

APPLICATIONS

- Industrial
- Absolute and gauge pressure
- Accuracy 0,25 % FS

**DESCRIPTION**

The Series 23SY / 25Y product line is outstanding due to its extreme ruggedness towards electromagnetic fields. The limits of the CE standard are undercut by a factor of up to 10 with conducted and radiated fields.

Series 23SY Ranges 0,1...1000 bar Fully welded (no internal seals)

Series 25Y Ranges 0,5...1000 bar Flush, fully welded

TECHNICAL FEATURES

Pressure Ranges (FS) in bar

| | | | | | | | | | | | | | | | | | | | |
|----------|-------------------|----------|----------|----------|------|---|---|----|----|----|-----|-----|-----|-----|--------------------|--|--|--|--|
| PR-23SY | -1 -0,5 -0,2 -0,1 | 0,1 ±0,1 | 0,2 ±0,2 | 0,5 ±0,5 | 1 ±1 | 2 | 5 | 10 | 20 | | | | | | | | | | |
| PA-23SY | -1 | | | | 1 ±1 | 2 | 5 | 10 | 20 | 50 | 100 | 200 | 400 | 600 | 1000 ⁴⁾ | | | | |
| PAA-23SY | | | | 0,5 | 1 | 2 | 5 | 10 | 20 | 50 | 100 | 200 | 400 | 600 | 1000 ⁴⁾ | | | | |
| PR-25Y | -1 -0,5 | | | 0,5 ±0,5 | 1 ±1 | 2 | 5 | 10 | 20 | | | | | | | | | | |
| PA-25Y | -1 | | | | 1 ±1 | 2 | 5 | 10 | 20 | 50 | 100 | 200 | 400 | 600 | 1000 | | | | |
| PAA-25Y | | | | 0,5 | 1 | 2 | 5 | 10 | 20 | 50 | 100 | 200 | 400 | 600 | 1000 | | | | |

Overpressure 4 4 4 4 4 4 4 4 4 4 4 12 12 40 40 80 100 200 300 1100* 1100 1100

PR: Vented Gauge. Zero at atmospheric pressure PA: Sealed Gauge. Zero at 1000 mbar abs. PAA: Absolute. Zero at vacuum *for 25Y: up to 600 bar

| Pressure Range | Accuracy ¹⁾ | Error Band @ 0...50 °C ²⁾ | | Error Band @ -10...80 °C ²⁾ | |
|-----------------------------|------------------------|--------------------------------------|----------|--|-----------|
| | | typ. | max. | typ. | max. |
| > 2...1000 bar | ±0,25 %FS | ±0,3 %FS | ±0,5 %FS | ±0,4 %FS | ±0,7 %FS |
| > 0,3...2 bar | ±0,25 %FS | ±0,6 %FS | ±1,0 %FS | ±0,8 %FS | ±1,5 %FS |
| 0,1...0,3 bar ³⁾ | ±0,50 %FS | ±2 mbar | ±3 mbar | ±2,5 mbar | ±4,5 mbar |

¹⁾ Linearity (best straight line) + Hysteresis + Repeatability

²⁾ Accuracy + Temperature Coefficient + Zero + Span Tolerance

³⁾ Pressure Range 0,1 bar: Linearity ±1 %FS Max; 0,5...4,5 V output not available; 4...20 mA / 0...5 V / 0...10 V outputs only.

⁴⁾ Measuring range 1000 bar only suited for static applications

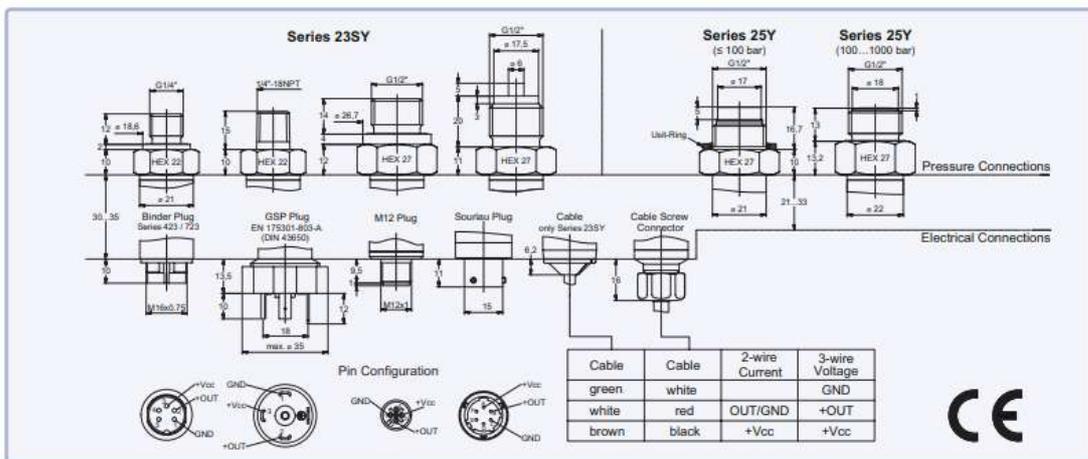
Storage-/Operating Temperature -40...100 °C

