

# Взрывозащитные реле давления с фланцевым соединением серии ПМС10.3

## Технические характеристики

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# PMS10.3

Pressostati antideflagranti con attacco flangiato

*Explosion proof pressure switches flanged connection*

I pressostati antideflagranti della serie PMS10.3 sono particolarmente idonei per essere installati su tutti gli impianti chimici, petrolchimici applicazioni onshore e offshore e macchine, industria alimentare e farmaceutica o comunque dove è fondamentale l'uso di strumenti certificati per zona 0/1.

*Explosion proof pressure switches series PMS10.3 are particularly suitable to be installed on every chemical, petrochemical plants, onshore and offshore applications and machineries food and pharmaceutical industry or however where is mandatory the use of instruments certified for zone 0/1.*



PED 2014/68/EU



ATEX 2014/34/EU



## CARATTERISTICHE TECNICHE

**Cassa e coperchio:** alluminio verniciato con coperchio avvitato  
**Grado di protezione:** IP65 (EN60529/IEC529), NEMA 4  
**Cablaggio:** morsettiera interna  
**Morsetti di terra:** 1 interno ed 1 esterno  
**Materiale parti interne:** acciaio inox  
**Elemento sensibile:** membrana  
**Materiale Elemento:** AISI 316 + o-ring in viton fino al campo 0±2,5 Bar  
**acciaio zincato rivestito in AISI 316 per campi da 0/4 Bar a 0/25 Bar**  
**Materiale attacco al processo:** AISI 316  
**Dimensione attacco:** flangiato EN DN40-50; ANSI 1 1/2" - 2"  
**Ingresso cavi:** 1/2"NPTF, 1/2"GASF, M20x1,5  
**Montaggio:** diretto su presa, a parete o su palina da 2" (staffa in opzione)  
**Campi:** vedi tabella B  
**Microinterruttore:** 1 SPDT o 2 SPDT indipendenti con differenziale fisso, o con differenziale regolabile secondo tabella A  
**Regolazione del set:** vite di regolazione micrometrica interna  
**Ripetibilità:** migliore di 1% f.s.  
**Limite temperatura ambiente:** vedi tabella C  
**Limite temperatura del fluido:** -30/+100°C  
**Deriva termica:** ≤ 0,05%/°C  
**Esecuzione sec. direttiva 2014/34/EU** con modo di protezione antideflagrante Exd o a sicurezza intrinseca Ex ia  
**Certificato di tipo numero:** EPT 18 ATEX 3046X  
**Esecuzione secondo direttiva 2014/68/EU (PED).**

## TECHNICAL DETAILS

**Case and cover:** aluminium painted, with screwed cover  
**Protection degree:** IP65 (EN60529/IEC529), NEMA 4  
**Electrical wiring:** internal terminal board  
**Ground terminal:** 1 internal and 1 external  
**Internal parts material:** st. st.  
**Sensing element:** diaphragm  
**Element material:** st. st. 316 + viton o-ring up to range 0±2,5 Bar  
**zinc steel coated with st. st. 316 for ranges from 0/4 Bar to 0/25 Bar**  
**Process connection material:** st. st. 316  
**Connection dimension:** flanged EN DN40-50; ANSI 1 1/2" - 2"  
**Cable entry:** 1/2"NPTF, 1/2"BSPF, M20x1,5  
**Mounting:** direct on tap, wall or 2" pipe mounting (optional bracket)  
**Ranges:** see table B  
**Microswitch:** 1 SPDT or 2 independent SPDT with fixed differential or with adjustable dead band according to table A  
**Set point adjustment:** internal micrometric screw  
**Repeatability:** better than 1% f.s.  
**Ambient temperature limit:** see table C  
**Fluid temperature limit:** -30/+100°C  
**Thermal drift:** ≤ 0,05%/°C  
**Construction acc.to ATEX directive 2014/34/EU** with Explosion proof protection mode Exd or intrinsically safe Ex ia  
**Certificate number:** EPT 18 ATEX 3046X  
**Construction according to 2014/68/EU (PED).**

