



## P.A. - S.p.A. - EQUIPAGGIAMENTI TECNICI DEL LAVAGGIO

VIA MILANO, 13 - CASELLA POSTALE 115 - 42048 RUBIERA (REGGIO EMILIA) - ITALY  
 Tel. +39 0522 623611 - Fax. +39 0522 629600 - R.E.A. RE 156319 - R. I. RE 11535 - Mecc. RE 013446  
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<http://www.pa-etl.it> - E-mail: [info@pa-etl.it](mailto:info@pa-etl.it)



### PR16 - PRESSURE SWITCH with electric signal

#### Technical manual: E 811

Electro-mechanical device, which, upon reaching a pre-set pressure, opens or closes an electrical control contact .



- **29.0035.10** rated 40 bar – 4.5 MPa att. Sst
- **29.0035.15** rated 25 bar – 2.5 MPa att. Sst
- **29.0035.25** rated 25 bar – 2.5 MPa att. Sst
- **29.0035.30** rated 40 bar – 4 MPa att. Sst
- **29.0035.50** rated 40 bar – 4 MPa att. Sst
- **29.0035.51** rated 15 bar – 1.5 MPa att. Sst
- **29.0035.52** rated 25 bar – 2.5 MPa att. Sst
- **29.0035.62** rated 25 bar – 2.5 MPa att. Sst
- **29.0040.00** rated 40 bar – 4 MPa att. Brass
- **29.0040.11** rated 15 bar – 1.5 MPa att. Brass
- **29.0040.15** rated 25 bar – 2.5 MPa att. Brass
- **29.0040.20** rated 40 bar – 4 MPa att. Brass
- **29.0040.30** rated 25 bar – 2.5 MPa att. Brass
- **29.0040.40** rated 15 bar – 1.5 MPa att. Brass
- **29.0040.50** rated 25 bar – 2.5 MPa att. Brass

- Microswitch with very high resistance openings.
- Electrical insulation: **IP55**
- Possibility to choose from 3 different pressure settings acting on the electrical switch.
- Three core cable
- Threaded connections; either in Sst or Brass versions.

#### TECHNICAL SPECIFICATIONS

| PART NUMBER | RATED PRESSURE bar - MPa | PERMISSIBLE PRESSURE bar - MPa | INTERVENT. PRESSURE bar - MPa | COLOR | DIFFER. WORKING PRESSURE bar - MPa | (1) MAX. TEMP OF THE FLUID °C | INLET   | WEIGHT g |
|-------------|--------------------------|--------------------------------|-------------------------------|-------|------------------------------------|-------------------------------|---------|----------|
| 29.0035.10  | 250 - 25                 | 280 - 28                       | 40 - 4                        | BLACK | ±6                                 | 90                            | G 3/8   | 260      |
| 29.0035.15  | 250 - 25                 | 280 - 28                       | 25 - 2.5                      | RED   | ±6                                 | 90                            | G 3/8   | 260      |
| 29.0035.25  | 250 - 25                 | 280 - 28                       | 25 - 2.5                      | RED   | ±6                                 | 90                            | G 1/4   | 260      |
| 29.0035.30  | 250 - 25                 | 280 - 28                       | 40 - 4                        | BLACK | ±6                                 | 90                            | G 1/4   | 260      |
| 29.0035.50  | 250 - 25                 | 280 - 28                       | 40 - 4                        | BLACK | ±6                                 | 90                            | 1/4 Npt | 260      |
| 29.0035.51  | 250 - 25                 | 280 - 28                       | 15 - 1.5                      | BLUE  | ±6                                 | 90                            | 1/4 Npt | 260      |
| 29.0035.52  | 250 - 25                 | 280 - 28                       | 25 - 2.5                      | RED   | ±6                                 | 90                            | 1/4     | 260      |
| 29.0035.62  | 250 - 25                 | 280 - 28                       | 25 - 2.5                      | RED   | ±6                                 | 90                            | 3/8 Npt | 260      |
| 29.0040.00  | 250 - 25                 | 280 - 28                       | 40 - 4                        | BLACK | ±6                                 | 90                            | G 3/8   | 260      |
| 29.0040.11  | 250 - 25                 | 280 - 28                       | 15 - 1.5                      | BLUE  | ±6                                 | 90                            | 3/8 Npt | 260      |
| 29.0040.15  | 250 - 25                 | 280 - 28                       | 25 - 2.5                      | RED   | ±6                                 | 90                            | G 3/8   | 260      |
| 29.0040.20  | 250 - 25                 | 280 - 28                       | 40 - 4                        | BLACK | ±6                                 | 90                            | G 1/4   | 260      |
| 29.0040.30  | 250 - 25                 | 280 - 28                       | 25 - 2.5                      | RED   | ±6                                 | 90                            | G 1/4   | 260      |
| 29.0040.40  | 250 - 25                 | 280 - 28                       | 15 - 1.5                      | BLUE  | ±6                                 | 90                            | G 1/4   | 260      |
| 29.0040.50  | 250 - 25                 | 280 - 28                       | 25 - 2.5                      | RED   | ±6                                 | 90                            | 3/8     | 260      |

#### ELECTRICAL SPECIFICATIONS

|  |   |
|--|---|
| Max rated voltage:                         | 250 V   |
| Breaking switch:                           | 16 (A) – resistive load - 6 (A) – inductive load                      |
| Cable length :                             | 1200 mm – Electric wire : 3 x 1 mm                                    |
| Max.amperage cable:                        | 10 A  |
| Environment temp.:                         | 75 °C – Type of action: 1C  |
| Lifetime electrical component:             | 50.000 commutations, T.85°C, a 250V a.c.in line with CEE 24- VDE 0630 |
| Pollution situation of the device control: | High  |

(1) The Pressure switch has been designed for a continuous use at a water temperature of 60°C. It can resist for short periods at a maximum temperature of 90°C.

