

## 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:** 2.5 kV, 3-way isolation



#### Identification

Type LCIS-WTCA-0839-62-S  
Part No. [750839.0000](#)

#### Product version

Hardware revision 1.1  
Software version 1.1  
Datasheet version 03

#### 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 MΩ  
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 kΩ  
Load deviation At U-output max. 5 mV @ 2 kΩ

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|                   |                          |
|-------------------|--------------------------|
| Output voltage    | <16 V @ 0–20 mA, 4–20 mA |
| Output current    | Max. 5 mA @ 10 V         |
| Residual ripple   | <20 mV <sub>eff</sub>    |
| 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 <sub>N</sub>      | AC/DC 24 V                                                                                                                                                                             |
| Rated current                     | Approx. 22 mA @ AC 24 V / approx. 13 mA @ DC 24 V                                                                                                                                      |
| Status indication                 | LED green                                                                                                                                                                              |
| Insulation voltage input / output | 2.5 kV <sub>eff</sub>                                                                                                                                                                  |
| Housing material                  | PA 6.6 (UL 94 V-0, NFF I2, F2)                                                                                                                                                         |
| Color of the housing              | RAL 7012<br>Basalt grey                                                                                                                                                                |
| Mounting                          | DIN rail mountable TS35<br>(EN 60715)                                                                                                                                                  |
| Degree of protection              | IP20                                                                                                                                                                                   |
| Installation position             | Any                                                                                                                                                                                    |
| Connection type                   | Screwed terminal<br>Single wire<br>0.25 mm <sup>2</sup> – 2.5 mm <sup>2</sup> / AWG 24–14<br>Fine stranded wire with ferrule<br>0.25 mm <sup>2</sup> – 1.5 mm <sup>2</sup> / AWG 24–16 |
| Dimensions (w × h × d)            | 6.2 mm × 93.0 mm × 73.0 mm                                                                                                                                                             |
| Weight/unit                       | 0.03 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<br>Failure Rates of Components – Expected values: SN 29500 |
| Failure rate at +45 °C | 566 fit                                                                                                                                                                                |

## Technical data sheet

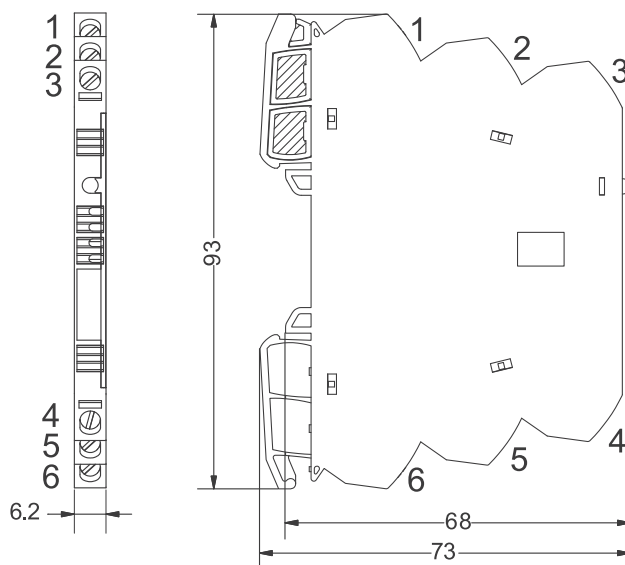
### Interface Technology · LCIS temperature/analog converter

|                        |                                                                                                                                                                                              |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Failure rate at +45 °C | 1765795 h<br>1 fit equals one failure per 10 <sup>9</sup> component hours<br>The indicated temperature is the mean component ambient temperature.                                            |
| Comments               | The results are valid under following conditions:<br>Automotive environment or industrial areas without extreme dust levels and harmful substances.<br>Continuous operation 8760 h per year. |

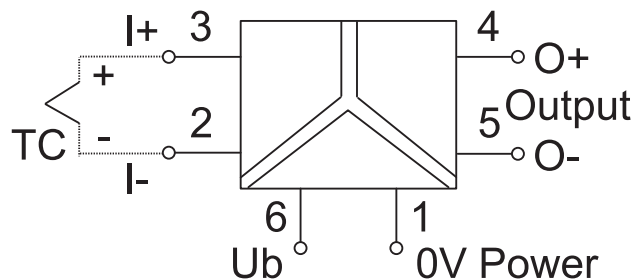
### Certifications/Standards

|                |                                                                                     |
|----------------|-------------------------------------------------------------------------------------|
| Conformity     | CE<br>UKCA                                                                          |
| Certifications | cULus (E135145)<br>DNV (TAA000024Y)                                                 |
| Standards      | EN 60947-1<br>EN 60947-5-1<br>EN 61000-6-2<br>EN 61000-6-4<br>UL 508<br>DNV-CG-0339 |

### Dimensions



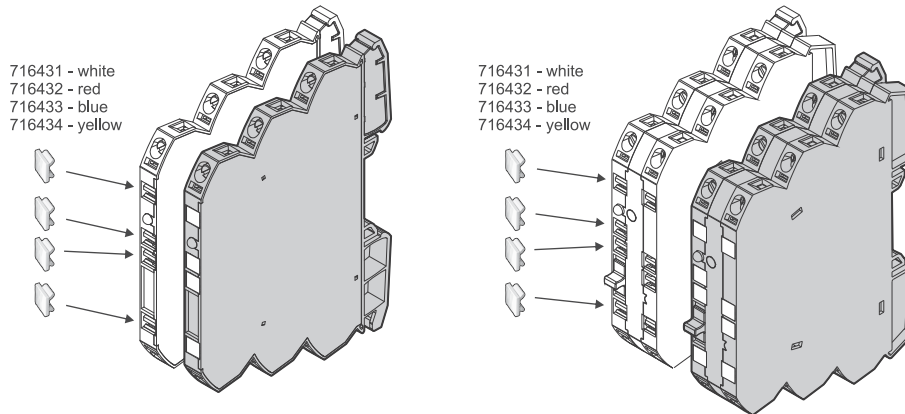
### PIN assignment



## Technical data sheet

### Interface Technology · LCIS temperature/analog converter

#### Use

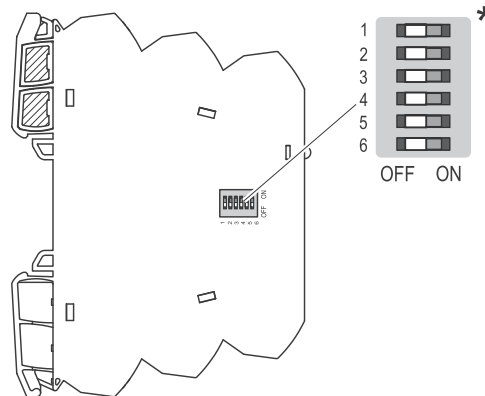


#### Use

**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.

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     | ●●●     |