



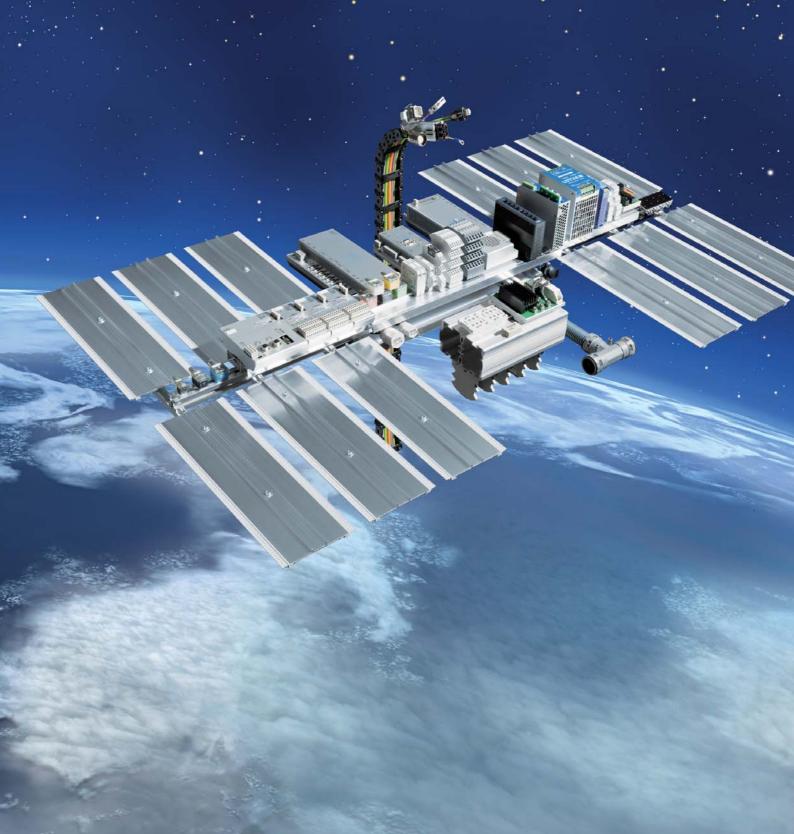
# **LÜTZE Converters**

LCIS Signal Converters
Microcompact Converters
Monitoring Relays



# **Efficiency in Automation**

Cable • Connectivity • Cabinet • Control



# **Welcome to LÜTZE**

## **Cable Solutions**



## **Connectivity Solutions**



#### **Cabinet Solutions**



## **Control Solutions**



## **Transportation Solutions**



**Efficiency in Automation -** A reflection of our company philosophy

As an experienced specialist in automation technology, with solutions for flexible and high flexing cables, cable assemblies, interfaces, current control and cabinet wiring, we have had a focus on efficiency for many years.

LÜTZE defines Efficiency in Automation field as the use of sustainable products and solutions to further increase the performance of our products in our customers applications.

We realise this by using components for highly efficient control systems, products with above average life cycles and raising energy efficiency in control cabinets by means of the LSC wiring system.

Efficiency in Automation reflects our efforts in striving for efficient working relationships with our customers: in a medium sized family owned company we have short communcation channels and a high level of manufacturing competence.

The value of a product or a solution from LÜTZE is determined by its sustainable qualities. Every innovation will only be successful in the future if it has a long term positive effect. Therefore, we provide long lasting as well as highly efficient components.

Thus LÜTZE creates value through efficiency. LÜTZE provides answers and demonstrates how to handle resources responsibly, with our environment and our future in mind. LÜTZE - Efficiency in Automation

For more information on our solutions, please visit www.luetze.com or www.lutze.com





# Business Management: **Sustainable and forw**



## The future is blue

Sustainable enterprise means thinking and planning ahead, understanding and embedding the belief that long lasting success is more important than short-term profit maximisation.

This is an attitude that has existed within LÜTZE for quite some time. Economic and environmental responsibilities complement each other well and are reflected in the sustainable management and

product policy - and from now in the *Sky***BLUE** campaign.

We manufacture our products in a resourceful and energy-conscious manner. We use long lasting, environmentally-friendly materials. And our products, in turn, help our customers save energy and resources.

Good for everyone: for us, for the environment, for our customers a win-win-win situation.



# ard-looking

"The competitiveness of our industry and of its suppliers depends quite substantially on how we succeed in developing practical results. The results that we produce together today, are our competitive advantages in the future."

Udo LÜTZE,

Member of the Executive Committee of the Green Carbody Innovation Alliance



## Goods with real value

The value of a product or a solution from LÜTZE is determined by its sustainable qualities as well. Every innovation is only as successful in the future if it has a long-term positive effect. Therefore, we provide long lasting as well as highly efficient components.

We are incorporating the necessary knowledge and manufacturing competence in numerous joint projects with the objective of improving energy efficiency and sustainable technologies and industries. Thus, LÜTZE provides answers and and demonstrates how to handle resources responsibly, with our environment and our future in mind.











# What moves us: Quality, innovation, eff



## The people at LÜTZE

Quality, innovation and efficiency begin with people. We would not be where we are today without our highly qualified and motivated employees. An uncompromising focus on quality, nearly 60 years of experience in automation technology and of course a common desire for greater innovation and efficiency – that's what makes LÜTZE so successful.

The people at LÜTZE are familiar with automation applications and technologies across all disciplines, as they are involved with our broad range of products comprising four product areas Cable, Connectivity, Cabinet and Control.



# iciency

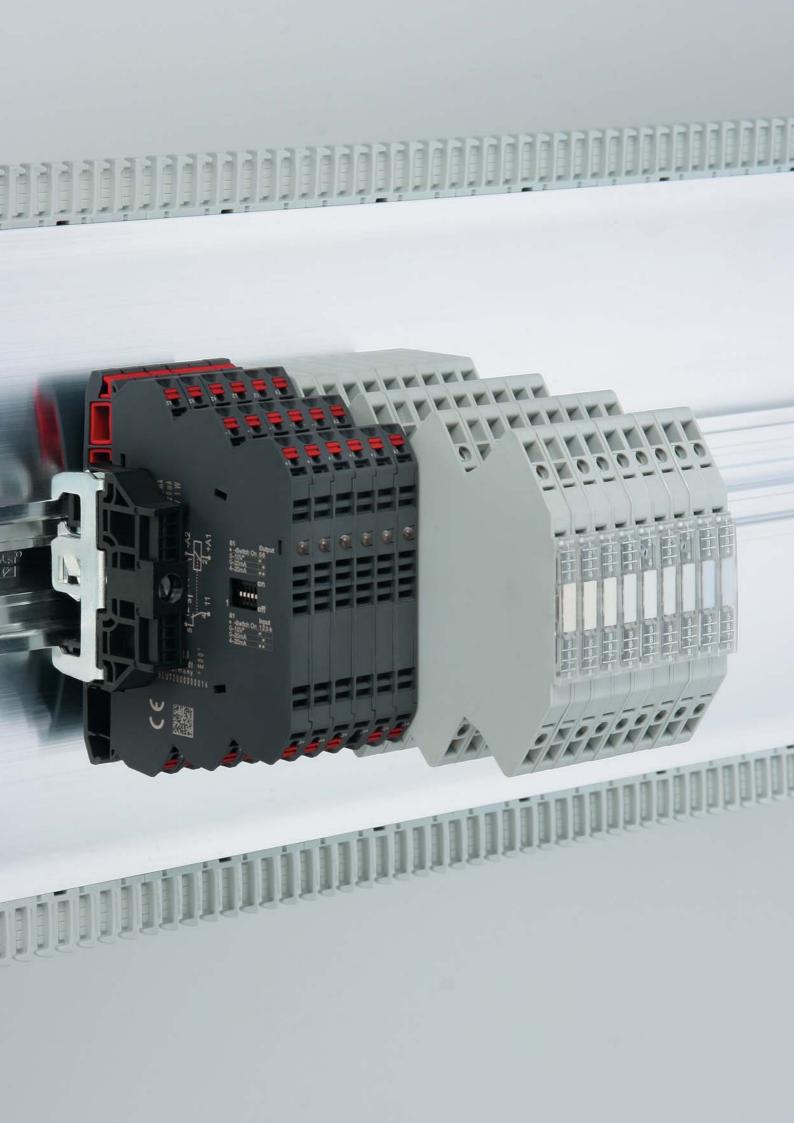
A prime example of competence in cables: In addition to manufacturing expertise, our cable assembly specialists are familiar with all cable types and offer genuine added value. The decisive advantage: We're cable experts – since 1958.











# Signal Isolation Transformers · Product Overview

#### LCIS



Analog/analog converter passive



Analog/analog converter



Analog/analog converter



Analog/analog converter



Poti/analog converter



Analog/analog converter



Temperature/ analog converter

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#### **LCON**



Analog/analog converter



Temperature/ analog converter



Analog / limit value switch



Temperature / limit value switch



Analog/analog splitter



Analog/analog limit value switch

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## **Monitoring relays**



Voltage monitoring, 1-phase



Voltage monitoring, 3-phase



Current monitoring, 1-phase, AC/DC 10 A



Current monitoring. 1-phase, AC/DC 100 A



Current monitoring in 3-phase networks, 1-phase, AC 5 A



Current monitoring in 3-phase networks, 3-phase, AC/DC 5 A



Load monitoring for 1- and 3-phase AC 480 V

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Load monitoring for 1- and 3-phase AC 690 V



Phase sequence and asymmetry

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## **Accessories**



Labeling system



Insulated jumper combs



Insulated jumper combs

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## Signal Isolation Transformers · Basics

#### General description of converters

Converters are needed in a wide variety of areas in industry in order to perform the following basic tasks:

- 1. Signal conversion
- 2. Signal amplification
- 3. Signal isolation
- 4. Signal filtering

A converter is normally constructed as shown in the following schematic:



Figure: Schematic of a converter

Input signals may be:

- Voltages
- Currents
- Frequencies
- Other adapted physical quantities (e.g. pressure, temperature, humidity, PH values, etc.).

Output signals may be:

- Voltages
- Currents
- Frequencies
- · Signals for field bus interfaces

A further distinction is made between analog and digital signals, which may be both input and output signals.

The input signals must be converted from the required output signals. In this context conversion means:

- Actual conversion of signals (e.g. from voltage into current)
- Amplification of signals (e.g. from low-level signals to standard signals)
- Electrical isolation and where appropriate amplification of signals (e.g. of analogsignals)
- Filtering of interference (e.g. of HF interference from analog signals)

The supply feeds power to the converter. It is required as additional auxiliary power to implement active isolation.

#### **Transmitters**

These kinds of converter transform input signals into other physical quantities.

The following lists some examples:

Input signal	Output signal
Voltage	Current/Frequency
Current	Voltage/Frequency
Frequency	Voltage/Current

Various input signals in analog or digital form, as are outputted by puls generators, thermocouples or resistance pick-ups for example, are converted in the transmitters into the desired standardised outputs.

#### Standard signals (unit signals)

Unit signals are standardised electrical signals in process automation.

Commonly used unit signals include current signals to DIN IEC 60381-1:

- 0 to 20 mA
- · 4 mA to 20 mA (live zero)

and voltage signals to DIN IEC 60381-2:

- •0 to 10 V
- •2 V to 10 V (live zero)

Live-zero signals are used in almost all industrial applications. If the start of the measuring range is assigned an electrical signal other than 0 (zero), a wire break monitor can be implemented. The non-zero initial signal is also termed "live zero". A 0 mA signal is thus always a reliable indicator of a fault.

Current signals are preferred over voltage signals because the current signal is immune to electromagnetic interference (switch-on of adjacent consumers) and voltage losses due to the line resistance.

The maximum length of the signal line is limited only by the maximum load impedance which can be operated by the current source. The 4 mA... 20 mA unit of current signal offers the additional major advantage that the signal circuit is continuously powered. That power can be used by transmitters for their own supply. In this case the PLC must power the signal circuit (passive sensor). An active sensor needs an external power supply for its own demand.

#### General technical information

#### Input protection

Describes the protection measures taken and indicates the maximum possible input signal.

Suppressor diodes are mostly used to limit voltage and PTC resistors to limit current.

#### Input resistance

To ensure low load on the input signal, current inputs are always executed as low-resistance and voltage inputs as high-resistance:

I: <100 Ω; U:> 10kΩ

#### Voltage drop

This relates to passive converters. The voltage drop is dependent on the load impedance and on the device's own power demand. For the applicable values refer to the relevant data sheets.

#### True RMS measurement

The RMS (root mean square) value indicates the value of a direct current or voltage which converts the same electrical energy - so also on average over time the same electrical power - on an ohmic converter in a representative period of time. The RMS value depends on the peak value and on the curve form. Lütze current or voltage converters offer true RMS measurement as standard, so non-sinusoidal input quantities can also be correctly measured.

#### Zero/Span

On conventional devices a zero/span balance must be carried out. This is done by means of two separate potentiometers. Vibration, temperature and other influences alter the set values, so periodically a recalibration is required.

Zero-balancing adjusts the zero setting of the output relative to the input. The output signal is amplified relative to the input signal by way of the span balance.

This balancing must also be carried out when the range is changed, such as by DIP switches.

Lütze converters feature automatic, non-temperature-dependent balancing. Recalibration is not necessary, even in the event of a range change.

#### Load impedance

The load impedance indicates the load capacity of the converter.

# Signal Isolation Transformers · Basics

400  $\Omega$  to 750  $\Omega.$  The values for voltage outputs are in the range from 1 k $\Omega$  to 10 k $\Omega.$ 

#### Wire break and short-circuit

As already described under "Standard signals", a wire break can be detected by way of a live-zero signal. In monitoring of connected sensors (such as temperature), monitoring for wire break or short-circuit is effected by an internal electronics unit. Such faults can be indicated in different ways:

- LED
- · Defined output signal
- · Separate output

#### Linearity error

Linearity error refers to a deviation from the ideal transmission accuracy without zero/span errors. The figure is given as a percentage.

#### Accuracy (FSR)

The value indicates the deviation of the output signal relative to the input signal. The figure is always given as a percentage referred to the maximum signal output value, e.g. 10V (full scale range) at room temperature (23°C). The linearity error is built-in to this value.

#### Temperature coefficient

Describes the deviating accuracy dependent on the ambient temperature. The figure is normally given in ppm/K (parts per million/Kelvin).

#### Example:

30 ppm/K corresponds to 0.003 %/K

#### **Transmission error**

The total deviation of the output signal from the input signal is the sum of the accuracy + temperature coefficient.

#### **Transfer frequency**

DC signals are normally transmitted. Signal changes demand a dynamic response however. The transmission frequency indicates the frequency up to which alternating current or voltage can also be transmitted.

#### Rise time (10-90 %)

The response time of the output signal to a change in the input signal from 10% to 90% of the nominal value.

#### Settling time

The time taken by the output to reach a value with an inaccuracy of 1%. This value already takes account of the rise time.

#### Ambient-temperature range

The values specified by Lütze relate to a 100% duty cycle. Normally condensation is ruled out. For devices which allow condensation, the fact will be indicated on the "Relative humidity" line or it will be stipulated that the device in question conforms to EN 50155.

#### Basics of transmission interference

#### Interference on signal transmission

Error-free, undisturbed, secure signal transmission is vital to the reliable control of processes. Analog signals transmitted between the control side (PLC or instrumentation and control system) and the sensors/actuators are almost always subject to

external interference. There is considerable potential for interference especially given the rough industrial environment and long transmission distances.

#### Electromagnetic interference

The best known and most widespread interference is that caused by capacitive and inductive effects. In these also cross-cable coupling processes overvoltages may occur which, for example, can destroy input/output modules of a PLC or an industrial computer. To protect those expensive downstream components, it is advisable to use A/A modules. They ensure a defined transition from peripherals and evaluation electronics.

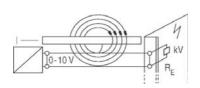
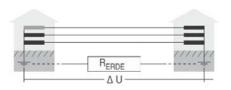


Figure: Electromagnetic interference

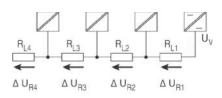
#### Potential differences

Potential differences occur as a result of earth or chassis loops. If signal transmitters and receivers refer to the earth potential - i.e. the earth is used as a return conductor in signal transmission - this is known as an earth loop. As the distance between the transmitter and receiver increases, the earth resistance increases as the line gets longer. As a result voltage differences of as much as 200 V can occur.



Potential differences due to earth loops

In sequenced measuring circuits potential differences occur due to earth loops. Interconnecting multiple measuring circuits increases the reference voltage with possibly fatal consequences for the data transfer.



Potential differences due to chassis loops

A/A modules are a simple means of bypassing this interference. They electrically isolate the signal input and output, decoupling the measuring circuits. As well as isolating the signal, this also filters out interference. The signals are amplified for longer transmission distances and adapted to the desired output quantities for the evaluation electronics. For optimum functional reliability, as well as the converters shielded cable with twisted-pair wires should additionally be used.

#### Isolation techniques

There are various way of isolating potential.

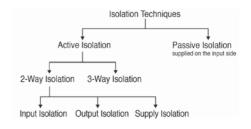


Diagram: Isolation techniques

#### Active isolation

An additional supply voltage is required for all kinds of active isolation.

#### 3-way disconnection

A characteristic feature of 3-way isolation is complete insulation of all the components from each other, so protecting against mutual interference.

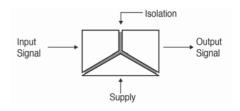


Diagram: 3-way isolation

## Signal Isolation Transformers · Basics

The input, output and supply - and thus also all equipment connected to them - are mutually electrically isolated. In this way the input and output circuits are decoupled from the supply and the input and output circuits are decoupled from each other. The input signals must be active signals. The output signal is an amplified filtered signal.

#### 2-way isolation: Input isolation

In this form of isolation the input is electrical isolated from the output and the supply, which are both connected to the same potential.

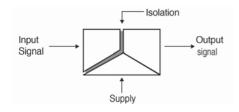


Figure: 2-way input isolation

By this isolation method equipment connected to the output can be effectively protected against interference. The input signals must be active signals. The output signal is an amplified filtered signal.

#### 2-way isolation: Output isolation

In this form of isolation the output is electrically isolated from the input and the supply, which are both connected to the same potential.

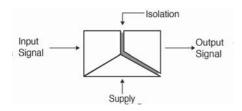


Figure: 2-way output isolation

By this isolation method, equipment connected to the input can be effectively protected against interference. The input signals must be active signals. The output signal is an amplified filtered signal.

#### 2-way isolation: Supply isolation

In this form of isolation an additional supply is provided at the input. This auxiliary power is used to operate passive sensors connected on the input side. The structure of this isolation method is identical to that of input isolation. The supply and output are again connected to the same potential.

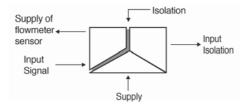


Figure: 2-way supply isolation

By this isolation method, equipment connected to the output can be effectively protected against interference and the auxiliary power described above is additionally provided. The output signal is an amplified filtered signal.

#### Passive isolation

In contrast to active isolation, no additional supply voltage is required for passive isolation. The power required for electrical isolation and signal transmission is drawn from the input circuit. A minor voltage drop at the input of the isolation module is used for this. The input measurement signal is burdened with this voltage drop. The responding current for the function of the modules is just a few Amperes. The resultant transmission error is negligible. By this isolation method no signal amplification is possible. Also, these isolation modules do not operation reaction-free. This means that every load on the output places an equal load on the input signal. Isolation modules without auxiliary power transmit unipolar current signals at a ratio of 1:1. The possible load impedance voltage at the output is lower than the load capacity of the input signal by the amount of voltage drop at the input in the event of an output short-circuit (own voltage demand).

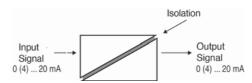


Figure: Passive isolation, supply input

By this isolation method, earth loops can be isolated and signals filtered for example. The input signals must be active current signals. The output signal is likewise a current signal.

## Open FDT Technology

## FDT technology, what is it?

FDT standardizes the communication and configuration interface between all field devices and host systems. FDT provides a common environment for accessing the devices' most sophisticated features. Any device can be configured, operated, and maintained through the standardized user interface – regardless of supplier, type or communication protocol.

## The FDT interface - Integration standard

The FDT interface is the specification describing the standardized data exchange between devices and control system or engineering or asset management tools.

#### DTM - Device driver

DTMs are classified into two categories:

- · Device DTMs which connect to the field device configuration components
- CommDTMs which connect to the software communication components.

The DTM provides a unified structure for accessing device parameters, configuring and operating the devices, and diagnosing problems. DTMs can range from a simple Graphical User Interface for setting device parameters to a highly sophisticated application capable of performing complex real-time calculations for diagnosis and maintenance purposes.

#### **DeviceDTM**

Provided by the device manufacturer
Represents the whole logic and parameters of a device
Standardized interface to the FDT Frame Application
Can be used in any FDT Frame Application
DTM Style Guide

#### **CommDTM**

Represents communication components like PC communication cards, couplers, gateways, remote I/Os, and linking devices.

