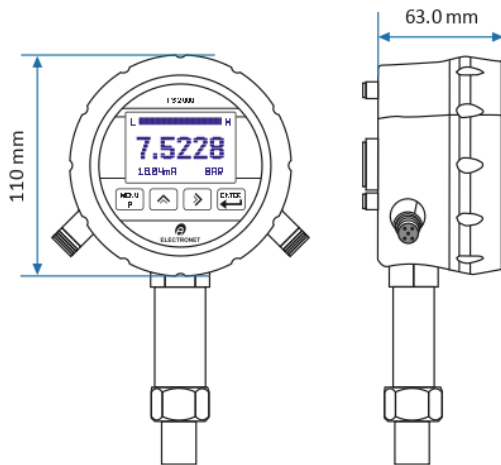


Fig. 1 Front View

Fig. 2 Side View

## Connection Details

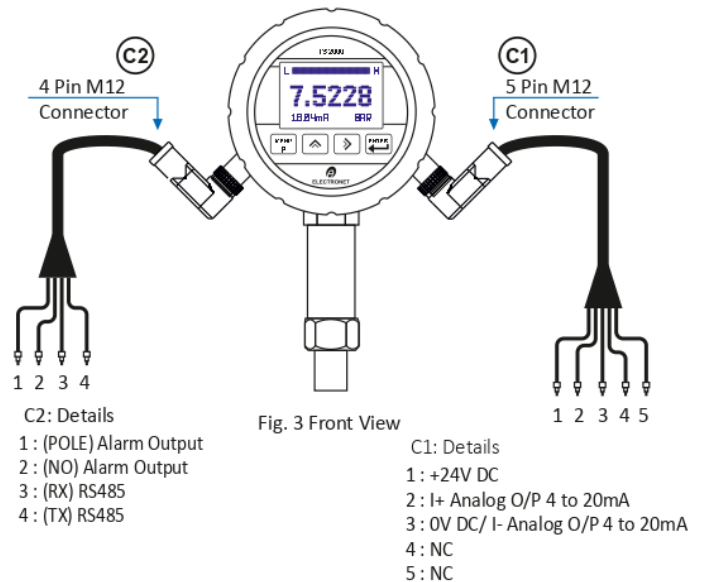


Fig. 3 Front View

## Ordering Information Sample Order Code : TS 2000 SPT-A1-B1-C1-D1-E1-F1-G1-H1-I1-J1

|                                                                                                                                                                                                                                                                                                                                                                                                        | Parameter        | Code | Description                            |    | Parameter                                         | Code                        | Description                 |    |                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------|----------------------------------------|----|---------------------------------------------------|-----------------------------|-----------------------------|----|-----------------|
| A                                                                                                                                                                                                                                                                                                                                                                                                      | Output 1         | A1   | RS-485 MODBUS RTU Communication Output | E  | Diaphragm Material                                | E1                          | SS-316L                     |    |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                        |                  | AX   | NA                                     |    |                                                   | E2                          | Hastelloy C                 |    |                 |
| B                                                                                                                                                                                                                                                                                                                                                                                                      | Output 2         | B1   | Alarm Relay contact                    |    |                                                   | F                           | Sensor Fill Fluid           | F1 | Silicon Oil     |
|                                                                                                                                                                                                                                                                                                                                                                                                        |                  | BX   | NA                                     | FY | Other                                             |                             |                             |    |                 |
| C                                                                                                                                                                                                                                                                                                                                                                                                      | Measurement Type | C1   | AP                                     | G  | MOC of Sensor, Flange, Adapter & Drain Vent Valve | G1                          | SS-316                      |    |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                        |                  | C2   | GP                                     |    |                                                   | G2                          | Hastelloy C                 |    |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                        |                  | C3   | DP                                     |    |                                                   | GY                          | Other                       |    |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                        |                  | D    | Pressure Range                         |    |                                                   | D1                          | 10 kPa                      | H  | O Ring Material |
| D2                                                                                                                                                                                                                                                                                                                                                                                                     | 35 kPa           |      |                                        | H2 | Ethylene - Propylene                              |                             |                             |    |                 |
| D3                                                                                                                                                                                                                                                                                                                                                                                                     | 70 kPa           |      |                                        | H3 | Teflon                                            |                             |                             |    |                 |
| D4                                                                                                                                                                                                                                                                                                                                                                                                     | 100 kPa          |      |                                        | H4 | Viton                                             |                             |                             |    |                 |
| D5                                                                                                                                                                                                                                                                                                                                                                                                     | 250 kPa          |      |                                        | I1 | ¼" NPT (M)                                        |                             |                             |    |                 |
| D6                                                                                                                                                                                                                                                                                                                                                                                                     | 400 kPa          |      |                                        | I2 | ½" NPT (M)                                        |                             |                             |    |                 |
| D7                                                                                                                                                                                                                                                                                                                                                                                                     | 600 kPa          |      |                                        | I3 | ¼" BSP (M)                                        |                             |                             |    |                 |
