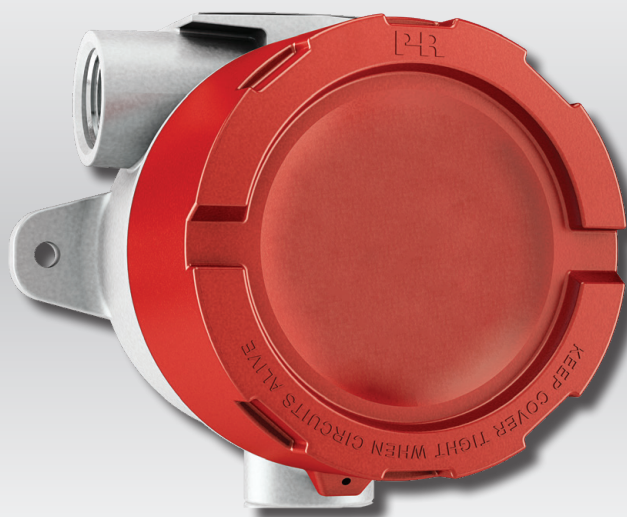


PERFORMANCE  
MADE  
SMARTER

# Product Manual

## 7401

### *Instrument housing*



TEMPERATURE | I.S. INTERFACES | COMMUNICATION INTERFACES | MULTIFUNCTIONAL | ISOLATION | DISPLAY

No. 7401V100-UK

**PR**  
electronics

# 6 Product Pillars

## *to meet your every need*

### Individually outstanding, unrivalled in combination

With our innovative, patented technologies, we make signal conditioning smarter and simpler. Our portfolio is composed of six product areas, where we offer a wide range of analog and digital devices covering over a thousand applications in industrial and factory automation. All our products comply with or surpass the highest industry standards, ensuring reliability in even the harshest of environments and have a 5-year warranty for greater peace of mind.



Our range of temperature transmitters and sensors provides the highest level of signal integrity from the measurement point to your control system. You can convert industrial process temperature signals to analog, bus or digital communications using a highly reliable point-to-point solution with a fast response time, automatic self-calibration, sensor error detection, low drift, and top EMC performance in any environment.



We deliver the safest signals by validating our products against the toughest safety standards. Through our commitment to innovation, we have made pioneering achievements in developing I.S. interfaces with SIL 2 Full Assessment that are both efficient and cost-effective. Our comprehensive range of analog and digital intrinsically safe isolation barriers offers multifunctional inputs and outputs, making PR an easy-to-implement site standard. Our backplanes further simplify large installations and provide seamless integration to standard DCS systems.



We provide inexpensive, easy-to-use, future-ready communication interfaces that can access your PR installed base of products. All the interfaces are detachable, have a built-in display for readout of process values and diagnostics, and can be configured via push-buttons. Product specific functionality includes communication via Modbus and Bluetooth and remote access using our Portable Plant Supervisor (PPS) application, available for iOS and Android.



Our unique range of single devices covering multiple applications is easily deployable as your site standard. Having one variant that applies to a broad range of applications can reduce your installation time and training, and greatly simplify spare parts management at your facilities. Our devices are designed for long-term signal accuracy, low power consumption, immunity to electrical noise and simple programming.



Our compact, fast, high-quality 6 mm isolators are based on microprocessor technology to provide exceptional performance and EMC-immunity for dedicated applications at a very low total cost of ownership. They can be stacked both vertically and horizontally with no air gap separation between units required.



Our display range is characterized by its flexibility and stability. The devices meet nearly every demand for display readout of process signals, and have universal input and power supply capabilities. They provide a real-time measurement of your process value no matter the industry, and are engineered to provide a user-friendly and reliable relay of information, even in demanding environments.

# Instrument housing

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## Warning



Only technicians, who are familiar with the technical terms, warnings, and instructions in the manual and who are able to follow these, should connect the device.

Should there be any doubt as to the correct handling of the device, please contact your local distributor or PR electronics A/S.

Mounting and connection of the device should comply with national legislation for mounting of electric materials.

Repair of the device must be done by PR electronics A/S only.

If installed under high-vibration conditions, the housing may require supplementary support.

For Ex / I.S. mounting in hazardous area, the installation instructions of the installed transmitter must be followed in detail.