## FDT Frame Application – Host system

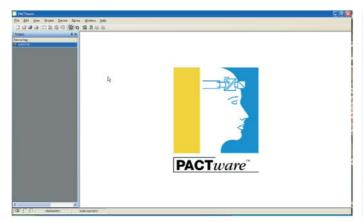
The Frame Application is a software program that implements Device DTMs and CommDTMs. The Frame Application provides:

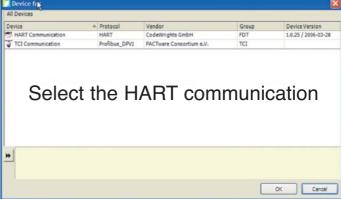
- · Common environment
- User Management
- DTM Management
- Data Management
- Network Configuration
- Navigation



# **Open FDT Technology**

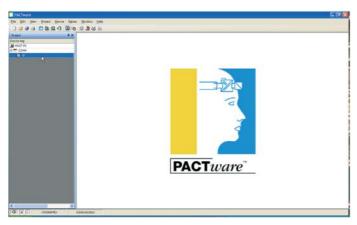
## How to implement Lütze DTM's into PACTware PACTware

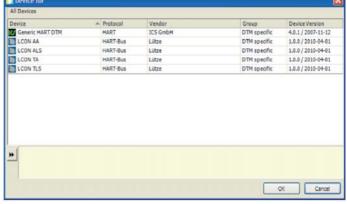




1. Add device



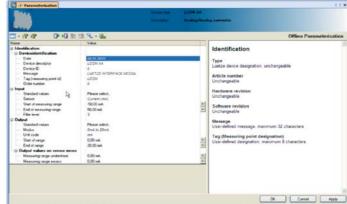




3. Again, add device

4. Select needed Lütze DTM





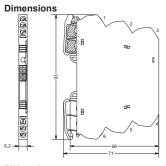
5. Device is displayed

6. Double clic on the device open the list of parameter

Input: 4–20 mA Output: 4–20 mA

Insulation: 1.5 kV, 2-way isolation, passive converter







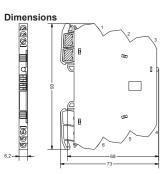
Description		Part-No.		Туре	PU		
Screw terminal							
Rated voltage	passive	750528.0000	S*	LCIS-P1K-0528-62-S	1		
Push-In							
Rated voltage	passive	751528.0000	S*	LCIS-P1K-1528-62-PI	1		
Input	75053	28.0000		751528.0000			
Input signal	7 3032	.0.000	1_2	0 mA			
Galvanic isolation I/O		2-way isolation					
Output		E Way Isolation					
Output signal			4_2	0 mA			
Max. load impedance at I-output				Ω (R <sub>B</sub> )			
Output current			1000	- 72 (L/R)			
Residual ripple		<5 mV-# (le	nad ir	mpedance 100 Ω)			
Operating data		o veii (	J				
Accuracy		0.1	% FS	R @ 23 °C			
Linearity error		0	,,,,	-			
Build-up time (Accuracy 1%)	6.1	ms (for working	resis	tance 500 Ω and 20 mA)			
General	-	(9					
Rated voltage			pas	ssive			
Status indication				green			
Input/output protection				diode (33 V)			
Burden error	<0.06	% from measure	d val	ue / 100 Ω working resistance			
Temperature drift /K		<15	0 ppi	m / K FSR			
Temperature drift (working resistance >600R)		<10	00 ppi	m/KFSR			
Temperature drift (working resistance >600R)		<15	50 ppi	m/KFSR			
Insulation voltage input / output			1.5	kV <sub>eff</sub>			
Housing material		PA 6.6 (U		V-0, NFF I2, F2)			
Color of the housing		RAL	7012	basalt grey			
Mounting		DIN rail mou	ntable	e TS35 (EN 60715)			
Protection class			IF	20			
Installation position				any			
Connection device	mm <sup>2</sup> –2.5 mm <sup>2</sup> / AV ded wire with ferrule	VG 20-14 fine s	tran-	Push-In single wire 0.25 mm <sup>2</sup> –2.5 mm AWG 20–14 fine stranded wire with ferrule 0.25 mm <sup>2</sup> –1.5 mm <sup>2</sup> / AWG 20 16	า		
Operation temperature range		-25	5 °C .	+60 °C			
Storage temperature range		-40	°C.	+80 °C			
Dimensions (w × h × d)		6.2 ×	93.0	) × 71.0 mm			
Weight		0.	.040 I	kg/piece			
Approvals		cULus (	E135	5145), DNV GL			
Standards		E	N 60	947-5-1			
Comments With connection: This passive isolat for an output interruption.	or has a non-reactive	e transmission,	so tha	at the current in the input circuit is not in	nterrupted		



Input: 0-10 V / 0-20 mA / 4-20 mA Output: 0-10 kHz

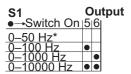
Insulation: 2.5 kV, 3-way isolation





PIN assig	nment		
I+⊶ Input I- ⊶			—∘O+ Output —∘O-
ı	Ub∘	∘0∨	Power

S1	lı	np	u	t
→Switch On	1	2	3	4
0-10 V*	•			
0–20 mA		•		
4–20 mA	•	•		

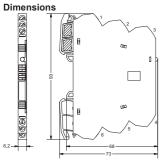


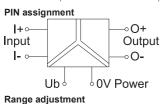
Description		Part-No.		Type	PU	
Screw terminal				,·		
Rated voltage	AC/DC 24 V	750511.0000	R*	LCIS-WAF-0511-62-S	1	
Push-In						
Rated voltage	AC/DC 24 V	751511.0000	S*	LCIS-WAF-1511-62-PI	1	
Input	7505	511.0000		751511.0000		
Input signal	0–10	V, 0–20 mA, 4–20	mA,	, adjustable via DIP switch S1		
Input resistance	>3	00 kΩ @ 0–10 V,	<100	0 Ω @ 0–20 mA, 4–20 mA		
Galvanic isolation I/O		3-	way i	isolation		
Zero /Span		Produ	ction	comparison		
Output						
Output signal	0-50 Hz, 0-	-100 Hz, 0–1 kHz	, 0–1	0 kHz adjustable via DIP switch S1		
Residual ripple				_		
Operating data						
Accuracy		0.1 %	6 FS	R @ 23 °C		
Linearity error		(	0.05	% FSR		
Build-up time (Accuracy 1%)	-					
Critical frequency		30	O Hz	@ 3 dB		
Temperature coefficient		<15	nqq 0	m / K FSR		
General						
Rated voltage				C 24 V		
Operation voltage range				/ DC 19.2–30 V		
Status indication				green		
Input/output protection	Overvoltaç	, , .		PTC fuse, short circuit-proof output		
Rise time (10 - 90%)		frequ		-dependent		
Insulation voltage input / output				kV <sub>eff</sub>		
Housing material		,		V-0, NFF I2, F2)		
Color of the housing				basalt grey		
Mounting		DIN rail mour		e TS35 (EN 60715)		
Protection class				20		
Installation position				ny		
Connection device	mm <sup>2</sup> –2.5 mm <sup>2</sup> / A ded wire with ferru	WG 20-14 fine s	tran-	Push-In single wire 0.25 mm <sup>2</sup> –2.5 mm <sup>2</sup> AWG 20–14 fine stranded wire with ferrule 0.25 mm <sup>2</sup> –1.5 mm <sup>2</sup> / AWG 20- 16		
Operation temperature range		-25	°C.	+60 °C		
Storage temperature range		-40	°C.	+85 °C		
Dimensions (w × h × d)		6.2 × 93.0 × 73.0 mm				
Weight				kg/piece		
Approvals		cULus (I	E135	145), DNV GL		
Standards		E	N 60	947-5-1		



Input: 0-10 V / 0-20 mA / 4-20 mA Output: 0-10 V / 0-20 mA / 4-20 mA Insulation: 2.5 kV, 3-way isolation







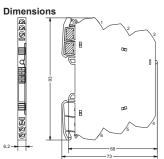
Description		Part-No.		Туре		PU
Screw terminal						
Rated voltage	AC/DC 24 V	750539.0000	S*	LCIS-WAA-05	39-62-S	1
Push-In						
Rated voltage	AC/DC 24 V	751539.0000	S*	LCIS-WAA-15	39-62-PI	1
Input	75053	39.0000		7	51539.0000	
Input signal	0–10 V	, 0-20 mA, 4-20	) mA,	adjustable via l	OIP switch S1	
Input resistance	>30	0 kΩ @ 0-10 V,	<100	) Ω @ 0–20 mA	, 4–20 mA	
Galvanic isolation I/O		3-	way i	solation		
Zero /Span		Produ	ction	comparison		
Output						
Output signal		adjustab	le via	DIP switch S1		
Max. load impedance at I-output		500 Ω @	0-20	) mA, 4–20 mA		
Min. load impedance at U-output		2	kΩ @	0-10 V		
Output current		max.	5 mA	(@ 0–10 V		
Output voltage		< 16 V @	0-20	0 mA, 4-20 mA		
Residual ripple	<20 mVeff <sub>eff</sub>					
Operating data						
Accuracy		0.1 9	% FSI	R @ 23 °C		
Linearity error		(	0.05 9	% FSR		
Build-up time (Accuracy 1%)	17 ms					
Critical frequency	30 Hz @ 3 dB					
Temperature coefficient	<150 ppm / K FSR					
General						
Rated voltage		,	AC/D	C 24 V		
Operation voltage range		AC 19.2-	30 V	/ DC 19.2-30 V		
Status indication			LED	green		
Input/output protection	Overvoltage	e, current input v	vith P	TC fuse, short of	circuit-proof output	
Rise time (10 - 90%)			6	ms		
Insulation voltage input / output			2.5	kV <sub>eff</sub>		
Housing material		PA 6.6 (U	L 94 \	V-0, NFF I2, F2		
Color of the housing		RAL	7012	basalt grey		
Mounting		DIN rail mou	ntable	e TS35 (EN 607	15)	
Protection class			ΙP	20		
Installation position				ny		
Connection device	mm <sup>2</sup> –2.5 mm <sup>2</sup> / AV ded wire with ferrule	NG 20-14 fine s	tran-	AWG 20-14	wire 0.25 mm <sup>2</sup> –2.5 mm <sup>2</sup> / fine stranded wire with m <sup>2</sup> –1.5 mm <sup>2</sup> / AWG 20– 16	
Operation temperature range		-25	°C .	+60 °C		
Storage temperature range		-40	°C .	+80 °C		
Dimensions (w × h × d)		6.2 ×	93.0	× 73.0 mm		
Weight		0.	030 k	g/piece		
Approvals		cULus (	E135	145), DNV GL		_
Standards		E	N 609	947-5-1		

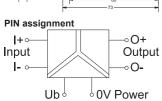


Input: 0-10 V

Output: 0-10 V / 0-20 mA / 4-20 mA Insulation: 2.5 kV, 3-way isolation







Description		Part-No.		Туре	PU
Screw terminal					
Output signal	0 – 10 V	750530.0000		LCIS-WAA-0530-62-S	1
	0–20 mA	750531.0000		LCIS-WAA-0531-62-S	1
	4–20 mA	750532.0000	R*	LCIS-WAA-0532-62-S	1
Push-In					
Output signal	0 – 10 V	751530.0000		LCIS-WAA-1530-62-PI	1
	0–20 mA	751531.0000	S*	LCIS-WAA-1531-62-PI	1
	4–20 mA	751532.0000	S*	LCIS-WAA-1532-62-PI	1
Input					
Input signal			0-	10 V	
Galvanic isolation I/O		3-	-way	isolation	
Zero /Span		Produ	ıction	comparison	
Output					
Output signal	0 – 10 V		0-2	0 mA 4–20 mA	
Residual ripple			<20 n	nVeff <sub>eff</sub>	
Max. load impedance at I-output	-			500 Ω	
Operating data					
Accuracy		0.1 9	% FS	R @ 23 °C	
Linearity error	0.05 % FSR				
Build-up time (Accuracy 1%)			17	ms	
Critical frequency		3	0 Hz	@ 3 dB	
Temperature coefficient		<15	б0 ррі	m / K FSR	
General					
Rated voltage			AC/D	C 24 V	
Operation voltage range		AC 19.2-	-30 V	/ DC 19.2–30 V	
Status indication			LED	green	
Input/output protection	Overvoltage	e, current input v	vith F	PTC fuse, short circuit-proof output	
Rise time (10 - 90%)			6	ms	
Insulation voltage input / output			2.5	kV <sub>eff</sub>	
Housing material		PA 6.6 (U	L 94	V-0, NFF I2, F2)	
Color of the housing		RAL	7012	basalt grey	
Mounting				e TS35 (EN 60715)	
Protection class			IF	20	
Installation position			а	iny	
Connection device	mm <sup>2</sup> –2.5 mm <sup>2</sup> / A\	NG 20-14 fine s	stran-	Push-In single wire 0.25 mm <sup>2</sup> –2.5 mm <sup>2</sup> AWG 20–14 fine stranded wire with	
		G 20–16		ferrule 0.25 mm <sup>2</sup> –1.5 mm <sup>2</sup> / AWG 20– 16	
Operation temperature range				+60 °C	
Storage temperature range				+80 °C	
Dimensions (w × h × d)				× 73.0 mm	
Weight				kg/piece	
Approvals		,		145), DNV GL	
Standards		E	N 60	947-5-1	

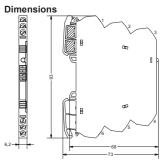


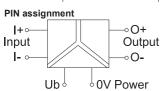
A Available with a lead time

Input: 0-20 mA

Output: 0-10 V / 0-20 mA / 4-20 mA Insulation: 2.5 kV, 3-way isolation







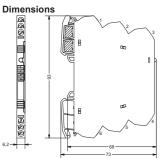
Description		Part-No.		Туре	PU
Screw terminal					
Output signal	0 – 10 V	750533.0000		LCIS-WAA-0533-62-S	1
	0–20 mA			LCIS-WAA-0534-62-S	1
	4–20 mA	750535.0000	R*	LCIS-WAA-0535-62-S	1
Push-In					
Output signal	0 – 10 V	751533.0000	S*	LCIS-WAA-1533-62-PI	1
	0–20 mA	751534.0000	S*	LCIS-WAA-1534-62-PI	1
	4–20 mA	751535.0000	S*	LCIS-WAA-1535-62-PI	1
Input					
Input signal			0–2	0 mA	
Galvanic isolation I/O			_	isolation	
Zero /Span		Produ	ction	comparison	
Output					
Output signal	0 – 10 V		0–2	0 mA 4–20 mA	
Residual ripple		<	<20 n	nVeff <sub>eff</sub>	
Max. load impedance at I-output	_			500 Ω	
Operating data					
Accuracy		0.1 %	% FS	R @ 23 °C	
Linearity error		(	0.05	% FSR	
Build-up time (Accuracy 1%)	17 ms				
Critical frequency		30	0 Hz	@ 3 dB	
Temperature coefficient		<15	0 ppi	m / K FSR	
General					
Rated voltage		A	AC/D	C 24 V	
Operation voltage range		AC 19.2-	30 V	/ DC 19.2–30 V	
Status indication			LED	green	
Input/output protection	Overvoltage	e, current input w	vith P	TC fuse, short circuit-proof output	
Rise time (10 - 90%)			6	ms	
Insulation voltage input / output			2.5	kV <sub>eff</sub>	
Housing material		PA 6.6 (UI	L 94	V-0, NFF I2, F2)	
Color of the housing		RAL	7012	basalt grey	
Mounting		DIN rail mour	ntable	e TS35 (EN 60715)	
Protection class			IF	20	
Installation position			а	ny	
Connection device	mm <sup>2</sup> –2.5 mm <sup>2</sup> / A\ ded wire with ferrule	NG 20-14 fine s	tran-	Push-In single wire 0.25 mm <sup>2</sup> –2.5 mm <sup>2</sup> AWG 20–14 fine stranded wire with ferrule 0.25 mm <sup>2</sup> –1.5 mm <sup>2</sup> / AWG 20– 16	
Operation temperature range		-25	°C.	+60 °C	
Storage temperature range		-40	°C.	+80 °C	
Dimensions (w × h × d)		6.2 ×	93.0	× 73.0 mm	
Weight		0.	029	kg/piece	
Approvals				145), DNV GL	
Standards		,		947-5-1	

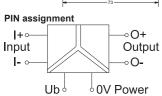


Input: 4-20 mA

Output: 0-10 V / 0-20 mA / 4-20 mA Insulation: 2.5 kV, 3-way isolation







Description		Part-No.		Туре	PU
Screw terminal		rait-No.		Type	FU
Output signal	0 – 10 V	750536.0000	R*	LCIS-WAA-0536-62-S	1
Output signal	0-10 V 0-20 mA	750537.0000		LCIS-WAA-0530-02-5	1
	4–20 mA	750537.0000		LCIS-WAA-0537-62-5 LCIS-WAA-0538-62-S	1
Push-In	4-20 IIIA	750556.0000	K	LCIS-WAA-0336-02-3	'
	0 – 10 V	751536.0000	S*	LCIS-WAA-1536-62-PI	1
Output signal	0-10 V 0-20 mA	751536.0000		LCIS-WAA-1530-62-PI	1
	0–20 mA 4–20 mA	751537.0000			1
	4–20 MA	751538.0000	5°	LCIS-WAA-1538-62-PI	1
Input					
Input signal			4_2	0 mA	
Galvanic isolation I/O		3		isolation	
Zero /Span			_	comparison	
Output		FIOUL	ICHOH	Companson	
Output Signal	0 – 10 V		0.2	0 mA 4–20 mA	
Residual ripple	0 – 10 V				
Max. load impedance at I-output	<20 mVeff <sub>eff</sub> – 500 Ω				
Operating data	_			300 Ω	
		0.11	n/ EC	D @ 22 °C	
Accuracy				R @ 23 °C % FSR	
Linearity error				70 FSR 7 ms	
Build-up time (Accuracy 1%)					
Critical frequency				@ 3 dB	
Temperature coefficient  General		<10	ou ppi	m / K FSR	
			A C /D	C 24 V	
Rated voltage				C 24 V / DC 19.2–30 V	
Operation voltage range Status indication		AC 19.2-		green	
	Overnelter	a aumantinaut			
Input/output protection	Overvoitag	e, current input v		PTC fuse, short circuit-proof output	
Rise time (10 - 90%) Insulation voltage input / output					
		DA C C (II		kV <sub>eff</sub>	
Housing material		•		V-0, NFF I2, F2)	
Color of the housing				basalt grey	
Mounting		DIN rail mou		e TS35 (EN 60715)	
Protection class				P20	
Installation position	0 11 :			any	,
Connection device	mm <sup>2</sup> –2.5 mm <sup>2</sup> / A <sup>1</sup>		stran-	Push-In single wire 0.25 mm <sup>2</sup> –2.5 mm <sup>3</sup> AWG 20–14 fine stranded wire with ferrule 0.25 mm <sup>2</sup> –1.5 mm <sup>2</sup> / AWG 20	
		G 20–16		16	
Operation temperature range				+60 °C	
Storage temperature range		-40	O°C.	+80 °C	
Dimensions (w × h × d)		6.2 ×	93.0	× 73.0 mm	
Weight	0.029 kg/piece				
Approvals		cULus (	E135	5145), DNV GL	
Standards	EN 60947-5-1				



A Available with a lead time

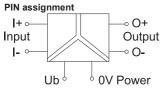
Input: 0-10 V / 0-20 mA / 4-20 mA, manual off automatic

Output: 0-10 V / 0-20 mA / 4-20 mA

Insulation: 2,5 kV / 4 kV, 3-way isolation, Wide range input



Dimensions	3	
1 A		
3 8 10 10		
		_ h
	đ.	n
4 S S S S S S S S S S S S S S S S S S S		$\sim$
17,5	7	70



Range adjustment				
S1	Ir	ηp	u	t
→Switch On	1	2	3	4
0-10V*	•			
0-20mA		•		
4-20mA	•	•		

S1	C	)u	tput
◆→Switch On	5	6	ı .
0-10V*	•		
0-20mA		•	
4-20mA	•	•	

Description		Part-No.		Туре	PU
Screw terminal					
Rated voltage	AC/DC 24 V	750518.0000	R*	LCIS-WAA-MA-0518-175-S	1
	AC/DC 24-240 V	750519.0000	R*	LCIS-WP-WAA-MA-0519-S	1
Push-In					
Rated voltage	AC/DC 24 V	751518.0000	S*	LCIS-WAA-MA-1518-175-PI	1
	AC/DC 24-240 V	751519.0000	S*	LCIS-WP-WAA-MA-1519-PI	1
Input					
Input signal	0–10 V	, 0-20 mA, 4-20	) mA,	, adjustable via DIP switch S1	
Input resistance	>30	0 kΩ @ 0–10 V	, <100	0 Ω @ 0–20 mA, 4–20 mA	
Galvanic isolation I/O		3-	-way i	isolation	
Zero /Span		Produ	iction	comparison	
Output					
Output signal	0-	10 V, 0-20 mA,	4–20	mA adjustable via switch	
Max. load impedance at I-output		500 Ω @	0-20	0 mA, 4–20 mA	
Min. load impedance at U-output		2	kΩ @	0–10 V	
Output current		max.	5 m/	A @ 0–10 V	
Output voltage		< 18 V @	0-2	0 mA, 4–20 mA	
Residual ripple		,	<20 n	nVeff <sub>eff</sub>	
Operating data					
Accuracy		0.1 9	% FS	R @ 23 °C	
Linearity error			0.05	% FSR	
Build-up time (Accuracy 1%)			17	ms	
Critical frequency		3	0 Hz	@ 3 dB	
Temperature coefficient				m / K FSR	
General	AC/D	C 24 V		AC/DC 24-240 V	
Operation voltage range		AC 19.2-	30 V	/ DC 19.2–30 V	
Status indication			LED	green	
Input/output protection	Overvoltage			PTC fuse, short circuit-proof output	
Rise time (10 - 90%)		-,		ms	
Insulation voltage input / output	2.5	kV <sub>eff</sub>		4.0 kV <sub>eff</sub>	
Housing material			1 94	V-0, NFF I2, F2)	
Color of the housing		,		basalt grey	
Mounting				e TS35 (EN 60715)	
Protection class		Dii v raii ii loa		220	
Installation position				ny	
Connection device	Screwed termina	al single wire 0 :		Push-In single wire 0.25 mm <sup>2</sup> –2.5 mm	2/
Commodicin device	mm <sup>2</sup> –2.5 mm <sup>2</sup> / AV	NG 20-14 fine s	tran-		
				ferrule 0.25 mm <sup>2</sup> -1.5 mm <sup>2</sup> / AWG 20	)_
	/ AWC	G 20–16		16	
Operation temperature range		-25	°C.	+60 °C	
Storage temperature range		-40	°C .	+80 °C	
Dimensions (w × h × d)		17.5	× 93.0	) × 75.0 mm	
Weight	0.059 kg/piece				
Approvals	cULus (E135145), DNV GL				
Standards	EN 60947-5-1				



Input: 0–10 V / 0–20 mA / 4–20 mA Output: 0–10 V / 0–20 mA / 4–20 mA

Insulation: 4 kV, 3-way isolation, Wide range input



Dimensions	<b>3</b>	
1 A A 12 2 A A 11 3 O O 10		
		0
	3	
4 <b>3 9</b> 8 8 6 <b>9</b> 7	The	$\sim$
17,5		68 -
	-	73

PIN assig	nment				
I+ ∞— Input			—⊸ O+ Output		
	1/_		∘ O-		
	Up │	0/	/ Power		
Range adjustment					

lange adjustment				
S1	lı	ηp	u	t
◆→Switch On	1	2	3	4
0-10V*	•		П	
0-20mA		•		
4-20mA	•	•		

<b>S1</b> •→Switch On			tpu
0-10V*	•		
0-20mA		•	
4–20mA	•	•	

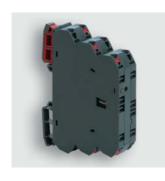
Description Part-No. Type Screw terminal	PU		
	4		
Rated voltage AC/DC 24–240 V 750510.0000 R* LCIS-WP-WAA-0510-175-S	1		
Push-in	4		
Rated voltage AC/DC 24–240 V 751510.0000 <b>S*</b> LCIS-WP-WAA-1510-175-PI	1		
750540,0000			
Input 750510.0000 751510.0000			
Input signal 0–10 V, 0–20 mA, 4–20 mA, adjustable via DIP switch S1			
Input resistance >300 kΩ @ 0–10 V, <100 Ω @ 0–20 mA, 4–20 mA			
Galvanic isolation I/O 3-way isolation			
Zero /Span Production comparison			
Output			
Output signal 0–10 V, 0–20 mA, 4–20 mA adjustable via switch			
Max. load impedance at I-output 500 $\Omega$ @ 0–20 mA, 4–20 mA			
Min. load impedance at U-output $2 \text{ k}\Omega @ 0-10 \text{ V}$			
Output current max. 5 mA @ 0-10 V			
Output voltage < 18 V @ 0–20 mA, 4–20 mA			
Residual ripple <20 mVeff <sub>eff</sub>			
Operating data			
Accuracy 0.1 % FSR @ 23 °C			
Linearity error 0.05 % FSR			
Build-up time (Accuracy 1%) 17 ms			
Critical frequency 30 Hz @ 3 dB			
Temperature coefficient <150 ppm / K FSR			
General			
Rated voltage AC/DC 24–240 V			
Operation voltage range AC 19.2–264 V / DC 19.2–264 V			
Status indication LED green			
Input/output protection Overvoltage, current input with PTC fuse, short circuit-proof output			
Rise time (10 - 90%) 6 ms			
Insulation voltage input / output 4.0 kV <sub>eff</sub>			
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)			
Protection class IP20			
Installation position any			
Connection device  Screwed terminal single wire 0.25  mm²-2.5 mm² / AWG 20-14 fine stranded wire with ferrule 0.25 mm²-1.5 mm²  / AWG 20-16  Push-In single wire 0.25 mm²-2.5 mr²  AWG 20-14 fine stranded wire with ferrule 0.25 mm²-1.5 mm² ferrule 0.25 mm²-1.5 mm² / AWG 20-16	:h		
Operation temperature range -25 °C +60 °C			
Storage temperature range -40 °C +80 °C			
Dimensions (w × h × d) 17.5 × 93.0 × 73.0 mm			
Weight 0.059 kg/piece			
Approvals cULus (E135145), DNV GL			
Standards EN 60947-5-1			



