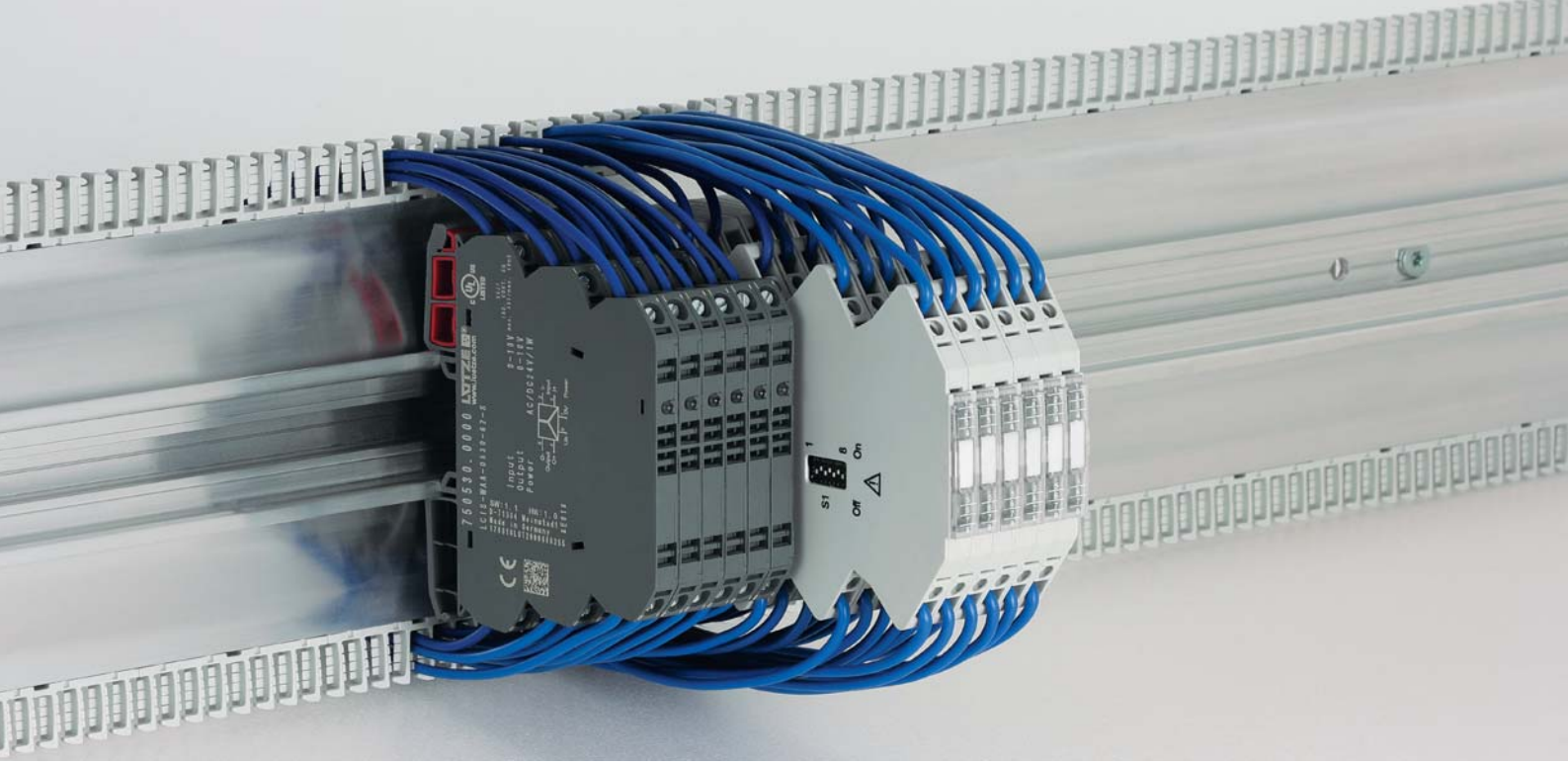


Control Solutions

LÜTZE Converters

LCIS Signal Converters

Microcompact Converters

Monitoring Relays

LÜTZE

SYSTEMATIC TECHNOLOGY

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.

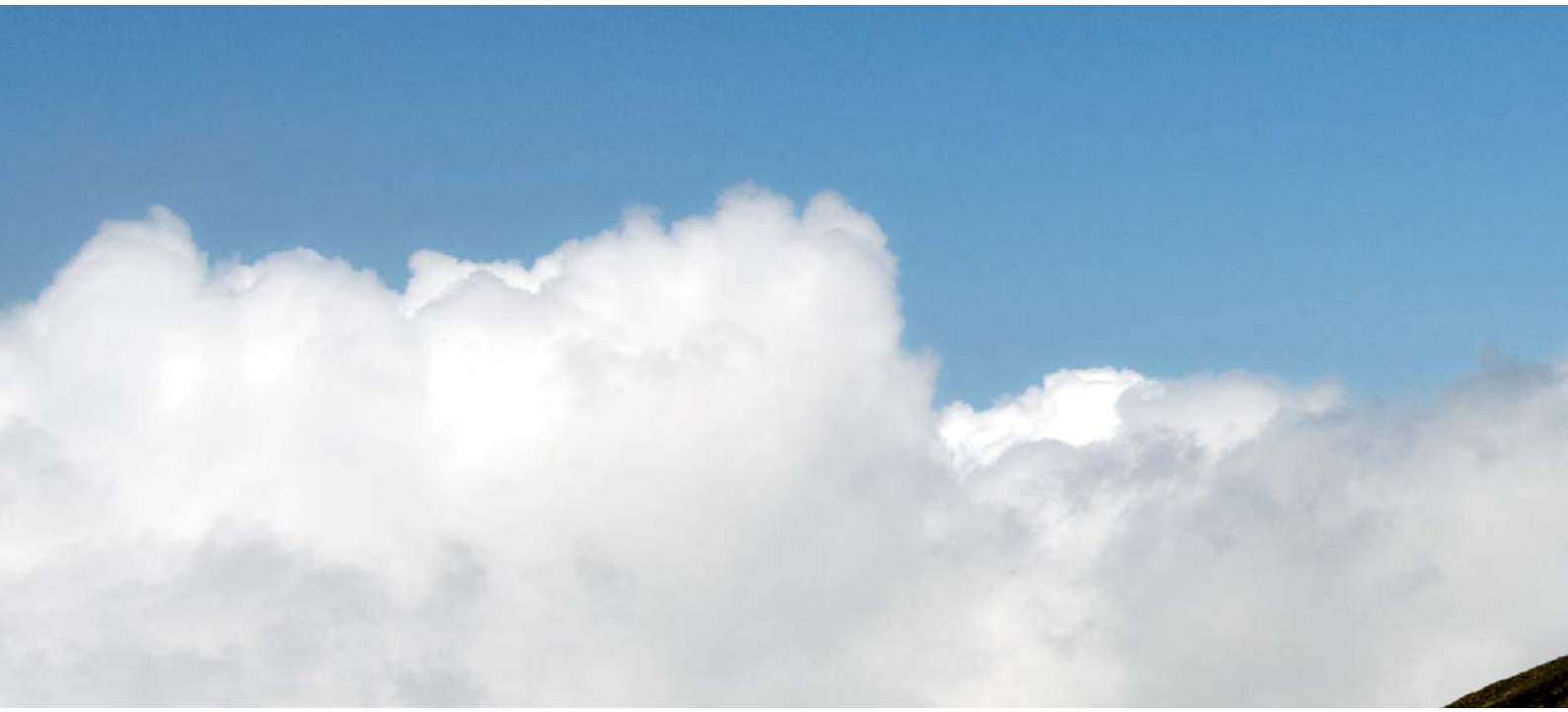
The value of a product or a solution from LÜTZE is determined by its sustainable qualities. Every innovation will only be successful in the future if it has a long term positive effect. Therefore, we provide long lasting as well as highly efficient components.

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

LÜTZE®
SYSTEMATIC TECHNOLOGY

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.

SkyBLUE
LÜTZE

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.

Innovations-Allianz
Green Carbody Technologies

ISO 14001

BLUeCOMPETENCE
Alliance Member
Partner of the Engineering Industry Sustainability Initiative

RoHS

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.

LÜTZE SUPERFLEX®
connected

S1
Switch On
Output
S6
0-10V
4-20mA
4-20mA
on
off
S1
Switch On
Input
1 2 3 4
0-10V
4-20mA
4-20mA
-A2
+A1
11
14

Signal Isolation Transformers · Product Overview

LCIS

Analog/analog converter passive

Page 15

Analog/analog converter

Page 16-20

Analog/analog converter

Page 21

Analog/analog converter

Page 22-24

Poti/analog converter

Page 25

Analog/analog converter

Page 26

Temperature/ analog converter

Page 27-32

LCON

Analog/analog converter

Page 36

Temperature/ analog converter

Page 37

Analog / limit value switch

Page 38

Temperature / limit value switch

Page 39

Analog/analog splitter

Page 40

Analog/analog limit value switch

Page 41

Monitoring relays

Voltage monitoring, 1-phase

Page 42/43

Voltage monitoring, 3-phase

Page 44/45

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

Page 46

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

Page 47

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

Page 48/49

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

Page 50/51

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

Page 52/53

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

Page 54/55

Phase sequence and asymmetry

Page 56

Accessories

Labeling system

Page 57

Insulated jumper combs

Page 58

Insulated jumper combs

Page 59-61

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:

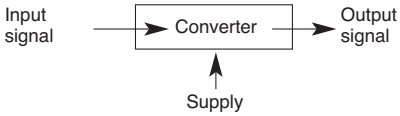


Figure : Schematic of a converter

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 analog-signals)
- 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, thermo-couples 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 Ω to 750 Ω. The values for voltage outputs are in the range from 1 kΩ to 10 kΩ.

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.

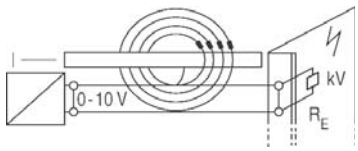


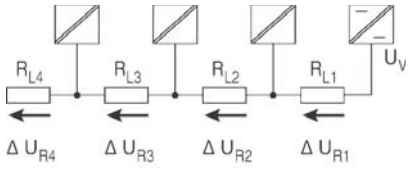
Figure: Electromagnetic interference

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.

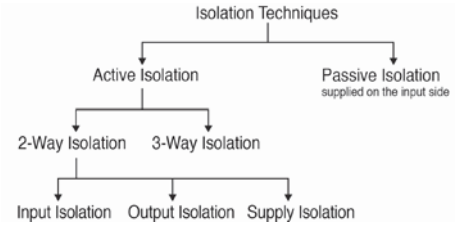


Diagram: Isolation techniques

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.

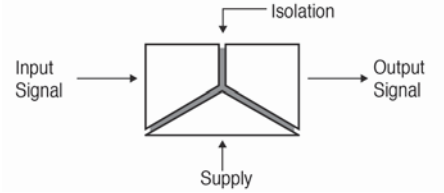


Diagram: 3-way isolation

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.

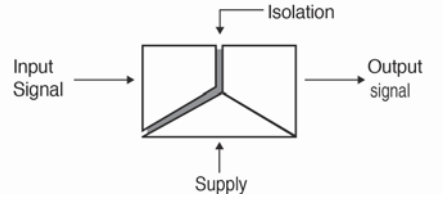


Figure: 2-way input isolation

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.

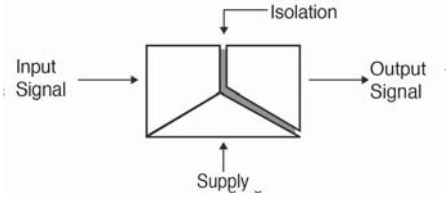


Figure: 2-way output isolation

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.

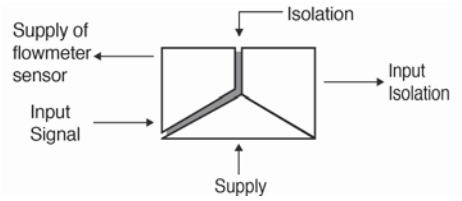


Figure: 2-way supply isolation

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).

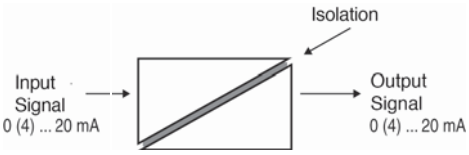


Figure: Passive isolation, supply input

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.

