

Technical data sheet

Interface Technology · LCIS temperature/analog converter

Input: Thermal elements J, K
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 4.0 kV, 3-way isolation



Identification

Type LCIS-WP-WTCA-1847-175-PI
Part No. [751847.0000](#)

Product version

Hardware revision 1.0
Software version 1.0
Datasheet version 01

Input

Input variable Thermo voltage, element J or K (DIN/IEC 584-1)
Galvanic isolation I/O 3-way isolation
Measuring procedure Voltage measurement
Temperature range -50 °C–200 °C / -50 °C–350 °C / 0 °C–200 °C / 0 °C–400 °C / 0 °C–600 °C / 0 °C–800 °C / 0 °C–1000 °C / 0 °C–1200 °C
Parameterisation DIP switch S1
Zero /Span Production comparison
Input resistance >1 M Ω
Cold junction compensation throughout the entire temperature range
Protection device Input Overvoltage protection

Output

Output signal 0–10 V, 0–20 mA, 4–20 mA
Max. load impedance at I-output 500 Ω
Min. load impedance at U-output 2 k Ω
Load deviation at U-output max. 5 mV @ 2 k Ω

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SYSTEMATIC TECHNOLOGY

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| | |
|-------------------|--------------------------|
| Output voltage | <18 V @ 0–20 mA, 4–20 mA |
| Output current | max. 5 mA @ 10 V |
| Residual ripple | <20 mV _{eff} |
| Parameterisation | DIP switch S1 |
| Protection device | short circuit protection |

Operating data

| | |
|-----------------------------|-------------------------------|
| Accuracy | 0.5 % + 2K FSR @ 23 °C |
| Linearity error | 0.1 % FSR, temperature linear |
| Rise time (10-90%) | approx. 30 ms @ 23 °C |
| Build-up time (Accuracy 1%) | approx. 60 ms @ 23 °C |
| Temperature coefficient | 150 ppm / K FSR |
| Critical frequency | 10 Hz @ 3 dB / 23 °C |

General

| | |
|-----------------------------------|---|
| Rated voltage U _N | AC/DC 24–240 V |
| Rated current | appr. 22 mA @ AC 24 V / appr. 19 mA @ DC 24 V |
| Status indication | LED green |
| Insulation voltage input / output | 4.0 kV _{eff} |
| Housing material | PA 6.6 (UL 94 V-0, NFF I2, F2) |
| Color of the housing | RAL 7012 basalt grey |
| Mounting | DIN rail mountable TS35 (EN 60715) |
| Degree of protection | IP20 |
| Installation position | Any |
| Connection type | Push-In single wire 0.25 mm ² – 2.5 mm ² / AWG 24–14 fine stranded wire with ferrule 0.25 mm ² – 1.5 mm ² / AWG 24–16 |
| Dimensions (w × h × d) | 17.5 mm × 93.0 mm × 73.0 mm |
| Weight/unit | 0.059 kg |
| PU (units) | 1 |

General ambient conditions

| | |
|-----------------------------|------------------------------|
| Operation temperature range | -25 °C ... +60 °C |
| Storage temperature range | -40 °C ... +85 °C |
| Relative air humidity | 20 – 90 % RH, not condensing |
| Vibration resistance | 0.7 g acc. to EN 60068-2-6 |

Failure Rate Prediction (MTBF)

| | |
|------------------------|--|
| Standards | Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion: EN/IEC 61709 Failure Rates of Components – Expected values: SN 29500 |
| Failure rate at +45 °C | 700 fit |

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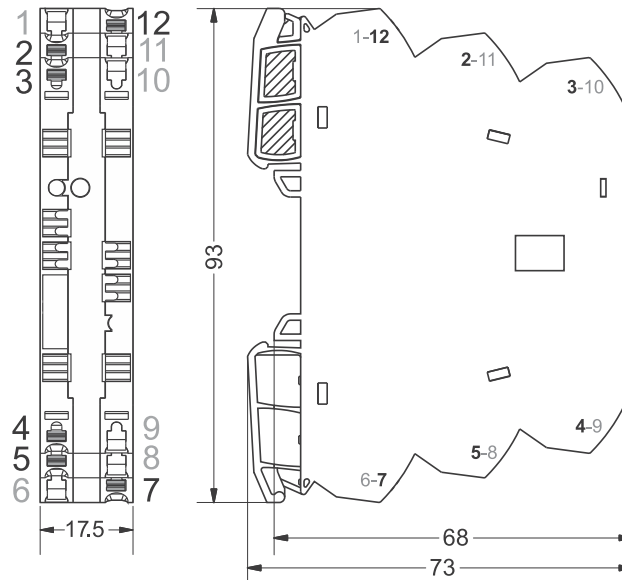
Interface Technology · LCIS temperature/analog converter

| | |
|------------------------|--|
| Failure rate at +45 °C | 1428555 h 1 fit equals one failure per 10 ⁹ component hours The indicated temperature is the mean component ambient temperature. |
| Comments | The results are valid under following conditions: Automotive environment or industrial areas without extreme dust levels and harmful substances Continuous operation 8760 h per year |