## TABELLA A: MICROINTERRUTTORI / TABLE A: MICROSWITCHES

| TIPO CONTATTO<br>TYPE OF CONTACT                                                                               | 1 microinterruttore<br>1 microswitch | 2 microinterruttori<br>2 microswitches | Portata contatti (carico resistivo)<br>Electric rating (resistive load) |
|----------------------------------------------------------------------------------------------------------------|--------------------------------------|----------------------------------------|-------------------------------------------------------------------------|
| Contatti in argento, in aria<br>In air, silver contacts                                                        | C                                    | O                                      | 15 A 380 Vac - 2A 24 Vdc                                                |
| Contatti in argento splash<br>Splash proof silver contact                                                      | D                                    | M                                      | 15 A 380 Vac - 2A 24 Vdc                                                |
| Contatti dorati, in aria<br>In air, golden plated contacts                                                     | Q                                    | T                                      | 1 A 125 Vac - 0,5A 24 Vdc                                               |
| Contatti in argento sigillati in gas inerte<br>Silver contacts, sealed in inert gas                            | R                                    | U                                      | 15 A 380 Vac - 2A 24 Vdc                                                |
| Contatti dorati, sigillati in gas inerte<br>Gold plated contacts, sealed in inert gas                          | S                                    | Z                                      | 1 A 125 Vac - 0,5A 24 Vdc                                               |
| Contatti in argento, in aria con differenziale regolabile<br>In air, silver contacts with adjustable dead band | V                                    |                                        | 20 A 380 Vac - 2A 30 Vdc                                                |

## TABELLA B: CAMPI / TABLE B: RANGES

| Pressione<br>Pressure<br>(Bar) | Campo di regolazione<br>Setting range                                  | 0÷0,6 | 0÷1  | 0÷1,6 | 0÷2,5 | 0÷4  | 0÷6  | 0÷10 | 0÷16 | 0÷25 | 0÷40 | 0÷60 | 0÷100 | 0÷160 |
|--------------------------------|------------------------------------------------------------------------|-------|------|-------|-------|------|------|------|------|------|------|------|-------|-------|
|                                | Pressione di prova<br>Proof pressure                                   | 6     | 10   | 16    | 25    | 30   | 35   | 40   | 50   | 60   | 80   | 120  | 200   | 250   |
|                                | Banda morta 1 micro <sup>(1)</sup><br>Dead band 1 micro <sup>(1)</sup> | 0,02  | 0,03 | 0,04  | 0,05  | 0,04 | 0,08 | 0,10 | 0,20 | 0,25 | 2    | 3    | 4     | 5     |
|                                | Banda morta 2 micro <sup>(1)</sup><br>Dead band 2 micro <sup>(1)</sup> | 0,07  | 0,08 | 0,08  | 0,08  | 0,10 | 0,15 | 0,17 | 0,25 | 0,40 | 3,5  | 5    | 6     | 8     |

<sup>(1)</sup> Valori da moltiplicare per 3 per micro con contatti dorati / For gold plated contacts, values are to be multiplied 3 times

Regolazione banda morta dal 10 al 50% del campo per micro  
con differenziale regolabile.

Dead band adjustment for micro with adjustable dead band from 10 to 50% of range.