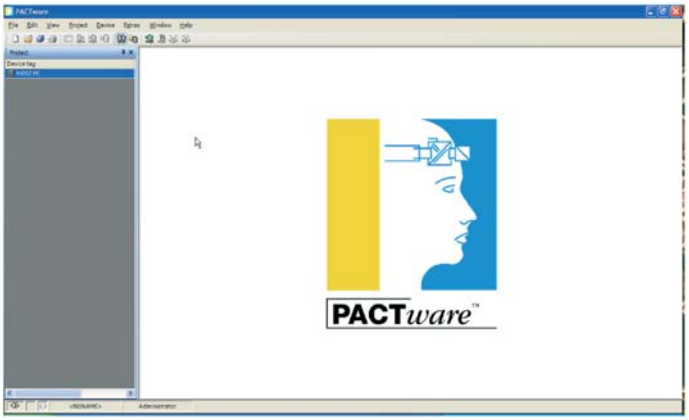
FDT Frame Application – Host system

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

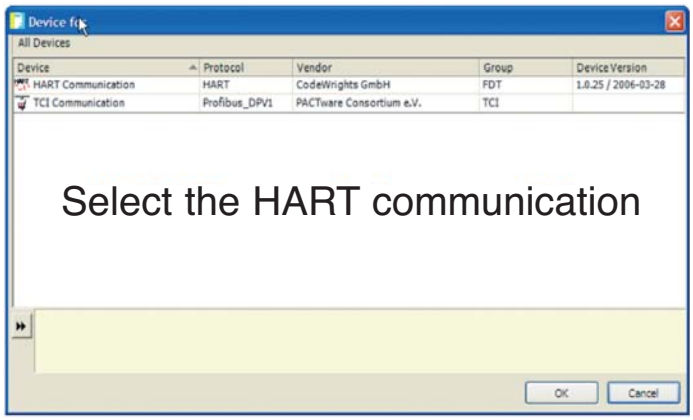
- Common environment
- User Management
- DTM Management
- Data Management
- Network Configuration
- Navigation

Open FDT Technology

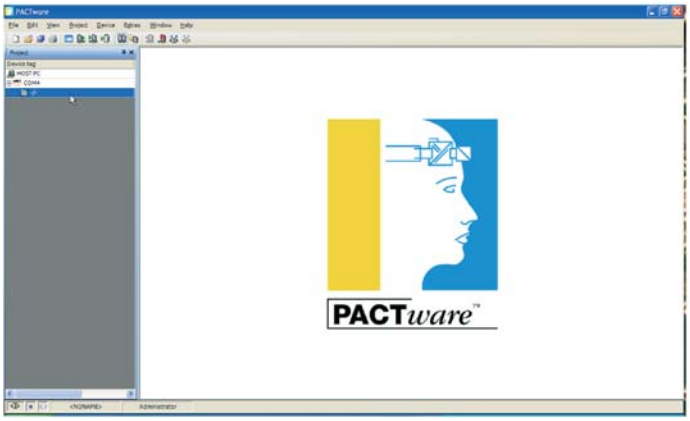
How to implement Lütze DTM´s into PACTware™



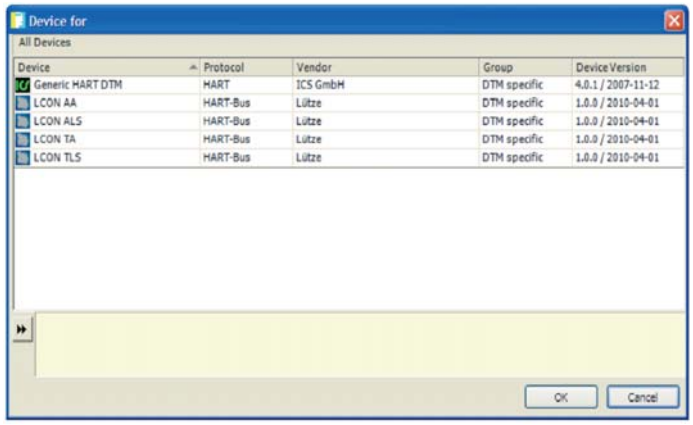
1. Add device



2. Select the communication channel

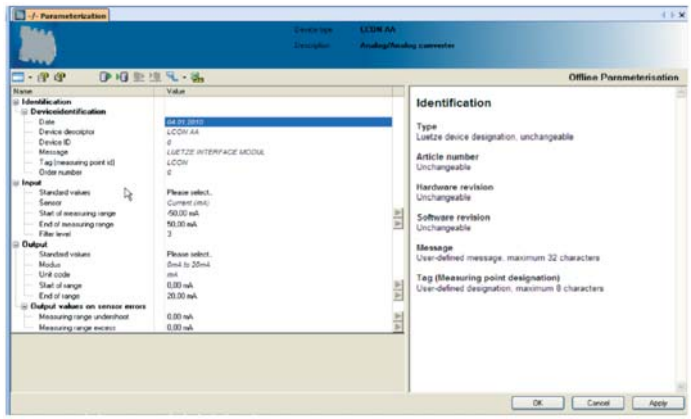


3. Again, add device



4. Select needed Lütze DTM

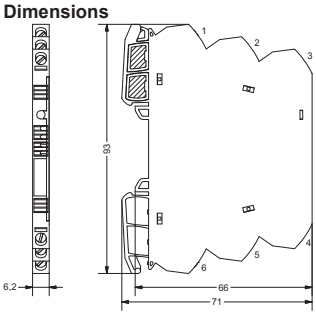
5. Device is displayed



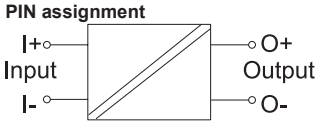
6. Double clic on the device open the list of parameter

Input: 4–20 mA
Output: 4–20 mA
Insulation: 1.5 kV, 2-way isolation, passive converter

Dimensions



PIN assignment



Description		Part-No.		Type	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	**750528.0000**	**751528.0000**
Input signal	4–20 mA	
Galvanic isolation I/O	2-way isolation	
Output		
Output signal	4–20 mA	
Max. load impedance at I-output	1000 Ω (R_B)	
Output current	–	
Residual ripple	<5 mV_{eff} (load impedance 100 Ω)	
Operating data		
Accuracy	0.1 % FSR @ 23 °C	
Linearity error	–	
Build-up time (Accuracy 1%)	6 ms (for working resistance 500 Ω and 20 mA)	
General		
Rated voltage	passive	
Status indication	LED green	
Input/output protection	Suppressor diode (33 V)	
Burden error	<0.06 % from measured value / 100 Ω working resistance	
Temperature drift /K	<150 ppm / K FSR	
Temperature drift (working resistance >600R)	<100 ppm / K FSR	
Temperature drift (working resistance >600R)	<150 ppm / K FSR	
Insulation voltage input / output	1.5 kV_{eff}	
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)	
Color of the housing	RAL 7012 basalt grey	
Mounting	DIN rail mountable TS35 (EN 60715)	
Protection class	IP20	
Installation position	any	
Connection device	Screwed terminal single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / AWG 20–16	Push-In single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / 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 × 71.0 mm	
Weight	0.040 kg/piece	
Approvals	cULus (E135145), DNV GL	
Standards	EN 60947-5-1	

Comments
With connection: This passive isolator has a non-reactive transmission, so that the current in the input circuit is not interrupted for an output interruption.

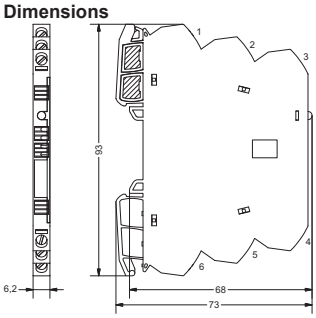
* **S** Article from stock
A Available with a lead time
R Available on request

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

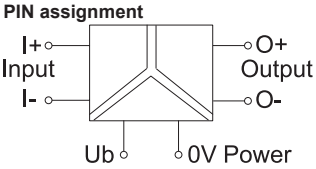
Description		Part-No.		Type	PU
Screw terminal					
Rated voltage	AC/DC 24 V	750511.0000	**R***	LCIS-WAF-0511-62-S	1
Push-In					
Rated voltage	AC/DC 24 V	751511.0000	**S***	LCIS-WAF-1511-62-PI	1

Input	**750511.0000**	**751511.0000**
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	0–50 Hz, 0–100 Hz, 0–1 kHz, 0–10 kHz adjustable via DIP switch S1	
Residual ripple	–	
Operating data		
Accuracy	0.1 % FSR @ 23 °C	
Linearity error	0.05 % FSR	
Build-up time (Accuracy 1%)	–	
Critical frequency	30 Hz @ 3 dB	
Temperature coefficient	<150 ppm / K FSR	
General		
Rated voltage	AC/DC 24 V	
Operation voltage range	AC 19.2–30 V / DC 19.2–30 V	
Status indication	LED green	
Input/output protection	Overvoltage, current input with PTC fuse, short circuit-proof output	
Rise time (10 - 90%)	frequency-dependent	
Insulation voltage input / output	2.5 kV_{eff}	
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)	
Color of the housing	RAL 7012 basalt grey	
Mounting	DIN rail mountable TS35 (EN 60715)	
Protection class	IP20	
Installation position	any	
Connection device	Screwed terminal single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / AWG 20–16	Push-In single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / 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	0.029 kg/piece	
Approvals	cULus (E135145), DNV GL	
Standards	EN 60947-5-1	

Dimensions



PIN assignment



Range adjustment

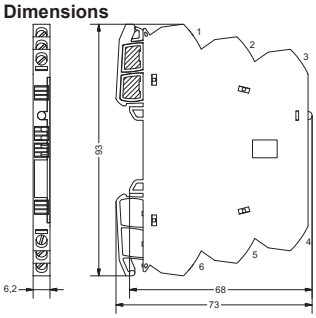
S1 ●→Switch On	Input 1	2	3	4
0–10 V*	●			
0–20 mA		●		
4–20 mA	●	●		

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

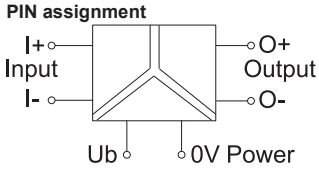
* **S** Article from stock
A Available with a lead time
R Available on request

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

Dimensions



PIN assignment



Range adjustment

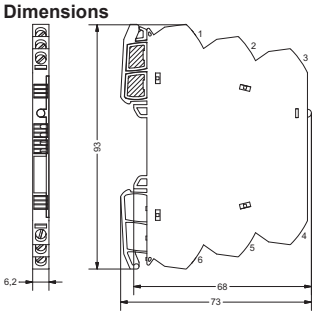
Description		Part-No.		Type	PU
Screw terminal					
Rated voltage	AC/DC 24 V	750539.0000	**S***	LCIS-WAA-0539-62-S	1
Push-In					
Rated voltage	AC/DC 24 V	751539.0000	**S***	LCIS-WAA-1539-62-PI	1

Input	**750539.0000**	**751539.0000**
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	adjustable 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 mA, 4–20 mA	
Residual ripple	<20 mV_{eff}	
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 V	
Operation voltage range	AC 19.2–30 V / DC 19.2–30 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	2.5 kV_{eff}	
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)	
Color of the housing	RAL 7012 basalt grey	
Mounting	DIN rail mountable TS35 (EN 60715)	
Protection class	IP20	
Installation position	any	
Connection device	Screwed terminal single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / AWG 20–16	Push-In single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / 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 kg/piece	
Approvals	cULus (E135145), DNV GL	
Standards	EN 60947-5-1	

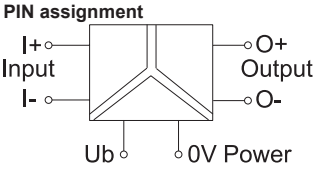
* **S** Article from stock
A Available with a lead time
R Available on request

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

Dimensions



PIN assignment



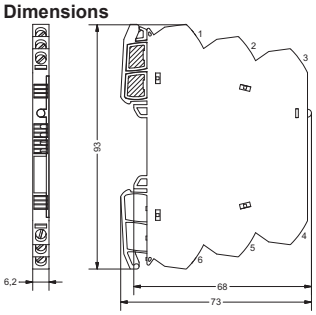
Description		Part-No.		Type	PU
Screw terminal					
Output signal	0 – 10 V	750530.0000	**R***	LCIS-WAA-0530-62-S	1
	0–20 mA	750531.0000	**R***	LCIS-WAA-0531-62-S	1
	4–20 mA	750532.0000	**R***	LCIS-WAA-0532-62-S	1
Push-In					
Output signal	0 – 10 V	751530.0000	**S***	LCIS-WAA-1530-62-PI	1
	0–20 mA	751531.0000	**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	Production comparison		
Output			
Output signal	0 – 10 V	0–20 mA	4–20 mA
Residual ripple	<20 mV_{eff}		
Max. load impedance at I-output	–	500 Ω	
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 V		
Operation voltage range	AC 19.2–30 V / DC 19.2–30 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	2.5 kV_{eff}		
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)		
Color of the housing	RAL 7012 basalt grey		
Mounting	DIN rail mountable TS35 (EN 60715)		
Protection class	IP20		
Installation position	any		
Connection device	Screwed terminal single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / AWG 20–16	Push-In single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / 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	cULus (E135145), DNV GL		
Standards	EN 60947-5-1		

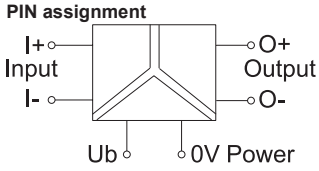
* **S** Article from stock
A Available with a lead time
R Available on request

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

Dimensions



PIN assignment



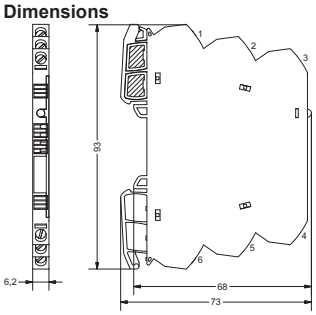
Description		Part-No.		Type	PU
Screw terminal					
Output signal	0 – 10 V	750533.0000	**R***	LCIS-WAA-0533-62-S	1
	0–20 mA	750534.0000	**R***	LCIS-WAA-0534-62-S	1
	4–20 mA	750535.0000	**R***	LCIS-WAA-0535-62-S	1
Push-In					
Output signal	0 – 10 V	751533.0000	**S***	LCIS-WAA-1533-62-PI	1
	0–20 mA	751534.0000	**S***	LCIS-WAA-1534-62-PI	1
	4–20 mA	751535.0000	**S***	LCIS-WAA-1535-62-PI	1

Input			
Input signal	0–20 mA		
Galvanic isolation I/O	3-way isolation		
Zero /Span	Production comparison		
Output			
Output signal	0 – 10 V	0–20 mA	4–20 mA
Residual ripple	<20 mV_{eff}		
Max. load impedance at I-output	–	500 Ω	
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 V		
Operation voltage range	AC 19.2–30 V / DC 19.2–30 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	2.5 kV_{eff}		
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)		
Color of the housing	RAL 7012 basalt grey		
Mounting	DIN rail mountable TS35 (EN 60715)		
Protection class	IP20		
Installation position	any		
Connection device	Screwed terminal single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / AWG 20–16	Push-In single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / 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	cULus (E135145), DNV GL		
Standards	EN 60947-5-1		

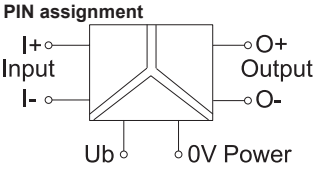
* **S** Article from stock
A Available with a lead time
R Available on request

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

Dimensions



PIN assignment



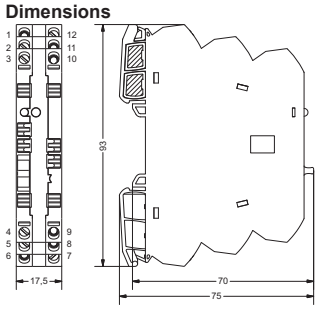
Description		Part-No.		Type	PU
Screw terminal					
Output signal	0 – 10 V	750536.0000	**R***	LCIS-WAA-0536-62-S	1
	0–20 mA	750537.0000	**R***	LCIS-WAA-0537-62-S	1
	4–20 mA	750538.0000	**R***	LCIS-WAA-0538-62-S	1
Push-In					
Output signal	0 – 10 V	751536.0000	**S***	LCIS-WAA-1536-62-PI	1
	0–20 mA	751537.0000	**S***	LCIS-WAA-1537-62-PI	1
	4–20 mA	751538.0000	**S***	LCIS-WAA-1538-62-PI	1

