

# IB IL AO 2/SF-PAC - Analog module



2863083

<https://www.phoenixcontact.com/us/products/2863083>

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Inline, Analog output terminal, Analog outputs: 2, 0 V ... 10 V, 0 mA ... 20 mA, 4 mA ... 20 mA, connection technology: 2-conductor, transmission speed in the local bus: 500 kbps, degree of protection: IP20, including Inline connectors and marking fields

## Product description

The terminal is designed for use within an Inline station. It is used to output analog current and voltage signals. The signals are available with a 16-bit resolution.

## Your advantages

- 2 analog output channels
- Connection of actuators in 2-conductor technology
- Voltage range: 0 V ... 10 V
- Current ranges: 0 mA ... 20 mA, 4 mA ... 20 mA
- Output values can be represented in two different formats
- Behavior of the outputs in the event of an error can be configured
- Process data update including conversion time of the digital/analog converter < 1 ms

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 2863083       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | DR01          |
| Product key                          | DRI142        |
| GTIN                                 | 4017918917104 |
| Weight per piece (including packing) | 234.6 g       |
| Weight per piece (excluding packing) | 190 g         |
| Customs tariff number                | 85389099      |
| Country of origin                    | DE            |

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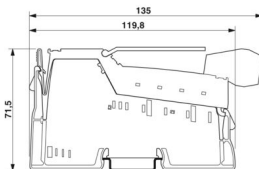
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## Technical data

### Dimensions

|                     |  |                                                                                    |
|---------------------|--|------------------------------------------------------------------------------------|
| Dimensional drawing |  |  |
| Width               |  | 48.8 mm                                                                            |
| Height              |  | 135 mm                                                                             |
| Depth               |  | 71.5 mm                                                                            |
| Note on dimensions  |  | Housing dimensions                                                                 |

### Notes

#### Note on application

|                     |                         |
|---------------------|-------------------------|
| Note on application | Only for industrial use |
|---------------------|-------------------------|

#### Utilization restriction

|            |                                                               |
|------------|---------------------------------------------------------------|
| CCCex note | Use in potentially explosive areas is not permitted in China. |
|------------|---------------------------------------------------------------|

### Interfaces

#### Inline local bus

|                      |                    |
|----------------------|--------------------|
| Number of interfaces | 2                  |
| Connection method    | Inline data jumper |
| Transmission speed   | 500 kbps           |

### System properties

#### Module

|                             |        |
|-----------------------------|--------|
| ID code (dec.)              | 91     |
| ID code (hex)               | 5B     |
| Length code (hex)           | 02     |
| Length code (dec)           | 02     |
| Process data channel        | 32 bit |
| Input address area          | 4 Byte |
| Output address area         | 4 Byte |
| Register length             | 32 bit |
| Required parameter data     | 6 Byte |
| Required configuration data | 5 Byte |

### Output data

#### Analog:

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|                                          |                                                                        |
|------------------------------------------|------------------------------------------------------------------------|
| Output name                              | Analog outputs                                                         |
| Connection technology                    | 2-conductor                                                            |
| Note regarding the connection technology | shielded                                                               |
| Number of outputs                        | 2                                                                      |
| D/A converter resolution                 | 16 bit                                                                 |
| Protective circuit                       | Transient protection of outputs<br>Short-circuit protection of outputs |
| Representation of output values          | 16 bits (15 bits + sign)                                               |
| DAC resolution                           | 16 bit                                                                 |
| Process data update                      | < 1 ms                                                                 |
| Current output signal                    | 0 mA ... 20 mA<br>4 mA ... 20 mA                                       |
| Load/output load current output          | $\leq 500 \Omega$                                                      |
| Voltage output signal                    | 0 V ... 10 V                                                           |
| Load/output load voltage output          | $\geq 2 \text{ k}\Omega$                                               |

## Product properties

|                       |                                                              |
|-----------------------|--------------------------------------------------------------|
| Product type          | I/O component                                                |
| Product family        | Inline                                                       |
| Type                  | modular                                                      |
| Installation location | Control cabinet                                              |
| Scope of supply       | including Inline connectors and marking fields               |
| Operating mode        | Process data mode with two words                             |
| Diagnostics messages  | I/O supply failure I/O error message sent to the bus coupler |

## Insulation characteristics

|                      |                              |
|----------------------|------------------------------|
| Overvoltage category | II (IEC 60664-1, EN 60664-1) |
| Pollution degree     | 2 (IEC 60664-1, EN 60664-1)  |

## Electrical properties

|                                                 |       |
|-------------------------------------------------|-------|
| Maximum power dissipation for nominal condition | 2.6 W |
|-------------------------------------------------|-------|

## Potentials: Communications power ( $U_L$ )

|                |                               |
|----------------|-------------------------------|
| Supply voltage | 7.5 V DC (via voltage jumper) |
| Current draw   | max. 45 mA<br>typ. 36 mA      |

