

## Inline terminal - IB IL AI 8/SF-XC-PAC - 2701159

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Inline analog input terminal, version for extreme conditions, complete with accessories (connector plug and labeling field), 8 inputs, 0 - 20 mA, 4 - 20 mA,  $\pm 20$  mA, 0 - 10 V,  $\pm 10$  V, (additionally 0 - 40 mA,  $\pm 40$  mA, 0 - 5 V,  $\pm 5$  V, 0 - 25 V,  $\pm 25$  V, 0 - 50 V), 2-conductor connection technology

### Why buy this product

- ✓ High measuring accuracy
- ✓ Excellent interference suppression and common mode rejection
- ✓ Integrated short-circuit-proof sensor supply
- ✓ Overload-protected current inputs
- ✓ Can be used under extreme ambient conditions
- ✓ Extended temperature range of -40°C ... +70°C (see "Tested successfully: use under extreme ambient conditions" in the data sheet)
- ✓ Coated PCBs

### Key commercial data

|                                      |                                                                                                         |
|--------------------------------------|---------------------------------------------------------------------------------------------------------|
| Packing unit                         | 1 pc                                                                                                    |
| GTIN                                 | <br>4 046356 713849 |
| Weight per Piece (excluding packing) | 213.0 g                                                                                                 |
| Custom tariff number                 | 85389091                                                                                                |
| Country of origin                    | Germany                                                                                                 |
| Note                                 | Made to Order (non-returnable)                                                                          |

### Technical data

#### Note

|                         |                                                                           |
|-------------------------|---------------------------------------------------------------------------|
| Utilization restriction | EMC: class A product, see manufacturer's declaration in the download area |
|-------------------------|---------------------------------------------------------------------------|

#### Ambient conditions

|                                          |                                                                                                       |
|------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Ambient temperature (operation)          | -25 °C ... 55 °C                                                                                      |
|                                          | -40 °C ... 70 °C (See "Tested successfully: use under extreme ambient conditions" in the data sheet.) |
| Ambient temperature (storage/transport)  | -40 °C ... 85 °C                                                                                      |
| Permissible humidity (operation)         | 10 % ... 95 % (according to DIN EN 61131-2)                                                           |
| Permissible humidity (storage/transport) | 10 % ... 95 % (according to DIN EN 61131-2)                                                           |
| Air pressure (operation)                 | 70 kPa ... 106 kPa (up to 3000 m above sea level)                                                     |

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## Technical data

### Ambient conditions

|                                  |                                                   |
|----------------------------------|---------------------------------------------------|
| Air pressure (storage/transport) | 70 kPa ... 106 kPa (up to 3000 m above sea level) |
| Degree of protection             | IP20                                              |

### General

|                               |                                                                                               |
|-------------------------------|-----------------------------------------------------------------------------------------------|
| Net weight                    | 213 g                                                                                         |
| Note on weight specifications | with connectors                                                                               |
| Mounting type                 | DIN rail                                                                                      |
| Protection class              | III, IEC 61140, EN 61140, VDE 0140-1                                                          |
| Test section                  | 5 V supply, incoming remote bus/7.5 V supply (bus logics) 500 V AC 50 Hz 1 min                |
|                               | 5 V supply, outgoing remote bus/7.5 V supply (bus logics) 500 V AC 50 Hz 1 min                |
|                               | 7.5 V supply (bus logic), 24 V supply $U_{ANA}$ / I/O 500 V AC 50 Hz 1 min                    |
|                               | 7.5 V supply (bus logic), 24 V supply $U_{ANA}$ /functional earth ground 500 V AC 50 Hz 1 min |
|                               | I/O / functional earth ground 500 V AC 50 Hz 1 min                                            |

### Interfaces

|                      |                    |
|----------------------|--------------------|
| Fieldbus system      | Lokalbus           |
| Designation          | Inline local bus   |
| Connection method    | Inline data jumper |
| Transmission speed   | 500 kBit/s         |
| Transmission physics | Copper             |

### Inline potentials

|                                    |                               |
|------------------------------------|-------------------------------|
| Communications power $U_L$         | 7.5 V DC (via voltage jumper) |
| Current consumption from $U_L$     | max. 55 mA                    |
|                                    | typ. 48 mA                    |
| I/O supply voltage $U_{ANA}$       | 24 V DC                       |
| Current consumption from $U_{ANA}$ | max. 35 mA                    |
|                                    | typ. 24 mA                    |

### Analog inputs

|                               |                                                           |
|-------------------------------|-----------------------------------------------------------|
| Number of inputs              | max. 8 (single ended)                                     |
| Connection method             | 2-wire (shielded)                                         |
| Input name                    | Analog inputs                                             |
| A/D conversion time           | approx. 10 $\mu$ s                                        |
| Limit frequency (3 dB)        | 3.5 kHz                                                   |
| Data formats                  | IL, IB ST, IB RT, standardized representation, PIO format |
| Measuring principle           | Successive approximation                                  |
| Measured value resolution     | 16 bits (15 bits + sign bit)                              |
| Measured value representation | 16 bit two's complement                                   |
| Current input signal          | 0 mA ... 20 mA                                            |
|                               | 4 mA ... 20 mA                                            |

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### Technical data

#### Analog inputs

|                                   |                                 |
|-----------------------------------|---------------------------------|
|                                   | -20 mA ... 20 mA                |
|                                   | 0 mA ... 40 mA                  |
|                                   | -40 mA ... 40 mA                |
| Voltage input signal              | 0 V ... 5 V                     |
|                                   | -5 V ... 5 V                    |
|                                   | 0 V ... 10 V                    |
|                                   | -10 V ... 10 V                  |
|                                   | 0 V ... 25 V                    |
|                                   | -25 V ... 25 V                  |
|                                   | 0 V ... 50 V                    |
| Number of inputs                  | 8 (single-ended voltage inputs) |
| Voltage input signal              | 0 V ... 5 V                     |
|                                   | -5 V ... 5 V                    |
|                                   | 0 V ... 10 V                    |
|                                   | -10 V ... 10 V                  |
|                                   | 0 V ... 25 V                    |
|                                   | -25 V ... 25 V                  |
|                                   | 0 V ... 50 V                    |
| Input resistance of voltage input | > 240 kΩ 0.01 %                 |
| Number of inputs                  | 8 (single-ended current inputs) |
| Current input signal              | 0 mA ... 20 mA                  |
|                                   | 4 mA ... 20 mA                  |
|                                   | -20 mA ... 20 mA                |
|                                   | 0 mA ... 40 mA                  |
|                                   | -40 mA ... 40 mA                |
| Input resistance current input    | 25 Ω 0.01 %                     |

### Classifications

#### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27250303 |
| eCl@ss 4.1 | 27250303 |
| eCl@ss 5.0 | 27250303 |
| eCl@ss 5.1 | 27242601 |
| eCl@ss 6.0 | 27242601 |
| eCl@ss 7.0 | 27242601 |
| eCl@ss 8.0 | 27242601 |

#### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC001596 |
| ETIM 4.0 | EC001599 |

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### Classifications

#### ETIM

|          |          |
|----------|----------|
| ETIM 5.0 | EC001596 |
|----------|----------|

#### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 43172015 |
| UNSPSC 7.0901 | 43201404 |
| UNSPSC 11     | 43172015 |
| UNSPSC 12.01  | 43201404 |
| UNSPSC 13.2   | 43201404 |

### Approvals

#### Approvals

#### Approvals

UL Recognized / cUL Recognized / cULus Recognized

#### Ex Approvals

#### Approvals submitted

#### Approval details

UL Recognized 

cUL Recognized 

cULus Recognized 