Long Term Stability Range > 2 bar 0,1 %FS typ. 0,2 %FS max.
Range ≤ 2 bar 2 mbar typ. 4 mbar max.

| Type | <u>2 fils</u> | <u>3 fils</u> | <u>3 fils</u> | <u>3 fils</u> | | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|--|--|---------------|---------------|--------------|--------------------------|------------------|-------------------------|------|--|----------------------------------|--------------------|-------------------|--------------|--------------------|--------------------------------|----------------------|--------------------|----------|--------------------|------|--|-------------|------|--|
| Signal output | 4...20 mA | 0...10 V | 0...5 V | 0,5...4,5 V | | | | | | | | | | | | | | | | | | | | | |
| Limitation signal output | 3,2...22,3 mA | -1,2...11,2 V | -0,6...5,6 V | 0,1...4,9 V | | | | | | | | | | | | | | | | | | | | | |
| Supply | 8...32 VDC | 13...32 VDC | 8...32 VDC | 8...32 VDC | | | | | | | | | | | | | | | | | | | | | |
| Load resistance | < (U-8 V) / 0,025 A | >5 kΩ | >5 kΩ | >5 kΩ | | | | | | | | | | | | | | | | | | | | | |
| Limiting frequency | 2 kHz | 2 kHz | 2 kHz | 2 kHz | | | | | | | | | | | | | | | | | | | | | |
| Power consumption | | max. 5 mA | max. 5 mA | max. 4 mA | | | | | | | | | | | | | | | | | | | | | |
| Electrical connection | <table border="1"> <thead> <tr> <th>Plug / Cable</th> <th>Protection ⁵⁾</th> <th>Female connector</th> </tr> </thead> <tbody> <tr> <td>Binder-423/723 (5-wire)</td> <td>IP40</td> <td>Incl. in delivery, IP67 ⁶⁾ optional</td> </tr> <tr> <td>GSP EN 175 301-803-A (DIN 43650)</td> <td>IP65 ⁶⁾</td> <td>Incl. in delivery</td> </tr> <tr> <td>M12 (4-wire)</td> <td>IP67 ⁷⁾</td> <td>Optional with connection cable</td> </tr> <tr> <td>Souriau (MIL-C26482)</td> <td>IP65 ⁶⁾</td> <td>Optional</td> </tr> <tr> <td>Cable (max. 80 °C)</td> <td>IP54</td> <td></td> </tr> <tr> <td>Cable gland</td> <td>IP68</td> <td></td> </tr> </tbody> </table> <p>⁵⁾ with corresponding mating plug ⁶⁾ Use cable with integrated reference hose for PR version ⁷⁾ with PR version IP54</p> | | | | Plug / Cable | Protection ⁵⁾ | Female connector | Binder-423/723 (5-wire) | IP40 | Incl. in delivery, IP67 ⁶⁾ optional | GSP EN 175 301-803-A (DIN 43650) | IP65 ⁶⁾ | Incl. in delivery | M12 (4-wire) | IP67 ⁷⁾ | Optional with connection cable | Souriau (MIL-C26482) | IP65 ⁶⁾ | Optional | Cable (max. 80 °C) | IP54 | | Cable gland | IP68 | |
| Plug / Cable | Protection ⁵⁾ | Female connector | | | | | | | | | | | | | | | | | | | | | | | |
| Binder-423/723 (5-wire) | IP40 | Incl. in delivery, IP67 ⁶⁾ optional | | | | | | | | | | | | | | | | | | | | | | | |
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| Cable (max. 80 °C) | IP54 | | | | | | | | | | | | | | | | | | | | | | | | |
| Cable gland | IP68 | | | | | | | | | | | | | | | | | | | | | | | | |
| Pressure connection | Serie 23SY: G1/4", 1/4"-18NPT, G1/2", G1/2" Mano Serie 25Y: G1/2" | | | | | | | | | | | | | | | | | | | | | | | | |
| Response time (supply on) | (0...99 %) < 5 s | | | | | | | | | | | | | | | | | | | | | | | | |
| Insulation | >10 MΩ @ 300 V | | | | | | | | | | | | | | | | | | | | | | | | |
| EMC | EN 61000-6-2 : 2005 / EN 612000-6-3 : 2007 / EN 61326-2-3 : 2006 | | | | | | | | | | | | | | | | | | | | | | | | |

| | |
|----------------------------------|--|
| Dead volume change | < 0,1 mm ³ |
| Material in media contact | - Stainless steel AISI type 316L (DIN 1.4404/1.4435) - Viton® seal external (-20...200°C, no internal seal) |
| Weight | ≈ 120 g depend on the version |
| Endurance | > 10 million cycles 0...100 %FS at 25 °C |
| Oil filling | Silicone oil |

STANDARD DIMENSIONS



OPTIONS

| | |
|---|---|
| Temperature Range | Other temperature ranges on request. Maximal range: -40...+120 °C |
| Oil Filling | Fluorocarbon oil (O ₂ -compatible), olive-oil, lowest temperature oil (-55 °C) |
| Pressure Ranges | Intermediate ranges on request, e.g. barometer 0,7...1,2 bar abs. |
| Pressure Connection, Electrical Connection | Others on request |

SPHEREL Systems reserves the right to make any kind of design or functional modification at any moment without prior notice.