## INGRESSO CAVI / CABLE ENTRY

| Tipo / Type   | Codice / Code |
|---------------|---------------|
| 1/2" NPT / F  | C02           |
| M20x1,5       | C03           |
| Altro / Other | C99           |

## DIMENSIONI / DIMENSIONS

| NORME UNI - DIN (1) |          |    |     |     |     |    |   |     |     |       |
|---------------------|----------|----|-----|-----|-----|----|---|-----|-----|-------|
| DN (2)              | PN - Bar | h  | H   | E   | b   | d  | g | c   | F   | N (3) |
| 40                  | 6        | 27 | 169 | 130 | 80  | 40 | 3 | 100 | M12 | 4     |
| 40                  | 10...16  | 27 | 169 | 150 | 88  | 40 | 3 | 110 | M16 | 4     |
| 40                  | 25...40  | 27 | 169 | 150 | 88  | 40 | 3 | 110 | M16 | 4     |
| 50                  | 6        | 27 | 169 | 140 | 90  | 50 | 3 | 110 | M12 | 4     |
| 50                  | 10...16  | 27 | 169 | 165 | 102 | 50 | 3 | 125 | M16 | 4     |
| 50                  | 25...40  | 27 | 169 | 165 | 102 | 50 | 3 | 125 | M16 | 4     |

| NORME ASME (1) |        |      |       |       |      |    |     |       |            |       |
|----------------|--------|------|-------|-------|------|----|-----|-------|------------|-------|
| DN (2)         | Classe | h    | H     | E     | b    | d  | g   | c     | F          | N (3) |
| 1" 1/2         | 150    | 27   | 169   | 127   | 73   | 40 | 1,6 | 98,4  | 1/2" 13UNC | 4     |
| 1" 1/2         | 300    | 27   | 169   | 155,5 | 73   | 40 | 1,6 | 114,3 | 3/4" 10UNC | 4     |
| 1" 1/2         | 600    | 48,5 | 190,5 | 155,5 | 73   | 40 | 6,3 | 114,3 | 3/4" 10UNC | 4     |
| 2"             | 150    | 27   | 169   | 155,5 | 92,1 | 50 | 1,6 | 120,6 | 5/8" 11UNC | 4     |
| 2"             | 300    | 27   | 169   | 165   | 92,1 | 50 | 1,6 | 127   | 5/8" 11UNC | 8     |
| 2"             | 600    | 48,5 | 190,5 | 165   | 92,1 | 50 | 6,3 | 127   | 5/8" 11UNC | 8     |

1) Finiture: UNI - Ra 12,5 µm max; DIN - Rz 40...160 µm;

ASME - AARH 125 - 250 µin

2) Disponibili anche DN 15, 20, 25 e 1/2", 1".

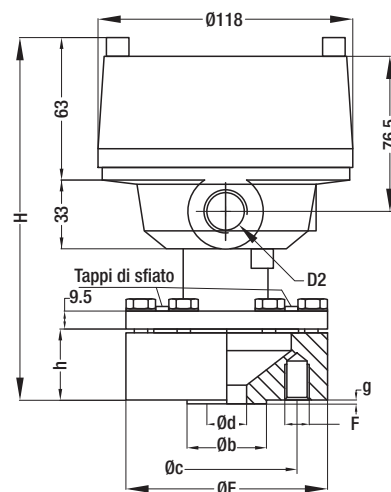
3) N° fori filettati o passanti.

1) Finish: UNI - Ra 12,5 µm max; DIN - Rz 40...160 µm;

ASME - AARH 125 - 250 µin

2) Available: DN 15, 20, 25 e 1/2", 1".

3) N° thread or through holes.