## Potentials: Supply of analog modules ( $U_{ANA}$ )

|                      |                                                                    |
|----------------------|--------------------------------------------------------------------|
| Supply voltage       | 24 V DC (via voltage jumper)                                       |
| Supply voltage range | 19.2 V DC ... 30 V DC (including all tolerances, including ripple) |
| Current draw         | max. 95 mA<br>typ. 75 mA                                           |

## Electrical isolation/isolation of the voltage ranges

|                                                                     |                        |
|---------------------------------------------------------------------|------------------------|
| Test voltage: 7.5 V supply (bus logic), 24 V supply $U_{ANA}$ / I/O | 500 V AC, 50 Hz, 1 min |
|---------------------------------------------------------------------|------------------------|

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|                                                                                   |                        |
|-----------------------------------------------------------------------------------|------------------------|
| Test voltage: 7.5 V supply (bus logic), 24 V supply $U_{ANA}$ / functional ground | 500 V AC, 50 Hz, 1 min |
| Test voltage: 24 V supply (I/O) / functional ground                               | 500 V AC, 50 Hz, 1 min |

## Connection data

### Connection technology

|                 |                  |
|-----------------|------------------|
| Connection name | Inline connector |
|-----------------|------------------|

### Conductor connection

|                                  |                                              |
|----------------------------------|----------------------------------------------|
| Connection method                | Spring-cage connection                       |
| Conductor cross-section rigid    | 0.08 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Conductor cross-section flexible | 0.08 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Conductor cross-section AWG      | 28 ... 16                                    |
| Stripping length                 | 8 mm                                         |

### Inline connector

|                                   |                                              |
|-----------------------------------|----------------------------------------------|
| Connection method                 | Spring-cage connection                       |
| Conductor cross-section, rigid    | 0.08 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Conductor cross-section, flexible | 0.08 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Conductor cross-section AWG       | 28 ... 16                                    |
| 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)                 | 70 kPa ... 106 kPa (up to 3000 m above sea level) |
| Air pressure (storage/transport)         | 70 kPa ... 106 kPa (up to 3000 m above sea level) |
| Ambient temperature (storage/transport)  | -25 °C ... 85 °C                                  |
| Permissible humidity (operation)         | 10 % ... 95 % (non-condensing)                    |
| Permissible humidity (storage/transport) | 10 % ... 95 % (non-condensing)                    |

## Standards and regulations

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

## Mounting

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

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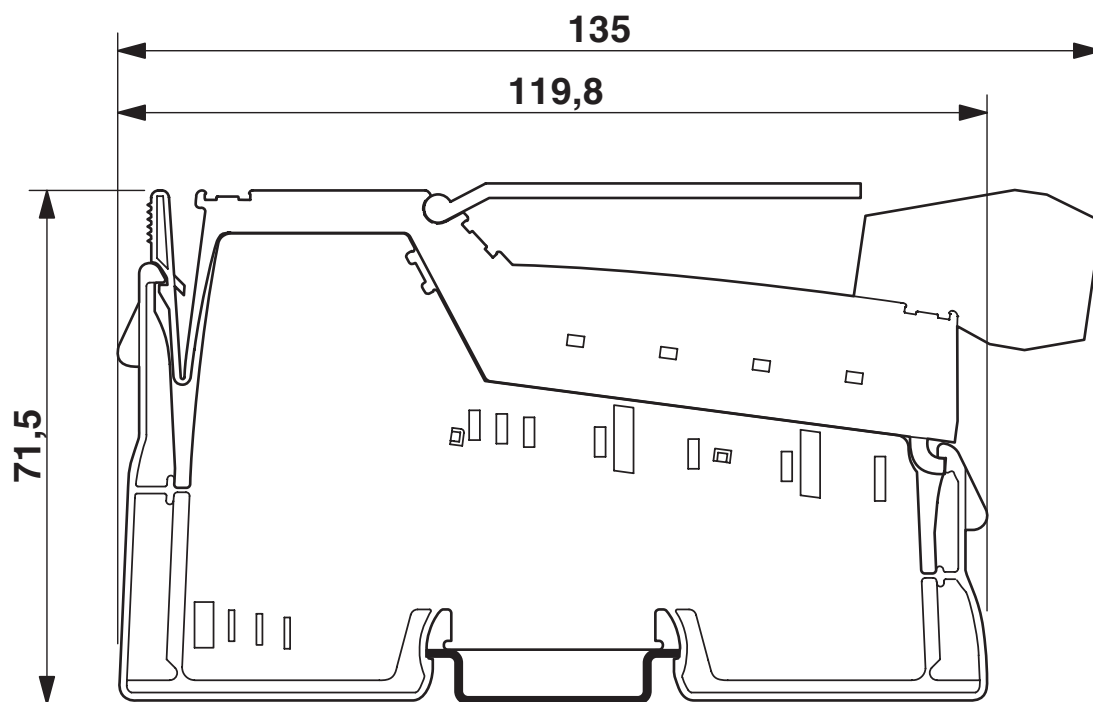
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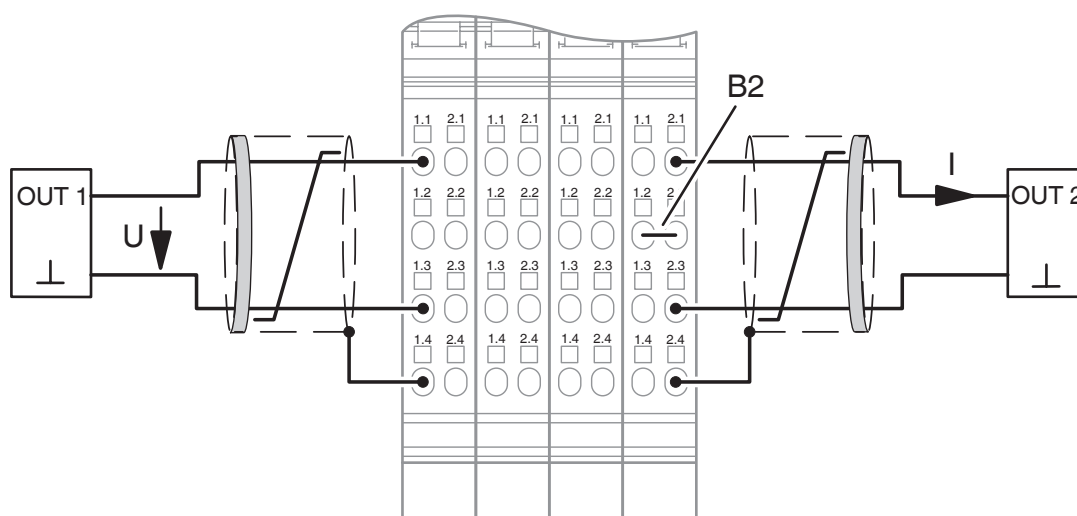