## Instrument housing 7401

- Suitable for all PR head-mounted transmitters
- 3 conduit openings for relevant process connections via e.g. thermowell, flexible couplings, cable glands etc.
- Options: Aluminum with blind cover or window or 316 stainless steel with window
- Installation in harsh environments IP54-IP68

### Application

- Enclosure for mounting of head-mounted transmitters.
- Suitable for Ex / I.S. installation in hazardous area according to the installation requirements of the specific transmitter.

### Mounting / installation

- Mounting on 1.5"-2" pipe bracket or on wall / bulkhead.
- PR transmitters in the 53xx and 54xx series can be easily installed in the housing with the included metal plate. For Ex / I.S. installations, the installation instructions for the specific transmitter must be followed in detail. Ex marking is shown on the label of the installed transmitter.

## Order

Type	Housing	Window	O-ring	Conduit thread (D1, D2 & D3)	Paint type	Cover color
7401	Low copper aluminum (AL) : A	No : 1	-40 to +85°C silicone rubber : A	M20x1.5 6H : 1	Epoxy : A	Red :-
		Yes : 2	-20 to +85°C FKM rubber : B	½ NPT mod. : 2	Epoxy + polyurethane : B	
		Yes : 2				Gray : GY
7401	316 Stainless steel (RF) : B	Yes : 2	-40 to +85°C silicone rubber : A -20 to +85°C FKM rubber : B	M20x1.5 6H : 1 ½ NPT mod. : 2	None : N	Steel :-

Example: 7401A2B1A = Aluminum, window, FKM rubber O-ring, M20x1.5 6H conduit, epoxy, red

NB: Head-mounted transmitters must be ordered separately and can be installed in the housing by PR electronics on request.

## Accessories

- 8550** = M20 plug alu encl. silicone O-ring
- 8550-F** = M20 plug alu encl. FKM O-ring
- 8550-S** = M20 plug stainless steel encl. silicone O-ring
- 8550-SF** = M20 plug stainless steel encl. FKM O-ring
- 8551** = NPT plug alu encl.
- 8551-S** = NPT plug stainless steel encl.
- 8552** = Pipe-mounting bracket P5-B-N (1½"-2")

## Items included in order

- 1 x 7401xxxxx**
- 1 x transmitter mounting plate**
- 4 x screws for plate**
- 1 x blind plug** (type depending on housing and O-ring)

## Technical data

### Environmental conditions:

- Operating temperature
  - with silicone O-ring . . . . . -40°C to +85°C
  - with FKM O-ring . . . . . -20°C to +85°C
- Storage temperature . . . . . -40°C to +85°C
- Relative humidity . . . . . 0...100% RH (condensing)
- Protection degree . . . . . IP54 / IP66 / IP68 / type 4X
- Corrosion class 7401AxxxBx / durability . . . . . C5-I/M / 5...15 years<sup>1</sup>

### Mechanical specifications:

- Dimensions . . . . . Ø 110 mm
- Dimensions, H x W x D, aluminum / stainless steel. . . . . 109.3 x 145 x 126 mm / 107.4 x 145 x 124
- Weight approx., aluminum / stainless steel . . . . . 1.3 / 2.8 kg
- Internal volume. . . . . 580 cm<sup>3</sup>
- Screws for transmitter mounting plate. . . . . Stainless steel

### Observed authority requirements:

- RoHS . . . . . 2011/65/EU

<sup>1</sup> For further specifications consult 7401\_Paint\_specifications.pdf - [www.prelectronics.com/7401](http://www.prelectronics.com/7401).

