

# ILB BT ADIO MUX-OMNI - Wireless set



2884208

<https://www.phoenixcontact.com/us/products/2884208>

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Wireless MUX set, two modules with 16 digital inputs and outputs and 2 analog inputs and outputs (0 ... 20 mA, 0 ... 10 V) each, RSMA (female) antenna connection, incl. omnidirectional antennas with 1.5 m cable

## Product description

The Wireless MUX transmits 16 digital and 2 analog signals bidirectionally. The Wireless MUX is supplied ready to use: Unpack – connect – switch on – and you have a working wireless path.

## Your advantages

- Wireless diagnostics by means of bar graph
- Range of 50 m ... 100 m in industrial halls with omnidirectional antennas and up to 400 m outdoors with directional antennas
- Quick connection establishment and signal transmission
- Current Bluetooth 4.0 technology
- Plug and play - startup without configuration
- It couldn't be simpler: unpack – connect – switch on

## Commercial data

Item number	2884208
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN26
Product key	DNC662
GTIN	4046356049597
Weight per piece (including packing)	914 g
Weight per piece (excluding packing)	885 g
Customs tariff number	85176200
Country of origin	DE

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## Set consists of

### ILB BT ADIO MUX - Wireless set

2702875

<https://www.phoenixcontact.com/us/products/2702875>



Wireless MUX set, two modules with 16 digital inputs and outputs and 2 analog inputs and outputs (0 ... 20 mA, 0 ... 10 V) each, RSMA (female) antenna connection, without antennas

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### RAD-ISM-2400-ANT-OMNI-2-1-RSMA - Antenna

2701362

<https://www.phoenixcontact.com/us/products/2701362>



Omnidirectional antenna for panel mounting, frequency band: 2.4 GHz, gain: 2 dBi, degree of protection: IP65, connection: RSMA (male), incl. 1.5 m connecting cable, mounting bracket, and mounting material

## Technical data

### Notes

#### Note on application

Note on application	Only for industrial use
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#### Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the download area
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### Product properties

Product type	Wireless module
Product family	Inline
Application	I/O
Type	Stand-alone
MTTF	1458 Years (SN 29500 standard, temperature 25°C, operating cycle 21%)
	557 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%)
	219 Years (SN 29500 standard, temperature 40°C, operating cycle 100%)
MTBF	465 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day))
	140 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day))
Diagnostics messages	Short-circuit or overload of the digital outputs LED
	Wireless connection FS LED
	Logic and actuator voltage LED
	Link quality of the wireless connection 4 LEDs

#### Insulation characteristics

Overvoltage category	II
Pollution degree	2

#### Times

Switch-on time	≤ 3 s (Until the wireless connection is established)
Delay time	≤ 10 ms (Latency, typical)
	≤ 800 ms (Failsafe function for wireless interruption)

### Electrical properties

Maximum power dissipation for nominal condition	2.4 W
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#### Supply: Module electronics

Connection method	Inline connector
Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30.5 V DC (via power connector)

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Current consumption	60 mA (Communications power at 24 V DC, 25 °C)
	25 mA (Actuator supply, +load current Digital OUT (8 A))
Protective circuit	Polarity protection, surge protection

## Input data

### Analog:

Input name	Analog inputs
Description of the input	Single ended
Number of inputs	2
Current input signal	0 mA ... 20 mA
Input resistance current input	50 Ω
Voltage input signal	0 V ... 10 V
Input resistance of voltage input	130 kΩ
Measured value resolution	12 bits
Protective circuit	Surge voltage; Suppressor diodes in the analog inputs, current limitation via internal protective circuit

### Digital:

Input name	Digital inputs
Number of inputs	16
Connection method	Spring-cage connection
Connection technology	1-conductor
Input voltage range "0" signal	< 5 V
Input voltage range "1" signal	> 15 V
Nominal input voltage $U_{IN}$	24 V DC
Typical input current per channel	2.3 mA
Input frequency	≤ 10 Hz

## Output data

### Analog:

Output name	Analog outputs
Number of outputs	2
Protective circuit	Transient protection
DAC resolution	12 bit
Current output signal	0 mA ... 20 mA
Load/output load current output	≤ 500 Ω
Voltage output signal	0 V ... 10 V
Load/output load voltage output	≥ 2 kΩ

