

Process Protection

Acoustic sensors for material flow monitoring

SITRANS CU02 Control Unit

Overview



SITRANS CU02 is an alarm control unit, for use with SITRANS AS100 acoustic sensor, that provides reliable continuous protection for bulk solids flow.

Benefits

- 4 to 20 mA output
- Two programmable relays
- Adjustable independent time delay for each relay
- Adjustable start-up time delay
- DIN rail mounting provides easy installation
- Built-in password protection to parameters

Application

SITRANS CU02 receives a 0 to 10 V DC input signal from the SITRANS AS100 sensor, providing relay and analog outputs for interface into a process.

- Key applications: with SITRANS AS100 for bulk solids flow

Function

The system can be readily configured for set points indicating such conditions as high flow, low flow or no flow. Alternatively, it can be added to a control loop via a 4 to 20 mA isolated output for trend monitoring proportional to the signal from the sensor.

Two relays are fully programmable and independent of each other and can be used to operate an alarm or control device. Alarming may be provided above or below a setpoint or within a band. Readings are also displayed locally by the SITRANS CU02 on its LCD.

The SITRANS CU02 may be mounted up to 500 m (1 500 ft) from the sensor.

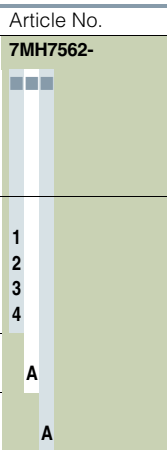
Technical specifications

| | |
|-------------------------------------|---|
| Mode of operation | |
| Measuring principle | Controller for acoustic sensing (SITRANS AS100) |
| Typical application | Connects to SITRANS AS100 to detect burst filter bag |
| Input | |
| | 0 ... 10 V DC, from sensor |
| Output | |
| Output signal | 4 ... 20 mA isolated output, 2 Form C relays - latching or non-latching - 5 A at 250 V AC non-inductive |
| Sensor excitation | 26 V DC |
| Max. load | 750 Ω |
| Rated operating conditions | |
| Installation conditions | |
| • Location | Indoor |
| Ambient conditions | |
| • Ambient temperature for enclosure | -20 ... +50 °C (-4 ... +122 °F) |
| • Relative humidity | 80 % for temperatures up to 50 °C (122 °F) |
| • Degree of protection | IP20 |
| • Installation category | II |
| • Pollution degree | 2 |
| Design | |
| Weight | 550 g (18 oz) |
| Dimensions (W x H x D) | 55 x 75 x 110 mm (2.2 x 3 x 4.4 inch) |
| Material enclosure | Polycarbonate |
| Mounting | DIN Rail (DIN 46277 or DIN EN 50022), or wall mount, up to 500 m (1 500 ft) from sensor |
| Cable | 2 twisted pair, 24 AWG (22 mm ²), shielded. Mount up to 500 m (1 500 ft) from sensor |
| Display | |
| | Liquid crystal, three digits, 9 mm (0.35 inch), high and multi-segment graphic symbols for operation status |
| Power supply | |
| Supply voltage | 100, 115, 200, 230 V AC ± 15 %, 50/60 Hz, factory set |
| Power consumption | Max. 10 VA |
| Approvals | |
| | CSA _{US/C} , CE, RCM, EAC, KCC |