Input			
Input signal	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
Residual ripple	<20 mV_{eff}		
Max. load impedance at I-output	–	500 Ω	
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 V		
Operation voltage range	AC 19.2–30 V / DC 19.2–30 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	2.5 kV_{eff}		
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)		
Color of the housing	RAL 7012 basalt grey		
Mounting	DIN rail mountable TS35 (EN 60715)		
Protection class	IP20		
Installation position	any		
Connection device	Screwed terminal single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / AWG 20–16	Push-In single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / 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	cULus (E135145), DNV GL		
Standards	EN 60947-5-1		

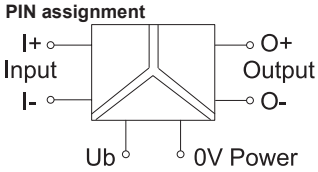
* **S** Article from stock
A Available with a lead time
R Available on request

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



PIN assignment



Range adjustment

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

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

Description		Part-No.		Type	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	>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 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	< 18 V @ 0–20 mA, 4–20 mA	
Residual ripple	<20 mV_{eff}	
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	**AC/DC 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, current input with PTC fuse, short circuit-proof output	
Rise time (10 - 90%)	6 ms	
Insulation voltage input / output	2.5 kV_{eff}	4.0 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)	
Color of the housing	RAL 7012 basalt grey	
Mounting	DIN rail mountable TS35 (EN 60715)	
Protection class	IP20	
Installation position	any	
Connection device	Screwed terminal single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / AWG 20–16	Push-In single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / AWG 20–16
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	

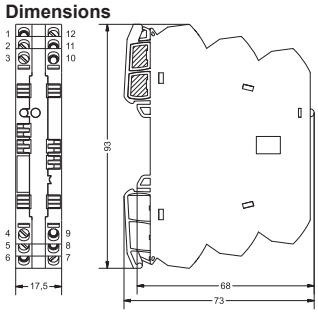
* **S** Article from stock
A Available with a lead time
R Available on request

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

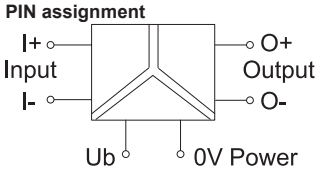
Description		Part-No.		Type	PU
Screw terminal					
Rated voltage	AC/DC 24–240 V	750510.0000	**R***	LCIS-WP-WAA-0510-175-S	1
Push-In					
Rated voltage	AC/DC 24–240 V	751510.0000	**S***	LCIS-WP-WAA-1510-175-PI	1

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 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	< 18 V @ 0–20 mA, 4–20 mA	
Residual ripple	<20 mV_{eff}	
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_{eff}	
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)	
Color of the housing	RAL 7012 basalt grey	
Mounting	DIN rail mountable TS35 (EN 60715)	
Protection class	IP20	
Installation position	any	
Connection device	Screwed terminal single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / AWG 20–16	Push-In single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / AWG 20–16
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	

Dimensions



PIN assignment



Range adjustment

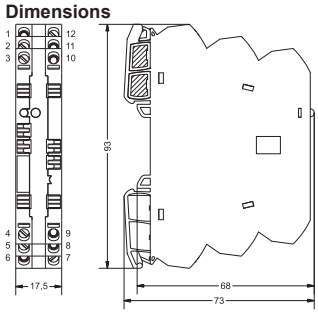
S1	Input			
●→Switch On	1	2	3	4
0–10V*	●			
0–20mA		●		
4–20mA	●	●		

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

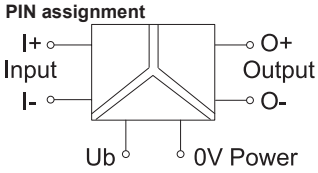
* **S** Article from stock
A Available with a lead time
R Available on request

Input: 0–10 V / 0–20 mA / 4–20 mA
Output: 0–10 kHz
Insulation: 4 kV, 3-way isolation, Wide range input

Dimensions



PIN assignment



Range adjustment

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

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

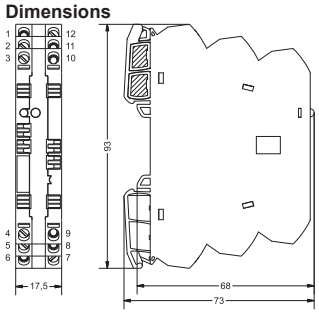
Description		Part-No.		Type	PU
Screw terminal					
Rated voltage	AC/DC 24–240 V	750512.0000	**R***	LCIS-WP-WAF-0512-175-S	1
Push-In					
Rated voltage	AC/DC 24–240 V	751512.0000	**R***	LCIS-WP-WAF-1512-175-PI	1

Input	**750512.0000**	**751512.0000**
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	0–50 Hz, 0–100 Hz, 0–1 kHz, 0–10 kHz adjustable via DIP switch S1	
Residual ripple	–	
Operating data		
Accuracy	0.1 % FSR @ 23 °C	
Linearity error	0.05 % FSR	
Build-up time (Accuracy 1%)	frequency-dependent	
Critical frequency	30 Hz @ 3 dB	
Temperature coefficient	<150 ppm / K FSR	
Transmission frequency	frequency-dependent	
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%)	frequency-dependent	
Insulation voltage input / output	4.0 kV_{eff}	
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)	
Color of the housing	RAL 7012 basalt grey	
Mounting	DIN rail mountable TS35 (EN 60715)	
Protection class	IP20	
Installation position	any	
Connection device	Screwed terminal single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / AWG 20–16	Push-In single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / 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	0.058 kg/piece	
Approvals	cULus (E135145), DNV GL	
Standards	EN 60947-5-1	

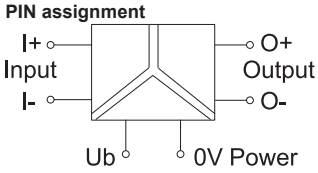
* **S** Article from stock
A Available with a lead time
R Available on request

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



PIN assignment



Range adjustment

S1 ●→Switch On	Input 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	●	●	●	●

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

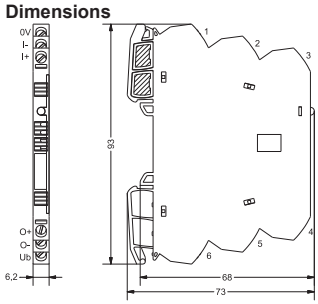
Description		Part-No.		Type	PU
Screw terminal					
Rated voltage	AC/DC 24 V	750516.0000	**R***	LCIS-WUAA-0516-175-S	1
	AC/DC 24–240 V	750517.0000	**R***	LCIS-WP-WUAA-0517-175-S	1
Push-In					
Rated voltage	AC/DC 24 V	751516.0000	**S***	LCIS-WUAA-1516-175-PI	1
	AC/DC 24–240 V	751517.0000	**S***	LCIS-WP-WUAA-1517-175-PI	1

Input	**AC/DC 24 V**	**AC/DC 24–240 V**
Input signal	0–60, 0–100, 0–300, 0–500 mV 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, 0–20, 4–20, ±5, ±20 mA adjustable via DIP switch S1	
Input resistance	>300 kΩ @ mV, V, <100 Ω @ 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 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	< 18 V @ 0–20 mA, 4–20 mA	
Residual ripple	<20 mV_{eff}	
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	**AC/DC 24 V**	**AC/DC 24–240 V**
Operation voltage range	AC 19.2–30 V / DC 19.2–30 V	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	2.5 kV_{eff}	4.0 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)	
Color of the housing	RAL 7012 basalt grey	
Mounting	DIN rail mountable TS35	
Protection class	IP20	
Installation position	any	
Connection device	Screwed terminal single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / AWG 20–16	Push-In single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / AWG 20–16
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	

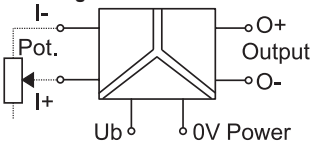
* **S** Article from stock
A Available with a lead time
R Available on request

Input: 0–1 kΩ / 0–6 kΩ
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 2.5 kV, 3-way isolation

Dimensions



PIN assignment



Range adjustment

S1	Output	
Switch On	5	6
0–10V	●	
0–20mA		●
4–20mA	●	●

S1	Input			
Switch On	1	2	3	4
0–6 kΩ				
0–1 kΩ	●			

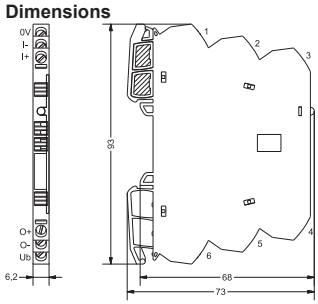
Description		Part-No.		Type	PU
Screw terminal					
Rated voltage	AC/DC 24 V	750557.0000	**R***	LCIS-WRA-0557-62-S	1
Push-In					
Rated voltage	AC/DC 24 V	751557.0000	**S***	LCIS-WRA-1557-62-PI	1

Input	**750557.0000**	**751557.0000**
Input variable	Poti 0–1 kΩ, Poti 0–6 kΩ	
Galvanic isolation I/O	3-way isolation	
Measuring procedure	2-wire, constant current	
Zero /Span	Production comparison	
Input resistance	>1 MΩ	
Parameterisation	DIP switch S1	
Sensor current	0,45 mA @ 0–1 kΩ / 0,15 mA @ 0– 6 kΩ	
Protection device	Overvoltage protection	
Output		
Output signal	0–10 V, 0–20 mA, 4–20 mA	
Max. load impedance at I-output	500 Ω	
Min. load impedance at U-output	2 kΩ	
Load deviation	at U-output max. 5 mV @ 2 kΩ	
Output voltage	< 16 V @ 0–20 mA, 4–20 mA	
Output current	max. 5 mA @ 10 V	
Residual ripple	<20 mV_{eff}	
Parameterisation	DIP switch S1	
Protection device	short circuit protection	
Operating data		
Accuracy	0.3 % FSR @ 23 °C	
Linearity error	0.1 % FSR	
Build-up time (Accuracy 1%)	ca. 60 ms @ 23 °C	
Critical frequency	10 Hz @ 3 dB / 23 °C	
Temperature coefficient	150 ppm / K FSR	
General		
Operation voltage range	AC 19.2–26.4 V / DC 18.0–31.2 V	
Rated voltage	AC/DC 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_{eff}	
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)	
Color of the housing	RAL 7012 basalt grey	
Mounting	DIN rail mountable TS35 (EN 60715)	
Protection class	IP20	
Installation position	any	
Connection device	Screwed terminal single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / AWG 20–16	Push-In single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / 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	0.030 kg/piece	
Approvals	cULus in preparation, DNV GL in preparation	
Standards	EN 60947-5-1	

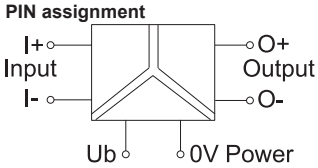
* **S** Article from stock
A Available with a lead time
R Available on request

Output: 0–60 mV
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 2.5 kV, 3-way isolation

Dimensions



PIN assignment



Range adjustment

S1 Switch On	Output 5	6
0–10V	●	
0–20mA		●
4–20mA	●	●

S1 Switch On	Input 1	2	3	4
0–60 mV				

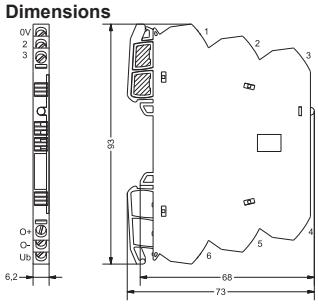
Description		Part-No.		Type	PU
Screw terminal					
Rated voltage	AC/DC 24 V	750901.0000	**R***	LCIS-WAA-0901-62-S	1
Push-In					
Rated voltage	AC/DC 24 V	751901.0000	**S***	LCIS-WAA-1901-62-PI	1

Input	**750901.0000**	**751901.0000**
Input variable	Voltage 0–60 mV	
Galvanic isolation I/O	3-way isolation	
Measuring procedure	Voltage measurement	
Zero /Span	Production comparison	
Input resistance	>1 MΩ	
Parameterisation	DIP switch S1	
Sensor current	–	
Protection device	Overvoltage protection	
Output		
Output signal	0–10 V, 0–20 mA, 4–20 mA	
Max. load impedance at I-output	500 Ω	
Min. load impedance at U-output	2 kΩ	
Load deviation	at U-output max. 5 mV @ 2 kΩ	
Output voltage	< 16 V @ 0–20 mA, 4–20 mA	
Output current	max. 5 mA @ 10 V	
Residual ripple	<20 mV_{eff}	
Parameterisation	DIP switch S1	
Protection device	short circuit protection	
Operating data		
Accuracy	0.1 % FSR @ 23 °C	
Linearity error	0.1 % FSR	
Build-up time (Accuracy 1%)	ca. 60 ms @ 23 °C	
Critical frequency	10 Hz @ 3 dB / 23 °C	
Temperature coefficient	150 ppm / K FSR	
General		
Operation voltage range	AC 19.2–26.4 V / DC 18.0–31.2 V	
Rated voltage	AC/DC 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_{eff}	
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)	
Color of the housing	RAL 7012 basalt grey	
Mounting	DIN rail mountable TS35 (EN 60715)	
Protection class	IP20	
Installation position	any	
Connection device	Screwed terminal single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / AWG 20–16	Push-In single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / 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	0.030 kg/piece	
Approvals	cULus in preparation, DNV GL in preparation	
Standards	EN 60947-5-1	

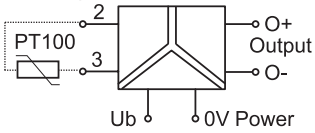
* **S** Article from stock
A Available with a lead time
R Available on request

Input: PT100, 2-wire
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 2.5 kV, 3-way isolation

Dimensions



PIN assignment



Range adjustment

S1 Switch On	Output 5	6
0–10V	●	
0–20mA		●
4–20mA	●	●

S1 Switch On	Input 1	2	3	4
-50 – 50°C				
-50 – 100°C		●		
-50 – 150°C			●	
0 – 100°C		●	●	
0 – 150°C				●
0 – 200°C		●		●
0 – 300°C			●	●
0 – 400°C		●	●	●