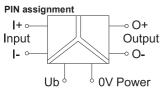
Input: 0-10 V / 0-20 mA / 4-20 mA

Output: 0–10 kHz

Insulation: 4 kV, 3-way isolation, Wide range input

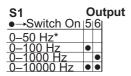


Dimensions		
1 A 8 12 2 A A 11 3 A O 10		
3 8 0 10		
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4 <b>9 9</b> 5 <b>9</b> 8 6 <b>9</b> 9 7	The .	$\sim$ $\sim$
<b></b> 17,5 <b></b>	<u> </u>	68
	1	



Range	adine	tmont

<b>S1</b> •→Switch On	Ir	ηp	u	t
◆Switch On	1	2	3	4
0-10 V*	•			
0–20 mA		•		
4–20 mA	•	•		



Description		Part-No.		Туре	PU
Screw terminal				21.	
Rated voltage	AC/DC 24-240 V	750512.0000	R*	LCIS-WP-WAF-0512-175-S	1
Push-In					
Rated voltage	AC/DC 24-240 V	751512.0000	R*	LCIS-WP-WAF-1512-175-PI	1
Input	7505°	12.0000		751512.0000	
Input signal	0-10 V	, 0-20 mA, 4-20	) mA	adjustable via DIP switch S1	
Input resistance	>30	0 kΩ @ 0–10 V	<10	0 Ω @ 0–20 mA, 4–20 mA	
Galvanic isolation I/O		3-	-way	isolation	
Zero /Span		Produ	ction	comparison	
Output					
Output signal	0-50 Hz, 0-	100 Hz, 0–1 kHz	:, 0 <del>-</del> 1	0 kHz adjustable via DIP switch S1	
Residual ripple				_	
Operating data					
Accuracy		0.1	% FS	R @ 23 °C	
Linearity error			0.05	% FSR	
Build-up time (Accuracy 1%)		frequ	ency	-dependent	
Critical frequency		3	0 Hz	@ 3 dB	
Temperature coefficient		<15	i0 ppi	m / K FSR	
Transmission frequency		frequ	ency	-dependent	
General					
Rated voltage		AC	/DC	24–240 V	
Operation voltage range		AC 19.2-2	64 V	/ DC 19.2–264 V	
Status indication				green	
Input/output protection	Overvoltage			PTC fuse, short circuit-proof output	
Rise time (10 - 90%)		frequ		-dependent	
Insulation voltage input / output				kV <sub>eff</sub>	
Housing material				V-0, NFF I2, F2)	
Color of the housing				basalt grey	
Mounting		DIN rail mou	ntabl	e TS35 (EN 60715)	
Protection class			IF	P20	
Installation position				ny	^
Connection device	Screwed termin mm <sup>2</sup> –2.5 mm <sup>2</sup> / AV	al single wire 0.2	25 tran-	Push-In single wire 0.25 mm <sup>2</sup> –2.5 mm AWG 20–14 fine stranded wire with	
	ded wire with ferrule	e 0.25 mm <sup>2</sup> –1.5 G 20–16	mm <sup>2</sup>	ferrule 0.25 mm <sup>2</sup> –1.5 mm <sup>2</sup> / AWG 20	)_
Operation temperature range	, , , , , , , , , , , , , , , , , , , ,		5 °C	+60 °C	
Storage temperature range				+80 °C	
Dimensions (w × h × d)				× 73.0 mm	
Weight	0.058 kg/piece				
Approvals	cULus (E135145), DNV GL				
Standards		,		947-5-1	
		_			

Input: 16 selectable ranges

Output: 0-10 V / 0-20 mA / 4-20 mA

Insulation: 2.5 kV / 4 kV, 3-way isolation, Wide range input

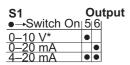


Dimensions	;	
1		
		<i>b</i>
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	' J	
4  9  9  8  8  6  9  7		$\sim \sim  $
17,5	<u> </u>	

PIN assig	nment		
l+ ∞— Input			
I-	Jb °	0/	oo- / Power

#### Range adjustment

S1 ●→Switch On	ļr	ηp	u	t	
<u> ■→Switch On</u>	1	2	3	4	
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	•	•	•	•	



Description		Part-No.		Туре	PU
Screw terminal					
Rated voltage	AC/DC 24 V	750516.0000	R*	LCIS-WUAA-0516-175-S	1
	AC/DC 24-240 V	750517.0000	R*	LCIS-WP-WUAA-0517-175-S	1
Push-In					
Rated voltage	AC/DC 24 V	751516.0000	S*	LCIS-WUAA-1516-175-PI	1
	AC/DC 24-240 V	751517.0000	S*	LCIS-WP-WUAA-1517-175-PI	1
Input	AC/D	C 24 V		AC/DC 24-240 V	
Input signal	0-60, 0-	100, 0-300, 0-5	500 m	nV adjustable via DIP switch S1	
	0–1, 0–2, 0–5, 0–10, 0–20, 2–10 V adjustable via DIP switch S1				
	0–5, 0–10,			mA adjustable via DIP switch S1	
Input resistance				V, <100 Ω @ mA	
Galvanic isolation I/O			,	isolation	
Zero /Span		Produ	ıction	comparison	
Output					
Output signal	0-1			mA, adjustable via switch	
Max. load impedance at I-output		500 Ω @	0-2	0 mA, 4–20 mA	
Min. load impedance at U-output		2	kΩ @	) 0–10 V	
Output current		max.	5 m/	A @ 0–10 V	
Output voltage		< 18 V @	0–2	0 mA, 4–20 mA	
Residual ripple			<20 r	nVeff <sub>eff</sub>	
Operating data					
Accuracy		0.1	% FS	R @ 23 °C	
Linearity error			0.05	% FSR	
Build-up time (Accuracy 1%)			17	ms	
Critical frequency		3	0 Hz	@ 3 dB	
Temperature coefficient		<15	0 pp	m/KFSR	
General	AC/D	C 24 V		AC/DC 24-240 V	
Operation voltage range	AC 19.2-30 V	/ DC 19.2-30 V	1	AC 19.2-264 V / DC 19.2-264 V	
Status indication			LED	green	
Input/output protection	Overvoltage	e, current input v	vith F	PTC fuse, short circuit-proof output	
Rise time (10 - 90%)			6	ms	
Insulation voltage input / output	2.5	kV <sub>eff</sub>		4.0 kV <sub>eff</sub>	
Housing material		PA 6.6 (U	L 94	V-0, NFF I2, F2)	
Color of the housing		RAL	7012	basalt grey	
Mounting		DIN ra	il mo	untable TS35	
Protection class			IF	P20	
Installation position			а	iny	
Connection device		VG 20–14 fine s e 0.25 mm <sup>2</sup> –1.5	tran-	ferrule 0.25 mm <sup>2</sup> –1.5 mm <sup>2</sup> / AWG 20	
0	/ AWC	€ 20–16	- 00	16	
Operation temperature range				+60 °C	
Storage temperature range				+80 °C	
Dimensions (w × h × d)				0 × 73.0 mm	
Weight				kg/piece	
Approvals				145), DNV GL	
Standards		E	:N 60	947-5-1	



A Available with a lead time

# Interface Technology · LCIS potentiometer/analog converter

Input: 0–1 k $\Omega$  / 0–6 k $\Omega$ 

Output: 0-10 V / 0-20 mA / 4-20 mA Insulation: 2.5 kV, 3-way isolation



Dimensions	i	
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PIN assig	nment		
Pot.			
↑ I*	Ubo	0/0	/ Power

Range adjustment			
<b>S1</b>	0	u	tput
Switch On	5	6	
0-10V	•		
0-20mA		•	
4–20mA	•	•	

S1	In	р	u	t
• → Switch On	1	2	3	4
0–6 kΩ				
0–1 kΩ	•			

Approvals

Standards

Description		Part-No.		Туре	PU
Screw terminal					
Rated voltage	AC/DC 24 V	750557.0000	R*	LCIS-WRA-0557-	62-S 1
Push-In					
Rated voltage	AC/DC 24 V	751557.0000	S*	LCIS-WRA-1557-	62-PI 1
Input	7505	57.0000		7515	557.0000
Input variable		Poti 0-	-1 kΩ	, Poti 0–6 kΩ	
Galvanic isolation I/O		3	-way	isolation	
Measuring procedure		2-wire	, con	stant current	
Zero /Span		Produ	ıction	comparison	
Input resistance			>1	ΜΩ	
Parameterisation			)IP sv	vitch S1	
Sensor current		0,45 mA @ 0-	1 kΩ	/ 0,15 mA @ 0– 6 k	Ω
Protection device		Oven	oltag	e protection	
Output			_		
Output signal		0-10 V,	0-20	mA, 4-20 mA	
Max. load impedance at I-output			50	0 Ω	
Min. load impedance at U-output			2	kΩ	
Load deviation		at U-outp	ut ma	x. 5 mV @ 2 kΩ	
Output voltage				0 mA, 4–20 mA	
Output current				nA @ 10 V	
Residual ripple				nVeff <sub>eff</sub>	
Parameterisation	DIP switch S1				
Protection device	short circuit protection				
Operating data				<u>'</u>	
Accuracy		0.3	% FS	R @ 23 °C	
Linearity error				6 FSR	
Build-up time (Accuracy 1%)		ca.	60 m	s @ 23 °C	
Critical frequency				3 dB / 23 °C	
Temperature coefficient			_	n / K FSR	
General					
Operation voltage range		AC 19.2-2	6.4 V	/ DC 18.0-31.2 V	
Rated voltage			AC/D	C 24 V	
Rated current	C	a. 22 mA @ AC	24 V	/ ca. 13 mA @ DC	24 V
Status indication				green	
Insulation voltage input / output				kV <sub>eff</sub>	
Housing material		PA 6.6 (U		V-0, NFF I2, F2)	
Color of the housing				basalt grey	
Mounting				e TS35 (EN 60715)	
Protection class				20	
Installation position			а	ny	
Connection device	mm <sup>2</sup> –2.5 mm <sup>2</sup> / A ded wire with ferrul	nal single wire 0 WG 20–14 fine s e 0.25 mm <sup>2</sup> –1.5 G 20–16	25 stran-	Push-In single wire	e 0.25 mm <sup>2</sup> –2.5 mm <sup>2</sup> / e stranded wire with –1.5 mm <sup>2</sup> / AWG 20– 16
Operation temperature range		-25	5°C.	+60 °C	
Storage temperature range		-40	°C.	+85 °C	
Dimensions (w × h × d)		6.2 ×	93.0	× 73.0 mm	
Weight		0	.030 I	kg/piece	
<del></del> .					



cULus in preparation, DNV GL in preparation

EN 60947-5-1

Output: 0-60 mV

Output: 0-10 V / 0-20 mA / 4-20 mA Insulation: 2.5 kV, 3-way isolation



Dimensions		
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PIN assig	nment		
I+∘— Input I- ∘—			—∘O+ Output —∘O-
	⊔h .	0/	/ Dower

### Range adjustment

<b>S1</b>	0	u	tput
Switch On	5	6	
0-10V	•		
0-20mA		•	
4–20mA	•	•	

S1	In	р	u	t	
Switch On	1	2	3	4	
0_60 mV					

Description		Part-No.		Туре	PU
Screw terminal					
Rated voltage	AC/DC 24 V	750901.0000	R*	LCIS-WAA-0901-62-S	1
Push-In					
Rated voltage	AC/DC 24 V	751901.0000	S*	LCIS-WAA-1901-62-PI	1
1		004 0000		751001 0000	
Input	/50	901.0000	ltono	751901.0000	
Input variable			_	0–60 mV	
Galvanic isolation I/O				isolation	
Measuring procedure			_	easurement	
Zero /Span		Produ		comparison	
Input resistance		_		ΜΩ	
Parameterisation			IP sv	vitch S1	
Sensor current		_		-	
Protection device		Over	/oltag	ge protection	
Output					
Output signal		0–10 V,		) mA, 4–20 mA	
Max. load impedance at I-output				0 Ω	
Min. load impedance at U-output				kΩ	
Load deviation				ıx. 5 mV @ 2 kΩ	
Output voltage				0 mA, 4–20 mA	
Output current	max. 5 mA @ 10 V				
Residual ripple	<20 mVeff <sub>eff</sub>				
Parameterisation	DIP switch S1				
Protection device	short circuit protection				
Operating data					
Accuracy		0.1 9	% FS	R @ 23 °C	
Linearity error			0.1 9	% FSR	
Build-up time (Accuracy 1%)		ca.	60 m	s @ 23 °C	
Critical frequency		10 H	z @ 3	3 dB / 23 °C	
Temperature coefficient		15	0 ppn	n / K FSR	
General					
Operation voltage range		AC 19.2-20	6.4 V	/ DC 18.0-31.2 V	
Rated voltage			AC/D	C 24 V	
Rated current		ca. 22 mA @ AC	24 V	/ ca. 13 mA @ DC 24 V	
Status indication			LED	green	
Insulation voltage input / output			2.5	kV <sub>eff</sub>	
Housing material		PA 6.6 (U	L 94	V-0, NFF I2, F2)	
Color of the housing		RAL	7012	basalt grey	
Mounting		DIN rail mou	ntabl	e TS35 (EN 60715)	
Protection class			IF	20	
Installation position				iny	
Connection device	mm <sup>2</sup> –2.5 mm <sup>2</sup> / ded wire with ferr	ninal single wire 0.3 AWG 20–14 fine s ule 0.25 mm <sup>2</sup> –1.5 NG 20–16	tran-	Push-In single wire 0.25 mm <sup>2</sup> –2.5 mm <sup>2</sup> AWG 20–14 fine stranded wire with ferrule 0.25 mm <sup>2</sup> –1.5 mm <sup>2</sup> / AWG 20	
Operation temperature range	, , , ,		5°C.	+60 °C	
Storage temperature range				+85 °C	
Dimensions (w × h × d)				× 73.0 mm	
Weight				kg/piece	
Approvals				DNV GL in preparation	
Standards				947-5-1	



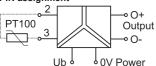
Input: PT100, 2-wire

Output: 0-10 V / 0-20 mA / 4-20 mA Insulation: 2.5 kV, 3-way isolation



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#### PIN assignment



#### Range adjustment

S1	0	u	tput
Switch On	5	6	·
0-10V	•		
0-20mA		•	
4–20mA	•	•	

<b>S1</b>	In	р	u'	t
Switch On	1	2	3	4
-50 − 50°C				
-50 – 100°C		•		
-50 – 150°C			•	
0 – 100°C		•	•	
0 – 150°C				lacksquare
0 – 200°C		•		•
0 – 300°C			•	•
0 – 400°C		•	•	•

Standards

Description		Part-No.		Туре	PU
Screw terminal					
Rated voltage	AC/DC 24 V	750809.0000	R*	LCIS-WPT2LA-0809-62-S	1
Push-In					
Rated voltage	AC/DC 24 V	751809.0000	S*	LCIS-WPT2LA-1809-62-PI	1
Input	7508	09.0000		751809.0000	
Input variable		Temper	ature	sensor PT100	
Galvanic isolation I/O				isolation	
Measuring procedure			,	stant current	
Zero /Span				comparison	
Input resistance				ΜΩ	
Parameterisation				vitch S1	
Temperature range	-50 °C–50 °C / -50			50 °C / 0 °C-100 °C / 0 °C-150 °C / 0 °C 0 °C / 0 °C-400 °C	:-
Sensor current				5 mA	
Protection device		Overv	oltaq	ge protection	
Output				•	
Output signal		0–10 V.	0-20	) mA, 4–20 mA	
Max. load impedance at I-output		,		0 Ω	
Min. load impedance at U-output			2	kΩ	
Load deviation		at U-outp	ut ma	ıx. 5 mV @ 2 kΩ	
Output voltage	< 16 V @ 0–20 mA, 4–20 mA				
Output current	max. 5 mA @ 10 V				
Residual ripple	<20 mVeff <sub>eff</sub>				
Parameterisation				vitch S1	
Protection device	short circuit protection				
Operating data		0.1010	000	in protocion	
Accuracy		0.3	% FS	R @ 23 °C	
Linearity error				6 FSR	
Build-up time (Accuracy 1%)		ca	60 m	s @ 23 °C	
Critical frequency				3 dB / 23 °C	
Temperature coefficient				n / K FSR	
Error coefficient of measuring line				΄ Κ/Ω	
General					
Operation voltage range		AC 19 2-2	3 4 V	/ DC 18.0-31.2 V	
Rated voltage				C 24 V	
Rated current	C			/ ca. 13 mA @ DC 24 V	
Status indication				green	
Insulation voltage input / output				kV <sub>eff</sub>	
Housing material		PA 6 6 (U		V-0, NFF I2, F2)	
Color of the housing				basalt grey	
Mounting				e TS35 (EN 60715)	
Protection class		2		220	
Installation position				iny	
Connection device	mm <sup>2</sup> –2.5 mm <sup>2</sup> / A\ ded wire with ferrule		25 tran-	Push-In single wire 0.25 mm <sup>2</sup> –2.5 mm <sup>2</sup> AWG 20–14 fine stranded wire with ferrule 0.25 mm <sup>2</sup> –1.5 mm <sup>2</sup> / AWG 20- 16	
Operation temperature range		-25	5°C.	+60 °C	
Storage temperature range				+85 °C	
Dimensions (w × h × d)				× 73.0 mm	
Weight				kg/piece	
Approvals				DNV GL in preparation	
		1 1-11			



EN 60947-5-1

Input: PT100, 2-wire/3-wire

Output: 0-10 V / 0-20 mA / 4-20 mA Insulation: 2.5 kV, 2-way isolation



Dimensions		
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## PI100 1

PT100	2 3 Output	
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Range adjustment			
<b>S1</b>	0	u'	tput
• Switch On	5	6	
0-10V	•		
0-20mA		•	
4–20mA	•	•	

S1	In	р	u'	t
Switch On	1	2	3	4
PT100, 3-wire				
PT100, 2-wire	•			
-50 − 50°C				
-50 – 100°C		•		
-50 – 150°C			•	
<u>0 – 100°C</u>		•	•	
0 – 150°C				•
<u>0 – 200°C</u>		•		•
0 – 300°C			•	
0 – 400°C		•	•	•

Description		Part-No.		Туре	PU
Screw terminal					
Rated voltage	AC/DC 24 V	750819.0000	R*	LCIS-WPT3LA-0819-62-S	1
Push-In					
Rated voltage	AC/DC 24 V	751819.0000	S*	LCIS-WPT3LA-1819-62-PI	1
Input	7508	19.0000		751819.0000	
Input variable				sensor PT100	
Galvanic isolation I/O				isolation	
Measuring procedure				, constant current	
Zero /Span				comparison	
Input resistance			,	>500 kΩ @ 3-wire	
Parameterisation	F0 °0 F0 °0 / F0			vitch S1	,
Temperature range	-50 °C-50 °C / -50		C-30	50 °C / 0 °C–100 °C / 0 °C–150 °C / 0 °C 0 °C / 0 °C–400 °C	<i>j</i> –
Sensor current		0		5 mA	
Protection device		Oven	/oltag	ge protection	
Output		0.401/	0 00	) A	
Output signal		0–10 V,		0 mA, 4–20 mA	
Max. load impedance at I-output				0 Ω	
Min. load impedance at U-output				kΩ	
Load deviation				x. 5 mV @ 2 kΩ	
Output voltage				0 mA, 4–20 mA	
Output current				nA @ 10 V	
Residual ripple				nVeff <sub>eff</sub>	
Parameterisation				vitch S1	
Protection device		short	cırcu	it protection	
Operating data		0.04	· -0	D 0 00 00	
Accuracy		0.3		R @ 23 °C	
Linearity error				6 FSR	
Build-up time (Accuracy 1%)				s @ 23 °C	
Critical frequency				3 dB / 23 °C	
Temperature coefficient	0			n / K FSR	
Error coefficient of measuring line	Z-C0	onductor: 2.7 K/s	.2, 3-0	conductor: 0.1 K + 0.1 %/Ω	
General		40.40.0	~ 4 \ /	/ DC 18.0–31.2 V	
Operation voltage range					
Rated voltage Rated current				C 24 V	
	(	a. 22 MA @ AC		/ ca. 13 mA @ DC 24 V	
Status indication				green	
Insulation voltage input / output		D/ 66 /II		kV <sub>eff</sub> V-0, NFF I2, F2)	
Housing material Color of the housing				basalt grey	
Mounting Protection class		טווא זמוו וווסע		e TS35 (EN 60715) P20	
Installation position				iny	
Connection device	Screwod tormin	nal single wire 0.		Push-In single wire 0.25 mm <sup>2</sup> –2.5 mm	2 /
Connection device	mm <sup>2</sup> –2.5 mm <sup>2</sup> / A ded wire with ferru	WG 20-14 fine s	tran-		
Operation temperature range		-25	5°C.	+60 °C	
Storage temperature range		-40	°C.	+85 °C	
Dimensions (w × h × d)		6.2 ×	93.0	× 73.0 mm	
Weight		0	.030 I	kg/piece	
Approvals		cULus in prepara	ation,	DNV GL in preparation	
Standards		E	N 60	947-5-1	



A Available with a lead time

Input: PT100, 2-wire/3-wire

Output: 0-10 V / 0-20 mA / 4-20 mA Insulation: 4.0 kV, 3-way isolation



Dimensions	
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PIN as	signment		
PT100	, <u>1</u> , <u>2</u>	Toy	→ O+ Outpu → O-

## Range adjustment

<b>S1</b>	0	u	tput
Switch On	5	6	
0-10V	•		
0-20mA		•	
4–20mA	•	•	

<b>S1</b> • → Switch On	In			
PT100, 3-wire	Ė	_	Ť	Ė
PT100, 2-wire	•			
-50 - 50°C				
-50 – 100°C		•		
-50 – 150°C			•	
0 – 100°C		•	•	
0 – 150°C				
0 – 200°C		•		
0 – 300°C			•	
0 – 400°C		•	•	lacksquare