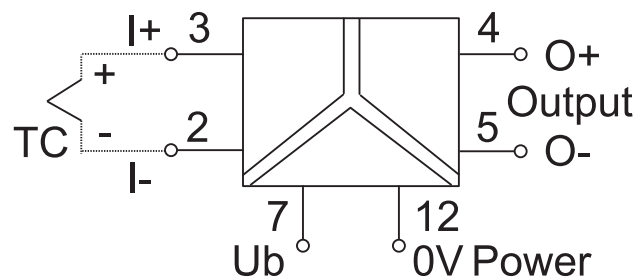
Certifications/Standards

| | |
|----------------|---|
| Conformity | CE UKCA |
| Certifications | cULus (E135145) DNV (TAA000024Y) |
| Standards | EN 60947-1 EN 60947-5-1 UL 508 DNV-CG-0339 |

Dimensions



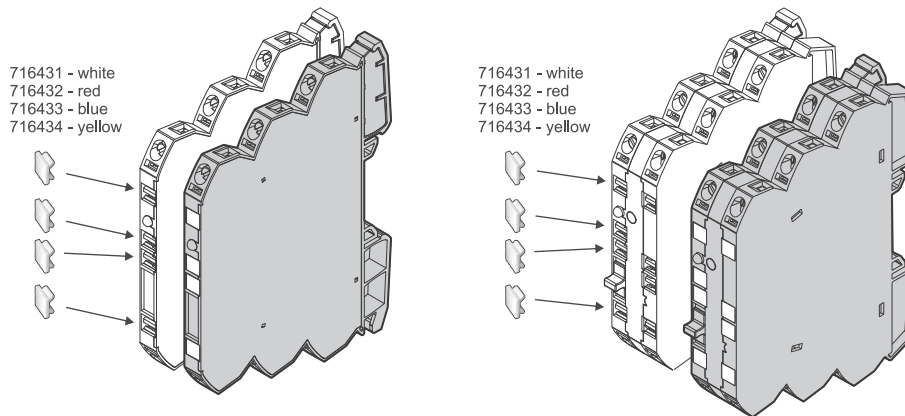
PIN assignment



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Use

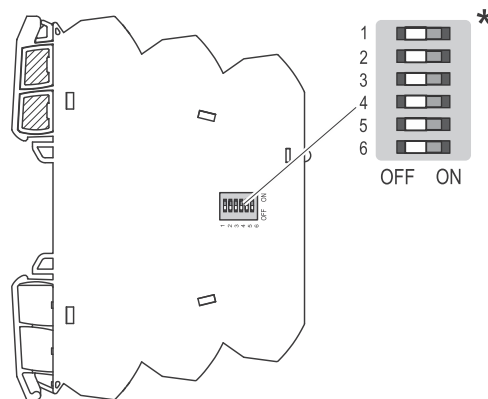


Use

DE HINWEIS: Die Schalter dürfen während des Betriebs nicht umgeschaltet werden. Der Wandler benötigt einen Neustart.

EN NOTICE: The switches must not be switched during operation. The converter requires a restart.

FR AVIS: Les interrupteurs ne doivent pas être actionnés pendant le fonctionnement. Le convertisseur nécessite un redémarrage.



* **DE:** Auslieferungszustand (Werkseinstellung): 0-Einstellung/ alle Schalter sind auf OFF gestellt.

* **EN:** Delivery state (factory setting): 0 setting/ all switches are set to OFF.

* **FR:** État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.

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Range adjustment

| S1 | Output |
|---------------|--------|
| • → Switch On | 5 6 |
| 0–10V | ● |
| 0–20mA | ● |
| 4–20mA | ● ● |

| S1 | Input |
|----------------|---------------|
| • → Switch On | 1 2 3 4 |
| TC J (Fe-CuNi) | |
| TC K (Ni-CrNi) | ● |
| -50 – 200°C | |
| -50 – 350°C | ● |
| 0 – 200°C | ● |
| 0 – 400°C | ● ● |
| 0 – 600°C | ● |
| 0 – 800°C | ● ● |
| 0 – 1000°C | ● ● |
| 0 – 1200°C | ● ● ● |