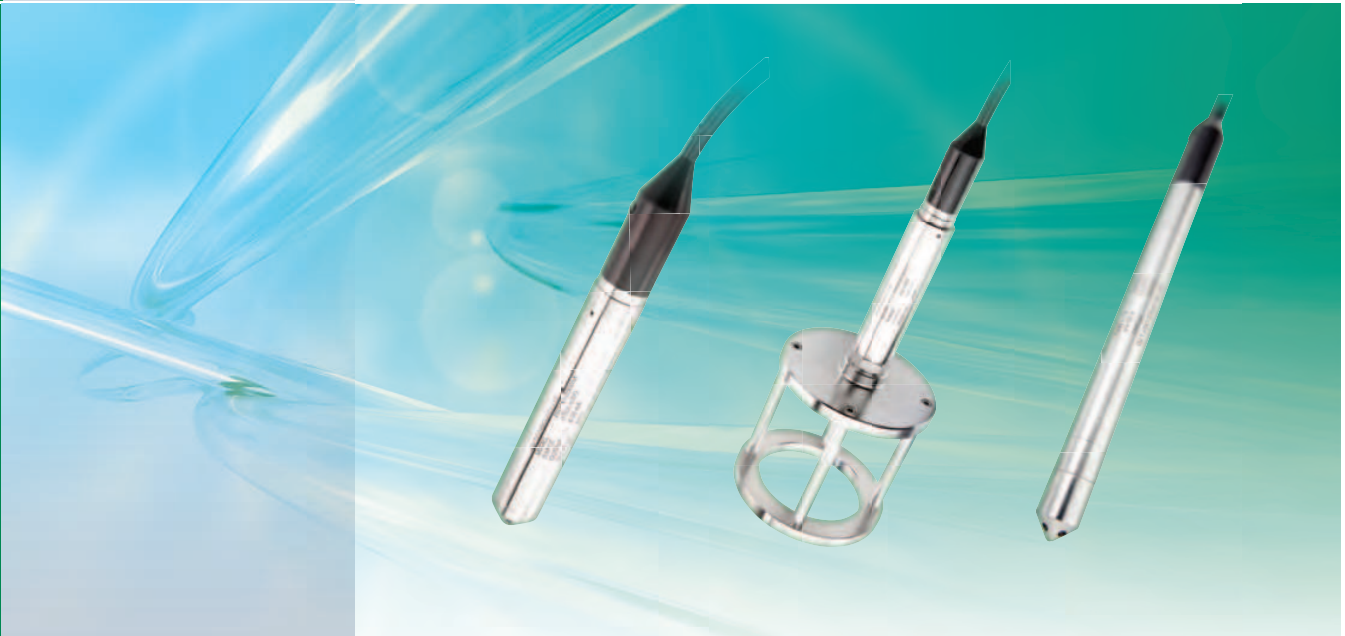




## Protran PR3441/PR3420/PR3442

Submersible Depth/Level Pressure Transmitter



- Piezoresistive sensor technology for excellent stability and repeatability
- Robust stainless steel construction
- Pressure ranges available from 0-1mWG
- High strength, moulded cable for protection against ingress
- Ultra slim option for borehole applications
- Sludge Platform option to raise sensor above sediment level
- ATEX/IECEX option available (includes M1 for mining applications)

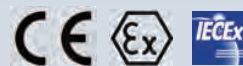
## DESCRIPTION

The submersible range of pressure transmitters has been designed for the accurate measurement of the depth and level of liquids in many applications. Standard output signal is 4-20mA, and electrical connection is via a high strength moulded cable with integral tube for trouble-free venting to the surface atmosphere.

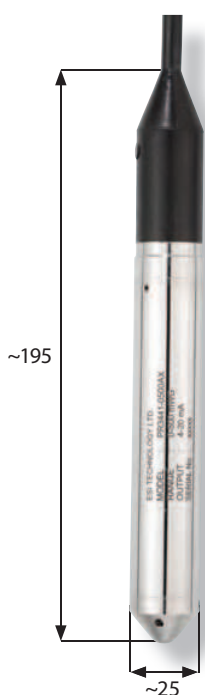
The PR3441 transmitter has a 25 mm diameter, suitable for depth and level measurement in boreholes, while the PR3442 model has a slim-line 16mm diameter suitable for boreholes from 19 mm wide. Applications include borehole level and reservoir level monitoring, water mains pressure, power level and outlet pressure measurement on submersible pumps.

The PR3420 submersible depth and level transmitter has been designed specifically for the measurement of depth in sludge/slurry materials and is mounted on a sludge platform to lift the sensing diaphragm above the sludge/tar level.

