

Non-Incendive Transducer

Series 433, 435, 436

Features

- ▶ High accuracy
- ▶ Protection in hazardous environments, Class I, Div 2
- ▶ Rugged all-welded stainless steel construction
- ▶ Superior EMI, ESD and RFI protection
- ▶ NEMA 4
- ▶ Built-in high pressure snubber (2000 psi and above)

Applications

- ▶ Oil & gas pipelines
- ▶ Oil patch
- ▶ Petrochemical plants
- ▶ Refineries
- ▶ Pulp and paper mills
- ▶ Coal and oil fired power plants
- ▶ Cement plants
- ▶ Gas transfers for fuel systems
- ▶ Gas panels
- ▶ Gas mixing systems



General Specifications*

| | | | |
|-------------------------------|--|-------------------------------|---|
| Accuracy (LH & R): | ±0.25% FSO at 75°F (±0.5% for vacuum only [-23]) typical | Response Time: | 2kHz |
| Long Term Stability: | ±0.5% FSO of calibration curve | Electrical Connection: | 3 conductor for voltage series and 2 conductor for current series, 24 awg, PVC jacketed, shielded cable, 3 ft. (1 m) long with integral strain relief and case ground (standard). |
| Typical Life Cycle: | 100 million cycles | Temperature Ranges: | |
| Proof Pressure: | 2 times rated pressure or 13,000 psi max. (896 bar), whichever is less | Operating: | -40° to 158°F (-40° to 70°C) |
| Input: | | Compensated: | -40° to 158°F (-40° to 70°C) |
| 433: | Excitation voltage: 11 to 30 VDC | Storage: | -40° to 185°F (-40° to 85°C) |
| 436: | Excitation voltage: 14 to 30 VDC | Temperature Shift: | |
| 435: | Excitation voltage: 12 to 28 VDC | Zero & Span: | 0.01% per °F over compensated range |
| Supply Current: | 3.0 mA maximum (no load) | Vibration: | 15 g's, 10-2000 Hz, MIL-STD 202 |
| Min. Load Resistance: | 2K ohms (voltage series) | Shock: | 50 g's, 11 ms, MIL-STD 202 Method 213, Cond. G. |
| Output: | | Approvals: | Nonincendive pressure transmitters are UL and cUL approved as telemetering equipment for use in Div. 2 hazardous locations as follows: Class I, Div. 2, Groups A, B, C & D Class II, Div. 2 Groups F & G Agency approval varies by electrical termination type as follows: H5(-E) models are cULus listed in UL File E146589, (WYMV, WYMV7). H3(-E), T4(-E) & T5 (-E) models are cURus recognized components in UL File E146589, (WYMV2, WYMV8). |
| 433: | Output: 0.5 to 5.5 VDC Full scale output: 5.0 VDC ± 0.8% Zero output: 0.5 VDC ± 0.4% | Weight: | |
| 436: | Output: 1 to 11 VDC Full scale output: 10 VDC ± 0.4% Zero output: 1.0 VDC ± 0.2% | 433 & 436: | 7.4 oz. (221 grams) to 1,000 psi 9.9 oz. (281 grams) 2,000 psi and higher |
| 435: | Output: 4 to 20 mA Full scale output: 16 mA ± 1% Zero output: 4 mA ± 2% | 435: | 7.4 oz. (210 grams) to 1,000 psi 9.4 oz. (266 grams) 2,000 psi and higher |
| Wetted Parts: | 17-4 PH (fitting) & 300 stainless steel (sensor) | Warranty: | 1 year warranty |
| Enclosure: | NEMA 4, 300 series stainless steel | | |
| Pressure Connection: | 1/4"-18 NPT male | | |

* See product configurator for additional options.

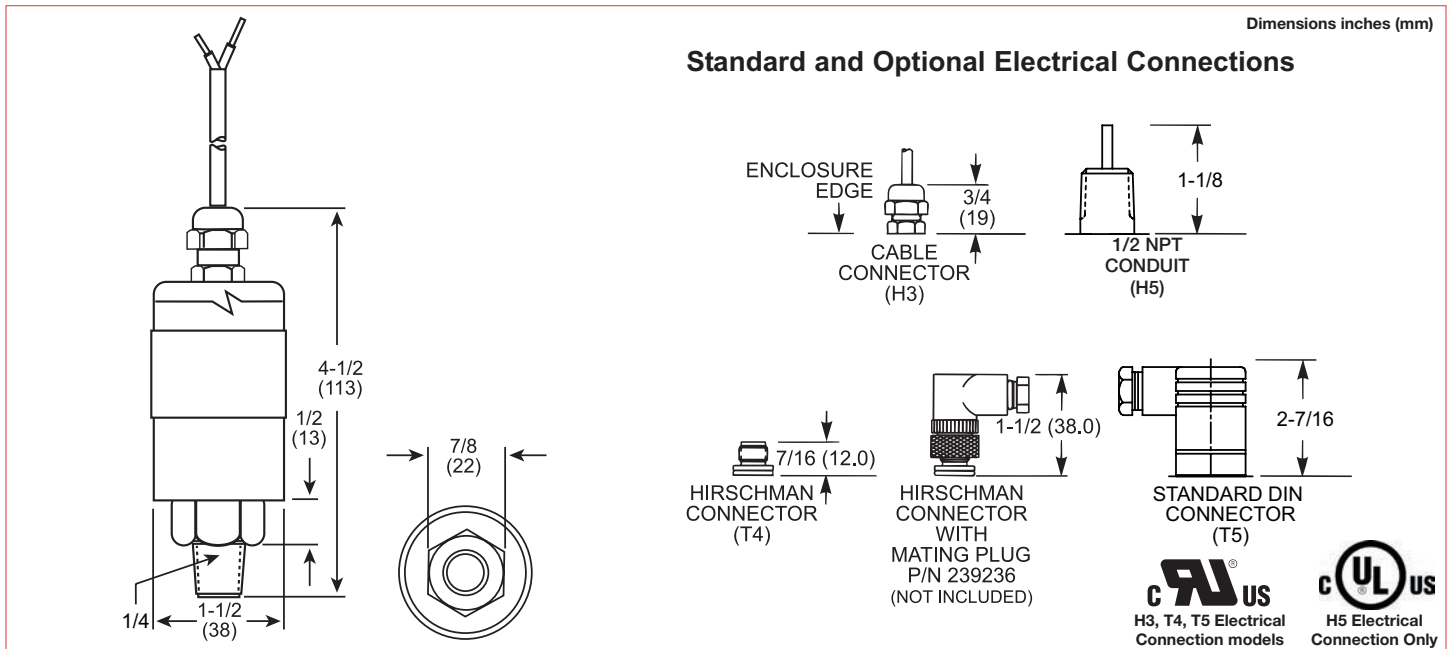
| MILLIVOLT SERIES - 433 & 436 | | |
|------------------------------|---------|--------------|
| (T4/T5) | (H3/H5) | Signal |
| 1 | Red | + Excitation |
| 3 | White | + Output |
| 2 | Black | Common |
| 4 | Bare | Drain |
| MILLIAMP SERIES - 435 | | |
| 1 | Red | + Excitation |
| 2 | Black | - Excitation |
| 4 | Bare | Case Drain |