Standards

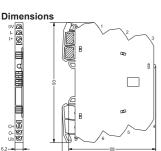
Description Screw terminal	Part-N	No.		Туре	PU
Rated voltage	AC/DC 24-240 V 75081	7.0000 R	*	LCIS-WP-WPT3LA-0817-175-S	1
Push-In					
Rated voltage	AC/DC 24–240 V 75181	7.0000 <b>S</b>	*	LCIS-WP-WPT3LA-1817-175-PI	1
Input	750817.0000			751817.0000	
Input variable				ensor PT100	
Galvanic isolation I/O				olation	
Measuring procedure	2-1		,	constant current	
Zero /Span				comparison	
Input resistance	>1 N			-500 kΩ @ 3-wire	
Parameterisation				tch S1	
Temperature range				0 °C / 0 °C-100 °C / 0 °C-150 °C / 0 °C- °C / 0 °C-400 °C	
Sensor current		(	1 2.0	mA	
Protection device		Overvolt	tage	protection	
Output					
Output signal				mA, 4–20 mA	
Max. load impedance at I-output			500		
Min. load impedance at U-output			2 k	Ω	
Load deviation		at	U-o	utput	
				/ @ 2 kΩ	
Output voltage	•			mA, 4–20 mA	
Output current				A @ 10 V	
Residual ripple				/eff <sub>eff</sub>	
Parameterisation				tch S1	
Protection device		short cir	cuit	protection	
Operating data					
Accuracy				. @ 23 °C	
Linearity error				FSR	
Build-up time (Accuracy 1%)				@ 23 °C	
Critical frequency				dB / 23 °C	
Temperature coefficient				/ K FSR	
Error coefficient of measuring line  General	2-conductor	: 2.7 K/Ω, 3	3-co	nductor: 0.1 K + 0.1 %/Ω	
Operation voltage range	AC	19,2–264	V /	DC 18,0-264 V	
Rated voltage		AC/D	C 24	4–240 V	
Rated current	ca. 22 m/	A @ AC 24	V /	ca. 19 mA @ DC 24 V	
Status indication		LE	ED g	reen	
Insulation voltage input / output			.0 k		
Housing material	Р	•		-0, NFF I2, F2)	
Color of the housing				pasalt grey	
Mounting	DIN	rail mounta		TS35 (EN 60715)	
Protection class			IP2	20	
Installation position			an	•	
Connection device	Screwed terminal single mm <sup>2</sup> –2.5 mm <sup>2</sup> / AWG 20– ded wire with ferrule 0.25 m / AWG 20–16	14 fine stra ım <sup>2</sup> –1.5 mn	ın-	Push-In single wire 0.25 mm <sup>2</sup> -2.5 mm <sup>2</sup> / AWG 20-14 fine stranded wire with ferrule 0.25 mm <sup>2</sup> -1.5 mm <sup>2</sup> / AWG 20- 16	
Operation temperature range		-25 °C	С	+60 °C	
Storage temperature range		-40 °C	С	+85 °C	
Dimensions (w × h × d)		17.5 × 9	3.0	× 73.0 mm	
Weight				g/piece	
Approvals	cULus ir	preparatio	n, C	NV GL in preparation	
Standards		ENI	ണമ	47-5-1	



EN 60947-5-1

Input: Thermal elements J, K Output: 0-10 V / 0-20 mA / 4-20 mA Insulation: 2.5 kV, 3-way isolation





PIN assignn	nent		
TC			• O+ Output • O-
	Ub	ļ 0V Ι	Power

Range adj	justment
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<b>S1</b>	O	u	tput
Switch On	5	6	ľ
0-10V	•		
0-20mA		•	
4–20mA	•	•	

		р		
• → 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		•	•	•

Description		Part-No.		Туре	PU
Screw terminal					
Rated voltage	AC/DC 24 V	750839.0000	R*	LCIS-WTCA-0839-62-S	1
Push-In					
Rated voltage	AC/DC 24 V	751839.0000	S*	LCIS-WTCA-1839-62-PI	1
Input	7509	339.0000		751839.0000	
Input variable			omoi	nt J or K (DIN/IEC 584-1)	
Galvanic isolation I/O	ı	•		isolation	
Measuring procedure			_	easurement	
Zero /Span		Produ		comparison $M\Omega$	
Input resistance Parameterisation				vitch S1	
	50 °C 000 °C / 5	_			
Temperature range	-50 °C-200 °C / -5			00 °C / 0 °C–400 °C / 0 °C–600 °C / 0 °C– 0 °C / 0 °C–1200 °C	-
Cold junction compensation				e temperature range	
Protection device		Overv	oltag	e protection	
Output					
Output signal		0–10 V,	0-20	mA, 4–20 mA	
Max. load impedance at I-output			50	0 Ω	
Min. load impedance at U-output			2	kΩ	
Load deviation		at U-outpo	ut ma	x. 5 mV @ 2 kΩ	
Output voltage		< 16 V @	0-2	0 mA, 4–20 mA	
Output current		max	. 5 m	A @ 10 V	
Residual ripple		•	<20 n	nVeff <sub>eff</sub>	
Parameterisation		D	IP sv	vitch S1	
Protection device		short	circu	it protection	
Operating data					
Accuracy		0.5 % +	- 2K	FSR @ 23 °C	
Linearity error		0.1 % FS	R, te	mperature linear	
Build-up time (Accuracy 1%)		ca.	60 m	s @ 23 °C	
Critical frequency		10 H:	z @ 3	3 dB / 23 °C	
Temperature coefficient		150	) ppn	ı / K FSR	
Transmission frequency				_	
General					
Operation voltage range		AC 19.2–26	6.4 V	/ DC 18.0–31.2 V	
Rated voltage		,	AC/D	C 24 V	
Rated current	(	ca. 22 mA @ AC	24 V	/ ca. 13 mA @ DC 24 V	
Status indication				green	
Insulation voltage input / output			2.5	kV <sub>eff</sub>	
Housing material		PA 6.6 (U		V-0, NFF I2, F2)	
Color of the housing		,		basalt grey	
Mounting				e TS35 (EN 60715)	
Protection class				220	
Installation position				nv	
Connection device	mm <sup>2</sup> –2.5 mm <sup>2</sup> / A ded wire with ferru		25 tran-	Push-In single wire 0.25 mm <sup>2</sup> –2.5 mm <sup>2</sup> /	
Operation temperature range	. , , , , ,		°C	+60 °C	
Storage temperature range				+85 °C	
Dimensions (w × h × d)				× 73.0 mm	
Weight				(g/piece	
Approvals				DNV GL in preparation	
Standards				947-5-1	



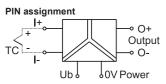
R Available on request

Input: Thermal elements J, K

Output: 0-10 V / 0-20 mA / 4-20 mA Insulation: 4.0 kV, 3-way isolation



Dimensions	
1 A & 12 0V I- 2 A A 11 I+ 3 O O 10	
0+ 4 9 9 9 0- 5 9 9 8 6 9 7 Ub	
- 17,5 -	68
	73



Range	adjustment	
<b>S1</b>		Output
	0 1 1 0	

• Switch On	5	6	•
0-10V	•		
0-20mA		•	
4–20mA	•		

<b>S1</b> • Switch On	<b>I</b> n			
TC J (Fe-CuNi)				
TC K (Ni-CrNi) -50 – 200°C	•	H		_
-50 - 350°C		•		
0 – 200°C 0 – 400°C		•	•	
0 - 600°C				•
0 – 800°C 0 – 1000°C		•	•	•
0 – 1000 C 0 – 1200°C		•	•	•

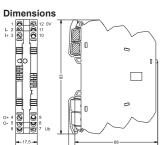
Description   Part-No.   Type   PU   Screw terminal										
Rated voltage	Description		Part-No.		Туре	PU				
Rated voltage	Screw terminal									
Rated voltage	Rated voltage	AC/DC 24-240 V	750847.0000	R*	LCIS-WP-WTCA-0847-175-S	1				
Input	Push-In									
Input variable   Thermo voltage, element J or K (DIN/IEC 584-1)   3-way isolation	Rated voltage	AC/DC 24-240 V	751847.0000	S*	LCIS-WP-WTCA-1847-175-PI	1				
Input variable   Thermo voltage, element J or K (DIN/IEC 584-1)   3-way isolation										
Calvanic isolation I/O   3-way isolation   Weasuring procedure   Voltage measurement	Input	750847.0000 751847.0000								
Neasuring procedure   Voltage measurement	Input variable	Thermo voltage, element J or K (DIN/IEC 584-1)								
Production comparison   Input resistance   >1 MΩ	Galvanic isolation I/O	• • • • • • • • • • • • • • • • • • • •								
Input resistance	Measuring procedure	•								
Parameterisation	Zero /Span		Produ	ction	comparison					
Temperature range	Input resistance			>1	$M\Omega$					
	Parameterisation		С	IP sv	vitch S1					
Cold junction compensation         throughout the entire temperature range           Output Output         Overvoltage protection           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           Output voltage         < 18 V @ 0-20 mA, 4-20 mA           Output current         max. 5 mA @ 10 V           Residual ripple         <20 mVeff <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           Build-up time (Accuracy 1%)         ca. 60 ms @ 23 °C           Critical frequency         10 Hz @ 3 dB / 23 °C           Temperature coefficient         150 ppm / K FSR           Transmission frequency         —           General         AC 19,2-264 V / DC 18,0-264 V           Rated voltage range         AC 19,2-264 V / DC 18,0-264 V           Rated current         ca. 22 mA @ AC 24 V / ca. 19 mA @ DC 24 V           Isulation voltage input / output         4,0 kV <sub>eff</sub> Housing material <td>Temperature range</td> <td>-50 °C-200 °C / -50</td> <td></td> <td></td> <td></td> <td>-</td>	Temperature range	-50 °C-200 °C / -50				-				
Protection device   Overvoltage protection	2									
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           Output voltage         < 18 V @ 0-20 mA, 4-20 mA					· •					
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           Output voltage         < 18 V @ 0-20 mA, 4-20 mA			Over	/oltag	e protection					
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           Output voltage         < 18 V @ 0-20 mA, 4-20 mA           Output current         max. 5 mA @ 10 V           Residual ripple         < 20 mVeff <sub>eff</sub> Parameterisation         DIP switch \$1           Protection device         short circuit protection           Operating data         Accuracy         0.5 % + 2K FSR @ 23 °C           Accuracy         0.5 % + 2K FSR, temperature linear           Build-up time (Accuracy 1%)         ca. 60 ms @ 23 °C           Critical frequency         10 Hz @ 3 dB / 23 °C           Temperature coefficient         150 ppm / K FSR           Transmission frequency         -           General         AC 19,2-264 V / DC 18,0-264 V           Qeneral         AC 19,2-264 V / DC 18,0-264 V           Rated voltage range         AC 19,2-264 V / DC 18,0-264 V           Rated current         ca. 22 mA @ AC 24 V / ca. 19 mA @ DC 24 V           Status indication         LED green           Insulation voltage input / output         4.0 kV <sub>eff</sub> Housing material         PA 6.6 (UL 94 V-0, NFF 12, F2)           Color of the housing         RAL 7012 b	•									
Min. load impedance at U-output	. 0		0–10 V,		•					
Load deviation										
Output voltage         < 18 V @ 0-20 mA, 4-20 mA										
Output current         max. 5 mA @ 10 V           Residual ripple         <20 mVeff <sub>eff</sub> Parameterisation         DIP switch S1           Protection device         short circuit protection           Operating data         Accuracy         0.5 % + 2 K FSR @ 23 °C           Linearity error         0.1 % FSR, temperature linear           Build-up time (Accuracy 1%)         ca. 60 ms @ 23 °C           Critical frequency         10 Hz @ 3 dB / 23 °C           Temperature coefficient         150 ppm / K FSR           Transmission frequency         –           General         AC 19,2–264 V / DC 18,0–264 V           Operation voltage range         AC 19,2–264 V / DC 18,0–264 V           Rated voltage         AC/DC 24–240 V           Rated voltage         AC/DC 24–240 V           Rated voltage input / output         4.0 kV <sub>eff</sub> 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)           Protection class         IP20           Installation position         any           Connection device         Screwed terminal single wire 0.25 mm²-1.5 mm² / AWG 20-14 fine stranded wire with ferrule 0.25 mm²-2.5 mm²-1.5 mm² / AWG 20-15         AWG 20-14 f										
Residual ripple										
Parameterisation   DIP switch \$1										
Protection device         short circuit protection           Operating data         Accuracy         0.5 % + 2K FSR @ 23 °C           Linearity error         0.1 % FSR, temperature linear           Build-up time (Accuracy 1%)         ca. 60 ms @ 23 °C           Critical frequency         10 Hz @ 3 dB / 23 °C           Temperature coefficient         150 ppm / K FSR           Transmission frequency         -           General         Coperation voltage range         AC 19,2–264 V / DC 18,0–264 V           Rated voltage         AC/DC 24–240 V           Rated current         ca. 22 mA @ AC 24 V / ca. 19 mA @ DC 24 V           Status indication         LED green           Insulation voltage input / output         4.0 kV <sub>eff</sub> 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)           Protection class         IP20           Installation position         any           Connection device         Screwed terminal single wire 0.25 mm² – 1.5 mm² / AWG 20–14 fine stranded wire with ferrule 0.25 mm² – 1.5 mm²					CII					
Operating data										
Accuracy  Linearity error  0.1 % FSR, temperature linear  Build-up time (Accuracy 1%)  ca. 60 ms @ 23 °C  Critical frequency  10 Hz @ 3 dB / 23 °C  Temperature coefficient  Transmission frequency  General  Operation voltage range  AC 19,2–264 V / DC 18,0–264 V  Rated voltage  AC/DC 24–240 V  Rated current  Ca. 22 mA @ AC 24 V / ca. 19 mA @ DC 24 V  Status indication  Insulation voltage input / output  Housing material  PA 6.6 (UL 94 V-0, NFF I2, F2)  Color of the housing  Mounting  DIN rail mountable TS35 (EN 60715)  Protection class  IP20  Installation position  Connection device  Screwed terminal single wire 0.25 mm²-2.5 mm² / AWG 20–14 fine stranded wire with ferrule 0.25 mm²-1.5 mm² / AWG 20–16  Operation temperature range  -25 °C +60 °C  Storage temperature range  Dimensions (w × h × d)  17.5 × 93.0 × 73.0 mm  Weight  O.059 kg/piece			short	circu	it protection					
Linearity error  Build-up time (Accuracy 1%)  Ca. 60 ms @ 23 °C  Critical frequency  10 Hz @ 3 dB / 23 °C  Temperature coefficient  Transmission frequency  General  Operation voltage range  AC 19,2−264 V / DC 18,0−264 V  Rated voltage  AC/DC 24−240 V  Rated current  Ca. 22 mA @ AC 24 V / ca. 19 mA @ DC 24 V  Status indication  LED green  Insulation voltage input / output  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)  Protection class  IP20  Installation position  Connection device  Screwed terminal single wire 0.25 mm²−2.5 mm² / AWG 20−14 fine stranded wire with ferrule 0.25 mm²−1.5 mm² / AWG 20−14 fine stranded wire with ferrule 0.25 mm²−1.5 mm² / AWG 20−14 fine stranded wire with ferrule 0.25 mm²−1.5 mm² / AWG 20−14 fine stranded wire with ferrule 0.25 mm²−1.5 mm² / AWG 20−14 fine stranded wire with ferrule 0.25 mm²−1.5 mm² / AWG 20−14 fine stranded wire with ferrule 0.25 mm²−1.5 mm² / AWG 20−14 fine stranded wire with ferrule 0.25 mm²−1.5 mm² / AWG 20−14 fine stranded wire with ferrule 0.25 mm²−1.5 mm² / AWG 20−16  Operation temperature range  Consection temperature range  Screwed terminal single wire 0.25 mm²−1.5 mm² / AWG 20−16  Operation temperature range  To consection temperature range  Consection temper	_ · <del>-</del>									
Build-up time (Accuracy 1%)					•					
Critical frequency         10 Hz @ 3 dB / 23 °C           Temperature coefficient         150 ppm / K FSR           Transmission frequency         —           General         —           Operation voltage range         AC 19,2–264 V / DC 18,0–264 V           Rated voltage         AC/DC 24–240 V           Rated current         ca. 22 mA @ AC 24 V / ca. 19 mA @ DC 24 V           Status indication         LED green           Insulation voltage input / output         4.0 kV <sub>eff</sub> 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)           Protection class         IP20           Installation position         any           Connection device         Screwed terminal single wire 0.25 mm²-1.5 mm² / AWG 20–14 fine stranded wire with ferrule 0.25 mm²-1.5 mm² / AWG 20–14 fine stranded wire with ferrule 0.25 mm²-1.5 mm² / AWG 20–16           Operation temperature range         -25 °C +60 °C           Storage temperature range         -40 °C +85 °C           Dimensions (w × h × d)         17.5 × 93.0 × 73.0 mm           Weight         0.059 kg/piece					•					
Temperature coefficient Transmission frequency  General Operation voltage range Rated voltage Rated current Status indication Insulation voltage input / output Housing material Color of the housing Protection class Installation position Connection device  Screwed terminal single wire 0.25 mm²-2.5 mm² / AWG 20-14 fine stranded wire with ferrule 0.25 mm²-1.5 mm² / AWG 20-16  Operation temperature range  -25 ° C +60 ° C Storage temperature range Dimensions (w × h × d)  To No 19,2-264 V / DC 18,0-264 V AC 19,2-264 V / Cc. 19 mA @ DC 24 V AC 19 mA @ DC 24 V					<u> </u>					
Transmission frequency  General  Operation voltage range  AC 19,2–264 V / DC 18,0–264 V  Rated voltage  AC/DC 24–240 V  Rated current  Ca. 22 mA @ AC 24 V / ca. 19 mA @ DC 24 V  Status indication  Insulation voltage input / output  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)  Protection class  IP20  Installation position  Connection device  Screwed terminal single wire 0.25 mm²-2.5 mm² / AWG 20–14 fine stranded wire with ferrule 0.25 mm²-1.5 mm² ded wire with ferrule 0.25 mm²-1.5 mm² / AWG 20–14 fine stranded wire with ferrule 0.25 mm²-1.5 mm² / AWG 20–14 fine stranded wire with ferrule 0.25 mm²-1.5 mm² / AWG 20–16  Operation temperature range  -25 °C +60 °C  Storage temperature range  -40 °C +85 °C  Dimensions (w × h × d)  17.5 × 93.0 × 73.0 mm  Weight	. ,									
GeneralOperation voltage rangeAC 19,2–264 V / DC 18,0–264 VRated voltageAC/DC 24–240 VRated currentCa. 22 mA @ AC 24 V / ca. 19 mA @ DC 24 VStatus indicationLED greenInsulation voltage input / output4.0 kVerfHousing materialPA 6.6 (UL 94 V-0, NFF I2, F2)Color of the housingRAL 7012 basalt greyMountingDIN rail mountable TS35 (EN 60715)Protection classIP20Installation positionanyConnection deviceScrewed terminal single wire 0.25 mm² / AWG 20–14 fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 20–14 fine stranded wire with ferrule 0.25 mm² – 1.5 mm² / AWG 20–16Operation temperature range-25 °C +60 °CStorage temperature range-40 °C +85 °CDimensions (w × h × d)17.5 × 93.0 × 73.0 mmWeight0.059 kg/piece	•		150	) ppm	1 / K FSR					
Operation voltage range AC 19,2–264 V / DC 18,0–264 V Rated voltage AC/DC 24–240 V Rated current ca. 22 mA @ AC 24 V / ca. 19 mA @ DC 24 V Status indication LED green Insulation voltage input / output 4.0 kV <sub>eff</sub> Housing material PA 6.6 (UL 94 V-0, NFF 12, F2) Color of the housing RAL 7012 basalt grey Mounting DIN rail mountable TS35 (EN 60715) Protection class IP20 Installation position any Connection device Screwed terminal single wire 0.25 Push-In single wire 0.25 mm²-2.5 mm² / AWG 20–14 fine stranded wire with ferrule 0.25 mm²-1.5 mm² / AWG 20–14 fine stranded wire with ferrule 0.25 mm²-1.5 mm² / AWG 20–16 To Connection temperature range 4.0 °C +85 °C Dimensions (w × h × d) 17.5 × 93.0 × 73.0 mm  Weight					_					
Rated voltage Rated current Ca. 22 mA @ AC 24 V / ca. 19 mA @ DC 24 V Status indication LED green Insulation voltage input / output 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) Protection class IP20 Installation position Connection device Screwed terminal single wire 0.25 mm²-2.5 mm² / AWG 20-14 fine stranded wire with ferrule 0.25 mm²-1.5 mm² / AWG 20-14 fine stranded wire with ferrule 0.25 mm²-1.5 mm² / AWG 20-14 fine stranded wire with ferrule 0.25 mm²-1.5 mm² / AWG 20-16  Operation temperature range -25 °C +60 °C Storage temperature range -40 °C +85 °C Dimensions (w × h × d)  17.5 × 93.0 × 73.0 mm Weight					100 100 00111					
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$										
Status indication  Insulation voltage input / output  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)  Protection class  IP20  Installation position  Connection device  Screwed terminal single wire 0.25 Push-In single wire 0.25 mm²-2.5 mm² / AWG 20-14 fine stranded wire with ferrule 0.25 mm²-1.5 mm² / AWG 20-14 fine stranded wire with ferrule 0.25 mm²-1.5 mm² / AWG 20-14 fine stranded wire with ferrule 0.25 mm²-1.5 mm² / AWG 20-16  Operation temperature range  -25 °C +60 °C  Storage temperature range  -40 °C +85 °C  Dimensions (w × h × d)  17.5 × 93.0 × 73.0 mm  Weight	0									
$ \begin{array}{llllllllllllllllllllllllllllllllllll$		Ca	a. 22 mA @ AC							
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)  Protection class IP20  Installation position any  Connection device Screwed terminal single wire 0.25 mm²-2.5 mm² / AWG 20–14 fine stranded wire with ferrule 0.25 mm²-1.5 mm² ferrule 0.25 mm²-1.5 mm² / AWG 20–14 fine stranded wire with ferrule 0.25 mm²-1.5 mm² / AWG 20–14 fine stranded wire with ferrule 0.25 mm²-1.5 mm² / AWG 20–14 fine stranded wire with ferrule 0.25 mm²-1.5 mm² / AWG 20–16  Operation temperature range -25 °C +60 °C  Storage temperature range -40 °C +85 °C  Dimensions (w × h × d) 17.5 × 93.0 × 73.0 mm  Weight					•					
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			54.00//							
$\begin{array}{c c} \mbox{Mounting} & \mbox{DIN rail mountable TS35 (EN 60715)} \\ \mbox{Protection class} & \mbox{IP20} \\ \mbox{Installation position} & \mbox{any} \\ \mbox{Connection device} & \mbox{Screwed terminal single wire 0.25} & \mbox{Push-In single wire 0.25 mm}^2 - 2.5 mm^2 / \mbox{AWG 20-14 fine stranded wire with ferrule 0.25 mm}^2 - 1.5 mm^2 / \mbox{AWG 20-16} & \mbox{AWG 20-16 or C} \\ \mbox{Operation temperature range} & \mbox{-25 °C} + 60 °C \\ \mbox{Storage temperature range} & \mbox{-40 °C} + 85 °C \\ \mbox{Dimensions (w × h × d)} & \mbox{17.5 × 93.0 × 73.0 mm} \\ \mbox{Weight} & \mbox{0.059 kg/piece} \\   \$	· · · · · ·		,							
$ \begin{array}{c} \text{Protection class} & \text{IP20} \\ \text{Installation position} & \text{any} \\ \text{Connection device} & \text{Screwed terminal single wire 0.25} \\ \text{mm}^2-2.5 \text{ mm}^2 / \text{AWG 20-14 fine stranded wire with ferrule 0.25 mm}^2-1.5 \text{ mm}^2} \\ \text{AWG 20-16} & \text{AWG 20-14 fine stranded wire with ferrule 0.25 mm}^2-1.5 \text{ mm}^2 / \text{AWG 20-16}} \\ \text{Operation temperature range} & -25 ^{\circ}\text{C} +60 ^{\circ}\text{C}} \\ \text{Storage temperature range} & -40 ^{\circ}\text{C} +85 ^{\circ}\text{C}} \\ \text{Dimensions (w} \times \text{h} \times \text{d)} & 17.5 \times 93.0 \times 73.0 \text{ mm} \\ \text{Weight} & 0.059 \text{ kg/piece} \\ \end{array} $										
$ \begin{array}{c} \text{Installation position} & \text{any} \\ \text{Connection device} & \text{Screwed terminal single wire 0.25} \\ \text{mm}^2 - 2.5 \text{ mm}^2 / \text{AWG 20-14 fine stranded wire with ferrule 0.25 mm}^2 - 1.5 \text{ mm}^2 / \text{AWG 20-15 mm}^2 - 1.5 \text{ mm}^2 / \text{AWG 20-16} \\ \text{Operation temperature range} & -25 ^{\circ}\text{C} \dots +60 ^{\circ}\text{C} \\ \text{Storage temperature range} & -40 ^{\circ}\text{C} \dots +85 ^{\circ}\text{C} \\ \text{Dimensions (w × h × d)} & 17.5 \times 93.0 \times 73.0 \text{ mm} \\ \text{Weight} & 0.059 \text{ kg/piece} \\ \end{array} $	o o		DIN rail mou		,					
$\begin{array}{c} mm^2-2.5 \text{ mm}^2 / \text{AWG 20}^-14 \text{ fine stranded wire with ferrule } 0.25 \text{ mm}^2-1.5 \text{ mm}^2 \\ \text{ded wire with ferrule } 0.25 \text{ mm}^2-1.5 \text{ mm}^2 \\ \text{AWG 20}-16 \end{array} \qquad \begin{array}{c} \text{AWG 20}^-14 \text{ fine stranded wire with ferrule } 0.25 \text{ mm}^2-1.5 \text{ mm}^2 / \text{AWG 20}-16 \\ \text{Operation temperature range} \\ \text{Storage temperature range} \\ \text{Storage temperature range} \\ \text{Dimensions (w × h × d)} \\ \text{Weight} \\ \end{array} \qquad \begin{array}{c} \text{AWG 20}^-14 \text{ fine stranded wire with ferrule } 0.25 \text{ mm}^2-1.5 \text{ mm}^2 / \text{AWG 20}-16 \\ OPERATION STORAGE STOR$						,				
Storage temperature range       -40 °C +85 °C         Dimensions (w × h × d)       17.5 × 93.0 × 73.0 mm         Weight       0.059 kg/piece	Connection device	mm <sup>2</sup> –2.5 mm <sup>2</sup> / AWG 20–14 fine stranded wire with ferrule 0.25 mm <sup>2</sup> –1.5 mm <sup>2</sup> ferrule 0.25 mm <sup>2</sup> –1.5 mm <sup>2</sup> / AWG 20–								
Storage temperature range       -40 °C +85 °C         Dimensions (w × h × d)       17.5 × 93.0 × 73.0 mm         Weight       0.059 kg/piece	Operation temperature range									
Weight 0.059 kg/piece			-40	°C.	+85 °C					
Weight 0.059 kg/piece	Dimensions (w × h × d)		17.5	× 93.0	) × 73.0 mm					
Approvals cULus in preparation, DNV GL in preparation	,		0.	.059 k	kg/piece					
	Approvals	С	ULus in prepara	ation,	DNV GL in preparation					
Standards EN 60947-5-1	Standards		E	N 60	947-5-1					



