



Protran® PR9500

WIRELESS INDUSTRIAL PRESSURE TRANSMITTER



DESCRIPTION

The PR9500 pressure transmitter, used in conjunction with the RX9500 receiver, provides a wireless solution for safe operation in tough industrial and process applications eliminating the need for hard wiring. The PR9500 transmitter can be situated in inaccessible areas, allowing the operator to monitor at safe distances on site. No hard wiring means lower installation cost and maintenance.

The unique Silicon-on-Sapphire sensor technology provides outstanding performance and gives excellent stability over a wide temperature range. The advanced sensor design consists of a piezoresistive silicon strain gauge circuit, which is epitaxially grown onto the surface of a sapphire diaphragm to form a single crystalline structure. The sapphire sensor element is then molecularly bonded to a titanium alloy sub-diaphragm. This enables the sensor to endure higher over-pressures and provides superb corrosion resistance. The completed sensor exhibits virtually no hysteresis and excellent long-term stability. With outstanding insulation properties, the sapphire substrate allows the sensor to operate over a very wide temperature range without loss of performance.

Robustly constructed from stainless steel, the PR9500 transmitter offers optimum stability and repeatability in all industrial and process environments. The PR9500 transmitter operates by sending data signals by radio telemetry to a RX9500 receiver which provides a 4-20mA output signal. Powered by an internal battery or 8-30Vdc supply, the transmitter is capable of sending data signals at distances of up to 500metres. Typical applications include mechanical and civil engineering installations, process plant, water utilities, petrochemical, power generation and any application on fluid or gas requiring a stable, repeatable and accurate pressure measurement at distances on site. The removal of the large cap at the head of the unit, allows easy access for zero/span adjustment and re-calibration or for battery replacement. Standard pressure connection is 1/2" BSP or optionally 1/2" NPT is available. Pressure ranges are from 0-500mbar to 0-1500bar.

- SILICON-ON-SAPPHIRE SENSOR TECHNOLOGY
- PRESSURE RANGES UP TO 0-1500bar
- BATTERY POWERED OR 8-30Vdc SUPPLY
- ACCURACY 0.30% NLHR
- LICENCE FREE RADIO TRANSMISSION UP TO 500 METRES
- FOR USE WITH RX9500 WIRELESS RECEIVER
- ALL STAINLESS STEEL HOUSING
- ROBUST CONSTRUCTION

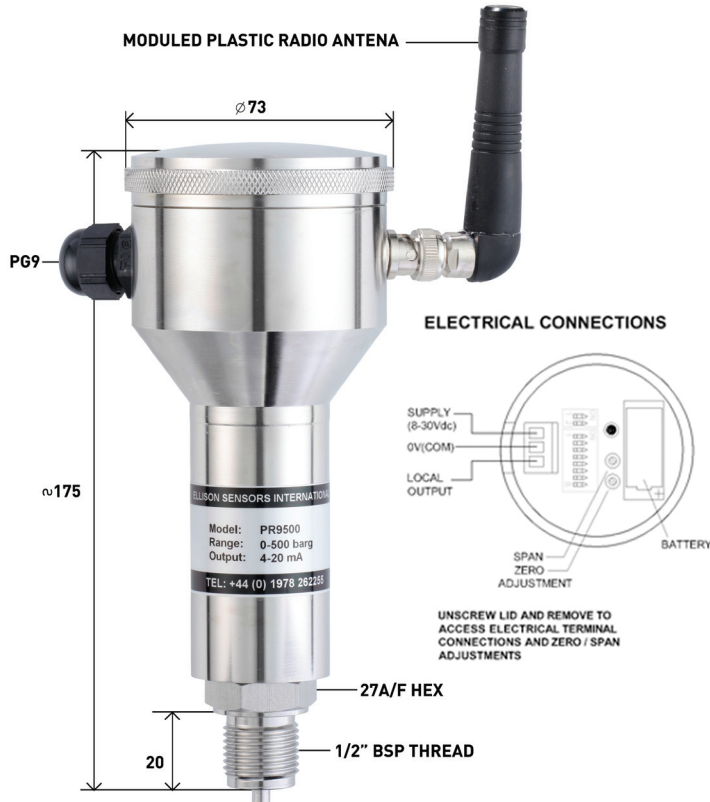


PRESSURE RANGES

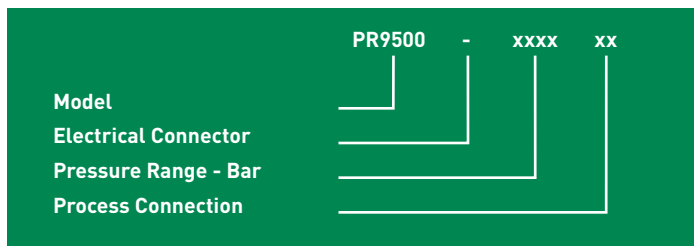
-1 to 0bar through to 1500 bar, see table below for list of all standard pressure ranges.

Range (bar)	Order Code	Range (bar)	Order Code
0-1 Vac	V001	0-40	0040
0-0.5	00.5	0-60	0060
0-1	0001	0-100	0100
0-1.6	01.6	0-160	0160
0-2.5	02.5	0-250	0250
0-4	0004	0-400	0400
0-10	0010	0-600	0600
0-16	0016	0-1000	1000
0-25	0025	0-1500	1500

DIMENSIONS (in mm)



ORDERING INFORMATION



ELECTRICAL CONNECTION/OPTION

Wireless output with cable gland IP68

PROCESS CONNECTION

1/2" BSP male thread

1/2" NPT male thread

EXAMPLE

Wireless output

Cable gland IP68

Pressure range 0-100barg

Pressure connection 1/2" BSP male thread

Correct Part Number

For options not listed contact sales team

Order Code

-

Order Code

AC

AN

Order Code

PR9500

-

0100

AC

PR9500A0100AC

SPECIFICATION

PRESSURE REFERENCE

Gauge

OVERPRESSURE

Pressure can exceed rated range by the multiple shown below with no damage or change in calibration above $\pm 0.5\%$ FS.

