

Technical data sheet

Interface Technology · LCIS analogue/analogue converter

Input: 0–10 V / 0–20 mA / 4–20 mA, manual off automatic

Output: 0–10 V / 0–20 mA / 4–20 mA

Insulation: 2.5 kV, 3-way isolation



Identification

Type LCIS-WAA-MA-1518-175-PI
Part No. [751518.0000](#)

Product version

Hardware revision 1.0
Software version 1.2
Datasheet version 01

Input

Input signal 0–10 V, 0–20 mA, 4–20 mA, adjustable via DIP switch S1
Galvanic isolation I/O 3-way isolation
Zero /Span Production comparison
Input resistance >330 k Ω @ 0–10 V, <100 Ω @ 0–20 mA, 4–20 mA

Output

Output signal 0–10 V, 0–20 mA, 4–20 mA adjustable via switch
Output voltage limit min 0 V
max 10.8 V for all output ranges with nominal upper limit 10 V
Output current limit min. 0 mA for all output ranges with nominal lower limit 0 mA
min. 3.6 mA or all output ranges 4 – 20 mA
max. 21.6 mA for all output ranges with nominal upper limit 20 mA
Max. load impedance at I-output 500 Ω @ 0–20 mA, 4–20 mA
Min. load impedance at U-output 2 k Ω @ 0–10 V
Load deviation at U-output max. 5 mV @ 2 k Ω
Output voltage <18 V @ 0–20 mA, 4–20 mA

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Part No. [751518.0000](#) • Datasheet version: 01

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Interface Technology · LCIS analogue/analogue converter

Output current	max. 5 mA @ 0–10 V
Residual ripple	<20 mV _{eff}

Operating data

Accuracy	0.1 % FSR @ 23 °C
Linearity error	0.05 % FSR
Rise time (10-90%)	6 ms
Build-up time (Accuracy 1%)	17 ms
Temperature coefficient	<150 ppm / K FSR
Critical frequency	30 Hz @ 3 dB

General

Rated voltage U _N	AC/DC 24 V
Current Consumption	19 mA
Status indication	LED green
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output
Insulation voltage input / output	2.5 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
Strip length	8 mm
Dimensions (w × h × d)	17.5 mm × 93.0 mm × 75.0 mm
Weight/unit	0.059 kg
PU (units)	1

General ambient conditions

Operation temperature range	-25 °C ... +60 °C
Storage temperature range	-40 °C ... +80 °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	724 fit
Failure rate at +45 °C	1381278 h

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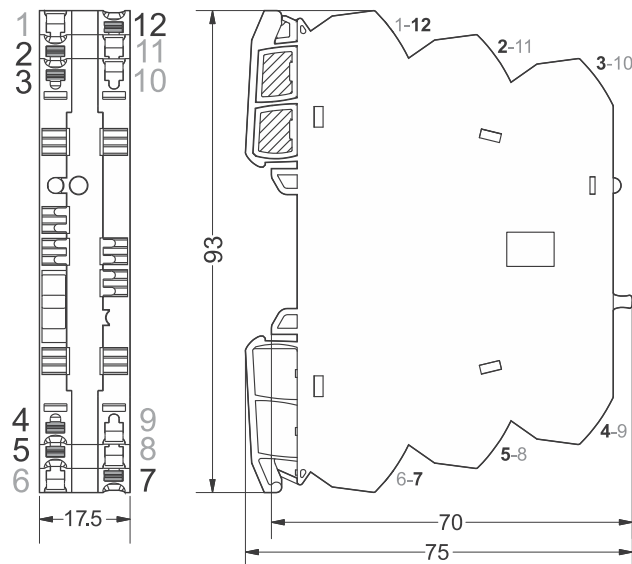
Interface Technology · LCIS analogue/analogue converter

Comments	1 fit equals one failure per 10^9 component hours
	The indicated temperature is the mean component ambient temperature.
	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