A Available with a lead time

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





PIN assignn	nent		
TC	Ub	T <sub>OV F</sub>	⊸ O+ Output ⊸ O-

Range adjustment S1	^		tnut
	U	u	tput
→ Switch On	5	6	
0-10V	•		
0-20mA		•	
4–20mA	•	•	

S1	In			
<ul><li>Switch On</li></ul>	1	2	3	4
TC J (Fe-CuNi)				
TC K (Ni-CrNi)	•			
J: -50 – 150°C				
K: -210 – 105°C		L		
<u>-50 – 250°C</u>		•		
-50 – 350°C			•	
0 – 400°C		•	•	
0 – 600°C				•
0 - 800°C		•		•
0 – 1000°C			•	•
0 – 1200°C		•	•	•

Description		Part-No.		Туре	PU					
Screw terminal										
Rated voltage	AC/DC 24-240 V	750848.0000	R*	LCIS-WP-WTCA-0848-175-S	1					
Push-In										
Rated voltage	AC/DC 24-240 V	751848.0000	S*	LCIS-WP-WTCA-1848-175-PI	1					
Input	75084	48.0000		751848.0000						
Input variable	Th	ermo voltage, e	lemer	nt J or K (DIN/IEC 584-1)						
Galvanic isolation I/O		3-	way i	solation						
Measuring procedure		Voltage measurement								
Zero /Span		Production comparison								
Input resistance				ΜΩ						
Parameterisation		С	IP sv	vitch S1						
Temperature range	J: -50 °C-150 °C / -			C-350 °C / 0 °C-400 °C / 0 °C-600 °C / 0						
		°C-800 °C / 0 °	C-10	00 °C / 0 °C–1200 °C						
				$^{\circ}\text{C}-350~^{\circ}\text{C}$ / 0 $^{\circ}\text{C}-400~^{\circ}\text{C}$ / 0 $^{\circ}\text{C}-600~^{\circ}\text{C}$						
	1	0 °C-800 °C / 0	°C-1	1000 °C / 0 °C-1200 °C						
Cold junction compensation		throughout the	entir	e temperature range						
Protection device		Over	oltag	e protection						
Output										
Output signal		0–10 V,	0-20	mA, 4–20 mA						
Max. load impedance at I-output			50	0 Ω						
Min. load impedance at U-output			2	kΩ						
Load deviation		at U-outp	ut ma	x. 5 mV @ 2 kΩ						
Output voltage		< 18 V @	0-20	0 mA, 4–20 mA						
Output current		max	c. 5 m	A @ 10 V						
Residual ripple			<20 m	nVeff <sub>eff</sub>						
Parameterisation		С	IP sv	vitch S1						
Protection device		short	circu	it protection						
Operating data				·						
Accuracy		0.5 % -	- 2K F	FSR @ 23 °C						
Linearity error		0.1 % FS	R. tei	mperature linear						
Build-up time (Accuracy 1%)				s @ 23 °C						
Critical frequency				3 dB / 23 °C						
Temperature coefficient				n / K FSR						
Transmission frequency			-  -	_						
General										
Operation voltage range		AC 19 2-2	64 V	/ DC 18,0–264 V						
Rated voltage				24–240 V						
Rated current	C			/ ca. 19 mA @ DC 24 V						
Status indication				green						
Insulation voltage input / output				kV <sub>eff</sub>						
Housing material		PA 6 6 (III		V-0, NFF I2, F2)						
Color of the housing				basalt grey						
Mounting				e TS35 (EN 60715)						
Protection class		Dir Tali Illou		220						
Installation position				ny						
Connection device	Screwed termina	al single wire 0 '		Push-In single wire 0.25 mm <sup>2</sup> –2.5 mm <sup>2</sup> /						
Connection device	mm <sup>2</sup> –2.5 mm <sup>2</sup> / AV ded wire with ferrule	NG 20-14 fine s	tran-	AWG 20–14 fine stranded wire with ferrule 0.25 mm <sup>2</sup> –1.5 mm <sup>2</sup> / AWG 20– 16						
Operation temperature range			°C.	+60 °C						
Storage temperature range	-40 °C +85 °C									
Dimensions (w × h × d)				) × 73.0 mm						
Weight				g/piece						
Approvals				DNV GL in preparation						
Standards				947-5-1						



# **Notes**



# Compact, flexible, safe: The new Microcompact Signal Converter of

## **Compact**

Very narrow housing width of 6,2 mm

## Wide temperature range

Extended temperature range of -25...+70°C for broad range of applications

## Fast response time

Up to 1ms response time for AC signal transmission

## **High load impedance**

All current outputs are qualified for 750 Ohm loads!

## Safety isolation

All devices offer "Safety isolation" with 2,5kV-isolation voltage acc. EN 61140

## **Easy installation**

Jumper combs instead of wiring via complete Isolated jumper connections simplify installation



# w intelligent the LCON series





# Interface Technology · Microcompact analog/analog converter

Input: ±30 V, ±50 mA, ±DC 5 A adjustable

Output: 0-20 mA / 4-20 mA / 0-10 V / -10-10 V / 2-10 V / 0-5 V / 1-5 V

Insulation: 2.5 kV, 3-way isolation



Dimensions	
90 5 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	109.5
_	115,5

PIN assignment
Parameterisation
port
1
LED
ļ ļ
+ • • • • • • • • • • • • • • • • • • •
Out U, I ( \ 4 5 \ \ 5
<b>←</b>
+mA
<b>⊘</b> 3   6 ⊗ > ⊙
+ • — A
Power DC 24V 7 S
- • — GND
<b>⊘</b> 1 8 ⊗ <b>&gt;</b>

-1 Pwr // 8	-U/I
+20 PWI // 07	+I (A) +I (mA) —
○-3¢ 7/ ¢6	+I (mA)
+40 // 05	+U`

Protection class

Weight

Approvals

Standards

Installation position

Operation temperature range Storage temperature range

Dimensions ( $w \times h \times d$ )

#### Range adjustment

											_
	S1	-	• -	•	Switc	h On					
Range*	1	2 3	4	5	Rang	ge*	1	2	3	4	5
0-50mV		T			0-1	0mA					•
0 – 100mV		•			0-2	0mA	•				•
0-200mV		•	Г		0-5	0mA	Г	•	Г		•
0-500mV	П	•	Т	П	4-2	0mA	•	•	Г	Г	•
0 – 1V	•	•	Т	П	0-0	.5A	Г	Г	•	Г	•
0-2V	П	•			0 – 1.	A	•		•		•
0-5V		•	T	П	0-2	A	Π		•	Г	•
0 – 10V	П	Т	•		0-5	A	•	•	•		•
0-20V	•	Ι	•		±1V					•	•
0-30V	П	•	•		±5V		•		Г	•	•
1-5V		•	•		±10\	/		•		•	•
2-10V	П	•	•	П	±5m.	A	•		Г		•
0 – 1mA		•			±20r	nΑ			•	•	•
0-2mA	П	•	•	П	±2A		•		•		•
0-5mA		•	•		±5A			•	•	•	•
S1 1-8 off: FD	T/D	TΝ	1			Outp	uf		6	7	8
								-		Ė	
*See instruction leaflet						0-20			•	Ŀ	
						4-20		ıΑ	ļ.	•	$\vdash$
							<u> </u>		•	•	L
						±10V		_	L	L	•
2-10V  ●   €								•			

Description		Part-No.		Туре	PU
Screw terminal					
Rated voltage	DC 24 V	750320	R*	LCON AA DFDT 806210	1
Spring terminal					
Rated voltage	DC 24 V	751320	S*	LCON AA DFDT 806211	1
Input					
Measurement input	+30/-30 V, +50/-5			adjustable via switch and software FDT/ on via micro USB	
Galvanic isolation I/O			3-way	isolation	
Step response (10–90%)	1.5 ms – 750 ms (a	adjustable		of filter stage 1–5, default: filter stage 4 = 0 ms)	
Critical frequency				_	
Input resistance	>800 kΩ @ -	+30/-30 V,	30 Ω @ +5	50/-50 mA, 10 mΩ @ DC +5 A/-5 A	
Zero /Span			freely a	djustable	
Output					
Output signal	0–10 V, -10–10 V			adjustable via switch and software FDT/ ia USB service cable	
Max. load impedance at I-output		700	Ω@0-20	0 mA, 4–20 mA	
Min. load impedance at U-output				) V, -10-+10 V	
Load deviation				_	
Limitation for exceeding measurement range	10.25 V (	@ 0–10 V,	-10–10 V,	20.5 mA @ 0–20 mA, 4–20 mA	
max. modulation range/output current	10.5 V (	@ 0–10 V,	-10–10 V,	21 mA @ 0–20 mA, 4–20 mA	
Operating data					
Accuracy				0/-30 V, +50/-50 V @ +5 A/-5 A	
Linearity error				30/-30 V, +50/-50 V R @ +5 A/-5 A	
General					
Rated voltage			DC	24 V	
Operation voltage range			16.8	–30 V	
Rated current			approx	r. 18 mA	
Status indication			LED green	ı, red (error)	
Input/output protection		vervoltage	DC 30 V,	short circuit-proof output	
Connection device	Screw terminal 0.	.14 mm <sup>2</sup> –	1.5 mm <sup>2</sup>	Spring terminal 0.14 mm <sup>2</sup> – 1.5 mm <sup>2</sup>	
Resolution				6-bit	
Temperaturcompensation intern				_	
Configuration		Switc	h and soft	ware: FDT / DTM	
Temperature error			<100 p	pm FSR	
Data storage			FI	ash	
Insulation voltage input / output			2.5	kV <sub>eff</sub>	
Housing material			PA 6.6 (l	JL 94 V-0)	
Color of the housing				grey	
Mounting		DIN rai	l mountable	e TS35 (EN 60715)	

IP20

any -40 °C ... +70 °C

-40 °C ... +85 °C

6.2 × 90.0 × 115.5 mm

0.050 kg/piece

cULus (E135145), Cl.1 Div2, Gr. A, B, C, D, T4A, GL

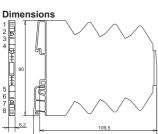
EN 60947-5-1



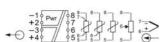
# Interface Technology · Microcompact temp./analog converter

# Input: PT, thermocouple, potentiometer – adjustable temperature converter Output: 0–20 mA / 4–20 mA / 0–10 V / -10–10 V / 2–10 V / 0–5 V / 1–5 V Insulation: 2.5 kV, 3-way isolation





# 



#### Range adjustment

Range*		S2									
Start	Start 7			2	End	3	4	5	6	7	8
-200°C	•	Г	Г	П	0°C	•	Г		Г	Г	Г
-150°C	•	•	Г		50°C		•	•			Г
-100°C	•		•		100°C	•	•		•		
-50°C		•		•	150°C	•		•	•		
0°C	•	•	•	•	200°C	•	•	•	•		
Sensor* S	١.1	1	2	2	250°C	•	L			•	L
Sensor	)	Ц	_	3	300°C	•	•			•	
Pt100		•			350°C	•		•		•	
Pt1000			•		400°C	•	•	•		•	
TE J		•	•		450°C	•			•	•	L
TEK				•	500°C	•	•		•	•	L
Pot. %		•	•	•	550°C	•	L	•	•	•	L
Output* S	31	4	5	6	600°C	•	•	•	•	•	
	)	4	J	O	650°C	•					•
0-20mA		•			700°C	•	•				•
4 – 20mA			•		750°C	•		•			•
0 – 10V		•	•		800°C	•	•	•			•
±10V				•	850°C	•	L		•		•
S1-S2 1-8 of	r.				900°C	•	•		•		•
FDT/DTM					950°C	•	L	•	•		•
I DI/DIW					1000°C	•	•	•	•		•
*See instruct	ioi	า			1050°C	•	L			•	•
					1100°C	•	•			•	•
leaflet											
leaflet					1150°C	•		•		•	•
leaflet					1200°C	•	•	•		•	•
leaflet					1200°C 1250°C	•	Ť	•	•	•	•
leaflet					1200°C 1250°C 1300°C	•	Ť	•	•	• • •	•
leaflet					1200°C 1250°C 1300°C 1350°C	•	Ť	•	• •		•
leaflet					1200°C 1250°C 1300°C	•	•	•	•	• • • •	•

Description	Pa	rt-No.		Туре	PU
Screw terminal					
Rated voltage	DC 24 V 75	0340	R*	LCON TA DFDT 806210	1
Spring terminal					
Rated voltage	DC 24 V 75	1340	S*	LCON TA DFDT 806211	1
Input					
Measurement input	Therma	al elem	ents: Type	entiometer 0–100 kΩ, e B, C, E, J, K, N, R, S, T upport points, polynomial	
Galvanic isolation I/O			3-way i	solation	
Temperature range				220 850 °C depending on type 2310 °C depending on type	
Step response (10–90%)	TE: 10 – 750 ms, PT: 5			able by means of filter stage 1–5, defaul <sup>,</sup> Iter stage 4)	i:
Input resistance				uples: 1 MΩ	
Sensor current	PT, potention	neter, r	esistance:	0.2/0.6 mA depending on type	
Circuit	PT - 2, 3, 4-wire, for 2-	wire wit		orrection, no external bridges necessary detection	,
Output					
Output signal				adjustable via switch and software FDT/ a USB service cable	1
Max. load impedance at I-output		700	Ω@0-20	) mA, 4–20 mA	
Max. load impedance at U-output		>2	kΩ @ 0-1	0 V, -10-10 V	
Limitation for exceeding measurement range	10.25 V @ 0-	-10 V, <b>-</b>	10–10 V,	20.5 mA @ 0–20 mA, 4–20 mA	
max. modulation range/output current	10.5 V @ 0-	-10 V, -	-10–10 V,	21 mA @ 0–20 mA, 4–20 mA	
Residual ripple				_	
Operating data					
Accuracy				set measuring range (K) + 0.2 % FSR asuring range (K) + 0.4 % FSR	
Linearity error			±0.1 9	% FSR	
General					
Rated voltage				24 V	
Operation voltage range				–30 V	
Rated current				. 18 mA	
Status indication				, red (error)	
Input/output protection				short circuit-proof output	
Connection device	Screw terminal 0.14 n	nm- – 1		Spring terminal 0.14 mm <sup>2</sup> – 1.5 mm <sup>2</sup>	
Resolution	T.			i-bit	
Temperaturcompensation intern	Ine			ype ±1 K , max. ±2 K	
Configuration		Switch		ware: FDT / DTM	
Temperature error				ppm/K ash	
Data storage					
Insulation voltage input / output				kV <sub>eff</sub>	
Housing material Color of the housing			,	JL 94 V-0)	
Mounting		IN rail		grey e TS35 (EN 60715)	
Protection class	L	nin fail		220	
Installation position				ny	
•				+70 °C	
()neration temperature range				+85 °C	
Operation temperature range					
Storage temperature range		۵			
Storage temperature range Dimensions (w × h × d)		6	.2 × 90.0	× 115.5 mm	
Storage temperature range	cl II us (F		0.050 l		

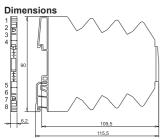


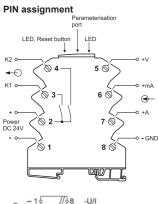
# Interface Technology · Microcompact analog/limit value switch

Input: ±30 V, ±50 mA, ±5 A adjustable – adjustable limit value switch

Output: Semiconductor NO contact Insulation: 2.5 kV, 2-way isolation







Description		Part-No.		Туре	PU
Screw terminal		r art-140.	•	Туре	10
Rated voltage	DC 24 V	750360	R*	LCON ALS FDT 806210	1
Spring terminal	DO 24 V	700000		2001171201210	
Rated voltage	DC 24 V	751360	S*	LCON ALS FDT 806211	1
rated voltage	DO 24 V	701000		200147/201211000211	
Input					
Measurement input	+30/-30 V, +50/-50	) mA, DC +	5 A/-5 A, a	djustable via software FDT/DTM, con	nec-
·				nicro USB	
Galvanic isolation I/O			2-way	isolation	
Step response (10–90%)	4 ms - 750 ms (ad	justable by	means of f	ilter stage 1-5, default: filter stage 4 =	200
				ns)	
Input resistance	>800 kΩ @	+30/-30 V,		50/-50 mA, 10 mΩ @ DC +5 A/-5 A	
Zero /Span			freely a	djustable	
Output					
Output signal	+30/-30 V, +50/-50			ljustable via software FDT / DTM, con service cable	nec-
Contact type		K1,K2:	Semi-con	ductor, N/O contact	
Max. switching voltage			DC	30 V	
Max. switching current			DC 1	00 mA	
Status display output	LED yel	low K1 and	LED yello	w K2, not short circuit protected	
Operating mode	Limit value, windo	w, alarm οι	utput / addi	tionally adjustable: Hysteresis, input /	out-
			put	delay	
Operating data					
Accuracy				0/-30 V, +50/-50 V @ +5 A/-5 A	
Linearity error			_	30/-30 V, +50/-50 V R @ +5 A/-5 A	
General			,		
Rated voltage			DC	24 V	
Operation voltage range				–30 V	
Rated current				c. 12 mA	
Status indication		LED are		(K1, K2), red (error)	
Input/output protection		J		ge DC 30 V	
Connection device	Screw terminal (	).14 mm <sup>2</sup> –		Spring terminal 0.14 mm <sup>2</sup> – 1.5 m	m <sup>2</sup>
Resolution				S-bit	
Temperaturcompensation intern					
Configuration			Software:	FDT / DTM	
Temperature error				pm FSR	
Data storage				ash	
Insulation voltage input / output			2.5	kV <sub>eff</sub>	
Housing material				JL 94 V-0)	
Color of the housing				t grey	
Mounting		DIN rai		e TS35 (EN 60715)	
Protection class		2		220	
Installation position				iny	
Operation temperature range				+70 °C	
Storage temperature range				+85 °C	
Dimensions (w × h × d)				× 115.5 mm	
Weight				kg/piece	
Approvals	cH	us (F13514		v2, Gr. A, B, C, D, T4A, GL	
Standards	302	(=::0:		947-5-1	



A Available with a lead time

# Interface Technology · Microcompact temp./limit value switch

# Input: PT, thermocouple, potentiometer – adjustable temperature converter

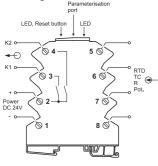
**Output: Semiconductor NO contact** Insulation: 2.5 kV, 2-way isolation





Dimensions	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
56 77 8	109.5
	115.5

#### PIN assignment





•					
Description		Part-No.		Type	PU
Screw terminal				•	
Rated voltage	DC 24 V	750370	R*	LCON TLS FDT 806210	1
Spring terminal					
Rated voltage	DC 24 V	751370	S*	LCON TLS FDT 806211	1
ÿ					
Input					
Measurement input		PT100, P	T1000, p	ootentiometer 0–100 kΩ,	
				ype B, C, E, J, K, N, R, S, T	
		Customer-sp	ecific via	a support points, polynomial	
Galvanic isolation I/O				ay isolation	
Temperature range				e: -220 850 °C depending on type 2310 °C depending on type	
Step response (10–90%)	TE: 10 – 750 ms			ustable by means of filter stage 1–5, defau – filter stage 4)	It:
Input resistance				couples: 1 MΩ	
Sensor current	PT. p	otentiometer.		ce: 0.2/0.6 mA depending on type	
Circuit				t correction, no external bridges necessar	٧,
	_, _, _,	,		m. detection	,
Output					
Output signal	adjustable	e via software	FDT / D	TM, connection via USB service cable	
Contact type	,	K1,K2:	Semi-co	onductor, N/O contact	
Max. switching voltage				OC 30 V	
Max. switching current			DO	C 100 mA	
Status display output	LED	yellow K1 and	LED ye	llow K2, not short circuit protected	
Operating mode				dditionally adjustable: Hysteresis, input / o	ut-
			р	ut delay	
Operating data					
Accuracy				K, set measuring range (K) + 0.2 % FSR measuring range (K) + 0.4 % FSR	
Linearity error			±0	.1 % FSR	
General					
Rated voltage				OC 24 V	
Operation voltage range			16	6.8–30 V	
Rated current			app	rox. 12 mA	
Status indication		LED gre	en, yello	ow (K1, K2), red (error)	
Input/output protection			Overvo	Itage DC 30 V	
Connection device	Screw termina	al 0.14 mm <sup>2</sup> –	1.5 mm	Spring terminal 0.14 mm <sup>2</sup> – 1.5 mm	2
Resolution				16-bit	
Temperaturcompensation intern		Thermal	element	s: type ±1 K , max. ±2 K	
Configuration			Softwar	re: FDT / DTM	
Temperature error			<1	00 ppm/K	
Data storage				Flash	
Insulation voltage input / output			AC	2.5 kV <sub>eff</sub>	
Housing material				6 (UL 94 V-0)	
Color of the housing			li	ght grey	
Mounting		DIN rai	I mounta	able TS35 (EN 60715)	
Protection class				IP20	
Installation position				any	
Operation temperature range			-40 °	C +70 °C	
Storage temperature range			-40 °	C +85 °C	
Dimensions (w × h × d)			6.2 × 90	1.0 × 115.5 mm	
Weight			0.05	50 kg/piece	
Approvals	С	ULus (E13514	45), Cl.1	Div2, Gr. A, B, C, D, T4A, GL	
Standards			EN	60947-5-1	



