

# IB ST 24 TEMP 4 RTD - I/O module



2700843

<https://www.phoenixcontact.com/us/products/2700843>

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INTERBUS-ST analog input module, 4 inputs, RTD, 2-, 3-, and 4-conductor connection, IP20 degree of protection, consisting of: terminal part with screw connection and module electronics

## Product description

The module is designed for use within an ST station.  
It is used to acquire signals from resistive temperature sensors.

## Your advantages

- 4 analog input channels for connecting resistance temperature detectors (RTDs)
- Connection of sensors in 2-, 3-, and 4-conductor technology

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 2700843       |
| Packing unit                         | 1 pc          |
| Sales key                            | DR03          |
| Product key                          | DRI343        |
| GTIN                                 | 4046356660617 |
| Weight per piece (including packing) | 582.7 g       |
| Weight per piece (excluding packing) | 582.7 g       |
| Customs tariff number                | 85389091      |
| Country of origin                    | DE            |

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## Technical data

### Dimensions

|        |        |
|--------|--------|
| Width  | 118 mm |
| Height | 116 mm |
| Depth  | 117 mm |

### Interfaces

#### ST local bus

|                      |                        |
|----------------------|------------------------|
| No. of channels      | 2                      |
| Connection method    | ST local bus connector |
| Transmission speed   | 500 kbps               |
| Transmission physics | Copper                 |

### System properties

#### Programming data

|                         |        |
|-------------------------|--------|
| Length code (hex)       | 4      |
| ID code (dec.)          | 123    |
| Length code (dec)       | 4      |
| Input address area      | 8 Byte |
| Output address area     | 8 Byte |
| Parameter channel (PCP) | 0 Byte |
| Register length (bus)   | 8 Byte |

### Input data

#### Analog:

|                                     |  |
|-------------------------------------|--|
| Input name                          | Analog RTD inputs                        |
| Description of the input            | Inputs for resistive temperature sensors |
| Number of inputs                    | 4 (for resistance temperature detectors) |
| Connection technology               | 2-, 3-, 4-conductor (shielded)           |
| A/D converter resolution            | 24 bit                                   |
| Sensor types (RTD) that can be used | Pt 100, Pt 1000, Ni 100, Ni 1000         |
| Measuring principle                 | Sigma/Delta process                      |
| Measured value representation       | 16 bit two's complement                  |

### Product properties

|                      |  |
|----------------------|--|
| Product type         | I/O component  |
| Type                 | modular<br>INTERBUS Smart Terminal   |
| Operating mode       | Process data mode with 4 words   |
| Diagnostics messages | Failure of the internal I/O supply I/O error message sent to the bus coupler |

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|  |
|--|
| F1 fuse failure I/O error message sent to the bus coupler    |
| I/O supply failure I/O error message sent to the bus coupler |

## Electrical properties

### Supply: Module electronics

|                     |                                |
|---------------------|--------------------------------|
| Connection method   | ST local bus connector         |
| Designation         | Communications power           |
| Supply voltage      | 9 V DC (from the ST local bus) |
| Current consumption | typ. 54 mA<br>max. 80 mA       |
| Power consumption   | typ. 0.5 W                     |

### Supply: Periphery supply voltage

|                      |  |
|----------------------|--|
| Designation          | Periphery supply voltage $U_S$                                       |
| Supply voltage       | 24 V DC  |
| Supply voltage range | 19.5 V DC ... 30.2 V DC (including all tolerances, including ripple) |
| Current consumption  | typ. 15 mA   |

### Electrical isolation/isolation of the voltage ranges

|   |                        |
|---|------------------------|
| Test voltage: Bus/Inputs                      | 500 V AC, 50 Hz, 1 min |
| Test voltage: Supply voltage/inputs           | 500 V AC, 50 Hz, 1 min |
| Test voltage: Supply voltage/Ground conductor | 500 V AC, 50 Hz, 1 min |
| Test voltage: I/O voltage/Ground conductor    | 500 V AC, 50 Hz, 1 min |

## Connection data

### Connection technology

|                 |                |
|-----------------|----------------|
| Connection name | Terminal block |
|-----------------|----------------|

### Terminal block

|                                   |   |
|-----------------------------------|---|
| Connection method                 | Screw connection                            |
| Conductor cross-section, rigid    | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Conductor cross-section, flexible | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Conductor cross-section AWG       | 24 ... 12                                   |
| Stripping length                  | 8 mm  |

## Environmental and real-life conditions

### Ambient conditions

|  |   |
|--|---|
| Ambient temperature (operation)          | -25 °C ... 55 °C                                  |
| Degree of protection                     | IP20  |
| Air pressure (operation)                 | 80 kPa ... 106 kPa (up to 2000 m above sea level) |
| Air pressure (storage/transport)         | 80 kPa ... 106 kPa (up to 2000 m above sea level) |
| Ambient temperature (storage/transport)  | -25 °C ... 70 °C                                  |
| Permissible humidity (operation)         | 10 % ... 95 % (non-condensing)                    |
| Permissible humidity (storage/transport) | 10 % ... 95 % (non-condensing)                    |

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## Standards and regulations

|                  |                                       |
|------------------|---------------------------------------|
| Protection class | III (IEC 61140, EN 61140, VDE 0140-1) |
|------------------|---------------------------------------|

## Mounting

|               |                   |
|---------------|-------------------|
| Mounting type | DIN rail mounting |
|---------------|-------------------|

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27242601 |
| ECLASS-15.0 | 27242601 |

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 32151600 |
|-------------|----------|

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## Environmental product compliance

### EU RoHS

|   |                                  |
|---|----------------------------------|
| Fulfills EU RoHS substance requirements | Yes                              |
| Exemption                               | 6(a), 6(a)-I, 6(c), 7(a), 7(c)-I |

### China RoHS

|  |  |
|--|--|
| Environment friendly use period (EFUP) | EFUP-E                                   |
|  | No hazardous substances above the limits |

### EU REACH SVHC

|                                     |                      |
|-------------------------------------|----------------------|
| REACH candidate substance (CAS No.) | Lead(CAS: 7439-92-1) |
|-------------------------------------|----------------------|

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