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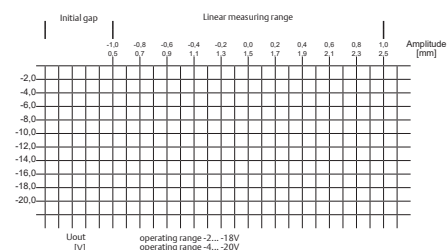
PR6423

Specifications Sheet

## 8mm Eddy Current Sensor

Non-contact sensor designed for critical turbomachinery applications such as steam, gas and hydro turbines, compressors, gearboxes, pumps and fans to measure radial and axial shaft dynamic displacement; position, eccentricity and speed.

| Performance                                 |                                                                                                                                               |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Linear Measurement Range                    | 2 mm (80 mils)                                                                                                                                |
| Initial Air Gap                             | 0.5 mm (20 mils)                                                                                                                              |
| Incremental Scale Factor (ISF)              | ISO: 8 V/mm (203.2 mV/mil) $\pm$ 5%<br>@ temperature range 0 to 45°C<br>(+32 to +113°F)                                                       |
| Deviation from best fit straight line (DSL) | $\pm$ 0.025 mm ( $\pm$ 1 mil)<br>@ temperature range 0 to 45°C<br>(+32 to +113°F)                                                             |
| Measuring Target                            |                                                                                                                                               |
| Minimum Shaft Diameter                      | 25 mm (0.79")                                                                                                                                 |
| Target Material (Ferromagnetic Steel)       | 42CrMo4 (AISI/SAE 4140) Standard<br>Other (On Request)                                                                                        |
| Environmental, General                      |                                                                                                                                               |
| Protection Class                            | IP66, IEC 60529                                                                                                                               |
| Operating Temperature Range                 | Sensor incl. 1m Cable: -35 to +200°C<br>(-31 to 392°F)<br>Cable & Connector: -35 to +150°C<br>(-31 to 302°F)                                  |
| Material                                    | Sensor Tip (PEEK Polyether Ether Ketone), Case (Stainless Steel)<br>Cable (PTFE Polytetrafluoroethylene),<br>Connector (Brass, nickel-plated) |
| Weight (Sensor with 1m Cable)               | Approx. 100 grams (3.53 oz)                                                                                                                   |



## 8mm Eddy Current Sensor

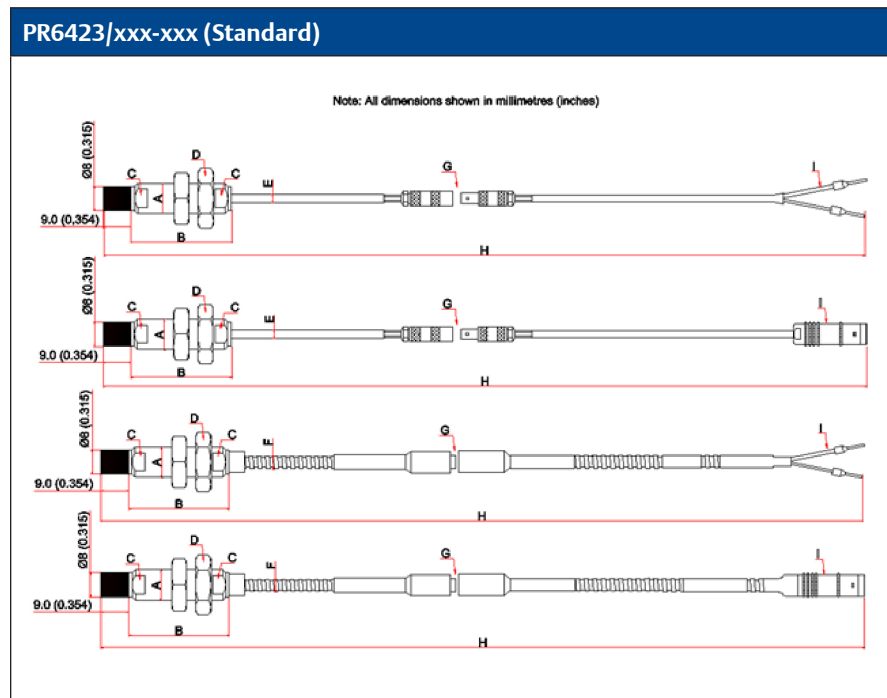
| Compliance and Certifications |                                                                                                                                                                                                                                                                              |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CE                            | 2014/30/EU (EN 61326-1)<br>2014/34/EU<br>2011/65/EU                                                                                                                                                                                                                          |
| ATEX                          | EN 60079-0<br>EN 60079-11                                                                                                                                                                                                                                                    |
| IEC-Ex                        | IEC 60079-0<br>IEC 60079-11<br>IEC 60079-26                                                                                                                                                                                                                                  |
| CSA                           | CAN/CSA-C22.2 NO. 0-M91<br>CAN/CSA-C22.2 NO. 157-92<br>CAN/CSA-C22.2 NO. 213-M1987<br>CAN/CSA-E60079-15-02 (R2006)<br>CAN/CSA-C22.2 NO. 25-1966<br>CAN/CSA-C22.2 NO. 61010-1-04<br>ANSI/UL Standard 913-2004<br>ANSI/UL Standard 1604-1995<br>UL 60079-15 2002<br>UL 61010-1 |