| D8                                                                                                                                                                                                                                                                                                                                                                                                     | 1000 kPa         |      |                                        | I4 | ½" BSP (M)                                        |                             |                             |    |                 |
| D9                                                                                                                                                                                                                                                                                                                                                                                                     | 1600 kPa         |      |                                        | I5 | ¼" NPT (F)                                        |                             |                             |    |                 |
| D10                                                                                                                                                                                                                                                                                                                                                                                                    | 2500 kPa         |      |                                        | I6 | ½" NPT (F)                                        |                             |                             |    |                 |
| D11                                                                                                                                                                                                                                                                                                                                                                                                    | 4000 kPa         |      |                                        | I7 | ¼" BSP (F)                                        |                             |                             |    |                 |
| D12                                                                                                                                                                                                                                                                                                                                                                                                    | 6000 kPa         |      |                                        | I8 | ½" BSP (F)                                        |                             |                             |    |                 |
| D13                                                                                                                                                                                                                                                                                                                                                                                                    | 10000 kPa        |      |                                        | I  | Process Connection (In SS-316)                    | I9                          | Flush Diaphragm (Triclover) |    |                 |
| D14                                                                                                                                                                                                                                                                                                                                                                                                    | 16000 kPa        |      |                                        |    |                                                   | I10                         | Flush Diaphragm (1" BSP)    |    |                 |
| D15                                                                                                                                                                                                                                                                                                                                                                                                    | 25000 kPa        |      |                                        |    |                                                   | I11                         | Diaphragm Seal 1" (SS-316)  |    |                 |
| D16                                                                                                                                                                                                                                                                                                                                                                                                    | 40000 kPa        |      |                                        |    |                                                   | I12                         | Diaphragm Seal 2" (SS-316)  |    |                 |
| D17                                                                                                                                                                                                                                                                                                                                                                                                    | 60000 kPa        |      |                                        |    |                                                   | I13                         | Diaphragm Seal 3" (SS-316)  |    |                 |
| D18                                                                                                                                                                                                                                                                                                                                                                                                    | 100000 kPa       |      |                                        |    |                                                   | I14                         | 5 Mtr Capillary (1" Flange) |    |                 |
| Note : <ul style="list-style-type: none"><li>■ Due to our continuous product revisions, design specification and model numbers are subject to change without notice.</li><li>■ Accuracy defined at Lab Conditions.</li><li>■ For other requirement please consult factory.</li><li>■ This product is meant for laboratory/Process application only and not for custody transfer application.</li></ul> |                  |      | I15                                    |    |                                                   | 5 Mtr Capillary (2" Flange) |                             |    |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                        |                  |      | I16                                    |    |                                                   | 5 Mtr Capillary (3" Flange) |                             |    |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                        |                  |      | IY                                     |    |                                                   | Other                       |                             |    |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                        |                  |      | J                                      |    |                                                   | Mounting Bracket            | J1                          | MS |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                        |                  |      |                                        | J2 | SS-316                                            |                             |                             |    |                 |

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