

# MINI MCR-2-FM-RC - Monitoring block



2904504

<https://www.phoenixcontact.com/us/products/2904504>

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Fault monitoring module with plug-in connection technology for evaluating and reporting group errors from the FM system and for monitoring the supply voltages. Error message via N/C contact. Screw connection technology, standard configuration

## Product description

The fault monitoring module with plug-in connection technology is used to evaluate and report group errors from the fault monitoring system of up to 115 connected MINI Analog Pro signal conditioners via the ME 6,2 TBUS-2 DIN rail connector (Item No.: 2869728). You can also monitor the supply voltages of MINI MCR-2-PTB(-PT) power terminals (Item No.: 2902066, 2902067). Drawing off the supply is also possible. The error is reported via an N/C contact. The error reporting module supports NFC communication.

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 2904504       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | C404          |
| Product key                          | DK112Z        |
| GTIN                                 | 4046356857406 |
| Weight per piece (including packing) | 128 g         |
| Weight per piece (excluding packing) | 109 g         |
| Customs tariff number                | 85437090      |
| Country of origin                    | DE            |

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## Technical data

### Notes

#### Utilization restriction

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

### Product properties

|                |                 |
|----------------|-----------------|
| Product type   | Evaluation unit |
| Product family | MINI Analog Pro |
| Configuration  | DIP switches    |

### System properties

#### Functionality

|               |              |
|---------------|--------------|
| Configuration | DIP switches |
|---------------|--------------|

### Electrical properties

|   |                 |
|---|-----------------|
| Electrical isolation                          | 2-way isolation |
| Electrical isolation between input and output | yes             |
| Maximum temperature coefficient               | < 0.01 %/K      |

#### Electrical isolation

|                      |    |
|----------------------|----|
| Overvoltage category | II |
| Pollution degree     | 2  |

#### Electrical isolation Input/output IEC/EN 61010

|                          |                         |
|--------------------------|-------------------------|
| Standards/regulations    | IEC/EN 61010            |
| Rated insulation voltage | 50 V AC/DC (effective)  |
| Test voltage             | 1.5 kV AC (50 Hz, 60 s) |
| Insulation               | Basic insulation        |

#### Supply

|                          |  |
|--------------------------|--|
| Supply voltage range     | 9.6 V DC ... 30 V DC (The DIN rail connector (ME 6,2 TBUS-2 1,5/5-ST-3,81 GN, item no. 2869728) can be used to bridge the supply voltage. It can be snapped onto a 35 mm DIN rail in accordance with EN 60715) |
| Max. current consumption | < 16 mA (24 V DC)  |
| Power consumption        | < 410 mW (24 V DC)   |

### Input data

#### Signal: Voltage

|                          |   |
|--------------------------|---|
| Description of the input | Voltage input for redundancy monitoring |
| Number of inputs         | 1                                       |
| Voltage input signal     | 9.9 V DC ... 30 V DC                    |

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## Output data

Switching: Relay

|                           |          |
|---------------------------|----------|
| Maximum switching voltage | 30 V DC  |
| Max. switching current    | 50 mA DC |

Signal: Voltage

|                            |                        |
|----------------------------|------------------------|
| Number of outputs          | 1                      |
| Voltage output signal      | 9.6 V DC ... 29.7 V DC |
| Max. current output signal | 3.2 A                  |

## Connection data

|                                  |  |
|----------------------------------|--|
| Connection method                | Screw connection   |
| Stripping length                 | 10 mm  |
| Screw thread                     | M3   |
| Conductor cross-section rigid    | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (with ferrule)<br>0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> (without ferrule) |
| Conductor cross-section flexible | 0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>   |
| Conductor cross-section AWG      | 24 ... 12 (flexible)   |
| Tightening torque                | 0.5 Nm ... 0.6 Nm  |

## Ex data

|                       |              |
|-----------------------|--------------|
| Ex installation (EPL) | Gc<br>Div. 2 |
|-----------------------|--------------|