## Hazardous Area Approvals

| Intrinsic Safety (ia) |                                                                                                                                                                                                                                           |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ATEX / IEC-Ex / CSA   | Area classification depends on converter, see converter documentation for details.<br>Sensor temperature classification:<br>T6: $T_a \leq 64^{\circ}\text{C}$<br>T4: $T_a \leq 114^{\circ}\text{C}$<br>T3: $T_a \leq 160^{\circ}\text{C}$ |
| Non-sparking (nA)     |                                                                                                                                                                                                                                           |
| ATEX / IEC-Ex / CSA   | Area classification depends on converter, see converter documentation for details.<br>Sensor temperature classification:<br>T6: $T_a \leq 64^{\circ}\text{C}$<br>T4: $T_a \leq 114^{\circ}\text{C}$<br>T3: $T_a \leq 160^{\circ}\text{C}$ |

## 8mm Eddy Current Sensor

### Dimensions

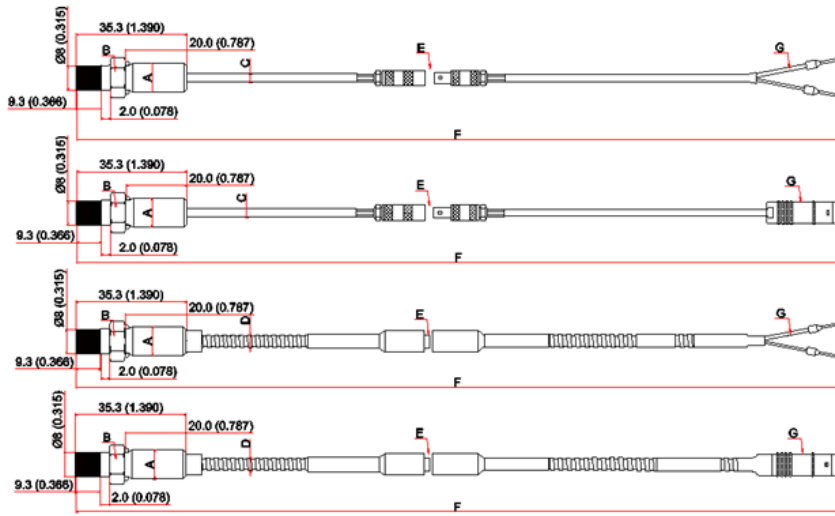


- A. Case thread, M10x1 or 3/8-24UNF
- B. Case Length
- C. Wrench flats, SW 8 mm for M10 threads, WS 5/16 in for 3/8-24 UNF threads
- D. SW 17 mm for M10 threads, SW 9-16 in for 3/8-24UNF threads
- E. Standard cable diameter 2.8 mm (0.110 in), minimum bending radius 25 mm (0.984 in)
- F. Armored cable diameter 6 mm (0.236 in), minimum bending radius 35 mm (1.378 in)
- G. Optional Adapter Plug after 1m cable from Sensor
- H. Cable Length (Tolerances 0... +10%)
- I. Lemo connector (male), 11.0 mm (0.433 in) diameter or open cable end