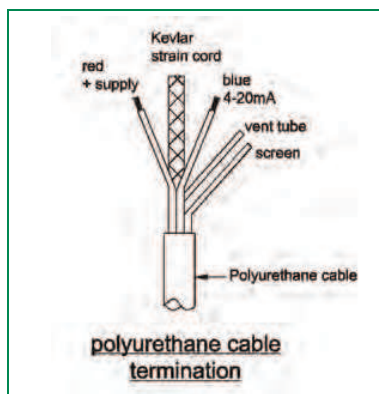
An optional ATEX and IECEx approved version of this product is available for explosion protection for flammable gases (zone 0), dusts (zone 20) and mining areas (group I M1).



### DIMENSIONS (in mm)



Model shown PR3441



### ELECTRICAL CONNECTION

Red	+ supply
Blue	4-20 mA signal
Screen	to case



# Protran PR3441/PR3420/PR3442

## Submersible Depth/Level Pressure Transmitter

### TECHNICAL DATA

Type:	PR3441	PR3420	PR3442
Output Signal:	4-20 mA (2 wire)		
Supply Voltage:	13 -36 VDC		
Pressure Reference:	Vented Gauge	Vented Gauge	Vented or Sealed Gauge
Protection of Supply Voltage:	Protected against supply voltage reversal up to 50 V		
Standard Pressure Ranges:	0-1 mWG; 0-10 mWG; 0-20 mWG; 0-50 mWG; 0-100 mWG; 0-250 mWG; 0-500 mWG (other options available)		
Overpressure Safety:	2x all ranges		
Load Driving Capability:	4-20 mA: $R_L < [U_B - 13 V] / 20 \text{ mA}$ (e.g. with supply voltage ( $U_B$ ) of 36V, max. load ( $R_L$ ) is 1150 $\Omega$ )		
Accuracy NLHR:	$\pm 0.3\%$ FS typical max. BFSL		
Zero Offset and Span Tolerance:	$\pm 0.5\%$ FS at room temperature		
Operating Ambient Temperature:	-20°C - +60°C		
Operating Media Temperature:	Media must not freeze around the sensor		
Storage Temperature:	+5°C to +40°C (recommended best practice)		
Temperature Effects:	$\pm 2.0\%$ FS total error band for -20°C - +60°C. Typical thermal zero and span coefficients $+0.03\%$ FS/°C		
ATEX/IECEx Approval Option:	Ex II 1 G Ex ia IIC T4 Ga (zone 0) Ex II 1 D Ex ia IIC T135°C Da (zone 20) Ex I M 1 Ex ia I Ma (group 1 M1)		
ATEX/IECEx Safety Values:	$U_i = 28 \text{ V}$ , $I_i = 119 \text{ mA}$ , $P_i = 0.65 \text{ W}$ , $L_i = 0.1 \mu\text{H}$ , $C_i = 62 \text{ nF}$ , Temperature Range = -20°C to +70°C, Max. cable length = 105 m		
Electromagnetic Capability:	Emissions: EN61000-6-4	Immunity: EN61000-6-2	Certification: CE Marked
Insulation Resistance:	> 100 M $\Omega$ @ 50 VDC		
Wetted Parts:	SAE 316L stainless steel housing and diaphragm, polyurethane cable and nitrile (NBR) o-ring seal	303 or 316L stainless steel housing, alumina diaphragm, nylon over-tube and Nitrile o-ring seal	SAE 316L stainless steel housing & diaphragm and polyurethane cable
Pressure Media	All fluids compatible with SAE 316L stainless steel, polyurethane and nitrile (NBR)	All fluids compatible with 303/316L stainless steel, alumina, nylon and Nitrile	All fluids compatible with SAE 316L stainless steel and polyurethane
Pressure Connection:	Stainless steel nose cone with radial pressure inlets	Sludge platform	Stainless steel nose cone with radial pressure inlets
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 $\Omega$ / 100 m (x2)	Screened cable in pressure tight, flexible nylon sheath. Cable conductor size 7/0.20mm <sup>2</sup> (24awg), resistance 8.9ohms/100m (x2)	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 $\Omega$ / 100 m (x2)

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 with traceability to international standards.

### ORDER MATRIX

Output		Wires	Type	Electrical Connector	Pressure Range	Process Connection
4-20 mA	25mm diameter	2	PR3441			
	With sludge platform	2	PR3420			
	16mm diameter	2	PR3442			
<b>Electrical Connection / Option</b>						
No special option required				-		
ATEX/ IECEx certified (PR3420 and PR3441 only)				EX		
<b>Pressure Range in mWG (Metres Water Gauge)</b>						
0-1 mWG (PR3441 only)					0001	
0-10 mWG (PR3420 and PR3441 only)					0010	
0-50 mWG					0050	
0-100 mWG					0100	
0-250 mWG					0250	
0-500 mWG					0500	
<b>Process Connection</b>						
Protective nose cone (PR3441 and PR3442 only)						AX
1/4" BSP (PR3441 only)						AB
Sludge platform						AY

#### Order Number Example

PR3441-0500AX

For options not listed please contact sales team.



PR3441



PR3420



PR3442