

## Ex-isolated driver

### 5105B

- 1- or 2-channel version
- 3- / 5-port 3.75 kVAC galvanic isolation
- Driver for Ex / I.S. area
- 20 programmable measurement ranges
- Universal supply by AC or DC



#### Application

- Safety barrier for current signals transmitted to I/P converters and displays mounted in hazardous area.
- Safety barrier for analog current / voltage signals transmitted to hazardous area.
- 1 : 1 or signal conversion of analog current / voltage signals.

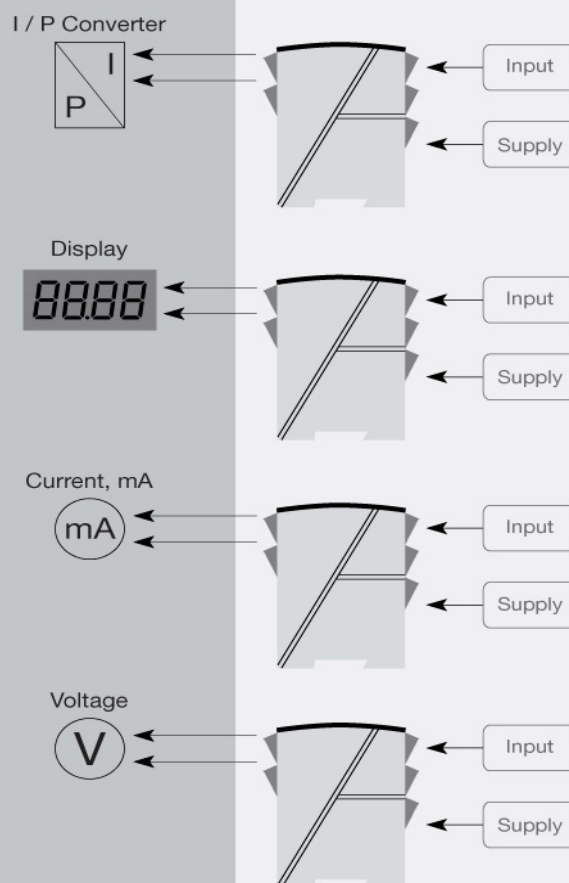
#### Technical characteristics

- The 20 factory-calibrated measurement ranges in the 5105B can be selected by the internal DIP-switches without the need for a recalibration. Special measurement ranges can be delivered.
- PR5105B is based on microprocessor technology for gain and offset. The analog signal is transmitted at a response time of less than 25 ms.
- Inputs, outputs, and supply are floating and galvanically separated.

#### Mounting / installation

- Mounted vertically or horizontally on a DIN rail. By way of the 2-channel version up to 84 channels per meter can be mounted.

#### Applications



Order:-

| Type  | Input         | Output        | Channels   |
|-------|---------------|---------------|------------|
| 5105B | 0...20 mA : A | Special : 0   | Single : A |
|       | 4...20 mA : B | 0...20 mA : 1 | Double : B |
|       | 0...10 V : E  | 4...20 mA : 2 |            |
|       | 2...10 V : F  | 0...1 V : 4   |            |
|       | Special : X   | 0.2...1 V : 5 |            |
|       |               | 0...10 V : 6  |            |
|       |               | 2...10 V : 7  |            |

## Environmental Conditions

|                              |                      |
|------------------------------|----------------------|
| Operating temperature.....   | -20°C to +60°C       |
| Calibration temperature..... | 20...28°C            |
| Relative humidity.....       | < 95% RH (non-cond.) |
| Protection degree.....       | IP20                 |

## Mechanical specifications

|                            |                                       |
|----------------------------|---------------------------------------|
| Dimensions (HxWxD).....    | 109 x 23.5 x 130 mm                   |
| Weight approx.....         | 225 g                                 |
| DIN rail type.....         | DIN 46277                             |
| Wire size.....             | 1 x 2.5 mm <sup>2</sup> stranded wire |
| Screw terminal torque..... | 0.5 Nm                                |
| Vibration.....             | IEC 60068-2-6                         |
| 2...13.2 Hz.....           | ±1 mm                                 |
| 13.2...100 Hz.....         | ±0.7 g                                |

## Common specifications

### Supply

|                                 |                                                 |
|---------------------------------|-------------------------------------------------|
| Supply voltage, universal.....  | 21.6...253 VAC, 50...60 Hz or<br>19.2...300 VDC |
| Fuse.....                       | 400 mA SB / 250 VAC                             |
| Max. required power.....        | ≤ 2 W (2 channels)                              |
| Internal power dissipation..... | ≤ 2 W (2 channels)                              |

### Isolation voltage

|                                           |                     |
|-------------------------------------------|---------------------|
| Isolation voltage, test /<br>working..... | 3.75 kVAC / 250 VAC |
| PELV/SELV.....                            | IEC 61140           |

### Response time

|                                                               |                                |
|---------------------------------------------------------------|--------------------------------|
| Response time (0...90%, 100...10%).....                       | < 25 ms                        |
| Signal / noise ratio.....                                     | Min. 60 dB (0...100 kHz)       |
| Accuracy.....                                                 | Better than 0.1% of sel. range |
| EMC immunity influence.....                                   | < ±0.5% of span                |
| Extended EMC immunity: NAMUR<br>NE21, A criterion, burst..... | < ±1% of span                  |

## Input specifications

### Common input specifications

|                  |                   |
|------------------|-------------------|
| Max. offset..... | 20% of max. value |
|------------------|-------------------|

### Current input

|                                    |                      |
|------------------------------------|----------------------|
| Measurement range.....             | 0...20 mA            |
| Min. measurement range (span)..... | 16 mA                |
| Input resistance.....              | Nom. 10 Ω + PTC 10 Ω |

### Voltage input

|                                    |            |
|------------------------------------|------------|
| Measurement range.....             | 0...10 VDC |
| Min. measurement range (span)..... | 8 VDC      |
| Input resistance.....              | > 2 MΩ     |

## Output specifications

### Current output

|                              |                         |
|------------------------------|-------------------------|
| Signal range.....            | 0...20 mA               |
| Min. signal range.....       | 16 mA                   |
| Load (@ current output)..... | ≤ 770 Ω                 |
| Load stability.....          | ≤ 0.01% of span / 100 Ω |
| Current limit.....           | ≤ 28 mA                 |

### Voltage output

|                              |                        |
|------------------------------|------------------------|
| Signal range.....            | 0...1 VDC / 0...10 VDC |
| Min. signal range.....       | 0.8 VDC / 8 VDC        |
| Load (@ voltage output)..... | ≥ 500 kΩ               |

of span..... = of the presently selected range

## Observed authority requirements

|          |                |
|----------|----------------|
| EMC..... | 2014/30/EU     |
| LVD..... | 2014/35/EU     |
| EAC..... | TR-CU 020/2011 |

## Approvals

|                            |                             |
|----------------------------|-----------------------------|
| ATEX 2014/34/EU.....       | DEMKO 99ATEX126014, II (1)  |
| UL.....                    | GD [EEx ia] IIC             |
| UL.....                    | UL 913, UL 508              |
| EAC Ex TR-CU 012/2011..... | RU C-DK.GB08.V.00410        |
| DNV-GL Marine.....         | Stand. f. Certific. No. 2.4 |