## Mechanical specifications



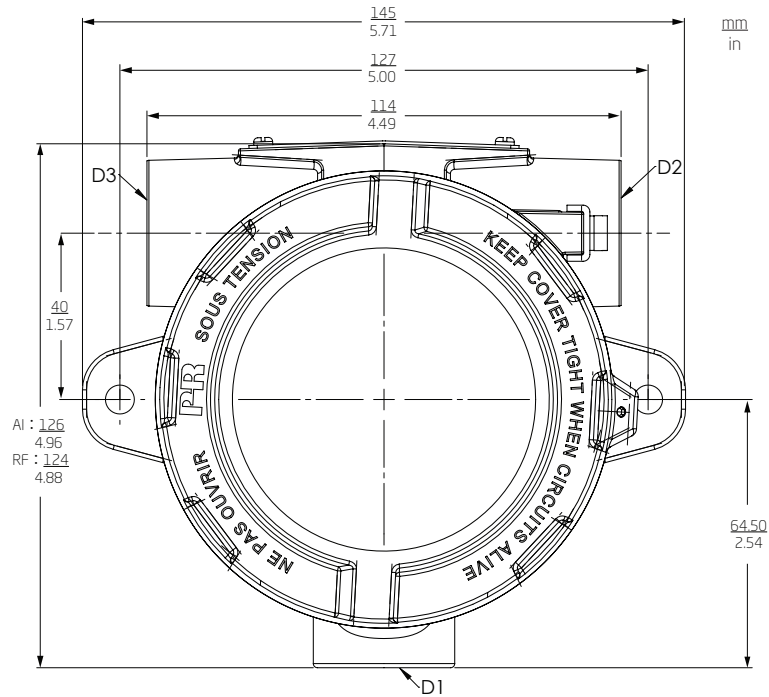
It is important to be careful when screwing the cover on or off. The thread surface must be free of any grains, pellets or other impurities as these can cause the cover to seize or damage the threads.

**! Never use force to screw on the cover.**

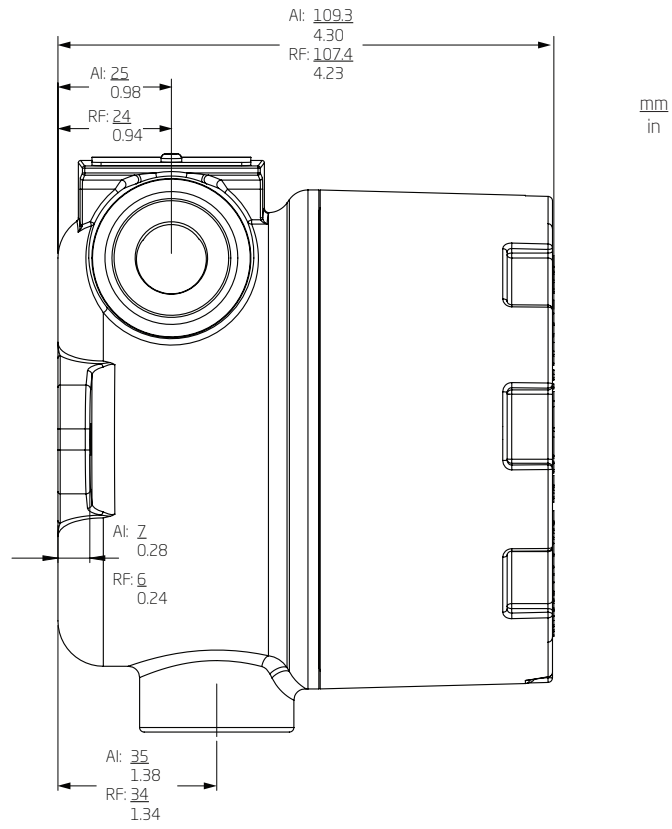
Should it be necessary to open the connection head cover after operation in maximum temperature, please be aware that the cover may be blocked (does not give when attempting to open it by hand). In this case, keep the cover under tension with your hand and hit the cover gently with a rubber hammer.

AL = aluminum version and RF = stainless steel version.