## 8mm Eddy Current Sensor

### PR6423/xxR-xxx (Reverse Mount)

Note: All dimensions shown in millimetres (inches)



- A. Case thread, M10x1 or 3/8-24UNF
- B. SW 11 mm for M10 threads, SW 7/16 in for 3/8-24UNF threads
- C. Standard cable diameter 2.8 mm (0.110 in), minimum bending radius 25 mm (0.984 in)
- D. Armored cable diameter 6 mm (0.236 in), minimum bending radius 35 mm (1.378 in)
- E. Optional Adapter Plug after 1m cable from Sensor
- F. Cable Length (Tolerances 0... +10%)
- G. Lemo connector (male), 11.0 mm (0.433 in) diameter or open cable end

## 8mm Eddy Current Sensor

### Ordering Information

| Tip Diameter | Case Threads | Armored Cable | Model No.  |
|--------------|--------------|---------------|------------|
| 8mm          | M10x1        | No            | PR6423/00  |
|              |              | Yes           | PR6423/01  |
|              |              |               | PR6423/03* |
|              | 3/8"-24 UNF  | No            | PR6423/10  |
|              |              | Yes           | PR6423/11  |
|              |              |               | PR6423/13* |

\* Armored cable option for Reverse Mount, if Adapter Plug is chosen.

| Model No. | Case Thread X          | Adapter Plug X   | Cable Length X | Cable End X    |
|-----------|------------------------|------------------|----------------|----------------|
| PR6423/00 | <b>0</b> 25mm          | <b>0</b> With    | <b>0</b> 4.0m  | <b>0</b> Lemo* |
| PR6423/01 | <b>1</b> 35mm          | <b>1</b> Without | <b>1</b> 5.0m  | <b>1</b> Open  |
| PR6423/10 | <b>2</b> 45mm          |                  | <b>2</b> 6.0m  |                |
| PR6423/11 | <b>3</b> 55mm          |                  | <b>3</b> 8.0m  |                |
|           | <b>4</b> 65mm          |                  | <b>F</b> 9.0m  |                |
|           | <b>5</b> 75mm          |                  | <b>4</b> 10.0m |                |
|           | <b>6</b> 85mm          |                  |                |                |
|           | <b>7</b> 95mm          |                  |                |                |
|           | <b>8</b> 105mm         |                  |                |                |
|           | <b>9</b> 115mm         |                  |                |                |
|           | <b>C</b> 125mm         |                  |                |                |
|           | <b>I</b> 135mm         |                  |                |                |
|           | <b>K</b> 145mm         |                  |                |                |
|           | <b>E</b> 155mm         |                  |                |                |
|           | <b>M</b> 165mm         |                  |                |                |
|           | <b>J</b> 175mm         |                  |                |                |
|           | <b>L</b> 185mm         |                  |                |                |
|           | <b>H</b> 195mm         |                  |                |                |
|           | <b>R</b> Reverse Mount |                  |                |                |

\* Not available, if Reverse Mount without Adapter Plug is chosen.

Example: PR6423/000-000

ECS 8mm, M10X1, NO ARMOR, 25MM SLEEVE, 1+3M CABLE, LEMO

## Special Version PR6423/xxx-xxx-RAD

| Technical Data differing from Standard         |                                                                                                       |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Material                                       | Sensor Tip (Epoxy Resin)<br>Case (Stainless Steel with EPDM<br>O-Ring Sealing)<br>Cable (Polyolefine) |
| Operating Temperature Range                    | -35 to +80°C (-31 to 176°F)                                                                           |
| Radiation Resistance                           | Sensor & 1m Cable: up to 80Mrad<br>Extension Cable & Converter:<br>up to 0.1Mrad                      |
| Calculated Lifetime @ radiation of<br>0.5Sv/h: | With neutron radiation: 18.26 years<br>With beta or gamma radiation: 183 years                        |
| Certifications                                 | No hazardous area certification available!                                                            |

## Product Accessories

| Model Number | Product Description   |
|--------------|-----------------------|
| EZ 1600      | Probe Holder          |
| MPT 064      | Metal Protection Tube |

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