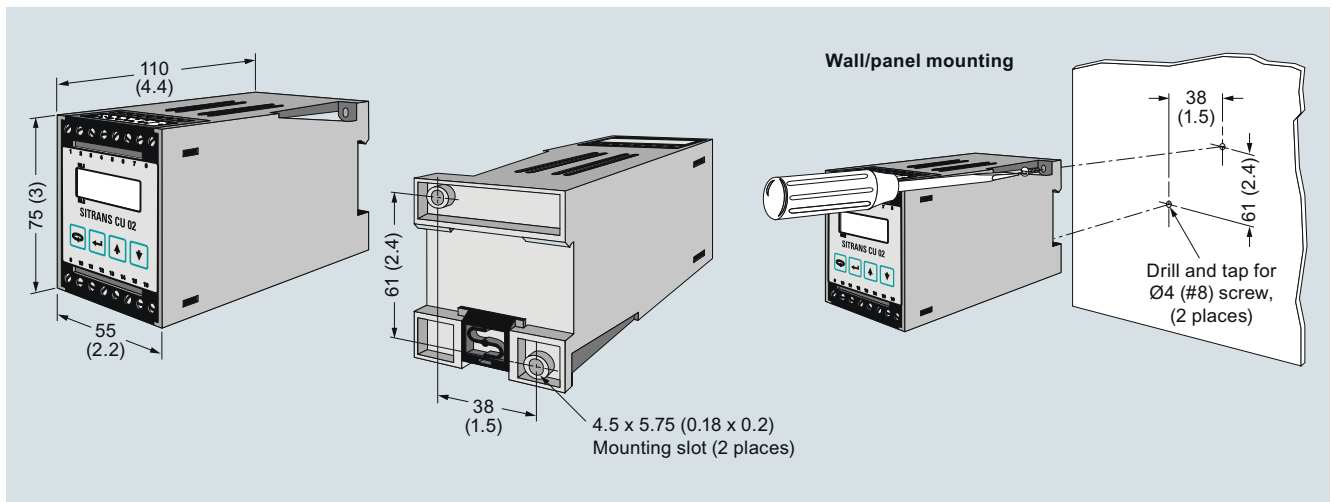
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| Selection and Ordering data | Article No. | Selection and Ordering data | Order code |
|--|--|---|------------------------------|
| SITRANS CU02 Control Unit Alarm control unit for use with SITRANS AS100 acoustic sensor to provide reliable continuous protection for bulk solid flow ↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal. | 7MH7562-  | Further designs Please add "-Z" to Article No. and specify Order code(s). Manufacturer's test certificate: According to EN 10204-2.2 Acrylic coated, stainless steel tag [38 x 51 mm (1.5 x 2 inch)]: Measuring-point number/identification (max. 16 characters), specify in plain text Operating Instructions All literature is available to download for free, in a range of languages, at http://www.siemens.com/processinstrumentation/documentation | C11 Y18 |
| Power Supply 100 V AC 115 V AC 200 V AC 230 V AC | 1 2 3 4 | | |
| Enclosure Standard DIN Rail | A | | |
| Approvals CSA _{USC} , CE, RCM, EAC, KCC | A | | |

Dimensional drawings



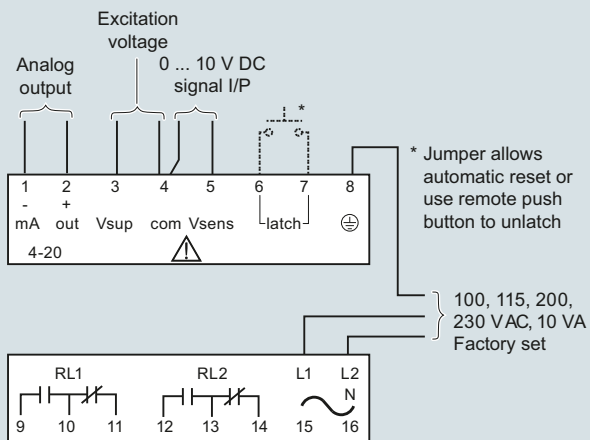
SITRANS CU02, dimensions in mm (inch)

Process Protection

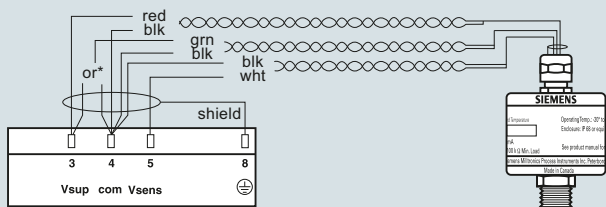
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Circuit diagrams



Standard temperature version

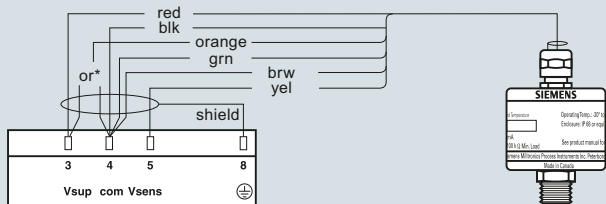


* Sensor range selection

High sensitivity range = green to 'Vsups'

Low sensitivity range = green to 'com'

Extended temperature version



* Sensor range selection

High sensitivity range = orange to 'Vsups'

Low sensitivity range = orange to 'com'

Mounting

Installation shall only be performed by qualified personnel and in accordance with local governing regulations.

This product is susceptible to electrostatic shock. Follow proper grounding procedures.

Interconnection

All field wiring must have insulation suitable for at least 250 V. Relay contact terminals are for use with equipment having no accessible live parts and wiring having insulation suitable for at least 250 V.

The maximum allowable working voltage between adjacent relay contacts shall be 250 V. If sensor case is grounded, do not connect shield of cable to SITRANS CU02 ground terminal.

SITRANS CU02 connections