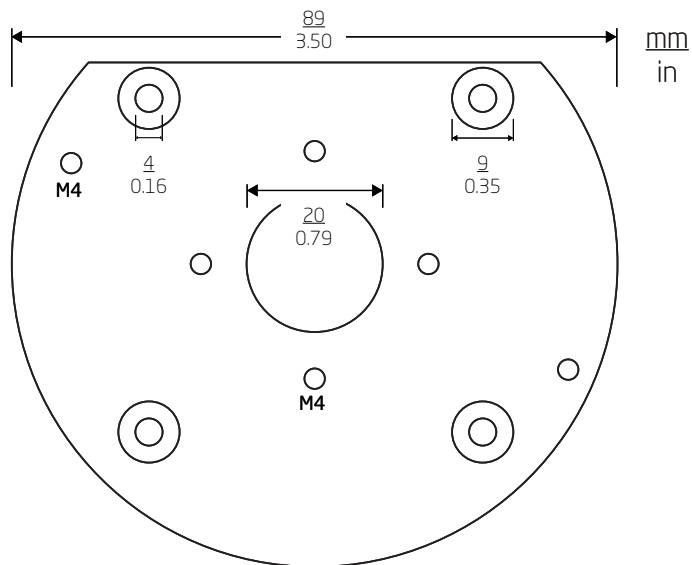
Front view



Side view



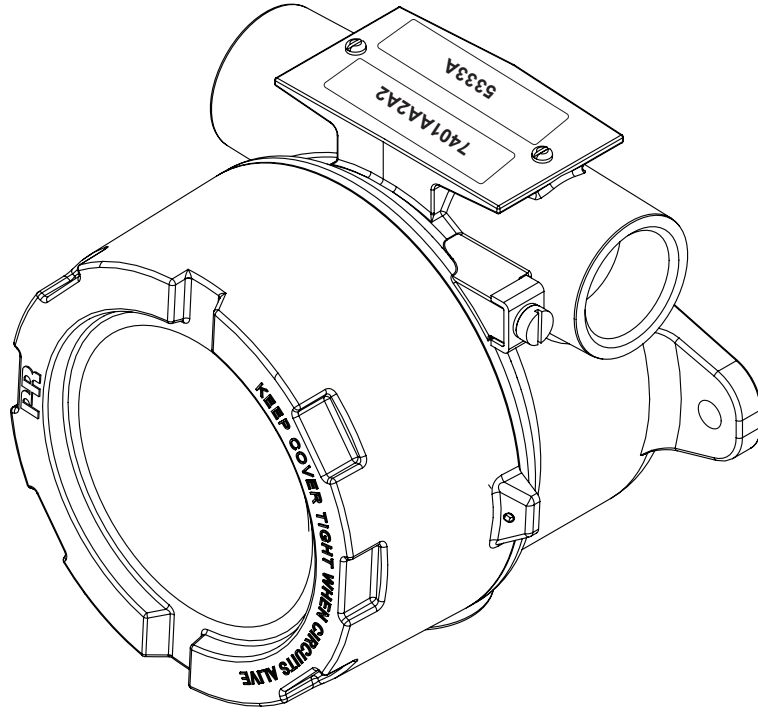
Metal plate for mounting of transmitter



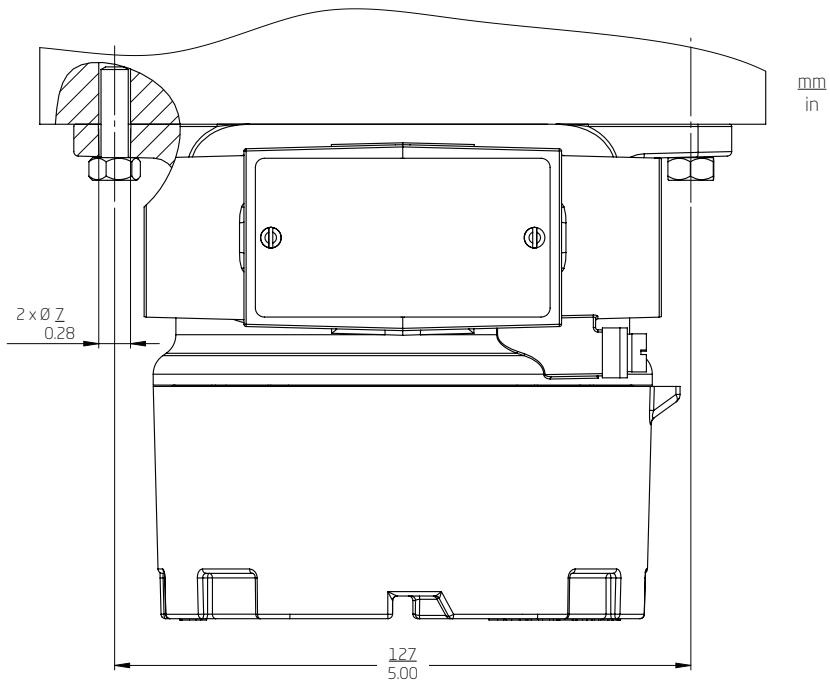


# Mounting

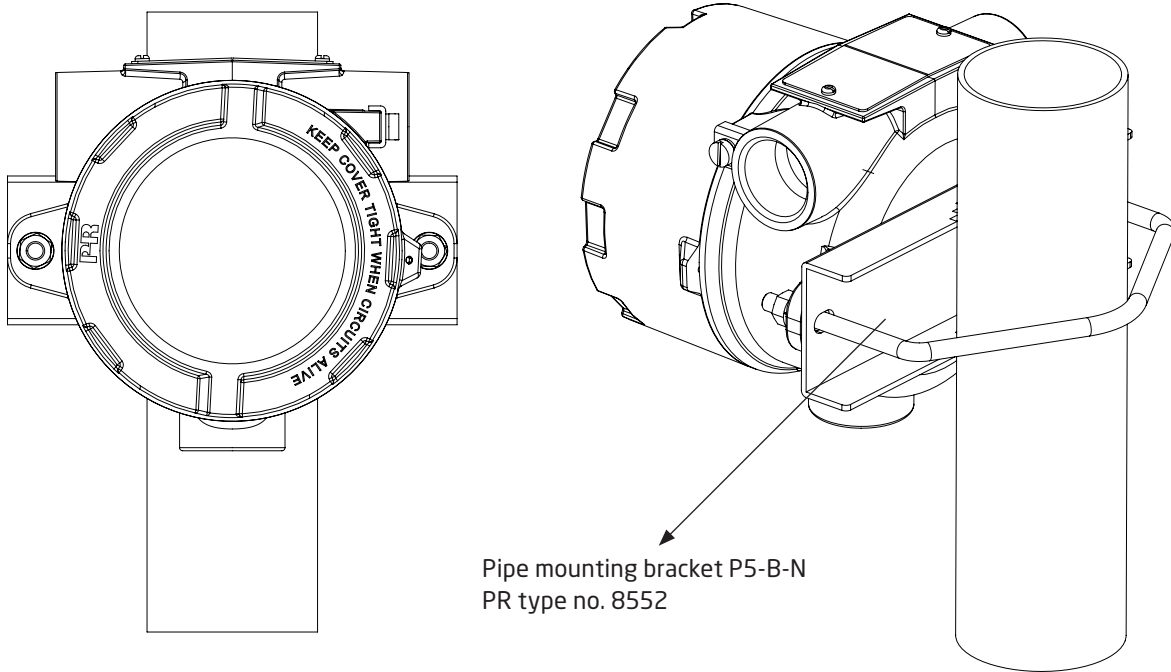
