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# APR3441

Submersible Depth/Level Pressure Transmitter

## FEATURES

- 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 (includes M1 for mining applications)
- DNV GL certification available

## SPECIFICATIONS

The APR3441 submersible transmitter has been designed for the accurate measurement of the depth and level of liquids in many applications. Standard output signal is 4-20 mA two wire with supply range 13-26 Vdc. Electrical connection is via a high strength 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. A magnetic nose cone is available on request. The APR3441 transmitter is suitable for depth and level measurement in boreholes 25 mm diameter or greater. Lightening Protection is available on request.

**Typical applications include:**

- Borehole level and reservoir level monitoring
- Water mains pressure measurement in inspection chambers
- Power level and outlet pressure measurement on submersible pumps

## OPTIONAL APPROVALS

**Hazardous Area:** ATEX and IECEx approval for explosion protection; flammable gases (zone 0), dusts (zone 20) and mining areas (group I M1).

**Marine:** DNV-GL marine approvals for marine use has been developed for shipping systems such as marine engines, cargo storage tanks, fuel gauging, fresh water storage, wastewater management, heating, cooling and ballast tank control.

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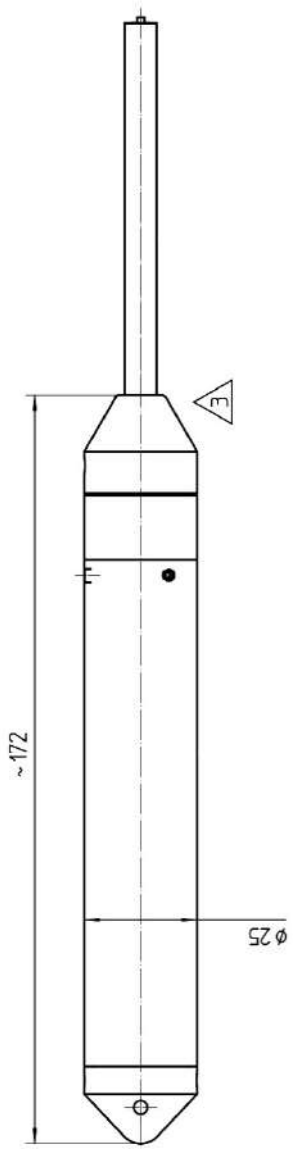
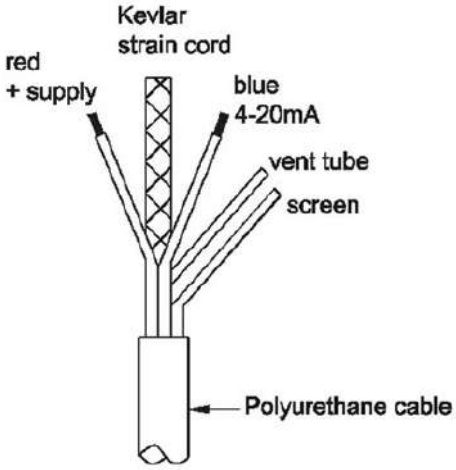
## DIMENSIONS (in mm)




## ELECTRICAL CONNECTIONS

| ELECTRICAL CONNECTIONS (mA) | |
|---|---|
| Red | +supply |
| Blue | 4-20 mA signal |
| Screen | to case |
| | |




polyurethane cable termination

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## TECHNICAL DATA

| Type | APR3441 | APR3445 | APR3446 |
|---|---|---|---|
| Sensor Technology: | Isolated Piezoresistive Silicon | | |
| Output Signal: | 4-20 mA (2 wire) | 0-5 V (4 wire) | 0-10 V (4 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 (Optional higher accuracy version of ≤ ±0.15 % of span BFSL available) | | |
| Zero Offset & Span Tolerance: | ±0.5% FS at room temperature | | |
| Operating Ambient Temp: | -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)<br>Ex I M1 Ex ia Ma (group 1 M1) | n/a | |
| ATEX/IECEx Safety 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 | |
| DNV-GL Approval: | Temperature: D; Humidity: B; Vibration: B; EMC: B; Enclosure: C (contact sales for more information) | | |
| 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 | | |
| Pressure Media: | All fluids compatible with SAE 316L stainless steel, 316 stainless steel, polyurethane and nitrile (NBR) | | |
| Pressure Connection: | Stainless steel nose cone with radial pressure inlets. Magnetic nose cone available on request. | | |
| Electrical Connection: | Submersible black polyurethane cable 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): | 0.4 Kg (without cable) | | |

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## ORDER MATRIX

| Output | Wires | Type | Electrical Connection/ Options | Pressure Range | Process Connection | Cable Length |
|---|---|---|---|---|---|---|
| 4-20 mA | 2 | APR3441 | | | | |
| 0-5 V | 4 | APR3445 | | | | |
| 0-10 V | 4 | APR3446 | | | | |

| Electrical Connections/Options | |
|---|---|
| No special options | - |
| Higher accuracy option | HA |
| ATEX/IECEx certified | EX |
| DNV GL Approved | M |
| DNV GL Approved plus ATEX/IECEx certified | EXM |

| Pressure Range in mWG | |
|---|---|
| 0-1 mWG | 0001 |
| 0-5 mWG | 0005 |
| 0-10 mWG | 0010 |
| 0-50 mWG | 0050 |
| 0-100 Mwg | 0100 |
| 0-250 Mwg | 0250 |
| 0-500 Mwg | 0500 |

| Process Connection | |
|---|---|
| Protective nose cone | AX |
| Magnetic nose cone | FZ |
| 1/4" BSP (G1/4) | AB |

| Cable Length | |
|---|---|
| Cable length is specified by adding a 3 digit numeric code as a siffix to the part number e.g '010 = 10 meters. (Max cable length 500 maters). | xxx |

| Order Number Example | APR3441-0010AX-010 |
|---|---|

**For options not listed please contact the sales team**

DISCLAIMER: We reserve the right to change specifications without prior notice. specifications without prior notice. All manufactured products are calibrated with precision calibration equipment that is traceable to national measurement standards.