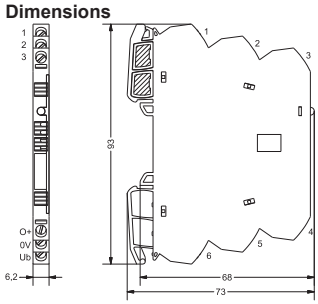
Description		Part-No.		Type	PU
Screw terminal					
Rated voltage	AC/DC 24 V	750809.0000	**R***	LCIS-WPT2LA-0809-62-S	1
Push-In					
Rated voltage	AC/DC 24 V	751809.0000	**S***	LCIS-WPT2LA-1809-62-PI	1

Input	**750809.0000**	**751809.0000**
Input variable	Temperature sensor PT100	
Galvanic isolation I/O	3-way isolation	
Measuring procedure	2-wire, constant current	
Zero /Span	Production comparison	
Input resistance	>1 MΩ	
Parameterisation	DIP switch S1	
Temperature range	-50 °C–50 °C / -50 °C–100 °C / -50 °C–150 °C / 0 °C–100 °C / 0 °C–150 °C / 0 °C–200 °C / 0 °C–300 °C / 0 °C–400 °C	
Sensor current	0.5 mA	
Protection device	Overvoltage protection	
Output		
Output signal	0–10 V, 0–20 mA, 4–20 mA	
Max. load impedance at I-output	500 Ω	
Min. load impedance at U-output	2 kΩ	
Load deviation	at U-output max. 5 mV @ 2 kΩ	
Output voltage	< 16 V @ 0–20 mA, 4–20 mA	
Output current	max. 5 mA @ 10 V	
Residual ripple	<20 mV_{eff}	
Parameterisation	DIP switch S1	
Protection device	short circuit protection	
Operating data		
Accuracy	0.3 % FSR @ 23 °C	
Linearity error	0.1 % FSR	
Build-up time (Accuracy 1%)	ca. 60 ms @ 23 °C	
Critical frequency	10 Hz @ 3 dB / 23 °C	
Temperature coefficient	150 ppm / K FSR	
Error coefficient of measuring line	2.7 K/Ω	
General		
Operation voltage range	AC 19.2–26.4 V / DC 18.0–31.2 V	
Rated voltage	AC/DC 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_{eff}	
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)	
Color of the housing	RAL 7012 basalt grey	
Mounting	DIN rail mountable TS35 (EN 60715)	
Protection class	IP20	
Installation position	any	
Connection device	Screwed terminal single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / AWG 20–16	Push-In single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / 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	0.030 kg/piece	
Approvals	cULus in preparation, DNV GL in preparation	
Standards	EN 60947-5-1	

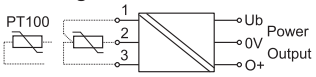
* **S** Article from stock
A Available with a lead time
R Available on request

Input: PT100, 2-wire/3-wire
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 2.5 kV, 2-way isolation

Dimensions



PIN assignment



Range adjustment

S1 ⟶ Switch On	5	6
	Output	
0–10V	●	
0–20mA		●
4–20mA	●	●

S1 ⟶ Switch On	1	2	3	4
	Input			
PT100, 3-wire				
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		●	●	●

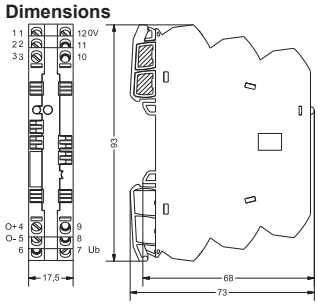
Description		Part-No.		Type	PU
Screw terminal					
Rated voltage	AC/DC 24 V	750819.0000	**R***	LCIS-WPT3LA-0819-62-S	1
Push-In					
Rated voltage	AC/DC 24 V	751819.0000	**S***	LCIS-WPT3LA-1819-62-PI	1

Input	**750819.0000**	**751819.0000**
Input variable	Temperature sensor PT100	
Galvanic isolation I/O	2-way isolation	
Measuring procedure	2-wire of 3-wire, constant current	
Zero /Span	Production comparison	
Input resistance	>1 MΩ @ 2-wire, >500 kΩ @ 3-wire	
Parameterisation	DIP switch S1	
Temperature range	-50 °C–50 °C / -50 °C–100 °C / -50 °C–150 °C / 0 °C–100 °C / 0 °C–150 °C / 0 °C–200 °C / 0 °C–300 °C / 0 °C–400 °C	
Sensor current	0.5 mA	
Protection device	Overvoltage protection	
Output		
Output signal	0–10 V, 0–20 mA, 4–20 mA	
Max. load impedance at I-output	500 Ω	
Min. load impedance at U-output	2 kΩ	
Load deviation	at U-output max. 5 mV @ 2 kΩ	
Output voltage	< 16 V @ 0–20 mA, 4–20 mA	
Output current	max. 5 mA @ 10 V	
Residual ripple	<20 mV_{eff}	
Parameterisation	DIP switch S1	
Protection device	short circuit protection	
Operating data		
Accuracy	0.3 % FSR @ 23 °C	
Linearity error	0.1 % FSR	
Build-up time (Accuracy 1%)	ca. 60 ms @ 23 °C	
Critical frequency	10 Hz @ 3 dB / 23 °C	
Temperature coefficient	150 ppm / K FSR	
Error coefficient of measuring line	2-conductor: 2.7 K/Ω, 3-conductor: 0.1 K + 0.1 %/Ω	
General		
Operation voltage range	AC 19.2–26.4 V / DC 18.0–31.2 V	
Rated voltage	AC/DC 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_{eff}	
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)	
Color of the housing	RAL 7012 basalt grey	
Mounting	DIN rail mountable TS35 (EN 60715)	
Protection class	IP20	
Installation position	any	
Connection device	Screwed terminal single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / AWG 20–16	Push-In single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / 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	0.030 kg/piece	
Approvals	cULus in preparation, DNV GL in preparation	
Standards	EN 60947-5-1	

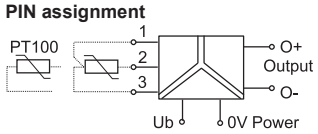
* **S** Article from stock
A Available with a lead time
R Available on request

Input: PT100, 2-wire/3-wire
Output: 0–10 V / 0–20 mA / 4–20 mA
Insulation: 4.0 kV, 3-way isolation

Dimensions



PIN assignment



Range adjustment

S1 Switch On	Output 5	6
0–10V	●	
0–20mA		●
4–20mA	●	●

S1 Switch On	Input 1	2	3	4
PT100, 3-wire				
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		●	●	●

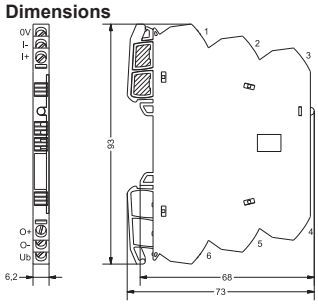
Description		Part-No.		Type	PU
Screw terminal					
Rated voltage	AC/DC 24–240 V	750817.0000	**R***	LCIS-WP-WPT3LA-0817-175-S	1
Push-In					
Rated voltage	AC/DC 24–240 V	751817.0000	**S***	LCIS-WP-WPT3LA-1817-175-PI	1

Input	**750817.0000**	**751817.0000**
Input variable	Temperature sensor PT100	
Galvanic isolation I/O	3-way isolation	
Measuring procedure	2-wire of 3-wire, constant current	
Zero /Span	Production comparison	
Input resistance	>1 MΩ @ 2-wire, >500 kΩ @ 3-wire	
Parameterisation	DIP switch S1	
Temperature range	-50 °C–50 °C / -50 °C–100 °C / -50 °C–150 °C / 0 °C–100 °C / 0 °C–150 °C / 0 °C–200 °C / 0 °C–300 °C / 0 °C–400 °C	
Sensor current	0.5 mA	
Protection device	Overvoltage protection	
Output		
Output signal	0–10 V, 0–20 mA, 4–20 mA	
Max. load impedance at I-output	500 Ω	
Min. load impedance at U-output	2 kΩ	
Load deviation	at U-output max. 5 mV @ 2 kΩ	
Output voltage	< 18 V @ 0–20 mA, 4–20 mA	
Output current	max. 5 mA @ 10 V	
Residual ripple	<20 mV_{eff}	
Parameterisation	DIP switch S1	
Protection device	short circuit protection	
Operating data		
Accuracy	0.3 % FSR @ 23 °C	
Linearity error	0.1 % FSR	
Build-up time (Accuracy 1%)	ca. 60 ms @ 23 °C	
Critical frequency	10 Hz @ 3 dB / 23 °C	
Temperature coefficient	150 ppm / K FSR	
Error coefficient of measuring line	2-conductor: 2.7 K/Ω, 3-conductor: 0.1 K + 0.1 %/Ω	
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_{eff}	
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)	
Color of the housing	RAL 7012 basalt grey	
Mounting	DIN rail mountable TS35 (EN 60715)	
Protection class	IP20	
Installation position	any	
Connection device	Screwed terminal single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / AWG 20–16	Push-In single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / 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	
Approvals	cULus in preparation, DNV GL in preparation	
Standards	EN 60947-5-1	

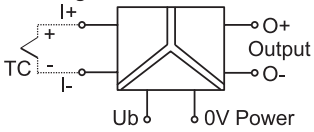
* **S** Article from stock
A Available with a lead time
R Available on request

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

Dimensions



PIN assignment



Range adjustment

S1 Switch On	Output 5	6
0–10V	●	
0–20mA		●
4–20mA	●	●

S1 Switch On	Input 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		●	●	●

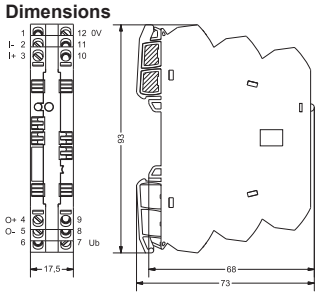
Description		Part-No.		Type	PU
Screw terminal					
Rated voltage	AC/DC 24 V	750839.0000	**R***	LCIS-WTCA-0839-62-S	1
Push-In					
Rated voltage	AC/DC 24 V	751839.0000	**S***	LCIS-WTCA-1839-62-PI	1

Input	**750839.0000**	**751839.0000**
Input variable	Thermo voltage, element J or K (DIN/IEC 584-1)	
Galvanic isolation I/O	3-way isolation	
Measuring procedure	Voltage measurement	
Zero /Span	Production comparison	
Input resistance	>1 MΩ	
Parameterisation	DIP switch S1	
Temperature range	-50 °C–200 °C / -50 °C–350 °C / 0 °C–200 °C / 0 °C–400 °C / 0 °C–600 °C / 0 °C–800 °C / 0 °C–1000 °C / 0 °C–1200 °C	
Cold junction compensation	throughout the entire temperature range	
Protection device	Overvoltage protection	
Output		
Output signal	0–10 V, 0–20 mA, 4–20 mA	
Max. load impedance at I-output	500 Ω	
Min. load impedance at U-output	2 kΩ	
Load deviation	at U-output max. 5 mV @ 2 kΩ	
Output voltage	< 16 V @ 0–20 mA, 4–20 mA	
Output current	max. 5 mA @ 10 V	
Residual ripple	<20 mV_{eff}	
Parameterisation	DIP switch S1	
Protection device	short circuit protection	
Operating data		
Accuracy	0.5 % + 2K FSR @ 23 °C	
Linearity error	0.1 % FSR, temperature linear	
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		
Operation voltage range	AC 19.2–26.4 V / DC 18.0–31.2 V	
Rated voltage	AC/DC 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_{eff}	
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)	
Color of the housing	RAL 7012 basalt grey	
Mounting	DIN rail mountable TS35 (EN 60715)	
Protection class	IP20	
Installation position	any	
Connection device	Screwed terminal single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / AWG 20–16	Push-In single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / 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	0.030 kg/piece	
Approvals	cULus in preparation, DNV GL in preparation	
Standards	EN 60947-5-1	

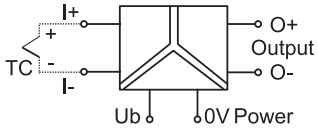
* **S** Article from stock
A Available with a lead time
R Available on request

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

Dimensions



PIN assignment



Range adjustment

S1 Switch On	Output 5	6
0–10V	●	
0–20mA		●
4–20mA	●	●

S1 Switch On	Input 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		●	●	●

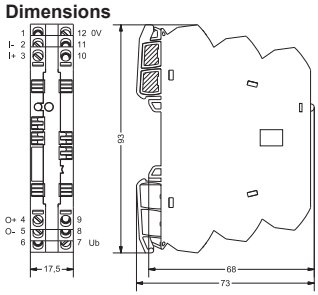
Description		Part-No.		Type	PU
Screw terminal					
Rated voltage	AC/DC 24–240 V	750847.0000	**R***	LCIS-WP-WTCA-0847-175-S	1
Push-In					
Rated voltage	AC/DC 24–240 V	751847.0000	**S***	LCIS-WP-WTCA-1847-175-PI	1

Input	**750847.0000**	**751847.0000**
Input variable	Thermo voltage, element J or K (DIN/IEC 584-1)	
Galvanic isolation I/O	3-way isolation	
Measuring procedure	Voltage measurement	
Zero /Span	Production comparison	
Input resistance	>1 MΩ	
Parameterisation	DIP switch S1	
Temperature range	-50 °C–200 °C / -50 °C–350 °C / 0 °C–200 °C / 0 °C–400 °C / 0 °C–600 °C / 0 °C–800 °C / 0 °C–1000 °C / 0 °C–1200 °C	
Cold junction compensation	throughout the entire temperature range	
Protection device	Overvoltage protection	
Output		
Output signal	0–10 V, 0–20 mA, 4–20 mA	
Max. load impedance at I-output	500 Ω	
Min. load impedance at U-output	2 kΩ	
Load deviation	at U-output max. 5 mV @ 2 kΩ	
Output voltage	< 18 V @ 0–20 mA, 4–20 mA	
Output current	max. 5 mA @ 10 V	
Residual ripple	<20 mV_{eff}	
Parameterisation	DIP switch S1	
Protection device	short circuit protection	
Operating data		
Accuracy	0.5 % + 2K FSR @ 23 °C	
Linearity error	0.1 % FSR, temperature linear	
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		
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_{eff}	
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)	
Color of the housing	RAL 7012 basalt grey	
Mounting	DIN rail mountable TS35 (EN 60715)	
Protection class	IP20	
Installation position	any	
Connection device	Screwed terminal single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / AWG 20–16	Push-In single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / 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	
Approvals	cULus in preparation, DNV GL in preparation	
Standards	EN 60947-5-1	