Wall-mounting - side view



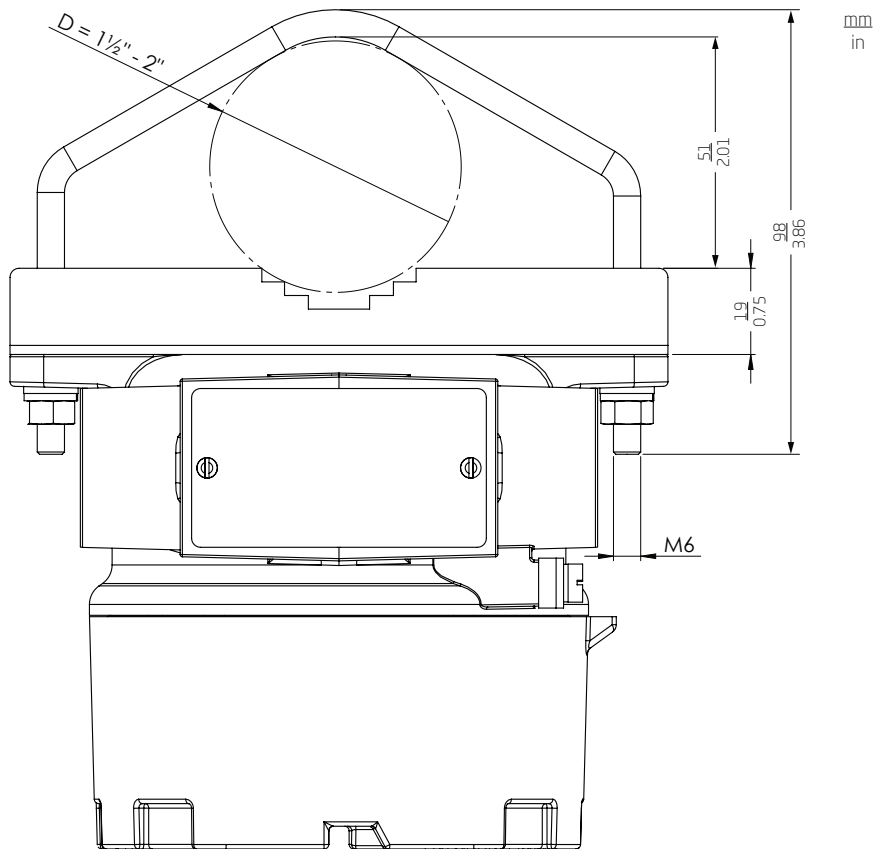
Wall-mounting - top view



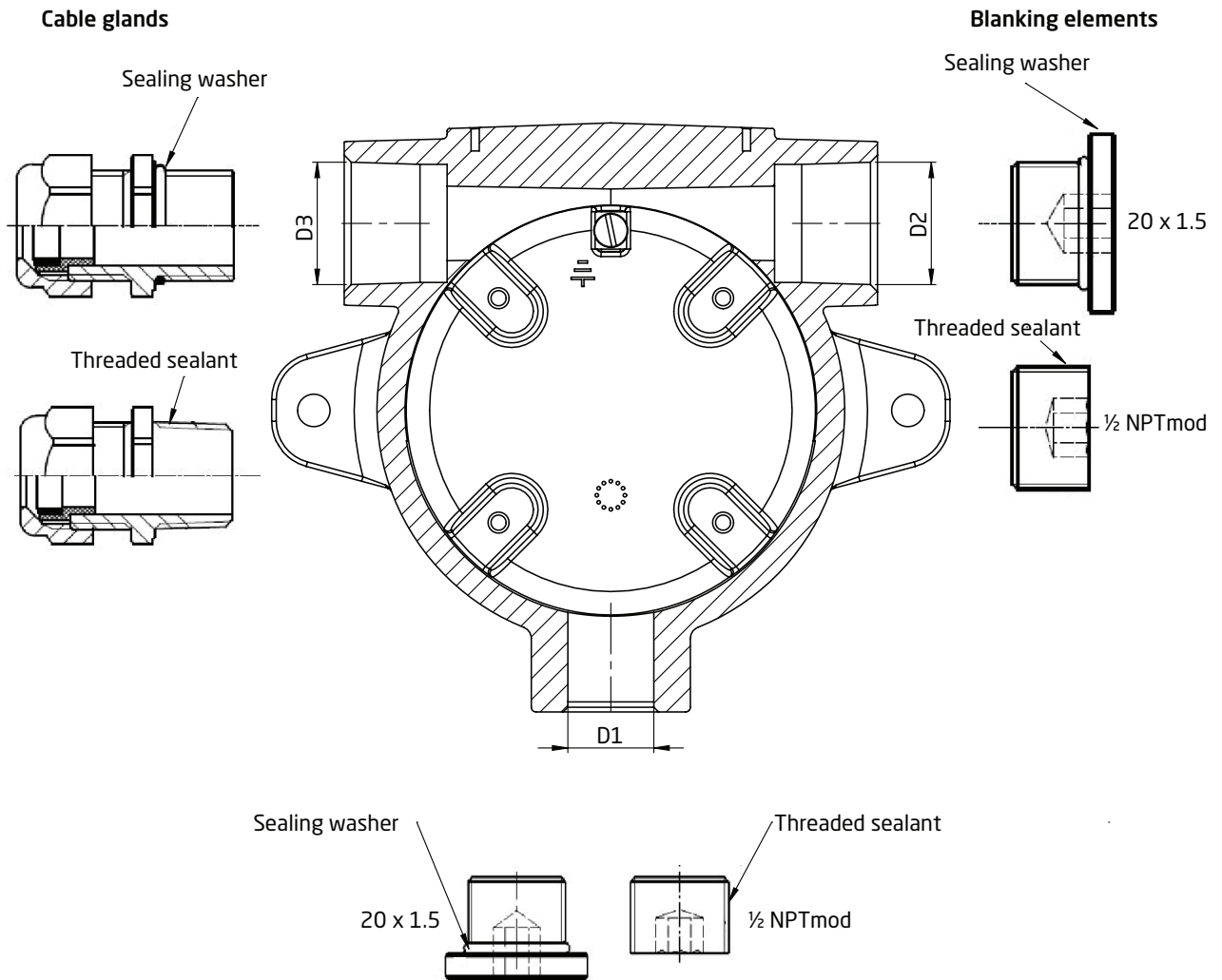
Pipe-mounting - front and back view



Pipe-mounting - top view



## Protection degree



Blind plug M20 . . . . .	IP54
With O-ring . . . . .	IP66 - IP68
Blind plug 1/2" NPT MOD . . . . .	IP54
With locktite 577 . . . . .	IP66 - IP68

For blind plug options, see accessories list on page 6.