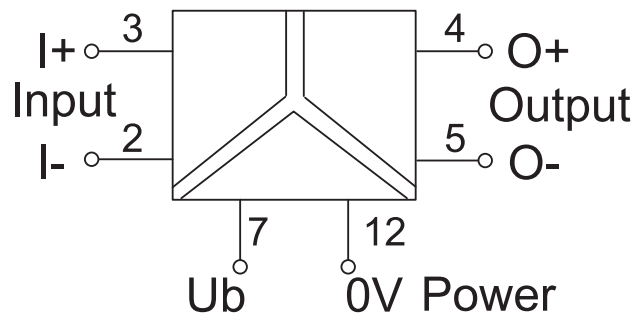
Certifications/Standards

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

Dimensions



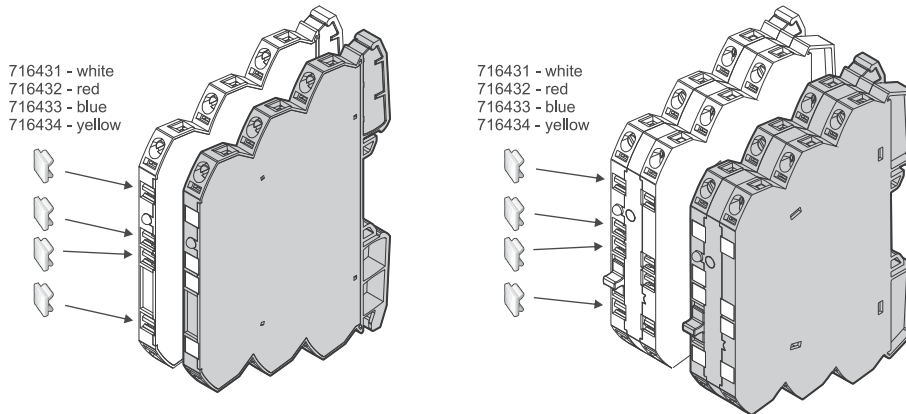
PIN assignment



Technical data sheet

Interface Technology · LCIS analogue/analogue converter

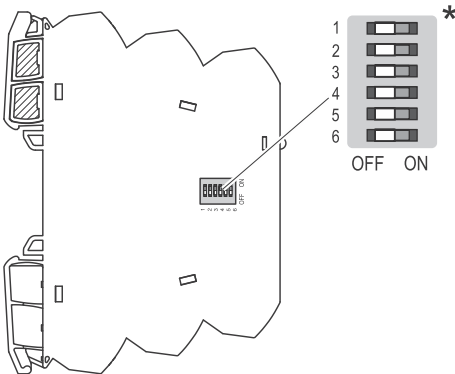
Use



Use

DE DIP-Schalterstellungen EN DIP switch positions FR Positions des interrupteurs DIP

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.
Je nach Art des Wandlers ist dann bereits ein bestimmter Bereich voreingestellt.

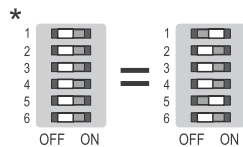
* EN: Delivery state (factory setting): 0 setting/ all switches are set to OFF.
Depending on the type of transducer, a certain range is then already preset.

* FR: État à la livraison (réglage d'usine) : réglage 0/ tous les interrupteurs sont sur OFF.
Selon le type de transducteur, une certaine plage est alors déjà prédéfinie.

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S1	Input	1	2	3	4
●→Switch On					
0- 10V*		●			
0-20mA		●			
4-20mA		●	●		

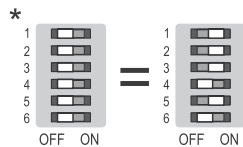
S1	Output	5	6
●→Switch On			
0- 10V*		●	
0-20mA		●	
4-20mA		●	●



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S1	Input	1	2	3	4
●→Switch On					
0- 60 mV		●			
0- 100 mV		●			
0- 300 mV		●			
0- 500 mV		●	●		
0- 1 V		●	●		
0- 2 V		●	●		
0- 5 V		●	●	●	
0- 10 V*		●	●	●	
2- 10 V		●	●	●	●
0- 20 V		●	●	●	●
0- 5 mA		●	●	●	●
0- 10 mA		●	●	●	●
± 5 mA		●	●	●	●
± 20 mA		●	●	●	●
0- 20 mA		●	●	●	●
4- 20 mA		●	●	●	●

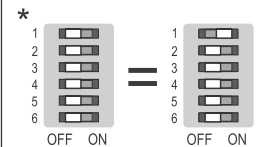
S1	Output	5	6
●→Switch On			
0- 10 V*		●	
0- 20 mA		●	
4- 20 mA		●	●