## Drawings

Dimensional drawing



Connection diagram



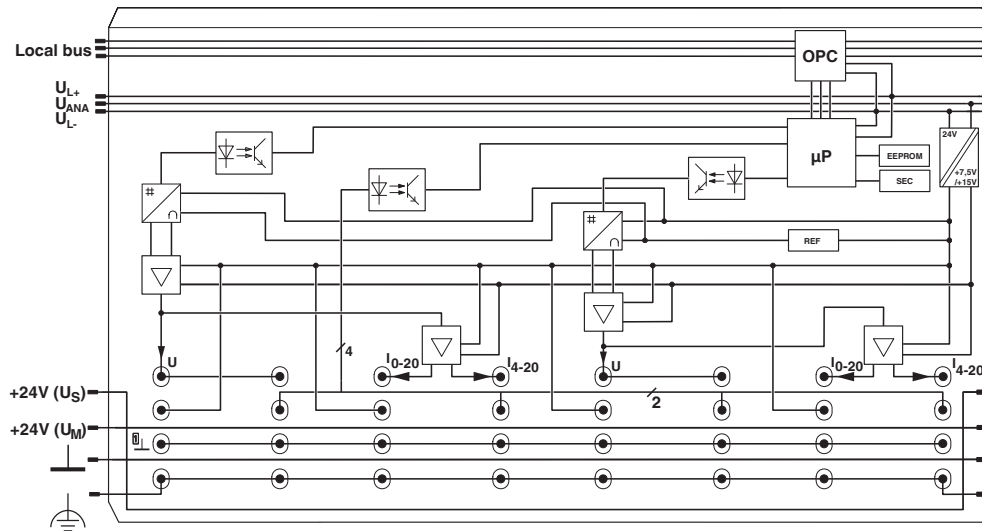
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Block diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2863083>



**DNV GL**

Approval ID: TAA00000BN



**BV**

Approval ID: 20977/C1 BV

**BSH**

Approval ID: 658a



**RINA**

Approval ID: ELE121121XG

**ABS**

Approval ID: 22-2226444-PDA



**cULus Recognized**

Approval ID: E140324



**LR**

Approval ID: LR23398855TA



**cUL Listed**

Approval ID: E256199



**UL Listed**

Approval ID: E256199

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## Classifications

### ECLASS

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

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC001596 |
|----------|----------|

### UNSPSC

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



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## Environmental product compliance

### EU RoHS

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

### China RoHS

|                                        |                                                                                                                                                                                                                                   |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environment friendly use period (EFUP) | EFUP-50                                                                                                                                                                                                                           |
|                                        | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |

### EU REACH SVHC

|                                     |                                      |
|-------------------------------------|--------------------------------------|
| REACH candidate substance (CAS No.) | Lead(CAS: 7439-92-1)                 |
| SCIP                                | 05a70494-6ebe-4194-a771-484a50280449 |

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