Protection degree is defined by the connection with the lowest IP rating.  
 It is optional to connect a sensor to any of the three conduit openings.  
 Blind plugs are Ex approved only when used together with the housing.

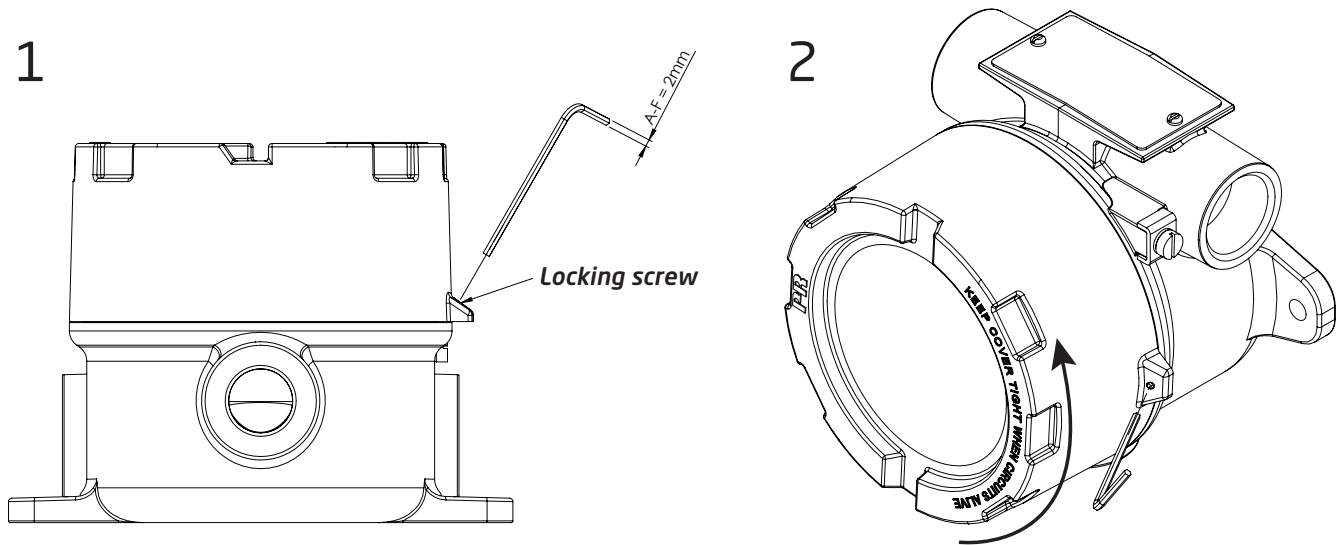
## Earth terminal and protection terminal

Placement	Type	Cable cross section [mm <sup>2</sup> ]	
		Stranded wire	Solid wire
Inside	Protection terminal	1.5	2.5
Outside	Earth terminal	4.0	6.0

## Assembly and disassembly

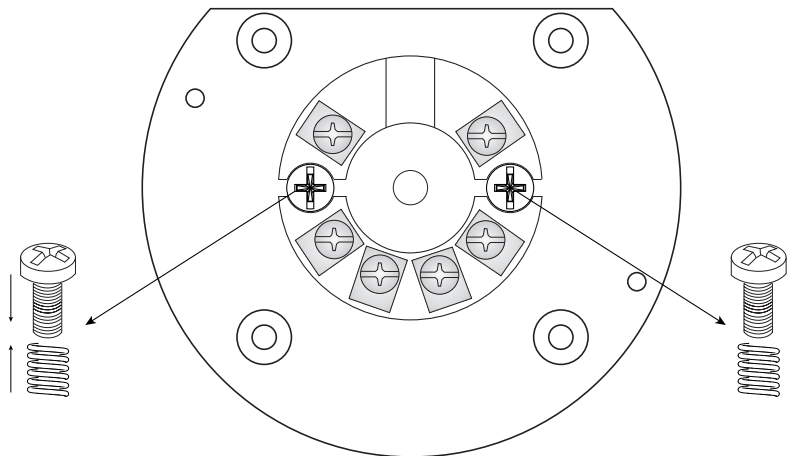
!! Disconnect power to the device before disassembly.