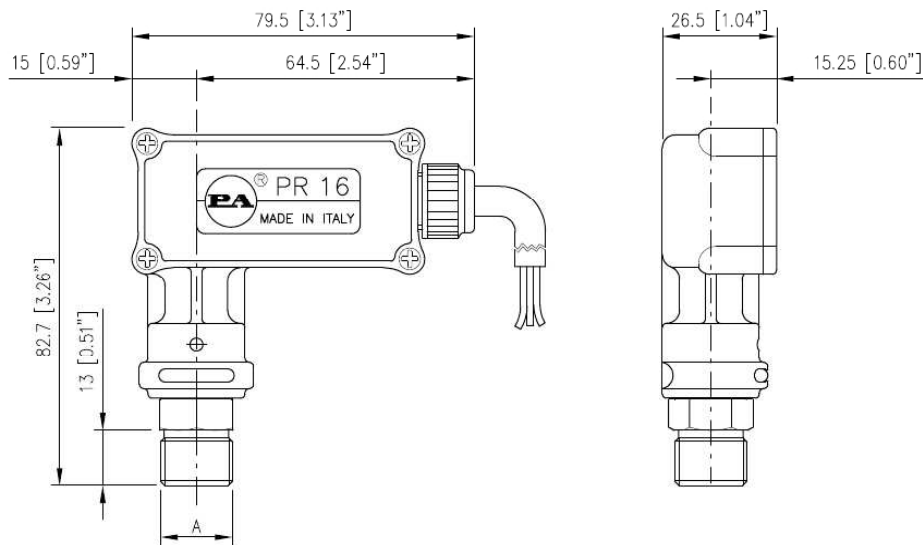
**Instruction manual, maintenance, installation, spare parts.**

For a correct utilization, follow the directions of this manual.

**Re-print them on the use and maintenance booklet of the machine**

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## DIMENSIONAL DRAWING



| CODICE<br>CODE | A        |
|----------------|----------|
| 29.0035.30     | G1/4 M   |
| 29.0035.25     | G1/4 M   |
| 29.0035.10     | G3/8 M   |
| 29.0035.15     | G3/8 M   |
| 29.0035.50     | 1/4NPT M |
| 29.0035.52     | 1/4NPT M |
| 29.0035.51     | 1/4NPT M |
| 29.0035.62     | 3/8NPT M |
| 29.0040.20     | G1/4 M   |
| 29.0040.30     | G1/4 M   |
| 29.0040.40     | G1/4 M   |
| 29.0040.00     | G3/8 M   |
| 29.0040.15     | G3/8 M   |
| 29.0040.11     | 3/8NPT M |
| 29.0040.50     | 3/8NPT M |

## SELECTION

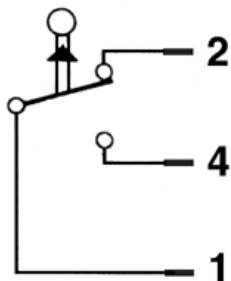
Choose the appropriate pressure switch for the rated pressure of the system and for the required intervention of the electric commutation.

In any case, the pressure of the machine should not exceed the permissible pressure rate imprinted on the pressure switch.

## INSTALLATION

When installed on machines that produce hot water, the pressure switch has to be fitted in front of the heat generator. This accessory has to be installed on a finished machine. **Electrical installation has to be carried out by a qualified person.**

**WARNING !! – Always assure earth wiring to the electric device.**



## WIRING DIAGRAM

1) RED - 2) BLUE - 4) BROWN

## ELECTRICAL CONNECTION

N.O. RED + BROWN – Normally opened

N.C. RED + BLUE – Normally closed

## OPERATIONS

The PR16 Pressure switch signals the surpass of a pre-set pressure, through a piston, which operates a switch lever. The set pressure of 45bar – 4.5 MPa is of the fixed type.

**PROBLEMS AND SOLUTIONS**

| <b>PROBLEMS</b>                   | <b>PROBABLE CAUSES</b>  | <b>SOLUTIONS</b>  |
|-----------------------------------|---|---|
| Pressure switch does not function | Electric connection faulty or loose<br>Rupture of microlever<br>Rupture of piston spring<br>Rupture of microcontacts<br>Jammed piston | Check and/or replace<br>Replace microswitch<br>Replace<br>Replace microswitch<br>Check and/or replace |
| Fluid in the casing               | Damaged piston seals<br>Damaged nut seals   | Check and/or replace<br>Check and/or replace  |

**REGULATIONS : *see norm manual***

The accessory hereby described bears the CE marking in accordance with the Norms and Directives applied on the ***Declaration of Conformity***.

For a correct utilization, follow the directions described in this manual and re-print them on the Use and maintenance manual of the machine

Make sure that you are given the Original Conformity Declaration for the accessory chosen. The present manual is valid for all Pressure switches named **PR16**

**SPARES**

Use only original PA spares, in order to benefit for a correct function and long reliability.

**MAINTENANCE**

**STANDARD:** every 400 working hours (circa 10,000 cycles), check and lubricate the seals with water resistant grease.

**SPECIAL:** every 800 working hours( circa 20,000 cycles), control the wear of the seals and internal parts and if necessary, replace with original PA parts taking care during installation and to lubricate with water resistant grease.

Maintenance has to be carried out by Specialized Technicians

For a correct assembly, follow the phases indicated on the exploded view referred.

**The manufacturer is not to be considered responsible for damage as a result from incorrect fitting and maintenance**

Technical data, descriptions and illustrations are indicative and liable to modification without notice