# Interface Technology · Microcompact analog/analog splitter

Input: 0-10 V, 0-20 mA, 4-20 mA adjustable Output:  $2 \times 0-10$  V, 0-20 mA, 4-20 mA Insulation: 2.5 kV, 4-way isolation



Dimen	eione	
1 2 3 4 日本七		
5 6 7 8		
6,2	-	109,5 115,5

PIN assignment	LED
Output 1 S 4	5 S Input
3	6 8 5
Power DC 24V	7 Output 2

$\begin{array}{c c} -1 & & & & & & & & & & & & \\ +2 & & & & & & & & & & \\ 7 & & & & & & & & & & \\ -3 & & & & & & & & & \\ 1) & & & & & & & & & \\ & & & & & & & & & \\ \end{array}$
Range adjustment

	S	1	•	<b>→</b>	Swi	tch	O	1		
Range	1	2		3	4		5 6		7	8
0 – 10V	•	П		•	Т	7	•		П	Т
0-20mA	Т	•		П	•	Γ		1		
4-20mA		•		•	•	- [		1		
	Inp	out	Οι	ıtpı	ut 1	Oı	utp	ut 2		
Filter Off									П	
Filter On									•	
Output Lin										

See instruction leaflet for details

Description		Part-No.		Туре	PU
Screw terminal					
Rated voltage	DC 24 V	750321	R*	LCON AASP D 806210	1
Spring terminal					
Rated voltage	DC 24 V	751321	S*	LCON AASP D 606211	1
<u> </u>					
Input					
Measurement input	0-1	10 V, 0–20	) mA, 4–20	mA adjustable via switch	
Galvanic isolation I/O			4-way	isolation	
Critical frequency		30 H	Hz (filter off	), 5 Hz (filter on)	
Input resistance	500 kΩ (	@ 0–10 V,	, 100 Ω @	0–20 mA, 100 mΩ @ 4–20 mA	
Zero /Span			freely a	djustable	
Output					
Output signal		0-	-10 V, 0–20	) mA, 4–20 mA	
Max. load impedance at I-output		400	0 Ω @ 0–2	0 mA, 4–20 mA	
Max. load impedance at U-output				@ 0–10 V	
Limitation for exceeding measure-			V00 511	vitababla	
ment range			yes, sv	vitchable	
max. modulation range/output cur-	10	5 V @ 0_	.10 V/ 21 m	nA @ 0–20 mA, 4–20 mA	
rent	10	.5 V W 0-		9	
Residual ripple			<20 r	nVeff <sub>eff</sub>	
Operating data					
Accuracy				% FSR	
Linearity error			±0.1	% FSR	
General					
Rated voltage			DC	24 V	
Operation voltage range			16.8	–30 V	
Rated current			13	mA	
Status indication				green	
Input/output protection				short circuit-proof output	
Connection device	Screw terminal 0.	14 mm <sup>2</sup> –	1.5 mm <sup>2</sup>	Spring terminal 0.14 mm <sup>2</sup> – 1.5 mm <sup>2</sup>	
Resolution			16	S-bit	
Configuration			Sv	vitch	
Temperature error			<150 p	pm FSR	
Data storage			FI	ash	
Insulation voltage input / output			2.5	kV <sub>eff</sub>	
Housing material			PA 6.6 (l	JL 94 V-0)	
Color of the housing				t grey	
Mounting		DIN rai	•	e TS35 (EN 60715)	
Protection class				220	
Installation position			а	iny	
Operation temperature range			-40 °C .	+70 °C	
Storage temperature range				+85 °C	
Dimensions (w × h × d)				× 115.5 mm	
		cULus, C		01	
Standards		,,		947-5-1	
Weight Approvals Standards		cULus, C	I.1 Div2, G	kg/piece r. A, B, C, D, T4A, GL 947-5-1	



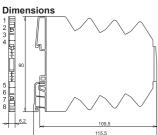
A Available with a lead time

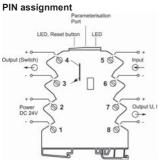
# Interface Technology · Microcompact analog/limit value switch

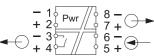
# Input/output: 0–10 V, 0–20 mA, 4–20 mA, 2–10 mA, 0–5 V, 1–5 V, 2–10 V adjustable Output: switching transistor DC 30 V/100 mA adjustable (LiveZero)

Insulation: 2.5 kV, 4-way isolation









#### Range adjustment

	S1		<b>→</b>	S	witch	On		
Range	1 2	3		4	5	6	7	8
0 – 10V	•	П		•	Т			
0-20mA					•			
4-20mA	•			•	•			
2-10mA		•	C	ut	put			
0-5V	•	•						
1-5V		•						
2-10V		•						
	Inp	ut						
Live Zero C	ff							
Live Zero C	n					•		
Filter Off								1
Filter On				_			•	
Output Limi								
Output Limi	tatic	n C	n_					•

S1 1-8 off: FDT/DTM See instruction leaflet for details

Description		Part-No.		Туре	Pι
Screw terminal					
Rated voltage	DC 24 V	750322	A*	LCON AALS DFDT 806210	1
Spring terminal					
Rated voltage	DC 24 V	751322	S*	LCON AALS DFDT 806211	1
Input					
Measurement input	0–10 V, 0–5 V, 1-			A, 4–20 mA, 2–10 mA, adjustable via sof nnection via micro USB	t-
Galvanic isolation I/O			4-way	isolation	
Delay ON/OFF	5 ms-200 m	ns (adjustab	le by mea	ns of filter stage 1–5, default: 50 ms)	
Step response (10–90%)				ans of filter stage 1–5, default: 100 ms)	
Input resistance	500 kΩ @ 0–10 V	′, 0–5 V, 1–	5 V, 2–10	V, 100 $\Omega$ @ 0–20 mA, 4–20 mA, 2–10 m	A
Zero /Span			freely a	adjustable	
Output analogue					
Output signal	0–10 V, 0–5 V, 1-			A, 4–20 mA, 2–10 mA, adjustable via sof nnection via micro USB	t-
Max. load impedance at I-output		400 Ω @	0-20 mA	A, 4–20 mA, 2–10 mA	
Max. load impedance at U-output		>2 kΩ @	0-10 V,	0–5 V, 1–5 V, 2–10 V	
Limitation for exceeding measurement range			yes, s	witchable	
max. modulation range/output current	10.5 V @ 0–10 V	, 0–5 V, 1–5	V, 2–10 V	V, 21 mA @ 0–20 mA, 4–20 mA, 2–10 m	A
Residual ripple			<20	mVeff <sub>eff</sub>	
Output switching transistor					
Output signal	0–10 V, 0–5 V, 1-			A, 4–20 mA, 2–10 mA, adjustable via sof nnection via micro USB	t-
Contact type		Switching		non short-circuit proof	
Max. switching voltage				2 30 V	
Max. switching current				100 mA	
Status display output				yellow	
Operating mode	Limit value, timefr	ame, tender	ncy+, tend	ency-, tendency+/-, inversion, error memory	)-
LiveZero		can be ac	tivated via	a switch and FDT/DTM	
Operating data					
Accuracy				% FSR	
Linearity error			±0.1	% FSR	
General					
Rated voltage				C 24 V	
Operation voltage range				3–30 V	
Rated current				3 mA	
Status indication				green/red	
Input/output protection	O	0.44		age DC 30 V	
Connection device Resolution	Screw terminal	u. 14 mm² –		Spring terminal 0.14 mm <sup>2</sup> – 1.5 mm <sup>2</sup>	
				6-bit : FDT / DTM	
Configuration					
Temperature error Data storage				opm FSR ilash	
Insulation voltage input / output				5 kV <sub>eff</sub>	
Housing material				UL 94 V-0)	
Color of the housing				nt grey	
Mounting		DIN rai		le TS35 (EN 60715)	
Protection class		Dilvial		P20	
Installation position				any	
Operation temperature range				+70 °C	
Storage temperature range				+85 °C	
Dimensions (w × h × d)				) × 115.0 mm	
Weight				kg/piece	
Approvals	cH	us (E13514		liv2, Gr. A, B, C, D, T4A, GL	
Standards	001	- (= .551		0947-5-1	

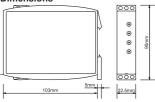


#### Voltage monitoring 1-phase

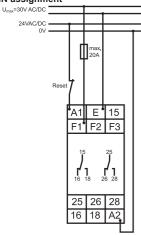


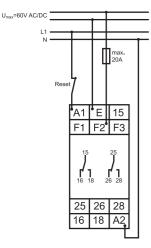
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#### **Dimensions**



#### PIN assignment





Description		Part-No		Туре	PU
Voltage control					
	1-phase	750600	S*	LCR-U-1-1-2U-24-240	1
Function					
Monitoring of AC and DC voltages in 1-phase networks with adjustable thresholds					
separately adjustable start-up sup	, ,				

Over: High-voltage monitoring
Over + Latch: High-voltage monitoring with error memory
Under: Under-voltage monitoring
Under + Latch: under-voltage monitoring with error memory

WIN: Monitoring the range between thresholds Min and Max

WIN + Latch: Monitoring the range between Min and Max thresholds with error memory

ı	ım	ıe	ra	ng

Start-up suppression, settable	0 – 10 s	
trigger delay, settable	0.1 – 10 s	
Status indication		
Supply status	LED green	
Start bridge status	LED green flashing	
Output relay status	LED yellow	
Threshold error status	LED red	
Trigger delay status	LED red flashing	
Housing		
Dimensions (w × h × d)	22.5 × 90.0 × 105.0 mm	
Color of the housing	light grey	
Housing material	PA	
Protection class	IP40	
Connection cross-section	$1\times0.5$ to $2.5~\text{mm}^2$ with AE $1\times4~\text{mm}^2$ without AE $2\times0.5$ to $1.5~\text{mm}^2$ with AE $2\times2.5~\text{mm}^2$ without AE	
Installation position	anv	

Installation position	any
Weight	0.200 kg/piece
Approvals	cULus (E135145)

pprovals	cULus (E1
upply circuit	
ated voltage range	AC/DC 24 V

Rated voltage range	AC/DC 24 V – 240 V
Tolerance	AC: -15 %/+10 %, DC: -20 %/+25 %
Rated frequency	16 Hz @ AC 24 V, 48 Hz – 400 Hz @ AC 24 V – 240 V
Power consumption	4.5 VA (1 W)

100 % ED Operating time Recovery time 500 ms Waveform AC Sinus Residual ripple 10 %

Voltage drop >15 % of the power supply

Measurement surge voltage 4 kV

#### **Output circuit**

Number of channels	2
Measurement voltage	AC 250 V
Switching voltage	AC 250 V
Switching current max.	3A (5A at a distance >5mm)
Protection device	5 A guick-acting

20 × 10<sup>6</sup> (1000 VA) Mechanical service life  $2 \times 10^5 (1000 \text{ VA})^2$ Electrical service life

60/min @100 VA, 6/min @ 1000 VA Switching frequency III acc. IEC 60664-1

Over voltage category Measurement surge voltage 4 kV

Basic accuracy	≤3 % (end of scale)
Frequency response	-10 %/+5 % (16.6 – 400 Hz)
Tolerance of setting	≤5 % (end of scale)
Repeat accuracy	≤2 %

N/A Voltage influence Temperature error ≤0.05 %/°C

Measuring circuit DC, AC (16.6 - 400 Hz) Measuring variable External fuse max. 20 A (acc. UL 601010)

AC/DC 30 V, AC/DC 60 V, AC/DC 300 V Measuring range 100  $V_{\rm eff}$  @ 30 V, 150  $V_{\rm eff}$  @ 60 V, 440  $V_{\rm eff}$  @ 300 V Overload capability 47 k $\Omega$  @ 30 V, 100 k $\Omega$  @ 60 V, 470 k $\Omega$  @ 300 V Input resistance

5 % – 95 % U<sub>N</sub> Switching threshold min. Switching threshold max. 10 % - 100 % U<sub>N</sub> Over voltage category III acc. IEC 60664-1



Available with a lead time

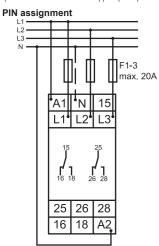
Measurement surge voltage	4 kV
Environmental conditions	
Temperature range according to UL	-25 °C +40 °C
Temperature range	-25 °C +55 °C
Storage temperature range	-25 °C +70 °C
Relative air humidity	15 % to 85 % acc. IEC 60721-3-3 Class 3K3
Degree of polution	3
Vibration resistance	10 – 55 Hz 0.35 mm acc. IEC60068-2-6
Impact resistance	15 g 11 ms acc. IEC 60068-2-27
Approvals	cULus (E135145)

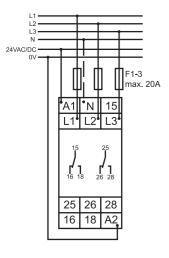


## Voltage monitoring 3-phase



# 





Description	P	art-No.		Туре	Pι
Voltage control	3-phase 7	50605	S*	LCR-U-3-1-2U-24-240	1
	o pridoo i	00000		2011 0 0 1 20 21 210	Ė
Function					
Voltage monitoring in 3-phase net with adjustable thresholds	works				
Settable trigger delay					
Monitoring the phase sequence a	nd phase failure				
Asymmetry monitoring with settab					
function selection via rotary switch	1				
Under: Under-voltage monitoring					
Under + SEQ: Under-voltage and WIN: Monitoring the range between					
WIN + SEQ: Monitoring the range			holds and	phase sequence monitoring	
Time range				F	
Start-up suppression, settable			1	No	
trigger delay, settable			0.1 -	- 10 s	
Status indication					
Output relay status			LED	yellow	
Threshold error status				O red	
Trigger delay status			LED red	d flashing	
Housing			0.500.5		
Dimensions (w × h × d)		2		× 105.0 mm	
Color of the housing			•	i grey PA	
Housing material Protection class				P40	
Connection cross-section	1x0 5 to 2.5 mm <sup>2</sup> wit	h ∧⊑ 1∨		<sup>-40</sup> hout AE 2×0.5 to 1.5 mm <sup>2</sup> with AE 2×2.5	
Connection cross-section	1^0.5 to 2.5 mm with	IIAL IA	mm <sup>2</sup> wi	thout AE	
Installation position				ny	
Weight			0.200 I	kg/piece	
Approvals			cU	Lus	
Supply circuit					
Rated voltage range			AC/DC 24	4 V − 240 V	
Power consumption				. (1 W)	
Operating time				% ED	
Recovery time				) ms	
Waveform AC				nus	
Residual ripple Voltage drop		>21		) % supply voltage	
Measurement surge voltage		/30		kV	
Output circuit			4	N V	
Number of channels				2	
Switching element				lays	
Contact type				ver contact	
Measurement voltage				250 V	
Switching voltage				250 V	
Switching current max.		3A	(5A at a d	istance >5mm)	
Protection device				ck-acting	
Mechanical service life				(1000 VA)	
Electrical service life				(1000 VA)	
Switching frequency		60/min	_	, 6/min @ 1000 VA	
Over voltage category				C 60664-1	
Measurement surge voltage			4	kV	
Accuracy			<2 0/ /2-	d of scalo)	
Basic accuracy Tolerance of setting			,	d of scale) d of scale)	
Repeat accuracy				d of scale) 2 %	
Temperature error				5 %/°C	
Measuring circuit			_0.00		
Measuring variable		A	AC Sinus (	48 to 63 Hz)	
External fuse				cc. UL 601010)	
Measuring range				400/230 V	
Overload capability			. ,	600/346 V	
Input resistance			1	ΜΩ	
Switching threshold min.				20 % U <sub>N</sub>	
Switching threshold max.				30 % U <sub>N</sub>	
Asymmetry				- 25 %	
Over voltage category				C 60664-1	
Measurement surge voltage  Environmental conditions			4	kV	
-uvitonmental conditions					



Environmental conditions
Temperature range according to UL

-25 °C ... +40 °C

Available with a lead time

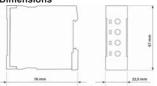
Temperature range	-25 °C +55 °C	
Storage temperature range	-25 °C +70 °C	
Relative air humidity	15 % to 85 % acc. IEC 60721-3-3 Class 3K3	
Degree of polution	3	
Vibration resistance	10 – 55 Hz 0.35 mm acc. IEC60068-2-6	
Impact resistance	15 g 11 ms acc. IEC 60068-2-27	
Approvals	cULus	



# Current monitoring 1-phase, AC-DC 10 A

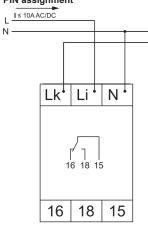


#### Dimensions



#### PIN assignment

N·



Description		Part-No.	Туре	PU
Current Control		750000 0+	100111010101	
	1-phase	750630 <b>S</b> *	LCR-I-1-10-1U-24-240	1
Time range				
Switch-on delay			300 ms	
Switch-off delay		0.1 –	10 s, adjustable	
Status indication		0.1 –	io s, adjustable	
Supply status		ı	.ED green	
Output relay status			ED yellow	
Status under/over-current			LED red	
rigger delay status		I E F	red flashing	
lousing			red liastiling	
Dimensions (w × h × d)		22 5 x	67.0 × 76.0 mm	
Color of the housing			light grey	
Housing material			PA 6.6 V0	
Protection class			IP20	
Connection device		Scre	ewed terminal	
Connection cross-section			20 – AWG 13	
Connection cross-section			2.5 mm <sup>2</sup> with AE	
nstallation position		0.3 – 2	any	
Veight		0.0	070 kg/piece	
approvals		0.0	cULus	
Supply circuit			- Colub	
Rated voltage range		ΔC 110 V/D0	C 24 V – AC/DC 240 V	
olerance			5 %, DC: -30 %/+30 %	
Rated frequency			.6 – 400 Hz	
Power consumption				
Operating time			24 V, 0.37 W/1.3 VA @ 230 V 100 % ED	
Bridging time			<140 ms	
Recovery time			>200 ms	
/oltage drop			≥6 V	
Output circuit			20 V	
Number of channels			1	
Switching element			Relays	
		Chan	ge over contact	
Contact type Measurement voltage			V (IEC 60947-1)	
			AC 400 V	
Switching voltage Switching current max.	AC 1. 0A/2E0		/(B300), DC-12: 8A/24V, DC-13: 0.1	A /250\ /
Protection device	AC-1. 0A/230		quick-acting	A/230 V
Mechanical service life			10 <sup>6</sup> (1000 VA)	
Electrical service life			(1000 VA) (1000 VA) (AC-1)	
			nin with load	
Switching frequency		6/П	IIII WILLI IUAU	
Accuracy Basic accuracy		<2 E 0	6 (end of scale)	
Folerance of setting			(end of scale)	
Repeat accuracy		≥3 %	(end of scale) ≤1 %	
· · · · · · · · · · · · · · · · · · ·			0.05 %/°C	
emperature error			0.03 /0/ 6	
Measuring circuit Measuring variable		C	ront 1 phase	
9			rent 1-phase C/DC 10 A	
Measuring range Measuring procedure			effective value	
Monitored functions				
Overload capability	Dormanart I		r-current, under/over-current ad <1 s: 50 A, Impulse load<100 ms	· 150 ^
' '	reimanent i	Dau. 15 A, Impuise 10	ad <1 s: 50 A, impulse load<100 ms 2 mΩ	. 130 A
nput resistance				
Switching threshold min.			% – 95 % % 100 %	
Switching threshold max.		10	% – 100 % 1 %	
lysteresis			1 70	
Environmental conditions		0.5	°C 160 °C	
Temperature range			°C +60 °C	
Storage temperature range			°C +70 °C	
Relative air humidity			IEC 60721-3-3 Class 3K3	
/ibration resistance			nm 13.2 – 100 Hz 7 m/s <sup>2</sup>	
mpact resistance		15 g 11 ms	acc. IEC 60068-2-27 cULus	

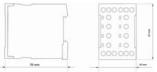


A Available with a lead time

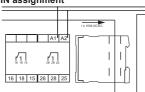
# Current monitoring 1-phase, AC-DC 5 A



#### Dimensions



#### PIN assignment



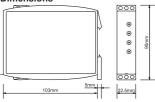
Description		Part-No.	Туре	PU
Current Control			1001100000000000	
	1-phase	750635 <b>S</b> *	LCR-I-100-2U-24-240	1
Time range				
Switch-on delay		;	300 ms	
Switch-off delay			0 s, adjustable	
Start-up suppression, settable			0 – 10 s	
Status indication				
Supply status		LE	ED green	
Output relay status		LE	ED yellow	
Status under/over-current		L	_ED red	
Trigger delay status		LED	red flashing	
Housing				
Dimensions (w × h × d)		45.0 × 6	37.0 × 76.0 mm	
Color of the housing		li	ght grey	
Housing material		P.	A 6.6 V0	
Protection class			IP20	
Connection device			wed terminal	
Connection cross-section			20 – AWG 13	
Connection cross-section		0.5 - 2.5	5 mm <sup>2</sup> with AE	
nstallation position			any	
Weight			70 kg/piece	
Approvals			cULus	
Supply circuit				
Rated voltage range			24 V – 240 V	
Tolerance			%, DC: -30 %/+30 %	
Rated frequency		,	6 – 400 Hz	
Power consumption			4 V, 0.50 W/0.9 VA @ 230 V	
Operating time			00 % ED	
Bridging time			<20 ms	
Recovery time		>	>500 ms	
Voltage drop			≥6 V	
Output circuit				
Number of channels			2	
Switching element			Relays	
Contact type			e over contact	
Measurement voltage			V (IEC 60947-1) C 400 V	
Switching voltage Switching current max.	AC 1. 9A/2E0		B300), DC-12: 8A/24V, DC-13: 0.1A/2	250\/
Protection device	AC-1. 0A/230		quick-acting	230 V
Mechanical service life			0 <sup>6</sup> (1000 VA)	
Electrical service life			1000 VA) (AC-1)	
Switching frequency		- (	in with load	
Accuracy		O/IIII	iii wiiii load	
Basic accuracy		<2.5 % (2	0 % @ 50/60 Hz)	
Folerance of setting		,	(end of scale)	
Repeat accuracy		=5 70 (	≤1 %	
Moisture influence		3 % on basic accu	racy (>85 % air humidity)	
Temperature error			0.04 %/°C	
Measuring circuit				
Measuring variable		Current 1-phas	e, current transformer	
Measuring range			/DC 100 A	
Measuring procedure			effective value	
Monitored functions			-current, under/over-current	
	ui	Maximum r	separated relay outputs (MM) monitoring (2Max) can be activated (+L)	
Switching threshold min.			% – 95 %	
Switching threshold max.			% – 100 %	
Hysteresis		10	1 %	
Environmental conditions				
Temperature range		-25 °	C +60 °C	
Storage temperature range			C +70 °C	
Relative air humidity			EC 60721-3-3 Class 3K3	
Vibration resistance			m 13.2 – 100 Hz 7 m/s <sup>2</sup>	
mpact resistance			acc. IEC 60068-2-27	
Approvals		•	cULus	



### Current control in 3-phase networks 1-phase, AC 5 A

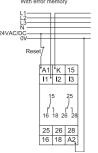


#### **Dimensions**

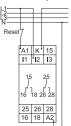


#### PIN assignment

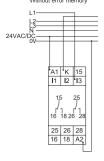
Measuring range: 20mA Voltage supply: 24V With error memory