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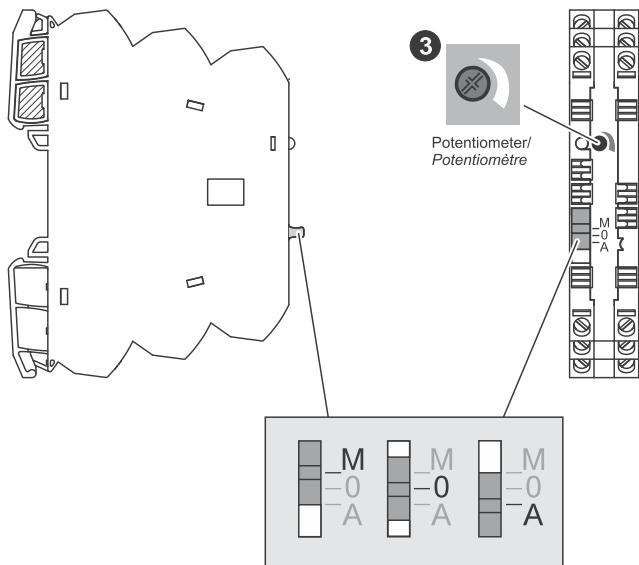
S1	Input	1	2	3	4
●→Switch On					
0- 10 V*		●			
0- 20 mA		●			
4- 20 mA		●	●		

S1	Output	5	6
●→Switch On			
0- 50 Hz*		●	
0- 100 Hz		●	
0- 1000 Hz		●	●
0- 10000 Hz		●	●



Use

DE Schalterstellungen M-0-A EN Switch Positions M-0-A FR Positions des interrupteurs M-0-A



M - manuell/ manually/ manuellement:

- DE Mit dem Potentiometer (3) kann der Ausgangswert eingestellt werden: (0-10V oder 0-20mA oder 4-20mA)
- EN With the potentiometer (3) the output value can be set: (0-10V or 0-20mA or 4-20mA)
- FR Le potentiomètre (3) permet de régler la valeur de sortie: (0-10V ou 0-20mA ou 4-20mA)

0 - ausgeschaltet/ switched off/ désactivé:

- DE Der Wandler ist am Ausgang ausgeschaltet, das heißt: 0V oder 0mA oder 4mA.
- EN The converter is switched off at the output, that means: 0V or 0mA or 4mA.
- FR Le convertisseur est désactivé à la sortie, c'est-à-dire: 0V ou 0mA ou 4mA.

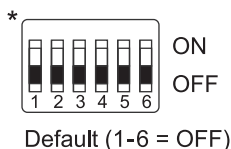
A - Automatik/ Automatic/ Automatique:

- DE Hier wird der Eingangswert automatisch in den Ausgangswert umgewandelt.
- EN Here the input value is automatically converted to the output value.
- FR Ici, la valeur d'entrée est automatiquement convertie en valeur de sortie.

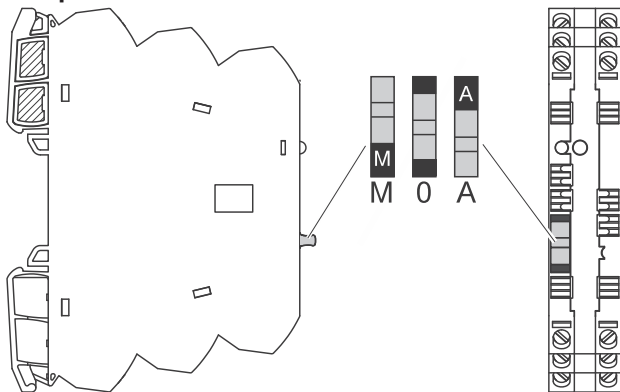
Range adjustment

S1	Input
● → Switch On	1 2 3 4
0-10V*	●
0-20mA	●
4-20mA	● ●

S1	Output
● → Switch On	5 6
0-10V*	●
0-20mA	●
4-20mA	● ●



Switch position



- M: DE Ausgangssignal wird durch Potentiometer bestimmt
EN Output signal determined by potentiometer
FR Signal de sortie déterminé par potentiomètre
- 0: DE Ausgangssignal auf Minimum
EN Output signal at low level
FR Signal de sortie à bas niveau
- A: DE Ausgangssignal wird durch Eingangssignal bestimmt
EN Output signal is determined by the input signal
FR Le signal de sortie est déterminé par le signal d'entrée