



# Protran® PR3441

SUBMERSIBLE DEPTH PRESSURE TRANSMITTER



- PIEZORESISTIVE SENSOR TECHNOLOGY
- PRESSURE RANGES FROM 0-1mWG
- 4-20mA TWO WIRE OUTPUT
- ACCURACY 0.30% NLHR
- OPTIONAL ATEX APPROVED VERSION
- 316L STAINLESS STEEL CONSTRUCTION
- HIGH STRENGTH MOULDED POLYURETHANE CABLE WITH VENT TUBE

## DESCRIPTION

The PR3441 submersible transmitter has been designed for the accurate measurement of the depth and level of liquids in many applications.

Standard output signal is 4-20mA two wire with supply range 13-36Vdc. Electrical connection is via a high strength moulded polyurethane cable with integral tube for excellent trouble-free venting to the surface atmosphere. The standard depth transmitter is fitted with a stainless steel nose cone with radial inlet holes to prevent sludge build-up. The PR3441 transmitter is suitable for depth and level measurement in boreholes 25mm diameter or greater.

Applications include borehole level and reservoir level monitoring, water mains pressure measurement in inspection chambers, power level and outlet pressure measurement on submersible pumps.

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



## PRESSURE RANGES

0 to 1mWG through to 0 to 500mWG, see table below for list of all standard pressure ranges.

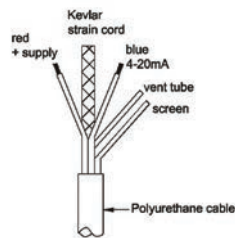
Range (mWG)	Order Code	Range (mWG)	Order Code
0-1	0001	0-50	0050
0-3	0003	0-80	0080
0-4	0004	0-100	0100
0-5	0005	0-250	0250
0-10	0010	0-500	0500
0-20	0020		
0-30	0030		

## DIMENSIONS (in mm)



### ELECTRICAL CONNECTION

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



polyurethane cable termination

## ORDERING INFORMATION

Model	PR3441	-	xxxx	xx	xxx
Electrical Connector	[Line connecting to 'xx']				
Pressure Range - mWG	[Line connecting to 'xxxx']				
Process Connection	[Line connecting to '-']				
Cable Length	[Line connecting to 'xxx']				

### ELECTRICAL CONNECTION/OPTION

- Cable PU sheathed with internal vent, 4-20mA
- Cable PU sheathed with internal vent, 0-5Vdc
- Cable PU sheathed with internal vent, 0-10Vdc
- Cable PU sheathed with internal vent, 4-20mA ATEX

### PROCESS CONNECTION

- Protective nose cone
- 1/4" BSP male

### EXAMPLE

- Base Model PR3441
- Cable PU sheathed with internal vent, 4-20mA -
- Pressure range 0-2mWG 0002
- Protective nose cone AX
- Cable length 5 metres 005
- Correct Part Number PR3441-0002AX-005

For options not listed contact 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 with traceability to international standards.

## SPECIFICATION

### PRESSURE REFERENCE

Vented gauge

### OVERPRESSURE

Pressure can be exceeded by up to 2x full scale range with no damage or change in calibration greater than  $\pm 0.5\%$ FS.

### OUTPUT SIGNAL

4-20 mA (2 wire configuration).

### ZERO OFFSET AND SPAN TOLERANCE

$\pm 0.08$ mA

### SUPPLY VOLTAGE

13-36Vdc

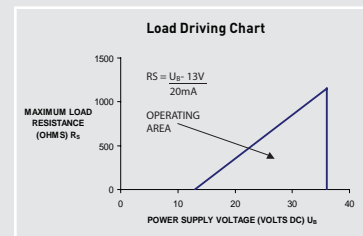
Minimum supply to transmitter circuit is 13Vdc. Voltage drop in connecting lead due to cable resistance must be considered. See load driving capability chart below.

### PROTECTION OF SUPPLY VOLTAGE

Protected against supply voltage reversal up to 50Vdc

### LOAD DRIVING CAPABILITY

For power supply voltages 13-36Vdc



### ACCURACY (NON LINEARITY, HYSTERESIS & REPEATABILITY)

$\pm 0.30\%$  FS. Typical max. Best fit straight line.

### PRESSURE MEDIA

All fluids compatible with 316L stainless steel housing and diaphragm, polyurethane cable and Nitrile o-ring seal.

### OPERATING TEMPERATURE RANGE

Operating:  $-20^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$   
Media must not freeze around sensor  
Storage:  $+5^{\circ}\text{C}$  to  $+40^{\circ}\text{C}$

### TEMPERATURE EFFECTS

$\pm 2.0\%$ FS total error band for  $-20^{\circ}$  to  $+60^{\circ}\text{C}$ .  
Typical thermal zero and span coefficients  $\pm 0.03\%$ FS/ $^{\circ}\text{C}$

### ATEX APPROVAL

Ex II 1 G Ex ia IIC T4 Ga (zone 0)  
Ex II 1 D Ex ia IIIC T135°C Da (zone 20)  
EX I M 1 Ex ia I Ma (group I M1)

### ATEX SAFETY VALUES

$U_i = 28\text{V}$   
 $I_i = 119\text{mA}$   
 $P_i = 0.65\text{W}$   
 $L_i = 0.1$   
 $C_i = 62\text{nF}$   
Temperature range =  $-20^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$   
Max. cable length = 105m

### ELECTROMAGNETIC-COMPATIBILITY

Emissions EN6100-6-4  
Immunity EN6100-6-2  
Certification CE marked

### PRESSURE CONNECTION

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 7/0.20mm<sup>2</sup>(24awg), resistance 8.9ohms/100metre (x2).