Measuring range: 1A Voltage supply: 230V With error memory



Measuring range: 5A Voltage supply: 24V Without error memory



Description		Part-No.	Type	PU
Current Control				
	1-phase	750631 <b>S</b> *	LCR-I-1-5-2U-24-240	1

#### **Function**

Current monitoring of AC and DC voltages in 1-phase networks

with adjustable thresholds

separately adjustable start-up suppression and trigger delay

function selection via rotary switch Over: Over-current monitoring

Over + Latch: Over-current monitoring with error memory

Under:Under-current monitoring
Under + Latch: Under-current monitoring with error memory WIN: Monitoring the range between thresholds Min and Max

WIN + Latch: Monitoring the range between Min and Max thresholds with error memory

#### Time range

Start-up suppression, settable	0 – 10 S
trigger delay, settable	0.1 – 10 s
Status indication	
Supply status	LED green
Start bridge status	LED green flashing
Output relay status	LED yellow
Threshold error status	LED red
Trigger delay status	LED red flashing
Housing	
Dimensions (w × h × d)	22.5 × 90.0 × 105.0 mm
Color of the housing	light grey
Housing material	PA
Protection class	IP40
Connection cross-section	$1 \times 0.5$ to $2.5$ mm <sup>2</sup> with AE $1 \times 4$ mm <sup>2</sup> without AE $2 \times 0.5$ to $1.5$ mm <sup>2</sup> with AE $2 \times 2.5$ mm <sup>2</sup> without AE
Installation position	any

	IIIII WILIIOUL AE
Installation position	any
Weight	0.200 kg/piece
Approvals	cULus

Supply circuit

Rated voltage range AC/DC 24 V - 240 V AC: -15 %/+10 %, DC: -20 %/+25 % Tolerance

16 Hz – 48 Hz @ AC 48 – 240 V, 48 Hz – 400 Hz @ AC 24 V – 240 V Rated frequency 4.5 VA (1 W)

Power consumption 100 % ED Operating time Recovery time 500 ms Waveform AC Sinus Residual ripple 10 %

Voltage drop >15 % of the power supply

Measurement surge voltage 4 kV

**Output circuit** Number of channels

Relays Switching element Change over contact Contact type Measurement voltage AC 250 V

Switching voltage AC 250 V 5A (3A) Switching current max Protection device 5 A, quick-acting Mechanical service life 20 × 10<sup>6</sup> (1000 VA)

2 × 10<sup>5</sup> (1000 VA) Electrical service life

60/min @100 VA, 6/min @ 1000 VA Switching frequency III acc. IEC 60664-1 Over voltage category Measurement surge voltage 4 kV

#### Accuracy

≤3 % (end of scale) Basic accuracy Frequency response -10 %/+5 % (16.6 - 400 Hz) ≤5 % (end of scale) Tolerance of setting Repeat accuracy ≤2 % Voltage influence N/A

Temperature error ≤0.05 %/°C Measuring circuit Measuring variable DC, AC (16.6 - 400 Hz)

Measuring range AC/DC 20 mA, AC/DC 1 A, AC/DC 5 A 250 mA @ 20 mA, 3 A @ 1 A, 10 A @ 5A Overload capability Input resistance  $2.7~\Omega$  @ 20~mA,  $47~m\Omega$  @ 1~A,  $10~m\Omega$  @ 5~A

Switching threshold min. 5 % - 95 % I<sub>N</sub> Switching threshold max. 10 % - 100 % I<sub>N</sub>

Article from stock

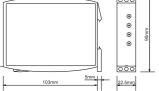
Over voltage category	III acc. IEC 60664-1
Measurement surge voltage	4 kV
Environmental conditions	
Temperature range according to UL	-25 °C +40 °C
Temperature range	-25 °C +55 °C
Storage temperature range	-25 °C +70 °C
Relative air humidity	15 % to 85 % acc. IEC 60721-3-3 Class 3K3
Degree of polution	3 acc. IEC 60664-1
Vibration resistance	10 – 55 Hz 0.35 mm acc. IEC60068-2-6
Impact resistance	15 g 11 ms acc. IEC 60068-2-27
Approvals	cULus



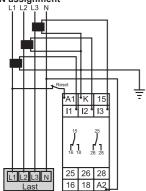
### Current control in 3-phase networks 3-phase, AC/DC 5 A

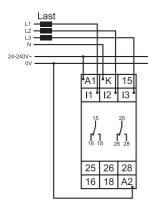


# **Dimensions**



#### PIN assignment





Description		Part-No.	Туре	PU
Current Control				
	3-phase	750640 <b>S</b> *	LCR-I-3-05-2U-24-240	1
Function				
3-phase current monitoring separately adjustable start-up	suppression and trigg	ger delay		

function selection via rotary switch Over: Over-current monitoring

Over + Latch: Over-current monitoring with error memory

**Under:**Under-current monitoring

Under + Latch: Under-current monitoring with error memory WIN: Monitoring the range between thresholds Min and Max

WIN + Latch: Monitoring the range between Min and Max thresholds with error memory

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Start-up suppression, settable	0 – 10 s	
trigger delay, settable	0.1 – 10 s	
Status indication		
Supply status	LED green	
Start bridge status	LED green flashing	
Output relay status	LED yellow	
Threshold error status	LED red	
Trigger delay status	LED red flashing	
Housing		

Dimensions (w × h × d) 22.5 × 90.0 × 105.0 mm Color of the housing light grey Housing material PA 6.6 V0 Protection class IP20 Connection cross-section 1×0.5 to 2.5 mm<sup>2</sup> with AE 1×4 mm<sup>2</sup> without AE 2×0.5 to 1.5 mm<sup>2</sup> with AE 2×2.5

mm<sup>2</sup> without AE

Installation position anv 0.200 kg/piece Weight Approvals cULus

Supply circuit

Rated voltage range AC/DC 24 V - 240 V AC: -15 %/+10 %, DC: -20 %/+25 % Tolerance 16 Hz @ AC 24 V, 48 Hz – 400 Hz @ AC 24 V – 240 V Rated frequency

2 VA (1.5 W) Power consumption Operating time 100 % ED Recovery time 100 ms

Voltage drop >30 % of the supply voltage Over voltage category III acc JFC 60664-1 4 kV

Measurement surge voltage

Output circuit Number of channels Switching element

Relays Contact type Change over contact AC 250 V (IEC 60947-1) Measurement voltage

Switching voltage AC 250 V 3A (5A at a distance >5mm) Switching current max. Protection device 5 A, quick-acting 20 × 10<sup>6</sup> (1000 VA) 2 × 10<sup>5</sup> (1000 VA) Mechanical service life

Electrical service life Switching frequency 60/min @100 VA, 6/min @ 1000 VA

III acc. IEC 60664-1 Over voltage category Measurement surge voltage 4 kV

Accuracy

Basic accuracy ≤3 % (end of scale) Frequency response -10 %/+5 % (16.6 - 400 Hz) Tolerance of setting ≤5 % (end of scale) Repeat accuracy ≤2 %

Temperature error Measuring circuit

Measuring variable AC Sinus (16.6 to 400 Hz) each AC 5 A Measuring range Overload capability 6 A permanent each

10 mΩ Input resistance 5 % - 95 % U<sub>N</sub> Switching threshold min. Switching threshold max. 10 % - 100 % U<sub>N</sub> III acc. IEC 60664-1 Over voltage category Measurement surge voltage 4 kV

**Environmental conditions** 



≤0.05 %/°C

Available with a lead time

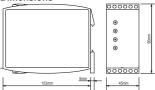
Temperature range according to UL	-25 °C +40 °C	
Temperature range	-25 °C +55 °C	
Storage temperature range	-25 °C +70 °C	
Relative air humidity	15 % to 85 % acc. IEC 60721-3-3 Class 3K3	
Degree of polution	3	
Vibration resistance	10 – 55 Hz 0.35 mm acc. IEC60068-2-6	
Impact resistance	15 g 11 ms acc. IEC 60068-2-27	
Approvals	cULus	



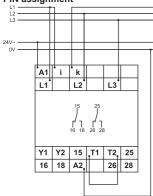
#### Load sensor 1 and 3-phase loads **AC 480 V**



#### **Dimensions**



#### PIN assignment



Load sensor	Description		Part-No.	Type	PU
1 and 2 mbass 750600 C* LCD DW 2 400 D 211 24 240	Load sensor				
loads		1 and 3-phase loads	750680 <b>S</b> *	LCR-PW-3-480-D-2U-24-240	1

True power monitoring for 1 and 3-phase loads

with 48 settable thresholds (P1, P2)

separately adjustable start-up suppression and trigger delay

selectable error memory
Temperature monitoring of the motor coil with max. 6 PTC

One reset button;

function selection via rotary switch

2MIN: Minimum monitoring

2MIN+I< ON: Minimum monitoring and recognition of shut-down consumers as GOOD status

2MIN+I< Inv: Minimum monitoring and recognition of shut-down consumers as errors 2MAX: Maximum monitoring

Start-up suppression, settable

2MAX+I< ON: Maximum monitoring and recognition of shut-down consumers as errors
2MAX+I< Inv: Maximum monitoring and recognition of shut-down consumers as GOOD status
WIN: Monitoring the range between thresholds Min and Max

WIN+I< ON: Monitoring the range between the Min and Max thresholds and recognition of shut-down consumers as

GOOD status

WIN+I< Inv: Monitoring the range between the Min and Max thresholds and recognition of shut-down consumers as

MAX/MIN: Maximum/minimum monitoring
MAX/MIN+I< ON: Maximum/minimum monitoring and Monitoring the range and recognition of shut-down consumers as

MAX/MIN+I< Inv: Maximum/minimum monitoring and Monitoring the range and recognition of shut-down consumers as

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- 1 11	ne	ra	n	a	е

trigger delay, settable	0.1 – 50 s	
Status indication		
Supply status	LED green	
Start bridge status	LED green flashing	
Output relay status	LED yellow	
Threshold error status	LED red	
Trigger delay status	LED red flashing	
Status I/O	LED yellow	
Over-temperature status	LED red	
Housing		
Dimensions (w × h × d)	45.0 × 90.0 × 105.0 mm	
Color of the housing	light grey	
Housing material	PA 6.6 V0	
Protection class	IP20	

0 - 100 s

1×0.5 to 2.5 mm $^2$  with AE 1×4 mm $^2$  without AE 2×0.5 to 1.5 mm $^2$  with AE 2×2.5 mm $^2$  without AE Connection cross-section

Installation position any 0.400 kg/piece Weight cULus

Approvals Supply circuit

Rated voltage range AC/DC 24 V - 240 V AC: -15 %/+10 %, DC: -20 %/+25 % 16 Hz @ AC 24 V, 48 Hz – 400 Hz @ AC 24 V – 240 V Tolerance

Rated frequency

Power consumption 3.5 VA (3 W) Operating time 100 % ED Recovery time 500 ms >30 % of the supply voltage Voltage drop III acc. IEC 60664-1 Over voltage category Measurement surge voltage 4 kV

Output circuit

Output circuit		
Number of channels	2	
Switching element	Relays	
Contact type	Change over contact	
Measurement voltage	AC 250 V	
Switching voltage	AC 250 V	
Switching current max.	3A (5A at a distance >5mm)	
Protection device	5 A, quick-acting	
Mechanical service life	20 × 10 <sup>6</sup> (1000 VA)	
Electrical service life	2 × 10 <sup>5</sup> (1000 VA)	
Switching frequency	60/min @100 VA, 6/min @ 1000 VA	
Over voltage category	III acc. IEC 60664-1	
Measurement surge voltage	4 kV	

<sup>\*</sup> S Article from stock

Available with a lead time

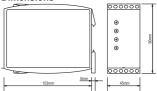
Frequency response	Accuracy	
Sepeat accuracy   Sepat accuracy   Se	Basic accuracy	±2 % (end of scale)
Sepeat accuracy   Sepeat accuracy   Sepeat accuracy   Sepeature error   ±0.02 %"C	Frequency response	±0.025 %/Hz
Measuring circuit   Measuring variable   0.75 kW, 1.5 kW, 3 kW, 6 kW reversible   0.75 kW, 1.5 kW, 3 kW, 6 kW reversible   0.76 kW, 1.5 kW, 3 kW, 6 kW reversible   0.76 kW, 1.5 kW, 3 kW, 6 kW reversible   0.76 kW, 1.5 kW, 3 kW, 6 kW reversible   0.76 kW, 1.5 kW, 3 kW, 6 kW reversible   0.76 kW, 1.5 kW, 3 kW, 6 kW reversible   0.76 kW, 1.5 kW, 3 kW, 6 kW reversible   0.76 kW, 1.5 kW, 3 kW, 6 kW reversible   0.76 kW, 1.5 kW, 3 kW, 6 kW reversible   0.76 kW, 1.5 kW, 3 kW, 6 kW reversible   0.76 kW, 1.5 k	Tolerance of setting	≤5 % (end of scale)
Measuring circuit         0.75 kW, 1.5 kW, 3 kW, 6 kW reversible           Wave form AC Sinus         10 – 400 Hz           Nave form PWM         10 – 100 Hz (sine-assessed)           Measurement input 1-phase         AC 0 – 480 V           Measurement input 3-phase         3ph 0 – 480/277 V           Overload capability         550 V (1-phase), 550/318 V (3-phase)           Operation of the property	Repeat accuracy	≤2 %
Measuring variable         0.75 kW, 1.5 kW, 3 kW, 6 kW reversible           Nave form AC Sinus         10 − 400 Hz           Nave form PVM         10 − 100 Hz (sine-assessed)           Measurement input 1-phase         AC 0 − 480 V           Measurement input 3-phase         3ph 0 − 480/277 V           Deverload capability         550 V (1-phase), 550/318 V (3-phase)           operation of post of the po	Temperature error	±0.02 %/°C
Nave form AC Sinus   10 - 400 Hz	Measuring circuit	
Wave form PWM         10 − 100 Hz (sine-assessed)           Measurement input 1-phase         AC 0 − 480 V           Measurement input 3-phase         3ph 0 − 480/277 V           Overload capability         550 V (1-phase), 550/318 V (3-phase)           oput resistance         1.25 MΩ           Measurement input current, 1-phases         0.15A − 6A (0.75 − 1.5 kW), 0.3 − 12 A (3 − 6 kW)           Overload capability current         12 A permanent           Current interruption         150 mA (0.75 − 1.5 kW), 380 mA (3 − 6 kW)           Current interruption         150 mA (0.75 − 1.5 kW), 380 mA (3 − 6 kW)           Current flow sensor         300 mA (0.75 − 1.5 kW), 380 mA (3 − 6 kW)           Switching threshold P1         10 % − 120 % from P <sub>N</sub> Switching threshold P2         5 % − 110 % from P <sub>N</sub> Hysteresis         1 % @ Maximum measuring range*           Over voltage category         III acc. IEC 60664-1           Measurement surge voltage         4 kV           Temperature monitoring         5           Sum of cold resistance         < 1.5 kΩ	Measuring variable	0.75 kW, 1.5 kW, 3 kW, 6 kW reversible
Measurement input 1-phase         AC 0 - 480 V           Measurement input 3-phase         3ph 0 - 480/277 V           Overload capability         550 V (1-phase), 550/318 V (3-phase)           nput resistance         1.25 MΩ           Measurement input current, 1-phase         0.15A - 6A (0.75 - 1.5 kW), 0.3 - 12 A (3 - 6 kW)           Overload capability current         12 A permanent           Current interruption         150 mA (0.75 - 1.5 kW), 180 mA (3 - 6 kW)           Current flow sensor         300 mA (0.75 - 1.5 kW), 380 mA (3 - 6 kW)           Switching threshold P1         10 % - 120 % from P <sub>N</sub> Switching threshold P2         5 % - 110 % from P <sub>N</sub> Tysteresis         1 % @ Maximum measuring range'           Ill acc. IEC 60664-1         4 kV           Temperature monitoring         Ill acc. IEC 60664-1           Sum of cold resistance         <1.5 kΩ	Wave form AC Sinus	10 – 400 Hz
Measurement input 3-phase         3ph 0 − 480/277 V           Overload capability         550 V (1-phase), 550/318 V (3-phase)           put resistance         1.25 MΩ           Measurement input current, 1-phases         0.15A − 6A (0.75 − 1.5 kW), 0.3 − 12 A (3 − 6 kW)           Overload capability current         12 A permanent           Current interruption         150 mA (0.75 − 1.5 kW), 180 mA (3 − 6 kW)           Current flow sensor         300 mA (0.75 − 1.5 kW), 360 mA (3 − 6 kW)           Switching threshold P1         10 % − 120 % from P <sub>N</sub> Switching threshold P2         5 % − 110 % from P <sub>N</sub> Hysteresis         1 % @ Maximum measuring range'           Ill acc. IEC 60664-1         4 kV           Femperature monitoring         4 kV           Sum of cold resistance         < 1.5 kΩ	Wave form PWM	10 – 100 Hz (sine-assessed)
Distribution   Store   Stor	Measurement input 1-phase	AC 0 – 480 V
Position   Position	Measurement input 3-phase	3ph 0 – 480/277 V
Weasurement input current, 1-phases         0.15A – 6A (0.75 – 1.5 kW), 0.3 – 12 A (3 – 6 kW)           Overload capability current         12 A permanent           Current interruption         150 mA (0.75 – 1.5 kW), 180 mA (3 – 6 kW)           Current flow sensor         300 mA (0.75 – 1.5 kW), 380 mA (3 – 6 kW)           Switching threshold P1         10 % – 120 % from P <sub>N</sub> Switching threshold P2         5 % – 110 % from P <sub>N</sub> Hysteresis         1 % @ Maximum measuring range'           Over voltage category         Ill acc. IEC 60664-1           Measurement surge voltage         4 kV           Femperature monitoring         Full store           Sum of cold resistance         < 1.5 kΩ	Overload capability	550 V (1-phase), 550/318 V (3-phase)
Durent	Input resistance	1.25 ΜΩ
Current interruption         150 mA (0.75 − 1.5 kW), 180 mA (3 − 6 kW)           Current flow sensor         300 mA (0.75 − 1.5 kW), 360 mA (3 − 6 kW)           Switching threshold P1         10 % − 120 % from P <sub>N</sub> Switching threshold P2         5 % − 110 % from P <sub>N</sub> Hysteresis         1 % @ Maximum measuring range'           Uver voltage category         Ill acc. IEC 60664-1           Measurement surge voltage         4 kV           Femperature monitoring         Femperature monitoring           Sum of cold resistance         <1.5 kΩ	Measurement input current, 1-pha- se	0.15A – 6A (0.75 – 1.5 kW), 0.3 – 12 A (3 – 6 kW)
Current flow sensor       300 mA (0.75 – 1.5 kW), 360 mA (3 – 6 kW)         Switching threshold P1       10 % – 120 % from P <sub>N</sub> Switching threshold P2       5 % – 110 % from P <sub>N</sub> Hysteresis       1 % @ Maximum measuring range'         Over voltage category       Ill act. IEC 60664-1         Measurement surge voltage       4 kV         Femperature monitoring         Sum of cold resistance       <1.5 kΩ	Overload capability current	12 A permanent
Switching threshold P1  Switching threshold P2  5 % − 110 % from P <sub>N</sub> Hysteresis  1 % @ Maximum measuring range'  Dover voltage category  Measurement surge voltage  Femperature monitoring  Sum of cold resistance  Response value  51.5 kΩ  Response value  51.8 kW (Relay is energised)  Line short-circuit  No shut-off  Measurement voltage  Control input  Function  Fault store  Load  none  Cable length  10 m max., twisted  NC contact in supply circuit  Environmental conditions  Femperature range  25 °C +40 °C  Femperature range  25 °C +70 °C  Relative air humidity  15 % to 85 % acc. IEC 60068-2-6  mpact resistance  10 −55 Hz 0.35 mm acc. IEC 60068-2-6  mpact resistance  15 g 11 ms acc. IEC 60068-2-27	Current interruption	150 mA (0.75 – 1.5 kW), 180 mA (3 – 6 kW)
Switching threshold P1  Switching threshold P2  5 % − 110 % from P <sub>N</sub> Hysteresis  1 % @ Maximum measuring range'  Dover voltage category  Measurement surge voltage  Femperature monitoring  Sum of cold resistance  Response value  51.5 kΩ  Response value  51.8 kW (Relay is energised)  Line short-circuit  No shut-off  Measurement voltage  Control input  Function  Fault store  Load  none  Cable length  10 m max., twisted  NC contact in supply circuit  Environmental conditions  Femperature range  25 °C +40 °C  Femperature range  25 °C +70 °C  Relative air humidity  15 % to 85 % acc. IEC 60068-2-6  mpact resistance  10 −55 Hz 0.35 mm acc. IEC 60068-2-6  mpact resistance  15 g 11 ms acc. IEC 60068-2-27	Current flow sensor	300 mA (0.75 – 1.5 kW), 360 mA (3 – 6 kW)
Hysteresis   1 % @ Maximum measuring range'     Diver voltage category   III acc. IEC 60664-1     Measurement surge voltage   4 kV     Femperature monitoring     Sum of cold resistance   ≤1.5 kΩ     Response value   ≥3.6 kΩ ( relay drops)     Drop-off value   ≤1.8 kW (Relay is energised)     Line short-circuit   No shut-off     Measurement voltage   ≤7.5 V at R ≤4.0 kW (acc. IEC 60947-8)     Control input     Function   Fault store     Load   none     Cable length   10 m max., twisted     Reset   NC contact in supply circuit     Environmental conditions     Femperature range according to UL   -25 °C +40 °C     Femperature range   -25 °C +55 °C     Storage temperature range   -25 °C +70 °C     Relative air humidity   15 % to 85 °acc. IEC 60721-3-3 Class 3K3     Degree of polution   3     Vibration resistance   10 − 55 Hz 0.35 mm acc. IEC 60068-2-6     III acc. IEC 60664-1     Meximum measuring range   15 g 11 ms acc. IEC 60068-2-6     Meximum measuring range   15 ms acc. IEC 60068-2-6     Meximum measuring range   15 g 11 ms acc. IEC 60068-2-6     Meximum measuring range   10 − 55 Hz 0.35 mm acc. IEC 60068-2-27	Switching threshold P1	
Over voltage category         III acc. IEC 60664-1           Measurement surge voltage         4 kV           Temperature monitoring         Control of resistance           Response value         ≤3.6 kΩ ( relay drops)           Orop-off value         ≤1.8 kW (Relay is energised)           Line short-circuit         No shut-off           Measurement voltage         ≤7.5 V at R ≤4.0 kW (acc. IEC 60947-8)           Control input         Fault store           Function         Fault store           Load         none           Cable length         10 m max., twisted           Reset         NC contact in supply circuit           Environmental conditions         Femperature range according to UL         -25 °C +40 °C           Temperature range         -25 °C +55 °C           Storage temperature range         -25 °C +70 °C           Relative air humidity         15 % to 85 % acc. IEC 60721-3-3 Class 3K3           Degree of polution         3           Vibration resistance         10 – 55 Hz 0.35 mm acc. IEC 60068-2-6           mpact resistance         15 g 11 ms acc. IEC 60068-2-27	Switching threshold P2	5 % – 110 % from P <sub>N</sub>
Measurement surge voltage         4 kV           Temperature monitoring           Sum of cold resistance         <1.5 kΩ	Hysteresis	1 % @ Maximum measuring range'
Femperature monitoring         Sum of cold resistance       <1.5 kΩ	Over voltage category	III acc. IEC 60664-1
Sum of cold resistance $<1.5 \text{ k}\Omega$ Response value $≥3.6 \text{ k}\Omega$ ( relay drops) Drop-off value $≤1.8 \text{ kW}$ (Relay is energised) Line short-circuit No shut-off Measurement voltage $≤7.5 \text{ V}$ at R $≤4.0 \text{ kW}$ (acc. IEC 60947-8)  Control input Function Fault store Load none Cable length 10 m max., twisted Reset NC contact in supply circuit  Convironmental conditions  Temperature range according to UL $-25 \text{ °C} \dots +40 \text{ °C}$ Temperature range $-25 \text{ °C} \dots +55 \text{ °C}$ Storage temperature range $-25 \text{ °C} \dots +70 \text{ °C}$ Relative air humidity 15 % to 85 % acc. IEC 60721-3-3 Class 3K3 Degree of polution $3 \text{ Vibration resistance}$ 10 − 55 Hz 0.35 mm acc. IEC 60068-2-6 mpact resistance 15 g 11 ms acc. IEC 60068-2-27	Measurement surge voltage	4 kV
Response value $\geq 3.6 \text{ k}\Omega \text{ ( relay drops)}$ Drop-off value $\leq 1.8 \text{ kW} \text{ (Relay is energised)}$ Line short-circuit No shut-off  Measurement voltage $\leq 7.5 \text{ V}$ at R $\leq 4.0 \text{ kW}$ (acc. IEC 60947-8)  Control input  Function Fault store Load none Cable length 10 m max., twisted  Reset NC contact in supply circuit  Environmental conditions  Temperature range according to UL $-25 ^{\circ}\text{C} \dots +40 ^{\circ}\text{C}$ Temperature range $-25 ^{\circ}\text{C} \dots +55 ^{\circ}\text{C}$ Storage temperature range $-25 ^{\circ}\text{C} \dots +70 ^{\circ}\text{C}$ Relative air humidity $-25 ^{\circ}\text{C} \dots +70 ^{\circ}\text{C}$ Relative air humidity $-25 ^{\circ}\text{C} \dots +70 ^{\circ}\text{C}$ Relative air humidity $-25 ^{\circ}\text{C} \dots +70 ^{\circ}\text{C}$ Relative air numidity $-25 ^{\circ}\text{C} \dots +70 ^{\circ}\text{C}$	Temperature monitoring	
Orop-off value         ≤1.8 kW (Relay is energised)           Line short-circuit         No shut-off           Measurement voltage         ≤7.5 V at R ≤4.0 kW (acc. IEC 60947-8)           Control input         Fault store           Coad         none           Cable length         10 m max., twisted           Reset         NC contact in supply circuit           Environmental conditions         Femperature range according to UL           Femperature range         -25 °C +40 °C           Storage temperature range         -25 °C +70 °C           Relative air humidity         15 % to 85 % acc. IEC 60721-3-3 Class 3K3           Degree of polution         3           Vibration resistance         10 - 55 Hz 0.35 mm acc. IEC 60068-2-6           mpact resistance         15 g 11 ms acc. IEC 60068-2-27	Sum of cold resistance	<1.5 kΩ
Line short-circuit  Measurement voltage  ≤7.5 V at R ≤4.0 kW (acc. IEC 60947-8)  Control input  Function  Fault store Load  none Cable length  10 m max., twisted Reset  NC contact in supply circuit  Environmental conditions  Femperature range according to UL  -25 °C +40 °C  Femperature range  -25 °C +55 °C  Storage temperature range  -25 °C +70 °C  Relative air humidity  15 % to 85 % acc. IEC 60721-3-3 Class 3K3  Degree of polution  3  Vibration resistance  10 – 55 Hz 0.35 mm acc. IEC 60068-2-6  mpact resistance  15 g 11 ms acc. IEC 60068-2-27	Response value	≥3.6 kΩ ( relay drops)
Measurement voltage         ≤7.5 V at R ≤4.0 kW (acc. IEC 60947-8)           Control input         Fault store           Function         Fault store           Load         none           Cable length         10 m max., twisted           Reset         NC contact in supply circuit           Environmental conditions         -25 °C +40 °C           Temperature range according to UL         -25 °C +55 °C           Storage temperature range         -25 °C +70 °C           Relative air humidity         15 % to 85 % acc. IEC 60721-3-3 Class 3K3           Degree of polution         3           Vibration resistance         10 - 55 Hz 0.35 mm acc. IEC 60068-2-6           mpact resistance         15 g 11 ms acc. IEC 60068-2-27	Drop-off value	≤1.8 kW (Relay is energised)
Control input         Fault store           Load         none           Cable length         10 m max., twisted           Reset         NC contact in supply circuit           Environmental conditions         -25 °C +40 °C           Temperature range according to UL         -25 °C +55 °C           Storage temperature range         -25 °C +70 °C           Relative air humidity         15 % to 85 % acc. IEC 60721-3-3 Class 3K3           Degree of polution         3           Vibration resistance         10 - 55 Hz 0.35 mm acc. IEC 60068-2-6           mpact resistance         15 g 11 ms acc. IEC 60068-2-27	Line short-circuit	No shut-off
Function         Fault store           Load         none           Cable length         10 m max., twisted           Reset         NC contact in supply circuit           Environmental conditions         Temperature range according to UL         -25 °C +40 °C           Femperature range         -25 °C +55 °C           Storage temperature range         -25 °C +70 °C           Relative air humidity         15 % to 85 % acc. IEC 60721-3-3 Class 3K3           Degree of polution         3           //ibration resistance         10 - 55 Hz 0.35 mm acc. IEC 60068-2-6           mpact resistance         15 g 11 ms acc. IEC 60068-2-27	Measurement voltage	≤7.5 V at R ≤4.0 kW (acc. IEC 60947-8)
Load         none           Cable length         10 m max., twisted           Reset         NC contact in supply circuit           Environmental conditions         -25 °C +40 °C           Temperature range according to UL         -25 °C +55 °C           Storage temperature range         -25 °C +70 °C           Relative air humidity         15 % to 85 % acc. IEC 60721-3-3 Class 3K3           Degree of polution         3           Vibration resistance         10 - 55 Hz 0.35 mm acc. IEC 60068-2-6           mpact resistance         15 g 11 ms acc. IEC 60068-2-27	Control input	
Cable length       10 m max., twisted         Reset       NC contact in supply circuit         Environmental conditions       -25 °C +40 °C         Temperature range according to UL       -25 °C +55 °C         Storage temperature range       -25 °C +70 °C         Relative air humidity       15 % to 85 % acc. IEC 60721-3-3 Class 3K3         Degree of polution       3         //ibration resistance       10 - 55 Hz 0.35 mm acc. IEC 60068-2-6         mpact resistance       15 g 11 ms acc. IEC 60068-2-27	Function	Fault store
NC contact in supply circuit	Load	none
Environmental conditions    Femperature range according to UL	Cable length	10 m max., twisted
Temperature range according to UL	Reset	NC contact in supply circuit
Femperature range       -25 °C +55 °C         Storage temperature range       -25 °C +70 °C         Relative air humidity       15 % to 85 % acc. IEC 60721-3-3 Class 3K3         Degree of polution       3         //bration resistance       10 − 55 Hz 0.35 mm acc. IEC 60068-2-6         mpact resistance       15 g 11 ms acc. IEC 60068-2-27	Environmental conditions	
Storage temperature range	Temperature range according to UL	
Relative air humidity       15 % to 85 % acc. IEC 60721-3-3 Class 3K3         Degree of polution       3         /ibration resistance       10 – 55 Hz 0.35 mm acc. IEC 60068-2-6         mpact resistance       15 g 11 ms acc. IEC 60068-2-27	Temperature range	
Degree of polution       3         //bration resistance       10 – 55 Hz 0.35 mm acc. IEC60068-2-6         mpact resistance       15 g 11 ms acc. IEC 60068-2-27	Storage temperature range	
//bration resistance 10 – 55 Hz 0.35 mm acc. IEC60068-2-6 mpact resistance 15 g 11 ms acc. IEC 60068-2-27	Relative air humidity	
mpact resistance 15 g 11 ms acc. IEC 60068-2-27	Degree of polution	<u> </u>
·	Vibration resistance	
Approvals cULus	Impact resistance	
	Approvals	cULus