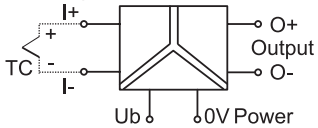
* **S** Article from stock
A Available with a lead time
R Available on request

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

Dimensions



PIN assignment



Range adjustment

S1 Switch On	5	6
0–10V	●	
0–20mA		●
4–20mA	●	●

S1 Switch On	1	2	3	4
TC J (Fe-CuNi)				
TC K (Ni-CrNi)	●			
J: -50 – 150°C K: -210 – 105°C				
-50 – 250°C		●		
-50 – 350°C			●	
0 – 400°C		●	●	
0 – 600°C				●
0 – 800°C		●		●
0 – 1000°C			●	●
0 – 1200°C		●	●	●

Description		Part-No.		Type	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	**750848.0000**	**751848.0000**
Input variable	Thermo voltage, element J or K (DIN/IEC 584-1)	
Galvanic isolation I/O	3-way isolation	
Measuring procedure	Voltage measurement	
Zero /Span	Production comparison	
Input resistance	>1 MΩ	
Parameterisation	DIP switch S1	
Temperature range	J: -50 °C–150 °C / -50 °C–250 °C / -50 °C–350 °C / 0 °C–400 °C / 0 °C–600 °C / 0 °C–800 °C / 0 °C–1000 °C / 0 °C–1200 °C K: -210 °C–105 °C / -50 °C–250 °C / -50 °C–350 °C / 0 °C–400 °C / 0 °C–600 °C / 0 °C–800 °C / 0 °C–1000 °C / 0 °C–1200 °C	
Cold junction compensation	throughout the entire temperature range	
Protection device	Overvoltage protection	
Output		
Output signal	0–10 V, 0–20 mA, 4–20 mA	
Max. load impedance at I-output	500 Ω	
Min. load impedance at U-output	2 kΩ	
Load deviation	at U-output max. 5 mV @ 2 kΩ	
Output voltage	< 18 V @ 0–20 mA, 4–20 mA	
Output current	max. 5 mA @ 10 V	
Residual ripple	<20 mV_{eff}	
Parameterisation	DIP switch S1	
Protection device	short circuit protection	
Operating data		
Accuracy	0.5 % + 2K FSR @ 23 °C	
Linearity error	0.1 % FSR, temperature linear	
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		
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_{eff}	
Housing material	PA 6.6 (UL 94 V-0, NFF I2, F2)	
Color of the housing	RAL 7012 basalt grey	
Mounting	DIN rail mountable TS35 (EN 60715)	
Protection class	IP20	
Installation position	any	
Connection device	Screwed terminal single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / AWG 20–16	Push-In single wire 0.25 mm^2–2.5 mm^2 / AWG 20–14 fine stranded wire with ferrule 0.25 mm^2–1.5 mm^2 / 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	
Approvals	cULus in preparation, DNV GL in preparation	
Standards	EN 60947-5-1	

* **S** Article from stock
A Available with a lead time
R Available on request

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

Control Solutions

w intelligent
the LCON series

Advanced technology
The parametrization via FDT software is the leading technology for engineering, Management & Life Cycle Support in automation applications

Worldwide approvals - Class I Div 2
Worldwide approvals like UL and GL allow for use in global applications

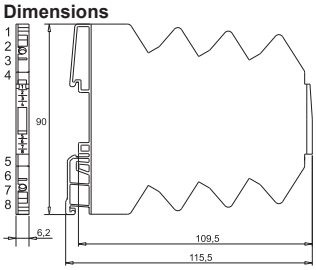
Quality
LÜTZE signal converter offer UL 94-V0 and NFF 12, F2

Termination
Screw or spring termination available

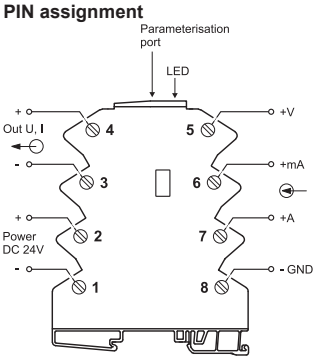
Power bridging
Bridge each potential with isolated jumper bars

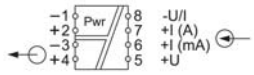
Input: ±30 V, ±50 mA, ±DC 5 A adjustable
Output: 0–20 mA / 4–20 mA / 0–10 V / -10–10 V / 2–10 V / 0–5 V / 1–5 V
Insulation: 2.5 kV, 3-way isolation

Dimensions



PIN assignment





Range adjustment

S1 ● → Switch On

Range*	1	2	3	4	5	Range*	1	2	3	4	5
0 – 50mV	●					0 – 10mA					●
0 – 100mV		●				0 – 20mA	●				●
0 – 200mV	●	●				0 – 50mA		●			●
0 – 500mV			●			4 – 20mA	●	●			●
0 – 1V	●		●			0 – 0.5A			●		●
0 – 2V		●	●			0 – 1A	●		●		●
0 – 5V	●	●	●			0 – 2A		●	●		●
0 – 10V				●		0 – 5A	●	●	●		●
0 – 20V	●			●		±1V				●	●
0 – 30V		●		●		±5V	●			●	●
1 – 5V	●	●		●		±10V		●		●	●
2 – 10V			●	●		±5mA	●	●		●	●
0 – 1mA	●		●	●		±20mA			●	●	●
0 – 2mA		●	●	●		±2A	●		●	●	●
0 – 5mA	●	●	●	●		±5A		●	●	●	●

S1 1-8 off: FDT/DTM

*See instruction leaflet

Output	6	7	8
0 – 20mA	●		
4 – 20mA		●	
0 – 10V	●	●	
±10V			●
2 – 10V	●		●
0 – 5V		●	●
1 – 5V	●	●	●

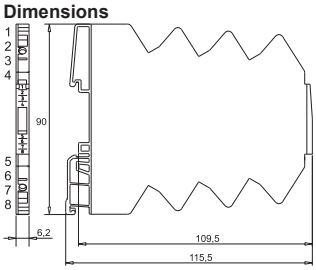
Description		Part-No.		Type	PU
Screw terminal					
Rated voltage	DC 24 V	750320	**R***	LCON AA DFDT 806210	1
Spring terminal					
Rated voltage	DC 24 V	751320	**S***	LCON AA DFDT 806211	1

Input	
Measurement input	+30/-30 V, +50/-50 mA, DC +5 A/-5 A, adjustable via switch and software FDT/DTM, connection via micro USB
Galvanic isolation I/O	3-way isolation
Step response (10–90%)	1.5 ms – 750 ms (adjustable by means of filter stage 1–5, default: filter stage 4 = 200 ms)
Critical frequency	–
Input resistance	>800 kΩ @ +30/-30 V, 30 Ω @ +50/-50 mA, 10 mΩ @ DC +5 A/-5 A
Zero /Span	freely adjustable
Output	
Output signal	0–10 V, -10–10 V, 0–20 mA, 4–20 mA adjustable via switch and software FDT/DTM, connection via USB service cable
Max. load impedance at I-output	700 Ω @ 0–20 mA, 4–20 mA
Min. load impedance at U-output	2 kΩ @ 0–10 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	0.1 % FSR @ +30/-30 V, +50/-50 V 0,5 % FSR @ +5 A/-5 A
Linearity error	±0.05 % FSR @ +30/-30 V, +50/-50 V ±0,1 % FSR @ +5 A/-5 A
General	
Rated voltage	DC 24 V
Operation voltage range	16.8–30 V
Rated current	approx. 18 mA
Status indication	LED green, red (error)
Input/output protection	Overvoltage DC 30 V, short circuit-proof output
Connection device	Screw terminal 0.14 mm^2 – 1.5 mm^2 Spring terminal 0.14 mm^2 – 1.5 mm^2
Resolution	16-bit
Temperaturcompensation intern	–
Configuration	Switch and software: FDT / DTM
Temperature error	<100 ppm FSR
Data storage	Flash
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0)
Color of the housing	light grey
Mounting	DIN rail mountable 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 × 90.0 × 115.5 mm
Weight	0.050 kg/piece
Approvals	cULus (E135145), Cl.1 Div2, Gr. A, B, C, D, T4A, GL
Standards	EN 60947-5-1

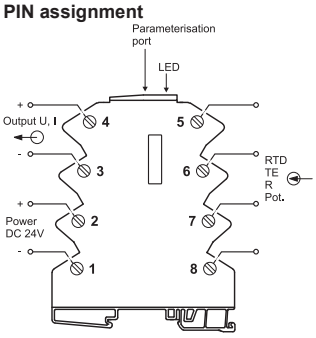
* **S** Article from stock
A Available with a lead time
R Available on request

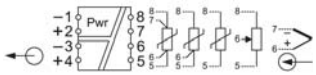
Input: PT, thermocouple, potentiometer – adjustable temperature converter
Output: 0–20 mA / 4–20 mA / 0–10 V / -10–10 V / 2–10 V / 0–5 V / 1–5 V
Insulation: 2.5 kV, 3-way isolation

Dimensions



PIN assignment





Range adjustment

Range*	S1				S2						
Start	7	8	1	2	End	3	4	5	6	7	8
-200°C	●				0°C	●					
-150°C	●	●			50°C		●	●			
-100°C	●		●		100°C	●	●		●		
-50°C		●		●	150°C	●		●	●		
0°C	●	●	●	●	200°C	●	●	●	●		
					250°C	●				●	
Sensor*	S1	1	2	3	300°C	●	●			●	
Pt100		●			350°C	●		●		●	
Pt1000			●		400°C	●	●	●		●	
TE J		●	●		450°C	●			●	●	
TE K				●	500°C	●	●		●	●	
Pot. %		●	●	●	550°C	●		●	●	●	
					600°C	●	●	●	●	●	
Output*	S1	4	5	6	650°C	●					●
0 – 20mA	●				700°C	●	●				●
4 – 20mA		●			750°C	●		●			●
0 – 10V	●	●			800°C	●	●	●			●
±10V				●	850°C	●			●		●
					900°C	●	●		●		●
					950°C	●		●	●		●
					1000°C	●	●	●	●		●
					1050°C	●				●	●
					1100°C	●	●			●	●
					1150°C	●		●		●	●
					1200°C	●	●	●		●	●
					1250°C	●			●	●	●
					1300°C	●	●		●	●	●
					1350°C	●		●	●	●	●
					1400°C	●	●	●	●	●	●
					● → Switch On						

S1-S2 1-8 off: FDT/DTM

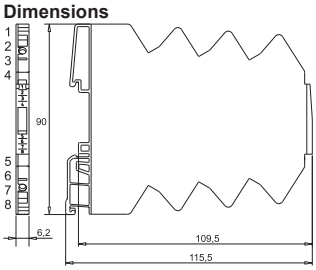
*See instruction leaflet

Description		Part-No.		Type	PU
Screw terminal					
Rated voltage	DC 24 V	750340	**R***	LCON TA DFDT 806210	1
Spring terminal					
Rated voltage	DC 24 V	751340	**S***	LCON TA DFDT 806211	1
Input					
Measurement input	PT100, PT1000, potentiometer 0–100 kΩ, Thermal elements: Type B, C, E, J, K, N, R, S, T Customer-specific via support points, polynomial				
Galvanic isolation I/O	3-way isolation				
Temperature range	PT, potentiometer, resistance: -220 … 850 °C depending on type Thermal elements: -210 … 2310 °C depending on type				
Step response (10–90%)	TE: 10 – 750 ms, PT: 5 – 750 ms (adjustable by means of filter stage 1–5, default: 200 ms – filter stage 4)				
Input resistance	Thermocouples: 1 MΩ				
Sensor current	PT, potentiometer, resistance: 0.2/0.6 mA depending on type				
Circuit	PT - 2, 3, 4-wire, for 2-wire with offset correction, no external bridges necessary, autom. detection				
Output					
Output signal	0–10 V, -10–10 V, 0–20 mA, 4–20 mA adjustable via switch and software FDT/ DTM, connection via USB service cable				
Max. load impedance at I-output	700 Ω @ 0–20 mA, 4–20 mA				
Max. load impedance at U-output	>2 kΩ @ 0–10 V, -10–10 V				
Limitation for exceeding measure-ment range	10.25 V @ 0–10 V, -10–10 V, 20.5 mA @ 0–20 mA, 4–20 mA				
max. modulation range/output cur-rent	10.5 V @ 0–10 V, -10–10 V, 21 mA @ 0–20 mA, 4–20 mA				
Residual ripple	–				
Operating data					
Accuracy	PT, potentiometer, resistance: 10 K, set measuring range (K) + 0.2 % FSR Thermocoupling: 10 K, set measuring range (K) + 0.4 % FSR				
Linearity error	±0.1 % FSR				
General					
Rated voltage	DC 24 V				
Operation voltage range	16.8–30 V				
Rated current	approx. 18 mA				
Status indication	LED green, red (error)				
Input/output protection	Overvoltage DC 30 V, short circuit-proof output				
Connection device	Screw terminal 0.14 mm^2 – 1.5 mm^2 Spring terminal 0.14 mm^2 – 1.5 mm^2				
Resolution	16-bit				
Temperaturcompensation intern	Thermal elements: type ±1 K , max. ±2 K				
Configuration	Switch and software: FDT / DTM				
Temperature error	<100 ppm/K				
Data storage	Flash				
Insulation voltage input / output	2.5 kV_{eff}				
Housing material	PA 6.6 (UL 94 V-0)				
Color of the housing	light grey				
Mounting	DIN rail mountable 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 × 90.0 × 115.5 mm				
Weight	0.050 kg/piece				
Approvals	cULus (E135145), Cl.1 Div2, Gr. A, B, C, D, T4A, GL				
Standards	EN 60947-5-1				

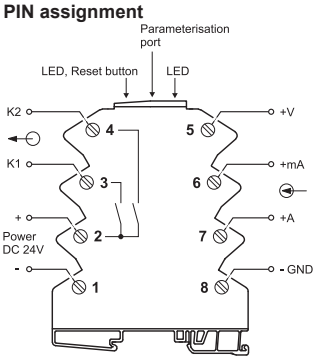
* **S** Article from stock
A Available with a lead time
R Available on request