◀ Wiring Code

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Technical Drawings



Product Configurator

Example: **433 H3 -21**

Base Model

| | |
|-----|-----------------------------|
| 433 | 0.5 - 5.5 VDC analog output |
| 435 | 4 - 20 mA analog output |
| 436 | 1 - 11 VDC analog output |

Electrical Connection

| | |
|-----------------|--|
| H3 | Shielded & jacketed #22 AWB cable (1 meter), (standard) |
| H5 | Shielded & jacketed cable with 1/2" male conduit, UL/CSA |
| T4 ¹ | M12 Hirschman connector (ELST 412 PG9) |
| T5 | Standard DIN connector (43650) - mating connector included |

Pressure Range

| | |
|------------------|------------------------------|
| -23 | 0 - 29.9" of Hg (Vacuum) |
| -25 | 0 - 5 psi (0 - 0.35 bar) |
| -01 ² | 0 - 15 psi (0 - 1 bar) |
| -21 ² | 0 - 30 psi (0 - 2 bar) |
| -03 ² | 0 - 50 psi (0 - 3.5 bar) |
| -22 ² | 0 - 60 psi (0 - 4 bar) |
| -04 ² | 0 - 100 psi (0 - 6.9 bar) |
| -05 ² | 0 - 150 psi (0 - 10.3 bar) |
| -06 ² | 0 - 200 psi (0 - 13.8 bar) |
| -07 ² | 0 - 300 psi (0 - 20.7 bar) |
| -08 | 0 - 500 psi (0 - 34.5 bar) |
| -19 | 0 - 600 psi (0 - 41 bar) |
| -10 | 0 - 1,000 psi (0 - 69 bar) |
| -11 | 0 - 1,500 psi (0 - 104 bar) |
| -12 ³ | 0 - 2,000 psi (0 - 138 bar) |
| -13 ³ | 0 - 3,000 psi (0 - 207 bar) |
| -14 ³ | 0 - 4,000 psi (0 - 276 bar) |
| -15 ³ | 0 - 5,000 psi (0 - 345 bar) |
| -16 ³ | 0 - 6,000 psi (0 - 414 bar) |
| -17 ³ | 0 - 7,500 psi (0 - 517 bar) |
| -18 ³ | 0 - 10,000 psi (0 - 689 bar) |

Options

| | |
|---------------------|--|
| -E ⁷ | External adjustment - Zero/Span |
| -Z10 | 1 to 5V output (available only on 433 models) |
| -Z11 | 1 to 6V output (available only on 433 models) |
| -Z12 | 0.5 to 4.5V output (available only on 433 models) |
| -Z15 | Calibrated in 'bar' unit |
| -Z16 ⁴ | 0.2 to 10V output (available only on 436 models) |
| -Z17 ^{4,5} | For high pressure models with larger orifice |
| -Z18 ⁴ | Z17 and Z10 options combined |
| -ZXXY ⁶ | Special pressure ranges |
| -WXXX | Additional length of free leads (in inches) (H3 & H6 connection) |

Accessories

| Order # | Description |
|---------|---|
| 239236 | Hirschman mating connector (T4 electrical option) |
| 208360 | Pressure snubber (1/4-18 NPT female/male) |

Process Connection*

| | |
|-------|--------------------------------|
| Blank | 1/4-18 NPT male (standard) |
| -P1 | 7/16-20 UNF-2B female (SAE #4) |
| -P3 | 7/16-20 UNF-2A male (JIC 37°) |
| -P4 | 1/2" NPT male |
| -P5 | 1/2" NPT female |
| -P6 | 1/4" NPT female |

* Consult factory for more options

| | |
|-------|-----------------------------------|
| Blank | Gauge pressure |
| -A | Absolute pressure range (<300psi) |

¹ Mating connector: Hirschman # ELWIKA 4021 PG7 or equivalent (not included). Order number: 239236

² Available in absolute ranges

³ Built-in surge protector

⁴ Not UL Approved

⁵ For pressure > 1,000 psi a 3/16 diameter pressure port orifice with no surge protector is offered.

⁶ Add suffix ZXXY for special pressure ranges. XX = significant digits. Y = number of trailing zeros. Example: for 230 psi calibration, add Z231

⁷ Available with connector options H3 and T4 only