2x for ranges up to 600bar

1.5x up to 1000bar

1.1x above 1500bar

UHF RADIO TRANSMITTER / RECEIVER

Low power (license free), transmission frequency 418 MHz, 433MHz

TRANSMISSION RANGE

Point-to-point radio transmission up to 500 metres line-of-sight

DATA TRANSMISSION RATE

Serial radio packet at 4800/9600 baud

RESOLUTION

$\pm 0.024\%$ FS (12 BIT ADC)

ACCURACY (NON LINEARITY, HYSTERESIS & REPEATABILITY)

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

POWER SUPPLY

Replaceable 3.2Vdc (1/2AA) Lithium Thionyl Chloride battery or 8-30Vdc supply.

PRESSURE MEDIA

All fluids compatible with 316 series stainless steel and titanium alloy diaphragm.

OPERATING TEMPERATURE RANGE

Ambient/ Media -20° to $+85^{\circ}$ C

Storage: $+5^{\circ}$ C to $+40^{\circ}$ C

TEMPERATURE EFFECTS

$\pm 1.5\%$ FS total error band for -20° to $+70^{\circ}$ C

Typical thermal zero and span coefficients $\pm 0.02\%$ FS/ $^{\circ}$ C

ELECTROMAGNETIC CAPABILITY

Emissions: EN61000-6-4 / Immunity: EN61000-6-2

RADIO TYPE APPROVALS

MPT1328

EN300220

PRESSURE CONNECTION

1/2" BSP male as standard, optionally 1/2" NPT is also available.

ELECTRICAL CONNECTION

Screw terminals for conductor sizes 0.2-2.0mm² are located beneath the screw lid. Cable entry to head is through an IP66 cable gland with compression seal for cable sizes 4-8mm. Optional M20 conduit fitting available.

WIRELESS RECEIVER

RX9500 radio receiver station. Please see separate datasheet.

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.

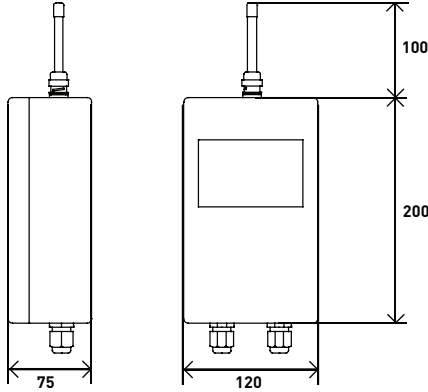




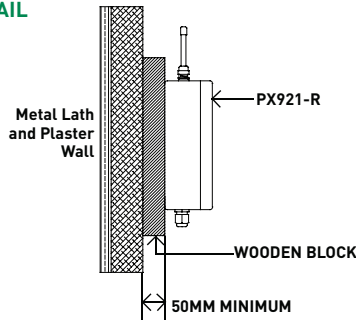
PROTRAN[®] RX9500

WIRELESS RECEIVER

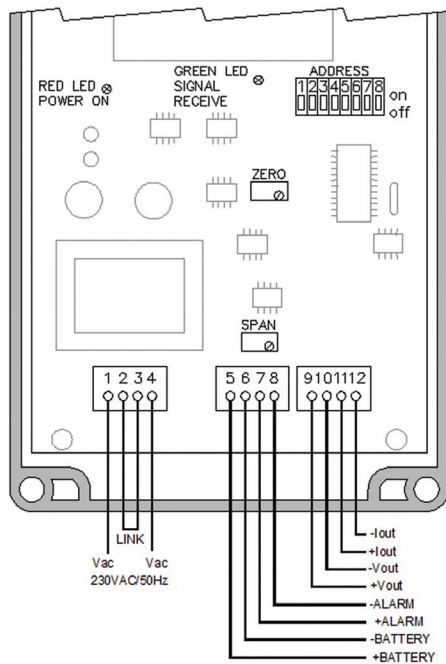
DIMENSIONS (in mm)



MOUNTING DETAIL



ELECTRICAL CONNECTIONS



SPECIFICATION

RADIO TYPE

UHF/FM receiver

SENSITIVITY

-110dBm (range of 200m light-of-sight)

IDENTIFICATION ADDRESS

8 Bit, 256 selectable combinations

COMMUNICATION WATCHDOG

128 seconds before alarm output is activated

ALARM OUTPUT

Open drain switch, maximum current 250mA

ANALOGUE OUTPUT

4-20mA, 0.2-2.0Vdc

OUTPUT COMPLIANCE

8.5Vdc

RESOLUTION

Better than 0.05% (12 Bit)

POWER REQUIREMENTS

10/240V, 50-60Hz or 10.5-30Vdc

CURRENT REQUIREMENTS

32mA_{dc}

HOUSING

High impact polycarbonate, rated to IP65

DIMENSIONS

200 x 120 x 75mm

WEIGHT

Approx. 2lbs

OPERATING TEMPERATURE

-10°C to +60°C

STORAGE TEMPERATURE

-20°C to +65°C

ANTENNA

¼ wave helical in plastic moulding

RF CONNECTOR

External BNC

CABLE ENTRY

IP65 nylon cable gland for cable diameter 4-8mm

ELECTRICAL CONNECTIONS

Screw terminal plug and socket.
Wire size from 0.5-1.5mm

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