Input: ±30 V, ±50 mA, ±5 A adjustable – adjustable limit value switch
Output: Semiconductor NO contact
Insulation: 2.5 kV, 2-way isolation

Dimensions



PIN assignment



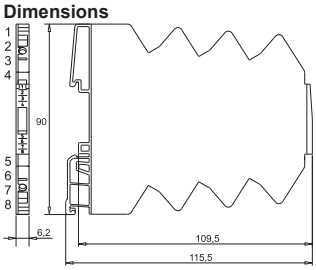
Description		Part-No.		Type	PU
Screw terminal					
Rated voltage	DC 24 V	750360	**R***	LCON ALS FDT 806210	1
Spring terminal					
Rated voltage	DC 24 V	751360	**S***	LCON ALS FDT 806211	1

Input	
Measurement input	+30/-30 V, +50/-50 mA, DC +5 A/-5 A, adjustable via software FDT/DTM, connection via micro USB
Galvanic isolation I/O	2-way isolation
Step response (10–90%)	4 ms – 750 ms (adjustable by means of filter stage 1–5, default: filter stage 4 = 200 ms)
Input resistance	>800 kΩ @ +30/-30 V, 30 Ω @ +50/-50 mA, 10 mΩ @ DC +5 A/-5 A
Zero /Span	freely adjustable
Output	
Output signal	+30/-30 V, +50/-50 mA, DC +5 A/-5 A, adjustable via software FDT / DTM, connection via USB service cable
Contact type	K1,K2: Semi-conductor, N/O contact
Max. switching voltage	DC 30 V
Max. switching current	DC 100 mA
Status display output	LED yellow K1 and LED yellow K2, not short circuit protected
Operating mode	Limit value, window, alarm output / additionally adjustable: Hysteresis, input / output delay
Operating data	
Accuracy	0.1 % FSR @ +30/-30 V, +50/-50 V 0,5 % FSR @ +5 A/-5 A
Linearity error	±0.05 % FSR @ +30/-30 V, +50/-50 V ±0,1 % FSR @ +5 A/-5 A
General	
Rated voltage	DC 24 V
Operation voltage range	16.8–30 V
Rated current	approx. 12 mA
Status indication	LED green, yellow (K1, K2), red (error)
Input/output protection	Overvoltage DC 30 V
Connection device	Screw terminal 0.14 mm^2 – 1.5 mm^2 Spring terminal 0.14 mm^2 – 1.5 mm^2
Resolution	16-bit
Temperaturcompensation intern	–
Configuration	Software: FDT / DTM
Temperature error	<100 ppm FSR
Data storage	Flash
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0)
Color of the housing	light grey
Mounting	DIN rail mountable 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 × 90.0 × 115.5 mm
Weight	0.050 kg/piece
Approvals	cULus (E135145), Cl.1 Div2, Gr. A, B, C, D, T4A, GL
Standards	EN 60947-5-1

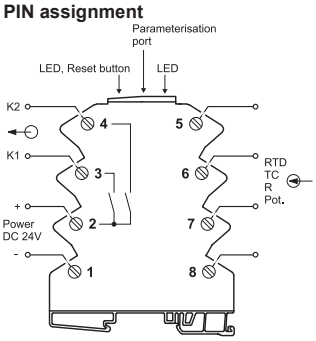
* **S** Article from stock
A Available with a lead time
R Available on request

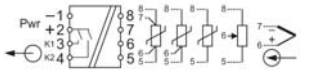
Input: PT, thermocouple, potentiometer – adjustable temperature converter
Output: Semiconductor NO contact
Insulation: 2.5 kV, 2-way isolation

Dimensions



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

Input	
Measurement input	PT100, PT1000, potentiometer 0–100 kΩ, Thermal elements: Type B, C, E, J, K, N, R, S, T Customer-specific via support points, polynomial
Galvanic isolation I/O	2-way isolation
Temperature range	PT, potentiometer, resistance: -220 … 850 °C depending on type Thermal elements: -210 … 2310 °C depending on type
Step response (10–90%)	TE: 10 – 750 ms, PT: 5 – 750 ms (adjustable by means of filter stage 1–5, default: 200 ms – filter stage 4)
Input resistance	Thermocouples: 1 MΩ
Sensor current	PT, potentiometer, resistance: 0.2/0.6 mA depending on type
Circuit	PT - 2, 3, 4-wire, for 2-wire with offset correction, no external bridges necessary, autom. detection
Output	
Output signal	adjustable via software FDT / DTM, connection via USB service cable
Contact type	K1,K2: Semi-conductor, N/O contact
Max. switching voltage	DC 30 V
Max. switching current	DC 100 mA
Status display output	LED yellow K1 and LED yellow K2, not short circuit protected
Operating mode	Limit value, window, alarm output / additionally adjustable: Hysteresis, input / output delay
Operating data	
Accuracy	PT, potentiometer, resistance: 10 K, set measuring range (K) + 0.2 % FSR Thermocoupling: 10 K, set measuring range (K) + 0.4 % FSR
Linearity error	±0.1 % FSR
General	
Rated voltage	DC 24 V
Operation voltage range	16.8–30 V
Rated current	approx. 12 mA
Status indication	LED green, yellow (K1, K2), red (error)
Input/output protection	Overvoltage DC 30 V
Connection device	Screw terminal 0.14 mm^2 – 1.5 mm^2 Spring terminal 0.14 mm^2 – 1.5 mm^2
Resolution	16-bit
Temperaturcompensation intern	Thermal elements: type ±1 K , max. ±2 K
Configuration	Software: FDT / DTM
Temperature error	<100 ppm/K
Data storage	Flash
Insulation voltage input / output	AC 2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0)
Color of the housing	light grey
Mounting	DIN rail mountable 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 × 90.0 × 115.5 mm
Weight	0.050 kg/piece
Approvals	cULus (E135145), Cl.1 Div2, Gr. A, B, C, D, T4A, GL
Standards	EN 60947-5-1

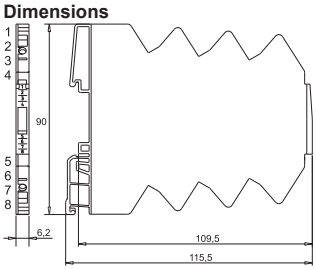
* **S** Article from stock
A Available with a lead time
R Available on request

Input: 0–10 V, 0–20 mA, 4–20 mA adjustable
Output: 2 × 0–10 V, 0–20 mA, 4–20 mA
Insulation: 2.5 kV, 4-way isolation

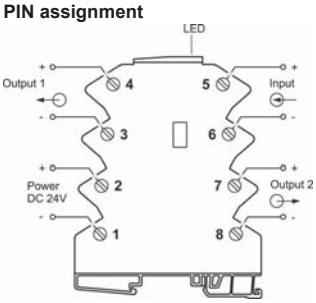
Description		Part-No.		Type	PU
Screw terminal					
Rated voltage	DC 24 V	750321	**R***	LCON AASP D 806210	1
Spring terminal					
Rated voltage	DC 24 V	751321	**S***	LCON AASP D 606211	1

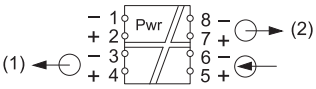
Input	
Measurement input	0–10 V, 0–20 mA, 4–20 mA adjustable via switch
Galvanic isolation I/O	4-way isolation
Critical frequency	30 Hz (filter off), 5 Hz (filter on)
Input resistance	500 kΩ @ 0–10 V, 100 Ω @ 0–20 mA, 100 mΩ @ 4–20 mA
Zero /Span	freely adjustable
Output	
Output signal	0–10 V, 0–20 mA, 4–20 mA
Max. load impedance at I-output	400 Ω @ 0–20 mA, 4–20 mA
Max. load impedance at U-output	>2 kΩ @ 0–10 V
Limitation for exceeding measurement range	yes, switchable
max. modulation range/output current	10.5 V @ 0–10 V, 21 mA @ 0–20 mA, 4–20 mA
Residual ripple	<20 mV_{eff}
Operating data	
Accuracy	0.1 % 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	LED green
Input/output protection	Overvoltage DC 30 V, short circuit-proof output
Connection device	Screw terminal 0.14 mm^2 – 1.5 mm^2 Spring terminal 0.14 mm^2 – 1.5 mm^2
Resolution	16-bit
Configuration	Switch
Temperature error	<150 ppm FSR
Data storage	Flash
Insulation voltage input / output	2.5 kV_{eff}
Housing material	PA 6.6 (UL 94 V-0)
Color of the housing	light grey
Mounting	DIN rail mountable 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 × 90.0 × 115.5 mm
Weight	0.050 kg/piece
Approvals	cULus, Cl.1 Div2, Gr. A, B, C, D, T4A, GL
Standards	EN 60947-5-1

Dimensions

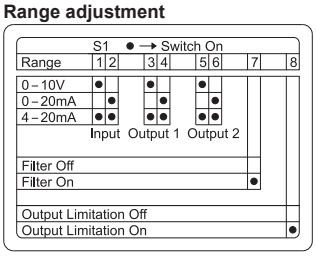


PIN assignment





Range adjustment

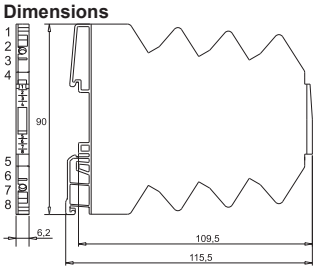


See instruction leaflet for details

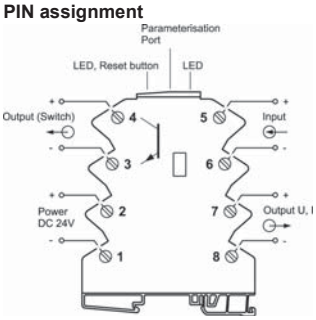
* **S** Article from stock
A Available with a lead time
R Available on request

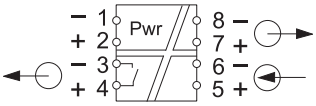
Input/output: 0–10 V, 0–20 mA, 4–20 mA, 2–10 mA, 0–5 V, 1–5 V, 2–10 V adjustable
Output: switching transistor DC 30 V/100 mA adjustable (LiveZero)
Insulation: 2.5 kV, 4-way isolation

Dimensions

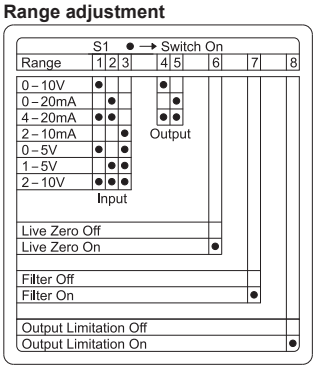


PIN assignment





Range adjustment



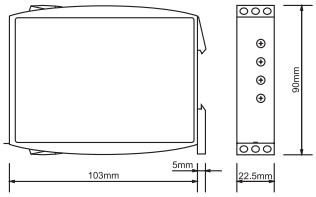
S1 1-8 off: FDT/DTM
See instruction leaflet for details

Description		Part-No.		Type	PU
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, 1–5 V, 2–10 V, 0–20 mA, 4–20 mA, 2–10 mA, adjustable via software FDT/DTM, connection via micro USB				
Galvanic isolation I/O	4-way isolation				
Delay ON/OFF	5 ms–200 ms (adjustable by means of filter stage 1–5, default: 50 ms)				
Step response (10–90%)	10 ms – 500 ms (adjustable by means 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 Ω @ 0–20 mA, 4–20 mA, 2–10 mA				
Zero /Span	freely adjustable				
Output analogue					
Output signal	0–10 V, 0–5 V, 1–5 V, 2–10 V, 0–20 mA, 4–20 mA, 2–10 mA, adjustable via software FDT/DTM, connection via micro USB				
Max. load impedance at I-output	400 Ω @ 0–20 mA, 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, switchable				
max. modulation range/output current	10.5 V @ 0–10 V, 0–5 V, 1–5 V, 2–10 V, 21 mA @ 0–20 mA, 4–20 mA, 2–10 mA				
Residual ripple	<20 mV_{eff}				
Output switching transistor					
Output signal	0–10 V, 0–5 V, 1–5 V, 2–10 V, 0–20 mA, 4–20 mA, 2–10 mA, adjustable via software FDT/DTM, connection via micro USB				
Contact type	Switching transistor non short-circuit proof				
Max. switching voltage	DC 30 V				
Max. switching current	DC 100 mA				
Status display output	LED yellow				
Operating mode	Limit value, timeframe, tendency+, tendency-, tendency+/-, inversion, error memory				
LiveZero	can be activated via switch and FDT/DTM				
Operating data					
Accuracy	0.1 % 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	LED green/red				
Input/output protection	Overvoltage DC 30 V				
Connection device	Screw terminal 0.14 mm^2 – 1.5 mm^2 Spring terminal 0.14 mm^2 – 1.5 mm^2				
Resolution	16-bit				
Configuration	Software: FDT / DTM				
Temperature error	<150 ppm FSR				
Data storage	Flash				
Insulation voltage input / output	2.5 kV_{eff}				
Housing material	PA 6.6 (UL 94 V-0)				
Color of the housing	light grey				
Mounting	DIN rail mountable 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 × 90.0 × 115.0 mm				
Weight	0.600 kg/piece				
Approvals	cULus (E135145), Cl.1 Div2, Gr. A, B, C, D, T4A, GL				
Standards	EN 60947-5-1				

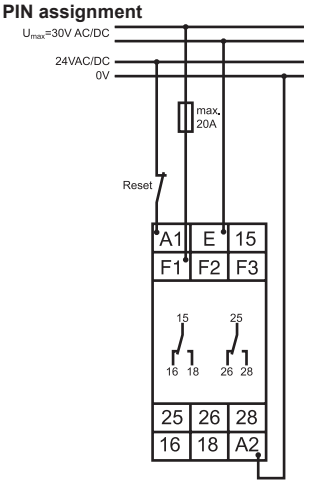
* **S** Article from stock
A Available with a lead time
R Available on request

