



## PROTRAN<sup>®</sup> PR3420

Sludge Platform Submersible  
Depth/Level Pressure Transmitter

- Sludge Platform to raise sensor above sediment level
- Piezoresistive sensor technology for excellent stability and repeatability
- Robust stainless steel construction
- Pressure ranges available from 0-1 mWG
- High Strength cable for protection against ingress
- ATEX/IECEx option available



# Protran© PR3420     Sludge Platform Submersible Depth/Level Pressure Transmitter

## Specifications

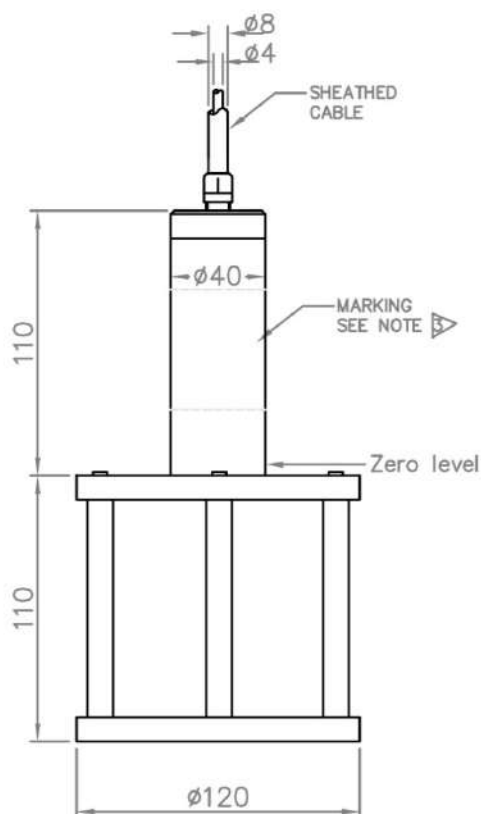
The **PROTRAN© PR3420** submersible depth and level transmitter has been designed for accurate level measurement where sediment is present. The integral sludge platform ensures that the sensing element is elevated above the sediment level. Standard output signal is 4-20 mA, and electrical connection is via a high strength cable, with integral tube for trouble-free venting to the surface atmosphere. An optional ATEX and IECEx approved version of this product is available for explosion protection for flammable gases (zone 0), dusts (zone 20) and mining areas (group I M1).

### Typical applications include:

Accurate measurement of the depth and level of liquids in many applications.



## Dimensions (in mm)



## Electrical Connection

| Wire   | mA (2 wire)   |
|--------|---------------|
| Red    | +supply       |
| Blue   | 4-20mA signal |
| Screen | to case       |