## OPZIONI ED ACCESSORI / OPTIONS AND ACCESSORIES

| Descrizione / Description                                                          | Codice / Code | Descrizione / Description                                                                                | Codice / Code                |
|------------------------------------------------------------------------------------|---------------|----------------------------------------------------------------------------------------------------------|------------------------------|
| Membrana in hastelloy-C / Hastelloy-C diaphragm                                    | <b>E10</b>    | Sovrapressione fino a 10Bar campi 0/1 - 1,6-2,5 Bar<br>Overpressure up to 10Bar ranges 0/1 - 1,6-2,5 Bar | <b>Z1</b>                    |
| Membrana in tantalio / Tantalum diaphragm                                          | <b>E15</b>    | Sovrapressione fino a 15Bar campi 0/4-6 Bar<br>Overpressure up to 15Bar ranges 0/4-6 Bar                 | <b>Z1</b>                    |
| Membrana in titanio / Titanium diaphragm                                           | <b>E20</b>    | Sovrapressione fino a 20Bar campo 0/10 Bar<br>Overpressure up to 20Bar range 0/10 Bar                    | <b>Z1</b>                    |
| Membrana in MONEL 400 / MONEL 400 diaphragm                                        | <b>E25</b>    | Sovrapressione fino a 30Bar campo 0/16 Bar<br>Overpressure up to 30Bar range 0/16 Bar                    | <b>Z1</b>                    |
| Membrana in AISI 316+teflon / st. st. 316+teflon diaphragm                         | <b>E30</b>    | Sovrapressione fino a 35Bar campo 0/25 Bar<br>Overpressure up to 35Bar range 0/25 Bar                    | <b>Z1</b>                    |
| Attacco rivestito in teflon / Teflon coated connection                             | <b>F16</b>    | Sovrapressione fino a 60Bar camp 0/40 Bar<br>Overpressure up to 60Bar range 0/40 Bar                     | <b>Z1</b>                    |
| Staffa per montaggio a parete / Wall mounting bracket                              | <b>T20</b>    | Sovrapressione fino a 80Bar campo 0/60 Bar<br>Overpressure up to 80Bar range 0/60 Bar                    | <b>Z1</b>                    |
| Staffa per montaggio su palina da 2" / 2" pipe mounting bracket                    | <b>T21</b>    | Accessori (sifoni, valvole, separatori di processo)<br>Accessories (siphons, valves, chemical seals)     |                              |
| Sgrassaggio per servizio su O <sub>2</sub> / Degreasing for O <sub>2</sub> service | <b>D13</b>    | Marcatura ATEX / ATEX marking                                                                            | <b>Tabella C<br/>Table C</b> |
| Tropicalizzazione / Tropicalization                                                | <b>D10</b>    |                                                                                                          |                              |
| Protezione per vuoto / Vacuum protection                                           | <b>V50</b>    |                                                                                                          |                              |

## TABELLA C: MARCATURA ATEX / TABLE C: ATEX MARKING

| Label ID | Equipment intended for use in potentially explosive gas atmosphere |                                                                                                                                                    |
|----------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| M1       | Ex db IIC T6 Gb                                                    | Applies for ambient temperature -40°C ÷ +60°C.<br>Equipment has EPL Gb with reference to the environment and process.                              |
| M2       | Ex ia IIC T6 Ga/Gb                                                 | Applies for ambient temperature -40°C ÷ +40°C.<br>Equipment has EPL Gb with reference to the environment and EPL Ga with reference to the process. |
| M2A      | Ex ia IIC T4 Ga/Gb                                                 | Applies for ambient temperature -40°C ÷ +60°C.<br>Equipment has EPL Gb with reference to the environment and EPL Ga with reference to the process. |

| Label ID | Equipment intended for use in potentially explosive gas and dust atmosphere |                                                                                                                                                           |
|----------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| M3       | Ex db IIC T6 Gb<br>Ex tb IIIC T85° C Db                                     | Applies for ambient temperature -20°C ÷ +60°C.<br>Equipment has EPL Gb and Db with reference to the environment and EPL Gb with reference to the process. |
| M4       | Ex ia IIC T6 Ga/Gb<br>Ex ia IIIC T85° C Db                                  | Applies for ambient temperature -20°C ÷ +40°C.<br>Equipment has EPL Gb and Db with reference to the environment and EPL Ga with reference to the process. |
| M4A      | Ex ia IIC T4 Ga/Gb<br>Ex ia IIIC T85° C Db                                  | Applies for ambient temperature -20°C ÷ +60°C.<br>Equipment has EPL Gb and Db with reference to the environment and EPL Ga with reference to the process. |

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