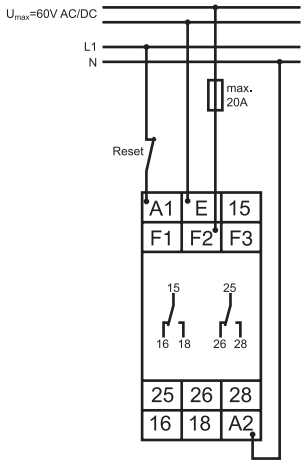
Voltage monitoring 1-phase

Dimensions



PIN assignment





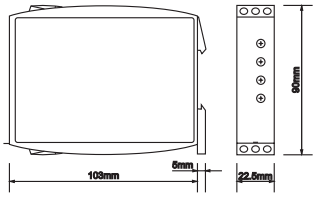
Description		Part-No.		Type	PU
Voltage control					
	1-phase	750600	**S***	LCR-U-1-1-2U-24-240	1
Function					
Monitoring of AC and DC voltages in 1-phase networks with adjustable thresholds separately adjustable start-up suppression and trigger delay function selection via rotary switch **Over:** High-voltage 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					
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		1×0.5 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			
Installation position		any			
Weight		0.200 kg/piece			
Approvals		cULus (E135145)			
Supply circuit					
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)			
Operating time		100 % ED			
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, quick-acting			
Mechanical service life		20 × 10^6 (1000 VA)			
Electrical service life		2 × 10^5 (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			
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 %			
Voltage influence		N/A			
Temperature error		≤0.05 %/°C			
Measuring circuit					
Measuring variable		DC, AC (16.6 – 400 Hz)			
External fuse		max. 20 A (acc. UL 601010)			
Measuring range		AC/DC 30 V, AC/DC 60 V, AC/DC 300 V			
Overload capability		100 V_{eff} @ 30 V, 150 V_{eff} @ 60 V, 440 V_{eff} @ 300 V			
Input resistance		47 kΩ @ 30 V, 100 kΩ @ 60 V, 470 kΩ @ 300 V			
Switching threshold min.		5 % – 95 % U_N			
Switching threshold max.		10 % – 100 % U_N			
Over voltage category		III acc. IEC 60664-1			

* **S** Article from stock
A Available with a lead time
R Available on request

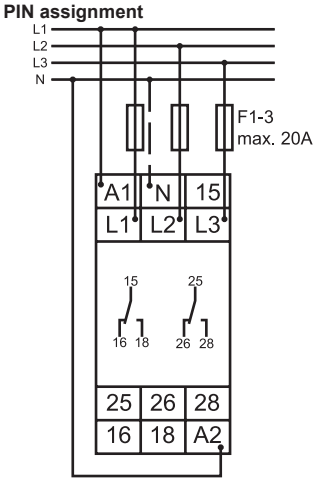
Measurement surge voltage	4 kV
Environmental conditions	
Temperature range according to UL	-25 °C … +40 °C
Temperature range	-25 °C … +55 °C
Storage temperature range	-25 °C … +70 °C
Relative air humidity	15 % to 85 % acc. IEC 60721-3-3 Class 3K3
Degree of polution	3
Vibration resistance	10 – 55 Hz 0.35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

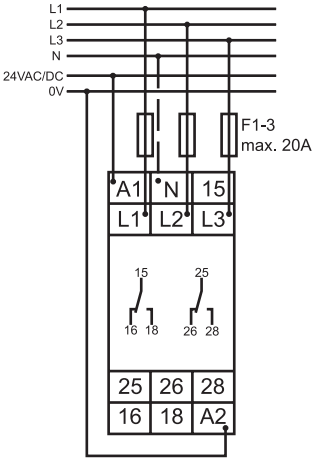
Voltage monitoring 3-phase

Dimensions



PIN assignment





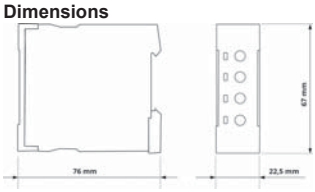
Description		Part-No.		Type	PU
Voltage control					
	3-phase	750605	**S***	LCR-U-3-1-2U-24-240	1
Function					
Voltage monitoring in 3-phase networks with adjustable thresholds Settable trigger delay Monitoring the phase sequence and phase failure Asymmetry monitoring with settable asymmetry function selection via rotary switch **Under:** Under-voltage monitoring **Under + SEQ:** Under-voltage and phase sequence monitoring **WIN:** Monitoring the range between thresholds Min and Max **WIN + SEQ:** Monitoring the range between the Min and Max thresholds and phase sequence monitoring					
Time range					
Start-up suppression, settable				No	
trigger delay, settable				0.1 – 10 s	
Status indication					
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				1×0.5 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	
Installation position				any	
Weight				0.200 kg/piece	
Approvals				cULus	
Supply circuit					
Rated voltage range				AC/DC 24 V – 240 V	
Power consumption				2 VA (1 W)	
Operating time				100 % ED	
Recovery time				500 ms	
Waveform AC				Sinus	
Residual ripple				10 %	
Voltage drop				>30 % of the supply voltage	
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.				3A (5A at a distance >5mm)	
Protection device				5 A, quick-acting	
Mechanical service life				20 × 10^6 (1000 VA)	
Electrical service life				2 × 10^5 (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	
Accuracy					
Basic accuracy				≤3 % (end of scale)	
Tolerance of setting				≤5 % (end of scale)	
Repeat accuracy				≤2 %	
Temperature error				≤0.05 %/°C	
Measuring circuit					
Measuring variable				AC Sinus (48 to 63 Hz)	
External fuse				max. 20 A (acc. UL 601010)	
Measuring range				3(N) AC 400/230 V	
Overload capability				3(N) AC 600/346 V	
Input resistance				1 MΩ	
Switching threshold min.				-30 % – 20 % U_N	
Switching threshold max.				-20 % – 30 % U_N	
Asymmetry				5 % – 25 %	
Over voltage category				III acc. IEC 60664-1	
Measurement surge voltage				4 kV	
Environmental conditions					
Temperature range according to UL				-25 °C … +40 °C	

* **S** Article from stock
A Available with a lead time
R Available on request

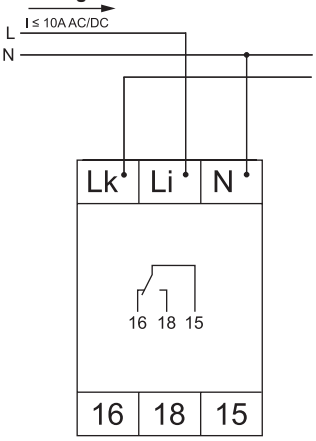
Temperature range	-25 °C … +55 °C
Storage temperature range	-25 °C … +70 °C
Relative air humidity	15 % to 85 % acc. IEC 60721-3-3 Class 3K3
Degree of polution	3
Vibration resistance	10 – 55 Hz 0.35 mm acc. IEC60068-2-6
Impact resistance	15 g 11 ms acc. IEC 60068-2-27
Approvals	cULus

Current monitoring 1-phase, AC-DC 10 A

Dimensions



PIN assignment

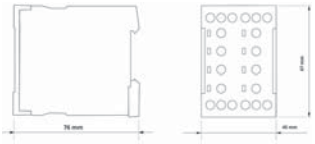


Description		Part-No.		Type	PU
Current Control					
	1-phase	750630	**S***	LCR-I-1-10-1U-24-240	1
Time range					
Switch-on delay		300 ms			
Switch-off delay		0.1 – 10 s, adjustable			
Status indication					
Supply status		LED green			
Output relay status		LED yellow			
Status under/over-current		LED red			
Trigger delay status		LED red flashing			
Housing					
Dimensions (w × h × d)		22.5 × 67.0 × 76.0 mm			
Color of the housing		light grey			
Housing material		PA 6.6 V0			
Protection class		IP20			
Connection device		Screwed terminal			
Connection cross-section		AWG 20 – AWG 13			
Connection cross-section		0.5 – 2.5 mm^2 with AE			
Installation position		any			
Weight		0.070 kg/piece			
Approvals		cULus			
Supply circuit					
Rated voltage range		AC 110 V/DC 24 V – AC/DC 240 V			
Tolerance		AC: -15 %/+15 %, DC: -30 %/+30 %			
Rated frequency		16,6 – 400 Hz			
Power consumption		0.25 W/0.25 VA @ 24 V, 0.37 W/1.3 VA @ 230 V			
Operating time		100 % ED			
Bridging time		<140 ms			
Recovery time		>200 ms			
Voltage drop		≥6 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 400 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 × 10^6 (1000 VA)			
Electrical service life		1 × 10^5 (1000 VA) (AC-1)			
Switching frequency		6/min with load			
Accuracy					
Basic accuracy		≤2.5 % (end of scale)			
Tolerance of setting		≤5 % (end of scale)			
Repeat accuracy		≤1 %			
Temperature error		≤0.05 %/°C			
Measuring circuit					
Measuring variable		Current 1-phase			
Measuring range		AC/DC 10 A			
Measuring procedure		Real effective value			
Monitored functions		Under-current, over-current, under/over-current			
Overload capability		Permanent load: 15 A, Impulse load <1 s: 50 A, Impulse load<100 ms: 150 A			
Input resistance		2 mΩ			
Switching threshold min.		5 % – 95 %			
Switching threshold max.		10 % – 100 %			
Hysteresis		1 %			
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^2			
Impact resistance		15 g 11 ms acc. IEC 60068-2-27			
Approvals		cULus			

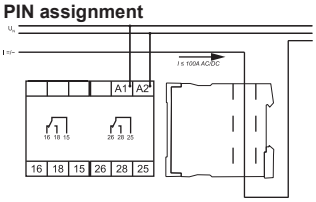
* **S** Article from stock
A Available with a lead time
R Available on request

Current monitoring 1-phase, AC-DC 5 A

Dimensions



PIN assignment

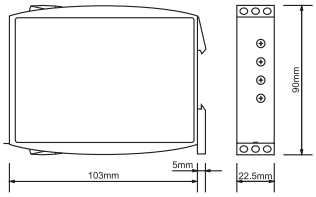


Description		Part-No.		Type	PU
Current Control					
	1-phase	750635	**S***	LCR-I-100-2U-24-240	1
Time range					
Switch-on delay		300 ms			
Switch-off delay		0.1 – 10 s, adjustable			
Start-up suppression, settable		0 – 10 s			
Status indication					
Supply status		LED green			
Output relay status		LED yellow			
Status under/over-current		LED red			
Trigger delay status		LED red flashing			
Housing					
Dimensions (w × h × d)		45.0 × 67.0 × 76.0 mm			
Color of the housing		light grey			
Housing material		PA 6.6 V0			
Protection class		IP20			
Connection device		Screwed terminal			
Connection cross-section		AWG 20 – AWG 13			
Connection cross-section		0.5 – 2.5 mm^2 with AE			
Installation position		any			
Weight		0.070 kg/piece			
Approvals		cULus			
Supply circuit					
Rated voltage range		AC/DC 24 V – 240 V			
Tolerance		AC: -15 %/+10 %, DC: -30 %/+30 %			
Rated frequency		16,6 – 400 Hz			
Power consumption		0.40 W/0.25 VA @ 24 V, 0.50 W/0.9 VA @ 230 V			
Operating time		100 % ED			
Bridging time		<20 ms			
Recovery time		>500 ms			
Voltage drop		≥6 V			
Output circuit					
Number of channels		2			
Switching element		Relays			
Contact type		Change over contact			
Measurement voltage		AC 250 V (IEC 60947-1)			
Switching voltage		AC 400 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 × 10^6 (1000 VA)			
Electrical service life		1 × 10^5 (1000 VA) (AC-1)			
Switching frequency		6/min with load			
Accuracy					
Basic accuracy		≤2.5 % (2.0 % @ 50/60 Hz)			
Tolerance of setting		≤5 % (end of scale)			
Repeat accuracy		≤1 %			
Moisture influence		3 % on basic accuracy (>85 % air humidity)			
Temperature error		≤0.04 %/°C			
Measuring circuit					
Measuring variable		Current 1-phase, current transformer			
Measuring range		AC/DC 100 A			
Measuring procedure		Real effective value			
Monitored functions		Under-current, over-current, under/over-current under/over-current with separated relay outputs (MM) Maximum monitoring (2Max) Error memory can be activated (+L)			
Switching threshold min.		5 % – 95 %			
Switching threshold max.		10 % – 100 %			
Hysteresis		1 %			
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^2			
Impact resistance		15 g 11 ms acc. IEC 60068-2-27			
Approvals		cULus			

* **S** Article from stock
A Available with a lead time
R Available on request

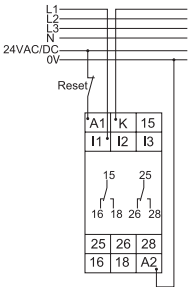
Current control in 3-phase networks
1-phase, AC 5 A

Dimensions

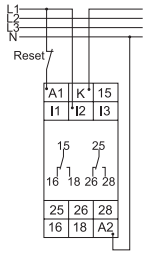


PIN assignment

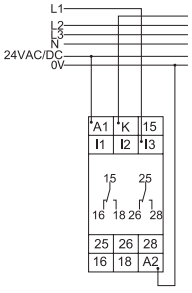
Measuring range: 20mA
Voltage supply: 24V
With error memory



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



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



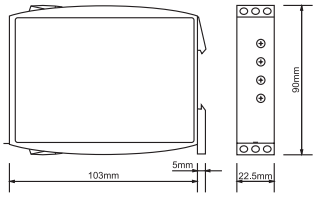
Description		Part-No.		Type	PU
Current Control					
	1-phase	750631	**S***	LCR-I-1-5-2U-24-240	1
Function					
Current monitoring of AC and DC voltages in 1-phase networks with adjustable thresholds separately adjustable start-up suppression and trigger delay function selection via rotary switch **Over:** 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		1×0.5 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			
Installation position		any			
Weight		0.200 kg/piece			
Approvals		cULus			
Supply circuit					
Rated voltage range		AC/DC 24 V – 240 V			
Tolerance		AC: -15 %/+10 %, DC: -20 %/+25 %			
Rated frequency		16 Hz – 48 Hz @ AC 48 – 240 V, 48 Hz – 400 Hz @ AC 24 V – 240 V			
Power consumption		4.5 VA (1 W)			
Operating time		100 % ED			
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			
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 × 10^6 (1000 VA)			
Electrical service life		2 × 10^5 (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			
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 %			
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			
Overload capability		250 mA @ 20 mA, 3 A @ 1 A, 10 A @ 5A			
Input resistance		2.7 Ω @ 20 mA, 47 mΩ @ 1 A, 10 mΩ @ 5 A			
Switching threshold min.		5 % – 95 % I_N			
Switching threshold max.		10 % – 100 % I_N			