## Signaling

|                  |   |
|------------------|---|
| Status display   | Green LED (supply voltage)<br>Yellow LED (switching output) |
| Error indication | Red LED   |

## Dimensions

|        |           |
|--------|-----------|
| Width  | 6.2 mm    |
| Height | 109.81 mm |
| Depth  | 119.2 mm  |

## Material specifications

|  |                 |
|--|-----------------|
| Color  | gray (RAL 7042) |
| Housing material                                       | PBT             |
| Fire protection for rail vehicles (DIN EN 45545-2) R22 | HL 1 - HL 2     |
| Fire protection for rail vehicles (DIN EN 45545-2) R23 | HL 1 - HL 2     |
| Fire protection for rail vehicles (DIN EN 45545-2) R24 | HL 1 - HL 2     |

## Environmental and real-life conditions

Ambient conditions

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|   |                               |
|---|-------------------------------|
| Degree of protection                    | IP20 (not assessed by UL)     |
| Ambient temperature (operation)         | -40 °C ... 70 °C              |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C              |
| Altitude                                | ≤ 2000 m                      |
| Permissible humidity (operation)        | 5 % ... 95 % (non-condensing) |

## Approvals

### CE

|             |              |
|-------------|--------------|
| Certificate | CE-compliant |
|-------------|--------------|

### ATEX

|                |                          |
|----------------|--------------------------|
| Identification | ⊕ II 3 G Ex ec IIC T4 Gc |
| Certificate    | BVS 20 ATEX E 014X       |

### IECEX

|                |                    |
|----------------|--------------------|
| Identification | Ex ec IIC T4 Gc    |
| Certificate    | IECEX BVS 20.0010X |

### CCC / China-Ex

|                |                 |
|----------------|-----------------|
| Identification | Ex ec IIC T4 Gc |
|----------------|-----------------|

### UL, USA/Canada

|                |                                       |
|----------------|---------------------------------------|
| Identification | UL 508 Listed                         |
|                | Class I, Div. 2, Groups A, B, C, D T6 |
|                | Class I, Zone 2, Group IIC T6         |

### Shipbuilding approval

|             |                   |
|-------------|-------------------|
| Certificate | DNV GL TAA00002UA |
|-------------|-------------------|

### EAC Ex

|                |                                 |
|----------------|---------------------------------|
| Identification | Ex ec IIC T4 Gc                 |
| Certificate    | BY/112 02.01 TP012 103.01 00079 |

### Shipbuilding data

|             |   |
|-------------|---|
| Temperature | B   |
| Humidity    | B   |
| Vibration   | A   |
| EMC         | A   |
| Enclosure   | Required protection according to the Rules shall be provided upon installation on board |

## EMC data

|                               |  |
|-------------------------------|--|
| Electromagnetic compatibility | Conformance with EMC directive                                       |
| Noise immunity                | EN 61000-6-2   |
| Note                          | When being exposed to interference, there may be minimal deviations. |

### Noise emission

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|                       |              |
|-----------------------|--------------|
| Standards/regulations | EN 61000-6-4 |
|-----------------------|--------------|

## Electrostatic discharge

|                       |              |
|-----------------------|--------------|
| Standards/regulations | EN 61000-4-2 |
|-----------------------|--------------|

## Electrostatic discharge

|          |   |
|----------|---|
| Comments | Safety measures must be taken to prevent electrostatic discharge. |
|----------|---|

## Electromagnetic HF field

|                       |                          |
|-----------------------|--------------------------|
| Designation           | Electromagnetic RF field |
| Standards/regulations | EN 61000-4-3             |

## Fast transients (burst)

|                       |                         |
|-----------------------|-------------------------|
| Designation           | Fast transients (burst) |
| Standards/regulations | EN 61000-4-4            |

## Surge current load (surge)

|                       |              |
|-----------------------|--------------|
| Standards/regulations | EN 61000-4-5 |
|-----------------------|--------------|