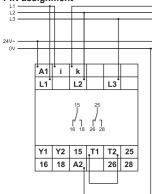
#### Load sensor 1 and 3-phase loads **AC 690 V**



#### **Dimensions**



#### PIN assignment



Description		Part-No.	Туре	PU
Load sensor				
	1 and 3-phase loads	750681 <b>S</b> *	LCR-PW-3-690-D-2U-24-240	1

True power monitoring for 1 and 3-phase loads

with 48 settable thresholds (P1, P2)

separately adjustable start-up suppression and trigger delay

selectable error memory
Temperature monitoring of the motor coil with max. 6 PTC

One reset button;

function selection via rotary switch

2MIN: Minimum monitoring

2MIN+I< ON: Minimum monitoring and recognition of shut-down consumers as GOOD status

2MIN+I< Inv: Minimum monitoring and recognition of shut-down consumers as errors 2MAX: Maximum monitoring

2MAX+I< ON: Maximum monitoring and recognition of shut-down consumers as errors

ZMAX+I Inv: Maximum monitoring and recognition of shut-down consumers as GOOD status WIN: Monitoring the range between thresholds Min and Max

WIN+I< ON: Monitoring the range between the Min and Max thresholds and recognition of shut-down consumers as

GOOD status

WIN+I< Inv: Monitoring the range between the Min and Max thresholds and recognition of shut-down consumers as errors MAX/MIN: Maximum/minimum monitoring

MAX/MIN+I< ON: Maximum/minimum monitoring and Monitoring the range and recognition of shut-down consumers as

MAX/MIN+I< Inv: Maximum/minimum monitoring and Monitoring the range and recognition of shut-down consumers as errors

MAX/MIN+I=0 ON: Maximum/minimum monitoring and recognition of shut-down consumers as ERROR or GOOD status

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ï	r	n	e		r	a	1	1	α	6	

Start-up suppression, settable	0 – 100 s
trigger delay, settable	0.1 – 50 s
Status indication	
Supply status	LED green
Start bridge status	LED green flashing
Output relay status	LED yellow
Threshold error status	LED red
Trigger delay status	LED red flashing
Status I/O	LED yellow
Over-temperature status	LED red
Housing	
Dimensions (w × h × d)	45.0 × 90.0 × 105.0 mm
Color of the housing	light grey
Housing material	PA 6.6 V0
Protection class	IP20
Connection cross-section	1×0.5 to 2.5 mm <sup>2</sup> with AE 1×4 mm <sup>2</sup> without AE 2×0.5 to 1.5 mm <sup>2</sup> with AE 2×2.5 mm <sup>2</sup> without AE

	 	mm <sup>2</sup> without AE
Installation position		anv

Weight 0.400 kg/piece Approvals cULus

Supply circuit

Rated voltage range AC/DC 24 V - 240 V Tolerance

AC: -15 %/+10 %, DC: -20 %/+25 % 16 Hz @ AC 24 V, 48 Hz – 400 Hz @ AC 24 V – 240 V Rated frequency

Power consumption 3.5 VA (3 W) Operating time 100 % ED Recovery time 500 ms >30 % of the supply voltage Voltage drop III acc. IEC 60664-1 Over voltage category Measurement surge voltage 4 kV

Output circuit		
Number of channels	2	
Switching element	Relays	
Contact type	Change over contact	
Measurement voltage	AC 250 V	
Switching voltage	AC 250 V	
Switching current max.	5A (3A)	
Protection device	5 A, quick-acting	
Mechanical service life	20 × 10 <sup>6</sup> (1000 VA)	
Electrical service life	2 × 10 <sup>5</sup> (1000 VA)	
Switching frequency	60/min @100 VA, 6/min @ 1000 VA	
Over voltage category	III acc. IEC 60664-1	
Measurement surge voltage	4 kV	



<sup>\*</sup> S Article from stock

Available with a lead time

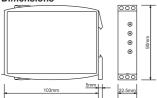
Accuracy ±2 % (end of scale) Basic accuracy ±0.025 %/Hz Frequency response Tolerance of setting ≤5 % (end of scale) Repeat accuracy ≤2 % ±0.02 %/°C Temperature error Measuring circuit 2 kW, 4 kW, 8 kW, 16 kW reversible Measuring variable Wave form AC Sinus 10 – 400 Hz Wave form PWM 10 - 100 Hz (sine-assessed) Measurement input 1-phase AC 42 – 690 V 3ph 42 – 690/400 V Measurement input 3-phase Overload capability 796 V (1-phase), 796/460 V (3-phase) Input resistance 1.25 MΩ Measurement input current, 1-pha-0.20A – 8 A (2 kW, 4 kW), 0.4 – 16 A (8 kW, 16 kW), for I>16 A clearance >5 mm Overload capability current 18 A permanent 200 mA (2 kW,4 kW), 400 mA (8 kW, 16 kW) Current interruption 240 mA (2 kW, 4 kW), 480 mA (8 kW, 16 kW) Current flow sensor Switching threshold P1 10 % – 120 % from P<sub>N</sub> Switching threshold P2 5% - 110% from  $P_N$ Hysteresis 1 % @ Maximum measuring range' Over voltage category III acc. IEC 60664-1 Measurement surge voltage 4 kV Temperature monitoring Sum of cold resistance <1.5 kΩ ≥3.6 kΩ ( relay drops) Response value Drop-off value ≤1.8 kW (Relay is energised) Line short-circuit No shut-off ≤7.5 V at R ≤4.0 kW (acc. IEC 60947-8) Measurement voltage Control input Function Fault store Load none Cable length 10 m max., twisted Reset NC contact in supply circuit **Environmental conditions** Temperature range according to UL -25 °C ... +40 °C -25 °C ... +55 °C Temperature range -25 °C ... +70 °C Storage temperature range Relative air humidity 15 % to 85 % acc. IEC 60721-3-3 Class 3K3 Degree of polution 3 acc. IEC 60664-1 Vibration resistance 10 - 55 Hz 0.35 mm acc. IEC60068-2-6 15 g 11 ms acc. IEC 60068-2-27 Impact resistance cULus Approvals



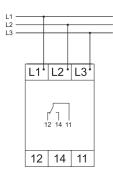
# Phase sequence and asymmetry



#### Dimensions



PIN assignment



Description	Part-No. Type	PU					
Phase sequence and asymmetr	•						
	750610 <b>S*</b> LCR-PH-3-1-1U	1					
Timo rango							
Time range Switch-on delay	400 ms						
Switch-off delay	<250 ms						
Status indication	~230 HIS						
Supply status	LED green						
Output relay status	LED yellow						
Housing	LLD yellow						
Dimensions (w × h × d)	22.5 × 67.0 × 76.0 mm						
Color of the housing	light grey						
Housing material	PA						
Protection class	IP20						
Connection device	Screwed terminal						
Connection cross-section	AWG 20 – AWG 13						
Connection cross-section	0.5 – 2.5 mm <sup>2</sup> with AE						
Installation position	any						
Weight	0.082 kg/piece						
Approvals	cULus						
Supply circuit	-0200						
Rated voltage range	AC 120/208 V – 277/488 V						
Tolerance	-10 %/+10 %						
Rated frequency	50 – 60 Hz (48 – 63 Hz)						
Power consumption	0.9 W/VA						
Operating time	100 % ED						
Recovery time	>500 ms						
Waveform AC	Sinus						
Residual ripple	10 %						
Voltage drop	≥121 V/171 V						
Output circuit							
Number of channels	1						
Switching element	Relays						
Contact type	Change over contact						
Measurement voltage	AC 250 V (IEC 60947-1)						
Switching voltage	AC 250 V						
Switching current max.	AC-1: 8A/250V, AC-15: 1.5A/240V(B300), DC-12: 8A/24V, DC-13: 0.1A/250V						
Protection device	8 A, quick-acting						
Mechanical service life	30 × 10 <sup>6</sup>						
Electrical service life	1 × 10 <sup>5</sup> (AC-1)						
Switching frequency	6/min with load						
Accuracy							
Basic accuracy	≤5 % (end of scale)						
Tolerance of setting	≤5 % (end of scale)						
Repeat accuracy	≤1 %						
Temperature error	≤0.05 %/°C						
Measuring circuit							
Measuring variable	AC Sinus (48 to 63 Hz), 3-phase						
External fuse	max. 20 A (acc. UL 601010)						
Measuring range	3(N) AC 400/230 V						
Measuring procedure	Rectified value						
Monitored functions	Phase sequence, phase failure, asymmetry						
Overload capability	see tolerance of power supply						
Input resistance	3 ΜΩ						
Asymmetry	5 % – 25 %, Off						
Environmental conditions							
Temperature range	-25 °C +60 °C						
Storage temperature range	-40 °C +70 °C						
Relative air humidity	5 % to 95 % acc. IEC 60721-3-3 Class 3K3						
Vibration resistance	2 – 13.2 Hz 1 mm 13.2 – 100 Hz 7 m/s <sup>2</sup>						
Impact resistance	15 g 11 ms acc. IEC 60068-2-27						
Approvals	cULus						



# Interface Technology · LCIS accessories

# Labeling system Labelling tabs 5 × 5 mm 20 rows of 10 tabs

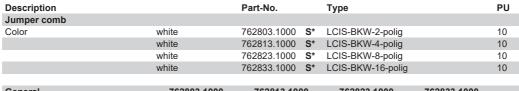


Description		Part-No.	Туре	PU	
Labelling plates					
Color	white	716431 <b>S*</b>	LOCC-Box-BZW 7-6431	1	
	red	716432 <b>S*</b>	LOCC-Box-BZR 7-6432	1	
	blue	716433 <b>S*</b>	LOCC-Box-BZB 7-6433	1	
	yellow	716434 <b>A*</b>	LOCC-Box-BZG 7-6434	1	
General	716431	716432	716433	716434	
Color	white	red	blue	yellow	
Design		Frame with	20 strips à 10 signs		
Material		PA 6.6 (UL	94 V0, NNF I2, F2)		
Operation temperature range	-40 °C +80 °C				
Storage temperature range	-40 °C +80 °C				
Weight	– kg/piece				
Dimensions		5	× 5 mm		

# Interface Technology · LCIS accessories

# Insulated jumper combs 2 to 16-pin white





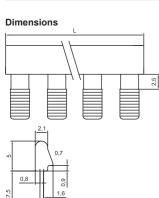
Dimensions	
10,7	3,3

	WITHE	702033.1000 <b>3</b>	LCIO-BRVV-10-polig		10	
General	762803.1000	762813.1000	762823.1000	762833.1000		
Pole number	2	4	8	16		
Connection device		plı	ug-in			
Rated current		DC	C 6 A			
Contact design		Flat contact 0.5 mm	Ribbing on the sides			
Pin spacing	6.2 mm					
Length	12.4 mm	24.8 mm	49.6 mm	99.2 mm		
Contact material	CuZn					
Material	Vectra C 1330					
Color	white					
Flamability according to UL 94		,	V0			
Operation temperature range	-40 °C +80 °C					
Storage temperature range	-40 °C +80 °C					
Weight	0.0005 kg/piece	0.001 kg/piece	0.002 kg/piece	0.004 kg/piece		

# Interface Technology · Accessories

# Insulated jumper combs 2 to 16-pin white



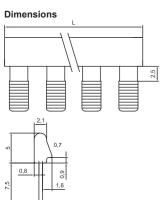


Description		Part-No.	Туре	•	F	PU			
Jumper comb									
Color	white	762803	<b>S</b> * BK 7	-2803 WE 2-polig	1	10			
	white	762806	<b>S*</b> BK 7	-2806 WE 3-polig	1	10			
	white	762813	<b>S</b> * BK 7	-2813 WE 4-polig	1	10			
	white	762823	<b>S*</b> BK 7	-2823 WE 8-polig	1	10			
	white	762833	<b>S</b> * BK 7	-2833 WE 16polig	1	10			
General	762803	762806	762813	762823	762833				
Pole number	2	3	4	8	16				
Connection device	plug-in								
Rated current	DC 6 A								
Contact design	Flat contact 0.5 mm Ribbing on the sides								
Pin spacing	6.2 mm								
Length	12.4 mm	18.6 mm	24.8 mm	49.6 mm	99.2 mm				
Contact material			CuZn						
Material	Vectra C 1330								
Color			white						
Flamability according to UL 94			V0						
Operation temperature range			-40 °C +80	°C					
Storage temperature range			-40 °C +80	°C					
Weight	0.001 kg/piece	0.0015 kg/ piece	0.002 kg/pied	ce 0.003 kg/piece	0.004 kg/piece				

# Interface Technology · Accessories

## Insulated jumper combs 2 to 16-pin red



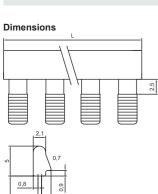


Description		Part-No.		Type			PU		
Jumper comb									
Color	red	762802	S*	BK 7-28	02 rt 2-polig		10		
	red	762805	S*	BK 7-28	05 rt 3-polig		10		
	red	762812	S*	BK 7-28	12 rt 4-polig		10		
	red	762822	S*	BK 7-28	22 rt 8-polig		10		
	red	762832	S*	BK 7-28	32 rt 16polig		10		
General	762802	762805		762812	762822	762832			
Pole number	2	3		4	8	16			
Connection device	plug-in								
Rated current	DC 6 A								
Contact design	Flat contact 0.5 mm Ribbing on the sides								
Pin spacing	6.2 mm								
Length	12.4 mm	18.6 mm		24.8 mm	49.6 mm	99.2 mm			
Contact material				CuZn					
Material			Ve	ctra C 1330					
Color				red					
Flamability according to UL 94				V0					
Operation temperature range	-40 °C +80 °C								
Storage temperature range	-40 °C +80 °C								
Weight	0.001 kg/piece	0.0015 kg/	0.0	002 kg/piece	0.003 kg/piece	0.004 kg/piece			

# Interface Technology · Accessories

## Insulated jumper combs 2 to 16-pin blue





Description		Part-No.	Type			PU			
Jumper comb									
Color	blue	762804	S* BK 7-28	304 bl 2-polig		10			
	blue	762807	S* BK 7-28	307 bl 3-polig		10			
	blue	762814	S* BK 7-28	314 bl 4-polig		10			
	blue	762824	S* BK 7-28	324 bl 8-polig		10			
	blue	762834	S* BK 7-28	334 bl 16polig		10			
General	762804	762807	762814	762824	762834				
Pole number	2	3	4	8	16				
Connection device	plug-in								
Rated current	DC 6 A								
Contact design	Flat contact 0.5 mm Ribbing on the sides								
Pin spacing			6.2 mm						
Length	12.4 mm	18.6 mm	24.8 mm	49.6 mm	99.2 mm				
Contact material			CuZn						
Material	Vectra C 1330								
Color			blue						
Flamability according to UL 94			V0						
Operation temperature range			-40 °C +80 °C						
Storage temperature range			-40 °C +80 °C						
Weight	0.001 kg/piece	0.0015 kg/ piece	0.002 kg/piece	0.003 kg/piece	0.004 kg/piece				

# Part number index

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716434	57	751557.0000	25						
750320	36	751809.0000	27						
750321	40	751817.0000	29						
750322	41	751819.0000	28						
750340	37	751839.0000	30						
750360 750370	38 39	751847.0000 751848.0000	31 32						
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750537.0000	20	762824	61						
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750631	48								
750635	47								
750640 750680	50 52								
750681	54								
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750817.0000	29								
750819.0000	28								
750839.0000	30								
750847.0000	31								
750848.0000 750901.0000	32 26								
751320	36								
751321	40								
751322	41								
751340	37								
751360	38								
751370	39								
751510.0000	22 16								
751511.0000 751512.0000	23								
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