1. Release the **locking screw**, using a hex spanner with a cross-flat of 2 [mm]. This screw is situated on the housing top.
2. Unscrew the **housing lid** by turning it counterclockwise.

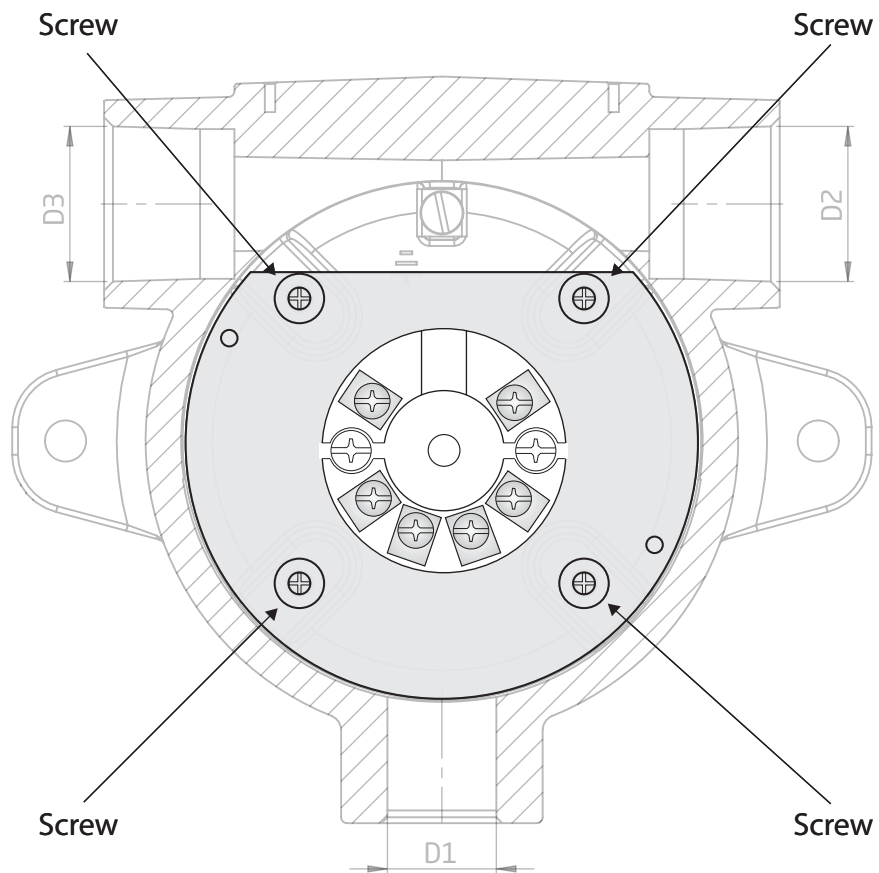


## Mounting a transmitter in the housing

Mount the transmitter on the metal plate delivered with the 7401. The two screws with springs are included with the transmitter.



Slide the plate down into the housing and fix it to the housing with the 4 x 4 mm included screws.



## Document history

The following list provides notes concerning revisions of this document.

<b>Rev. ID</b>	<b>Date</b>	<b>Notes</b>
100	1923	initial release of the product

# We are near you, *all over the world*

**Our trusted red boxes are supported wherever you are**

All our devices are backed by expert service and a 5-year warranty. With each product you purchase, you receive personal technical support and guidance, day-to-day delivery, repair without charge within the warranty period and easily accessible documentation.

We are headquartered in Denmark, and have offices and authorized partners the world over. We are a local

business with a global reach. This means that we are always nearby and know your local markets well. We are committed to your satisfaction and provide **PERFORMANCE MADE SMARTER** all around the world.

For more information on our warranty program, or to meet with a sales representative in your region, visit [prelectronics.com](http://prelectronics.com).

# Benefit today from *PERFORMANCE MADE SMARTER*

PR electronics is the leading technology company specialized in making industrial process control safer, more reliable and more efficient. Since 1974, we have been dedicated to perfecting our core competence of innovating high precision technology with low power consumption. This dedication continues to set new standards for products communicating, monitoring and connecting our customers' process measurement points to their process control systems.

Our innovative, patented technologies are derived from our extensive R&D facilities and from having a great understanding of our customers' needs and processes. We are guided by principles of simplicity, focus, courage and excellence, enabling some of the world's greatest companies to achieve PERFORMANCE MADE SMARTER.