## Conducted interference

|                       |                         |
|-----------------------|-------------------------|
| Designation           | Conducted interferences |
| Standards/regulations | EN 61000-4-6            |

## Standards and regulations

|                      |                 |
|----------------------|-----------------|
| Electrical isolation | 2-way isolation |
|----------------------|-----------------|

## GB Standard

|                       |             |
|-----------------------|-------------|
| Standards/regulations | GB/T 3836.1 |
|                       | GB/T 3836.3 |

## Mounting

|                   |                   |
|-------------------|-------------------|
| Mounting type     | DIN rail mounting |
| Mounting position | any               |

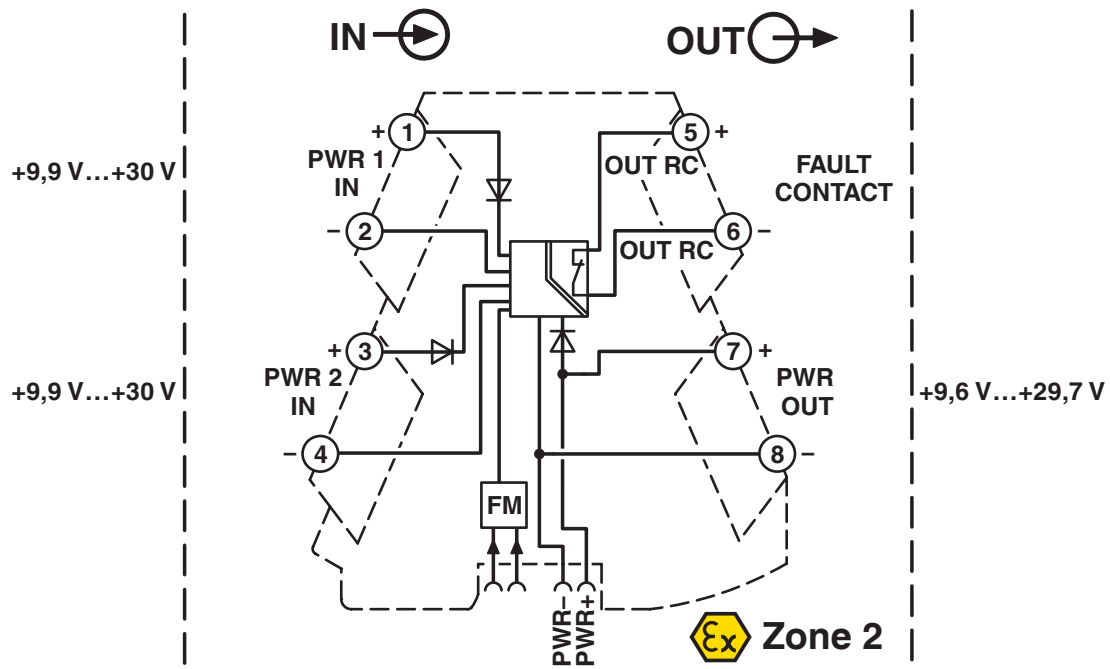
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## Drawings

Block diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2904504>



**UL Listed**

Approval ID: FILE E 238705



**cUL Listed**

Approval ID: FILE E 238705

**DNV**

Approval ID: TAA00002UA



**IECEx**

Approval ID: IECEx BVS 20.0010X



**cUL Listed**

Approval ID: E196811



**UL Listed**

Approval ID: E196811



**ATEX**

Approval ID: BVS 20 ATEX E 014X



**EAC Ex**

Approval ID: TP012 103.01 00079



**CCC**

Approval ID: 2022122309115969

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27371392 |
| ECLASS-15.0 | 27371392 |

### ETIM

|           |          |
|-----------|----------|
| ETIM 10.0 | EC002886 |
|-----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 39121100 |
|-------------|----------|

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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                                | 18f90d4b-5e22-4afe-9caf-f196c29734e6 |

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Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)