

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-1848-175-PI
Part No. [751848.0000](#)

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 J: -50 °C–150 °C / -50 °C–250 °C / -50 °C–350 °C / 0 °C–400 °C / 0 °C–600 °C / 0 °C–800 °C / 0 °C–1000 °C / 0 °C–1200 °C
K: -210 °C–105 °C / -50 °C–250 °C / -50 °C–350 °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

United Kingdom: LÜTZE Ltd.

Unit 3, Sandy Hill Park
Sandy Way, Amington • GB-Tamworth, Staffs B77 4DU
Tel. +44 (0)1827 31333-0 • Fax +44 (0)1827 31333-2
www.lutze.com • sales.gb@lutze.co.uk

Germany: Friedrich Lütze GmbH

Postfach 12 24 (PLZ 71366) • Bruckwiesenstraße 17-19 • D-71384 Weinstadt
Tel. +49 (0)7151 6053-0 • Fax +49 (0)7151 6053-277(-288)
www.luetze.de • info@luetze.de

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Min. load impedance at U-output	2 k Ω
Load deviation	at U-output max. 5 mV @ 2 k Ω
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

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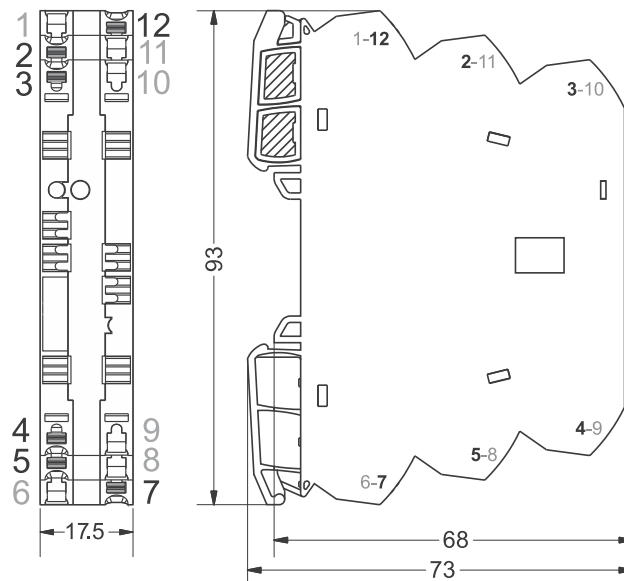
Failure Rate Prediction (MTBF)

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
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

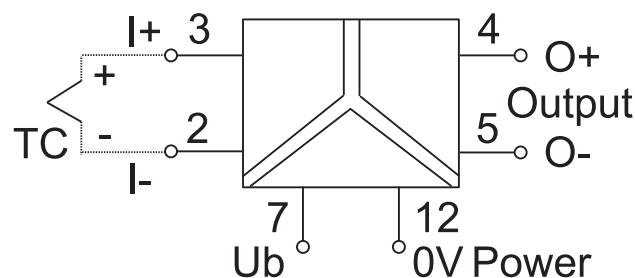
Certifications/Standards

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

Dimensions



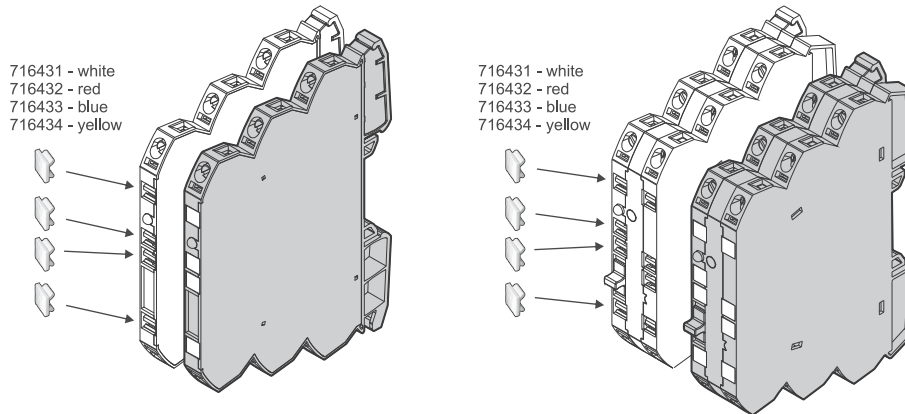
PIN assignment



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Use

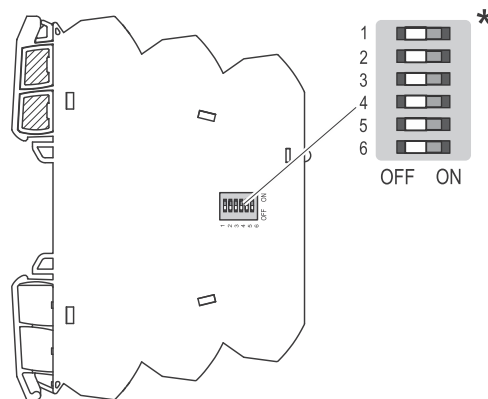


Use

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.

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)	●
J: -50 – 150°C	
K: -210 – 105°C	
-50 – 250°C	●
-50 – 350°C	●
0 – 400°C	●●
0 – 600°C	●●
0 – 800°C	●●●
0 – 1000°C	●●●
0 – 1200°C	●●●