* **S** Article from stock
A Available with a lead time
R Available on request

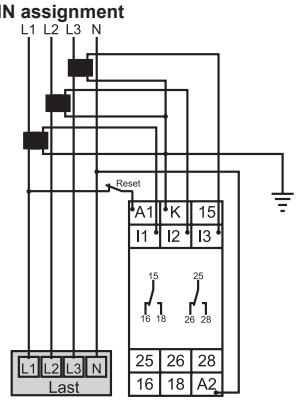
Over voltage category	III acc. IEC 60664-1
Measurement surge voltage	4 kV
Environmental conditions	
Temperature range according to UL	-25 °C … +40 °C
Temperature range	-25 °C … +55 °C
Storage temperature range	-25 °C … +70 °C
Relative air humidity	15 % to 85 % acc. IEC 60721-3-3 Class 3K3
Degree of polution	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

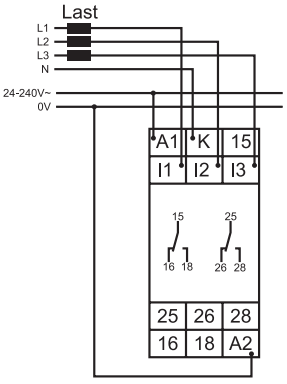
Current control in 3-phase networks
3-phase, AC/DC 5 A

Dimensions



PIN assignment





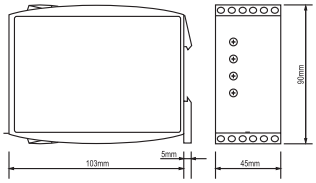
Description		Part-No.		Type	PU
Current Control					
	3-phase	750640	**S***	LCR-I-3-05-2U-24-240	1
Function					
3-phase current monitoring separately adjustable start-up suppression and trigger delay function selection via rotary switch **Over:** Over-current monitoring **Over + Latch:** Over-current 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 6.6 V0	
Protection class				IP20	
Connection cross-section				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	
Installation position				any	
Weight				0.200 kg/piece	
Approvals				cULus	
Supply circuit					
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				2 VA (1.5 W)	
Operating time				100 % ED	
Recovery time				100 ms	
Voltage drop				>30 % of the supply voltage	
Over voltage category				III acc. IEC 60664-1	
Measurement surge voltage				4 kV	
Output circuit					
Number of channels				2	
Switching element				Relays	
Contact type				Change over contact	
Measurement voltage				AC 250 V (IEC 60947-1)	
Switching voltage				AC 250 V	
Switching current max.				3A (5A at a distance >5mm)	
Protection device				5 A, quick-acting	
Mechanical service life				20 × 10^6 (1000 VA)	
Electrical service life				2 × 10^5 (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	
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				≤0.05 %/°C	
Measuring circuit					
Measuring variable				AC Sinus (16.6 to 400 Hz)	
Measuring range				each AC 5 A	
Overload capability				6 A permanent each	
Input resistance				10 mΩ	
Switching threshold min.				5 % – 95 % U_N	
Switching threshold max.				10 % – 100 % U_N	
Over voltage category				III acc. IEC 60664-1	
Measurement surge voltage				4 kV	
Environmental conditions					

* **S** Article from stock
A Available with a lead time
R Available on request

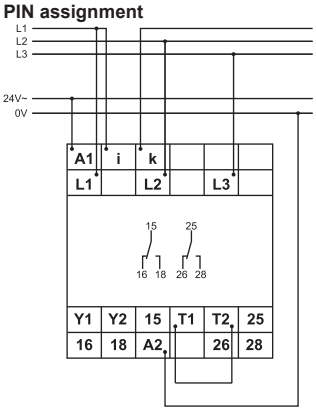
Temperature range according to UL	-25 °C … +40 °C
Temperature range	-25 °C … +55 °C
Storage temperature range	-25 °C … +70 °C
Relative air humidity	15 % to 85 % acc. IEC 60721-3-3 Class 3K3
Degree of polution	3
Vibration resistance	10 – 55 Hz 0.35 mm acc. IEC60068-2-6
Impact resistance	15 g 11 ms acc.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

Load sensor 1 and 3-phase loads
AC 480 V

Dimensions



PIN assignment



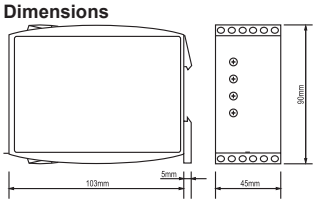
Description		Part-No.		Type	PU
Load sensor					
	1 and 3-phase loads	750680	**S***	LCR-PW-3-480-D-2U-24-240	1
Function					
True power monitoring for 1 and 3-phase loads with 48 settable thresholds (P1, P2) separately adjustable start-up suppression and trigger delay selectable error memory Temperature 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 **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 errors **MAX/MIN:** Maximum/minimum monitoring **MAX/MIN+I< ON:** Maximum/minimum monitoring and Monitoring the range and recognition of shut-down consumers as GOOD status **MAX/MIN+I< Inv:** Maximum/minimum monitoring and Monitoring the range and recognition of shut-down consumers as errors					
Time range					
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^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			
Installation position		any			
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 %			
Rated frequency		16 Hz @ AC 24 V, 48 Hz – 400 Hz @ AC 24 V – 240 V			
Power consumption		3.5 VA (3 W)			
Operating time		100 % ED			
Recovery time		500 ms			
Voltage drop		>30 % of the supply voltage			
Over voltage category		III acc. IEC 60664-1			
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.		3A (5A at a distance >5mm)			
Protection device		5 A, quick-acting			
Mechanical service life		20 × 10^6 (1000 VA)			
Electrical service life		2 × 10^5 (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			

* **S** Article from stock
A Available with a lead time
R Available on request

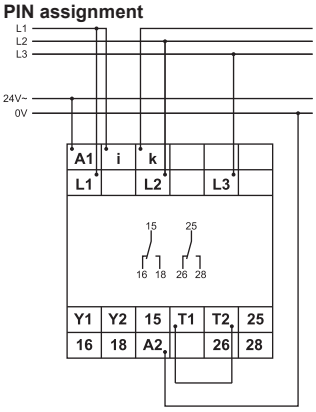
Accuracy	
Basic accuracy	±2 % (end of scale)
Frequency response	±0.025 %/Hz
Tolerance of setting	≤5 % (end of scale)
Repeat accuracy	≤2 %
Temperature error	±0.02 %/°C
Measuring circuit	
Measuring variable	0.75 kW, 1.5 kW, 3 kW, 6 kW reversible
Wave form AC Sinus	10 – 400 Hz
Wave form PWM	10 – 100 Hz (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)
Input 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), 360 mA (3 – 6 kW)
Switching threshold P1	10 % – 120 % from P_N
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
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	
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 690 V

Dimensions



PIN assignment



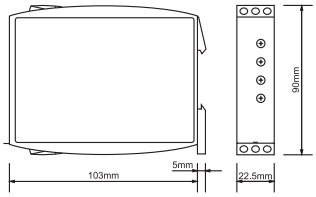
Description		Part-No.		Type	PU
Load sensor					
	1 and 3-phase loads	750681	**S***	LCR-PW-3-690-D-2U-24-240	1
Function					
True power monitoring for 1 and 3-phase loads with 48 settable thresholds (P1, P2) separately adjustable start-up suppression and trigger delay selectable error memory Temperature 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 **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 errors **MAX/MIN:** Maximum/minimum monitoring **MAX/MIN+I< ON:** Maximum/minimum monitoring and Monitoring the range and recognition of shut-down consumers as GOOD status **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					
Time range					
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^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			
Installation position		any			
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 %			
Rated frequency		16 Hz @ AC 24 V, 48 Hz – 400 Hz @ AC 24 V – 240 V			
Power consumption		3.5 VA (3 W)			
Operating time		100 % ED			
Recovery time		500 ms			
Voltage drop		>30 % of the supply voltage			
Over voltage category		III acc. IEC 60664-1			
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 × 10^6 (1000 VA)			
Electrical service life		2 × 10^5 (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			

* **S** Article from stock
A Available with a lead time
R Available on request

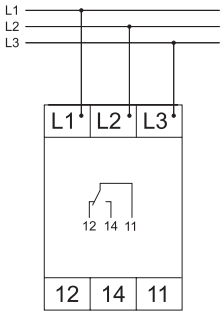
Accuracy	
Basic accuracy	±2 % (end of scale)
Frequency response	±0.025 %/Hz
Tolerance of setting	≤5 % (end of scale)
Repeat accuracy	≤2 %
Temperature error	±0.02 %/°C
Measuring circuit	
Measuring variable	2 kW, 4 kW, 8 kW, 16 kW reversible
Wave form AC Sinus	10 – 400 Hz
Wave form PWM	10 – 100 Hz (sine-assessed)
Measurement input 1-phase	AC 42 – 690 V
Measurement input 3-phase	3ph 42 – 690/400 V
Overload capability	796 V (1-phase), 796/460 V (3-phase)
Input resistance	1.25 MΩ
Measurement input current, 1-phase	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
Current interruption	200 mA (2 kW,4 kW), 400 mA (8 kW, 16 kW)
Current flow sensor	240 mA (2 kW, 4 kW), 480 mA (8 kW, 16 kW)
Switching threshold P1	10 % – 120 % from P_N
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
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	
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

Phase sequence and asymmetry

Dimensions



PIN assignment



Description	Part-No.	Type	PU
Phase sequence and asymmetry			
	750610 **S***	LCR-PH-3-1-1U	1
Time range			
Switch-on delay	400 ms		
Switch-off delay	<250 ms		
Status indication			
Supply status	LED green		
Output relay status	LED yellow		
Housing			
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^2 with AE		
Installation position	any		
Weight	0.082 kg/piece		
Approvals	cULus		
Supply circuit			
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 × 10^6		
Electrical service life	1 × 10^5(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 MΩ		
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^2		
Impact resistance	15 g 11 ms acc. IEC 60068-2-27		
Approvals	cULus		

* **S** Article from stock
A Available with a lead time
R Available on request

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

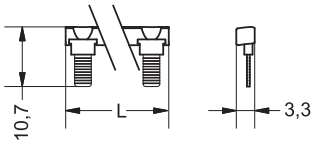
Description		Part-No.		Type	PU
Labelling plates					
Color	white	716431	**S***	LOCC-Box-BZW 7-6431	1
	red	716432	**S***	LOCC-Box-BZR 7-6432	1
	blue	716433	**S***	LOCC-Box-BZB 7-6433	1
	yellow	716434	**A***	LOCC-Box-BZG 7-6434	1

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			

* **S** Article from stock
A Available with a lead time
R Available on request

Insulated jumper combs
2 to 16-pin
white

Dimensions



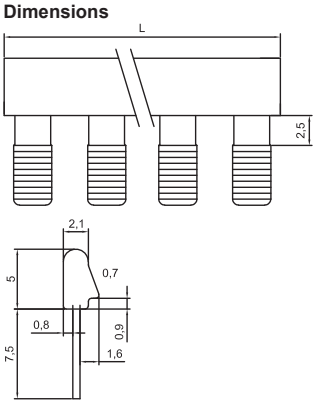
Description		Part-No.		Type	PU
Jumper comb					
Color	white	762803.1000	**S***	LCIS-BKW-2-polig	10
	white	762813.1000	**S***	LCIS-BKW-4-polig	10
	white	762823.1000	**S***	LCIS-BKW-8-polig	10
	white	762833.1000	**S***	LCIS-BKW-16-polig	10

General	**762803.1000**	**762813.1000**	**762823.1000**	**762833.1000**
Pole number	2	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	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

* **S** Article from stock
A Available with a lead time
R Available on request

Insulated jumper combs
2 to 16-pin
white

Dimensions



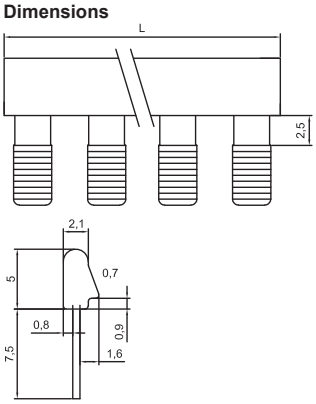
Description		Part-No.		Type	PU
Jumper comb					
Color	white	762803	**S***	BK 7-2803 WE 2-polig	10
	white	762806	**S***	BK 7-2806 WE 3-polig	10
	white	762813	**S***	BK 7-2813 WE 4-polig	10
	white	762823	**S***	BK 7-2823 WE 8-polig	10
	white	762833	**S***	BK 7-2833 WE 16polig	10

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/piece	0.003 kg/piece	0.004 kg/piece

* **S** Article from stock
A Available with a lead time
R Available on request

Insulated jumper combs
2 to 16-pin
red

Dimensions



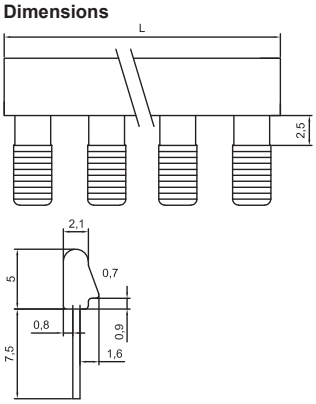
Description		Part-No.		Type	PU
Jumper comb					
Color	red	762802	**S***	BK 7-2802 rt 2-polig	10
	red	762805	**S***	BK 7-2805 rt 3-polig	10
	red	762812	**S***	BK 7-2812 rt 4-polig	10
	red	762822	**S***	BK 7-2822 rt 8-polig	10
	red	762832	**S***	BK 7-2832 rt 16polig	10

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	Vectra 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/ piece	0.002 kg/piece	0.003 kg/piece	0.004 kg/piece

* **S** Article from stock
A Available with a lead time
R Available on request

Insulated jumper combs
2 to 16-pin
blue

Dimensions



Description		Part-No.		Type	PU
Jumper comb					
Color	blue	762804	**S***	BK 7-2804 bl 2-polig	10
	blue	762807	**S***	BK 7-2807 bl 3-polig	10
	blue	762814	**S***	BK 7-2814 bl 4-polig	10
	blue	762824	**S***	BK 7-2824 bl 8-polig	10
	blue	762834	**S***	BK 7-2834 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

* **S** Article from stock
A Available with a lead time
R Available on request

Part number index

SkyBLUE

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ISO 14001

RoHS

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