## Technical Data

| Type                                        | PR3420                                                                                                                                                                            | PR3422          | PR3422          |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------------|
| Sensor Technology:                          | Isolated Piezoresistive Silicon                                                                                                                                                   |                 |                 |
| Output Signal:                              | 4-20 mA (2 wire)                                                                                                                                                                  | 0-10 V (3 wire) | 0-10 V (3 wire) |
| Supply Voltage:                             | 13-36 VDC                                                                                                                                                                         | 13-30 VDC       | 13-30 VDC       |
| Pressure Reference:                         | Vented Gauge                                                                                                                                                                      |                 |                 |
| Protection of Supply Voltage:               | Protected against supply voltage reversal up to 50 V                                                                                                                              |                 |                 |
| Standard Pressure Ranges (mWG):             | 0-1 mWG; 0-10 mWG; 0-20 mWG; 0-50 mWG; 0-100 mWG; 0-250 mWG; 0-500 mWG (other options available)                                                                                  |                 |                 |
| Standard Pressure Ranges (psi):             | 0-3 psi; 0-5 psi; 0-7.5 psi; 0-10 psi; 0-15 psi; 0-30 psi; 0-50 psi; 0-100 psi; 0-200 psi; 0-300 psi (other options available)                                                    |                 |                 |
| Overpressure Safety:                        | 2x all ranges                                                                                                                                                                     |                 |                 |
| Load driving Capability:                    | 4 – 20 mA: RL < [UB - 13 V] / 20 mA; (e.g. with supply voltage (UB) of 36V, max. load (RL) is 1150 Ω; 10 mV/V: n/a; 0 – 5 V: max. load RL > 5 KΩ; 0 – 10 V: max. load RL > 10 KΩ  |                 |                 |
| Accuracy NLHR:                              | < +0.3 % of span BFSL                                                                                                                                                             |                 |                 |
| Zero Offset & Span Tolerance:               | ±0.5% FS at room temperature                                                                                                                                                      |                 |                 |
| Operating Ambient Temperature:              | -20 °C – +60 °C (-4 °F to +140 °F)                                                                                                                                                |                 |                 |
| Operating Media Temperature:                | Media must not freeze around the sesnor                                                                                                                                           |                 |                 |
| Storage Temperature:                        | +5C to +40C (+41F to +104F) Recommended Best Practice                                                                                                                             |                 |                 |
| Temperature Effects:                        | ±2.0% FS total error band for -20 °C to +60 °C. Typical thermal zero and span coefficients ±0.03% FS/ °C                                                                          |                 |                 |
| ATEX/IECEx Approval (4-20 mA version only): | EX II 1 G Ex ia IICT4 GA (Zone 0)<br>Ex II 1 D Ex ia IIIC T135 C Da (Zone 20)                                                                                                     | n/a             |                 |
| ATEX/IECEx Saftey Values:                   | Ui = 28 V / Li = 119mA / Pi = 0.65 W / Li = 0.1 pH / Ci = 62 nF. Temperature Range = '-20C to +70C. Max. cable length = 105m                                                      | n/a             |                 |
| Electromagnetic Campatibility:              | Emissions: EN61000-6-4; Immunity: EN61000-6-2; Certification: CE Marked                                                                                                           |                 |                 |
| Insulation Resistance:                      | > 100 M @ 50 VDC                                                                                                                                                                  |                 |                 |
| Wetted Parts:                               | SAE 316L stainless steel housing and diaphragm, polyurethane cable and nitrile (NBR) o-ring seal; 303 stainless steel sludge platform                                             |                 |                 |
| Pressure Media:                             | All fluids compatible with SAE 316L stainless steel, 303 stainless steel, polyurethane and nitrile (NBR)                                                                          |                 |                 |
| Pressure Connection:                        | 4 mm I.D. hose (other options available                                                                                                                                           |                 |                 |
| Electrical Connection:                      | Submersible black polyurethane cable moulded to housing. With integral screen, Kevlar strain cord and vent tube. Conductor size 7/0.20 mm (24 AWG), resistance 8.9 Ω / 100 m (x2) |                 |                 |
| Net. Weight (Kg):                           | 2.5 Kg                                                                                                                                                                            |                 |                 |

## Order Matrix

| Output                                                                                                                                         | Wires | Type   | Electrical Connection/Options | Pressure Range | Process Connection | Cable Length |      |
|------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|-------------------------------|----------------|--------------------|--------------|------|
| 4-20 mA                                                                                                                                        | 2     | PR3420 |                               |                |                    |              |      |
| 0-5 V                                                                                                                                          | 4     | PR3421 |                               |                |                    |              |      |
| 0-10 V                                                                                                                                         | 4     | PR3422 |                               |                |                    |              |      |
| Electrical Connections/Options                                                                                                                 |       |        |                               |                |                    |              |      |
| No special option required                                                                                                                     |       |        |                               |                |                    |              | -    |
| ATEX/IECEX certified                                                                                                                           |       |        | EX                            |                |                    |              |      |
| Pressure Range in bar                                                                                                                          |       |        |                               |                |                    |              | 0001 |
| 0-1 mWG                                                                                                                                        |       |        |                               |                |                    |              | 0005 |
| 0-5 mWG                                                                                                                                        |       |        |                               |                |                    |              | 0010 |
| 0-10 mWG                                                                                                                                       |       |        |                               |                |                    |              | 0050 |
| 0-50 mWG                                                                                                                                       |       |        |                               | 0100           |                    |              |      |
| 0-100 Mwg                                                                                                                                      |       |        |                               | 0250           |                    |              |      |
| 0-250 Mwg                                                                                                                                      |       |        |                               | 0500           |                    |              |      |
| 0-500 Mwg                                                                                                                                      |       |        |                               |                |                    |              |      |
| Process Connection                                                                                                                             |       |        |                               |                | AY                 |              |      |
| Sludge platform                                                                                                                                |       |        |                               |                |                    |              |      |
| Cable Length                                                                                                                                   |       |        |                               |                |                    |              |      |
| Cable length is specified by adding a 3 digit numeric code as a suffix to the part number e.g '010 = 10 meters. (Max cable length 500 maters). |       |        |                               |                |                    |              |      |
| xxx                                                                                                                                            |       |        |                               |                |                    |              |      |

## Order Number Example

PR3420EX0500AY-020

For options not listed please contact the sales team

**DISCLAIMER:** ESI Technology Ltd operates a policy of continuous product development. We reserve the right to change specification without prior notice. All products manufactured by ESI Technology Ltd are calibrated using precision calibration equipment, traceable to national measurement standards.