PT100 Measuring Amplifier MC32-41B
4 channels

- Intrinsically safe input circuits [Ex ia] IIC
- Short-circuit and wire-break monitoring
- Inputs for 3-wire PT100 thermistors
- Input circuits galvanically isolated from each other, from supply and from bus
- Measuring range -100 ... +850 °C
- Signal resolution 0.25 K
- One LED per channel for error indications

The PT100 measuring amplifier MC32-41B can be operated with four 3-wire PT100 DIN thermistors in hazardous areas. The MC32-41B evaluates temperature dependent changes in resistance of a PT100 thermistor and transmits them with a signal resolution of 0.25 K.

The input circuits are galvanically isolated from each other and the power supply. The input lines are monitored for wire-break and short-circuit conditions.

The measuring amplifier MC32-41B does not require parameter programming.

Each input circuit is monitored by an error indication LED:
- off: PT100 thermistor connected
- red: wire-break or short-circuit condition
Fieldbus Components

sensoplex® MC

The dual colour „Status“ LED indicates the module’s status:

- green: supply voltage is present, the module is operating
- green flashing: initialisation of link to the master; constant green flashing: connection cannot be established
- red flashing: wrongly inserted module hardware error, the module is not operating
- off: This device requires 8 bytes of the master’s memory.

Type | MC32-41B
Ident-No. | 90 301 14

Operating Voltage $U_a$
Current consumption: $\leq 230$ mA
Galvanic isolation:
- input circuits isolated from each other ($30 \, V_{rms}$),
- from bus and from supply up to $250 \, V_{rms}$,
- test voltage $2.5 \, kV_{rms}$

Input Circuits
- intrinsically safe (DIN EN 50020)
- PT100 DIN, 3-wire technology
Input line resistance
- 20 $\Omega$/line
- 1.2 mA

Ex-Approvals acc. to Certificate of Conformity
TÜV 98 ATEX 1267 X

Maximum values
- No-load voltage $U_0$: $9.6 \, V$
- Short circuit current $I_0$: $23 \, mA$
- External inductances/capacitances
  - $[\text{EEx ia}] \, IIC$: $68 \, mH/3.6 \, \mu F$
  - $[\text{EEx ia}] \, IIB$: $250 \, mH/26 \, \mu F$

Transmission Characteristics
Temperature measuring range
- $-100...+850^\circ C$
- $\leq 0.5 \, K$
- $\leq 50 \, ppm$
- $0.25 \, K$

LED Indications
Power “on”/bus error
- green/red (dual colour LED)
Channel error
- 4 red LEDs

Eurocard Module
Base material
- Epoxy resin, glass fibre reinforced, class FR4
- plastic, 4TE = $20.32 \, mm$
Front panel
- for individual interlocking
Connection
sensoplex® MC rack assembly
Operating temperature
- 0 ... 50 $^\circ C$

Coding (No. 812)
The PT100 measuring amplifier MC32-42B can be operated with four 3-wire PT100 DIN thermistors in hazardous areas. The MC32-42B evaluates temperature dependent changes in resistance of a PT100 thermistor and transmits them with a signal resolution of 0.1 K.

The input circuits are galvanically isolated from each other and the power supply. The input lines are monitored for wire-break and short-circuit conditions.

The measuring amplifier MC32-42B does not require parameter programming.

Each input circuit is monitored by an error indication LED:
- off: PT100 thermistor connected
- red: wire-break or short-circuit condition
Fieldbus Components

The dual colour „Status“ LED indicates the module’s status:

- green: supply voltage is present, the module is operating
- green flashing: initialisation of link to the master; constant green flashing: connection cannot be established
- red flashing: wrongly inserted module, hardware error, the module is not operating
- off:

This device requires 8 bytes of the master’s memory.

<table>
<thead>
<tr>
<th>Type</th>
<th>MC32-42B</th>
</tr>
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<tbody>
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<td>Ident-No.</td>
<td>90 301 15</td>
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<tr>
<th>Operating voltage $U_{B}$</th>
<th>15 VDC (system power supply)</th>
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<td>Current consumption</td>
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| Input circuits            | intrinsically safe (DIN EN 50020) PT100 DIN, 3-wire technology |
| Input line resistance     | 20 $\Omega$/line             |
| Thermistor current        | 1.2 mA                        |

Ex-Approvals acc. to Certificate of Conformity

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<th>TÜV 98 ATEX 1267 X</th>
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</table>

Maximum values

- No-load voltage $U_0$ | 9.6 V |
- Short-circuit current $I_0$ | 23 mA |

External inductances/capacitances

- [EEx ia] IIC | 68 mH/3.6 µF |
- [EEx ia] IIB | 250 mH/26 µF |

Temperature measuring range | -100...+ 300 °C |
Linearity error | $\leq 0.5$ K |
Temperature drift | $\leq 50$ ppm |
Resolution | 0.1 K |

Transmission characteristics

| LED indications            | green/red (dual colour LED) |
| Channel error              | 4 red LEDs |

Eurocard module

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<td>sensoplex® MC rack assembly</td>
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<td>Operating temperature</td>
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Coding (No. 812)

<table>
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<tr>
<th>2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32</th>
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