### Digital:

Output name	Digital outputs
Connection method	Spring-cage connection
Connection technology	1-conductor
Number of outputs	16

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Protective circuit	Short-circuit protection, overload protection, protected against reverse voltages
Output current	8 A (Total)
Maximum output current per channel	500 mA
Nominal output voltage	24 V DC
Output current when switched off	≤ 10 µA (When not loaded, a voltage can be measured even at an output that is not set.)
Nominal load, inductive	12 VA (1.2 H, 50 Ω)
Nominal load, lamp	12 W
Nominal load, ohmic	12 W (48 Ω)
Reverse voltage resistance to short pulses	Reverse voltage proof
Behavior with overload	Auto restart
Behavior with inductive overload	Output can be destroyed
Behavior at voltage switch-off	The output follows the power supply without delay
Overcurrent shut-down	≥ 0.7 A

## Connection data

Conductor cross-section, rigid	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section, flexible	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section, flexible [AWG]	... 16
Stripping length	8 mm

## Interfaces

### Functions

Wireless licenses	Europe, USA, Canada, additional countries in the e-shop
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### Wireless

Modulation type	GFSK (Gaussian Frequency Shift Keying)
Antenna connection method	RSMA (female)
No. of channels	40
Frequency range	2.402 GHz ... 2.48 GHz (ISM bandwidth)
Frequency band	2.4 GHz
Wireless standard	Bluetooth
Transmission power	5 dBm
Receiver sensitivity	-95.00 dBm

## Signaling

### Diagnostic messages

Diagnostics	Short-circuit or overload of the digital outputs
Message	LED

### Diagnostic messages

Diagnostics	Wireless connection
Message	FS LED

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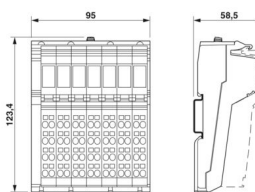
## Diagnostic messages

Diagnosics	Logic and actuator voltage
Message	LED

## Diagnostic messages

Diagnosics	Link quality of the wireless connection
Message	4 LEDs

## Dimensions

Dimensional drawing	
Width	95 mm
Height	123.4 mm
Depth	57 mm
Note on dimensions	with connectors

## Material specifications

Color (Housing)	green (RAL 6021)
Material (Housing)	PA 6.6-FR

## Environmental and real-life conditions

### Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
Degree of protection	IP20
Air pressure (operation)	795 hPa ... 1080 hPa (up to 2000 m above sea level)
Air pressure (storage/transport)	66 kPa ... 108 kPa (up to 3500 m above sea level)
Ambient temperature (storage/transport)	-25 °C ... 85 °C
Permissible humidity (operation)	95 % (non-condensing)
Permissible humidity (storage/transport)	95 %

### Mechanical test

Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6	5g, 10...150 Hz, 2.5 h, in XYZ direction
Shock in accordance with EN 60068-2-27/IEC 60068-2-27	16g, 11 ms

## Approvals

### CE

Certificate	CE-compliant
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### UL, USA/Canada

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Identification	508 Listed
Wireless approval, Europe	
Note	RED 2014/53/EU
Wireless approval USA, FCC	
Identification	YG3ADIOMUX
Note	FCC directive, part 15.247
Wireless approval India, WPC	
Certificate	NR-ETA/5957
Wireless approval Japan, MIC	
Identification	Japan MIC (RF) ID:202-LSF002
Wireless approval Canada, IC	
Certificate	4720B-ADIOMUX
Note	ISC directive RSS 210
Wireless approval Mexico, IFT	
Certificate	IFT RCPPHIL19-2130
Wireless approval South Africa, ICASA	
Certificate	TA-2006/032
KC approval for South Korea	
Certificate	MSIP-CRI-PCK-2884208

## EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrostatic discharge	
Standards/regulations	EN 61000-4-2
Electrostatic discharge	
Contact discharge	± 6 kV (Test Level 3)
Discharge in air	± 8 kV (Test Level 3)
Indirect discharge	± 6 kV
Comments	Criterion B
Electromagnetic HF field	
Standards/regulations	EN 61000-4-3
Electromagnetic HF field	
Frequency range	26 MHz ... 3 GHz (Test Level 3)
Field intensity	10 V/m
Comments	Criterion A
Fast transients (burst)	
Standards/regulations	EN 61000-4-4

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## Fast transients (burst)

Input	± 2 kV (Test Level 3)
Signal	± 2 kV (Signal line)
Comments	Criterion B

## Surge current load (surge)

Standards/regulations	EN 61000-4-5
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## Surge current load (surge)

Input	± 0.5 kV (symmetrical)
	± 1 kV (asymmetrical)
Signal	± 1 kV (Signal line, asymmetrical)
Comments	Criterion B

## Conducted interference

Standards/regulations	EN 61000-4-6
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## Conducted interference

Frequency range	0.15 MHz ... 80 MHz
Comments	Criterion A
Voltage	10 V

## Emitted interference

Emitted radio interference in acc. with EN 55011	EN 55016-2-3 Class A industrial applications
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## Criteria

Criterion A	Normal operating behavior within the specified limits.
Criterion B	Temporary impairment to operational behavior that is corrected by the device itself.

## Standards and regulations

Protection class	III
Free from substances that could impair the application of coating	VDMA 24364:2018-05
Standard designation	RED directive 2014/53/EU
Standards/specifications	EN 300328
	EN 61000-6-4
	EN 61000-6-2
	EN 62311
	EN 60950

## Mounting

Mounting type	DIN rail mounting
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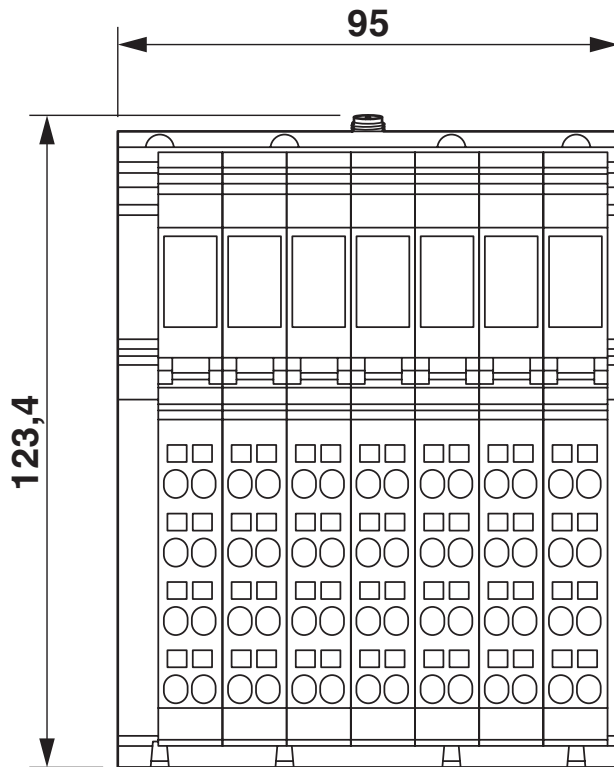


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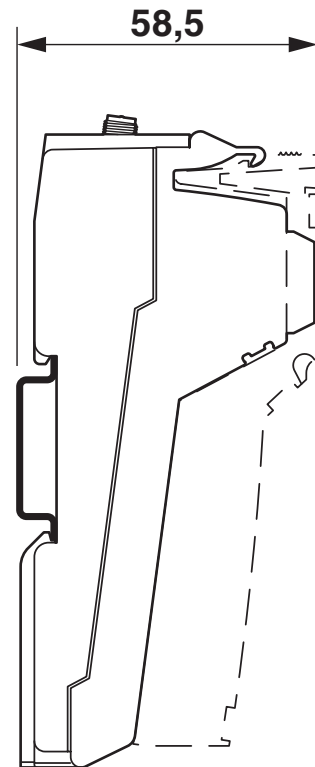
<https://www.phoenixcontact.com/us/products/2884208>

## Drawings

Dimensional drawing



Housing dimensions



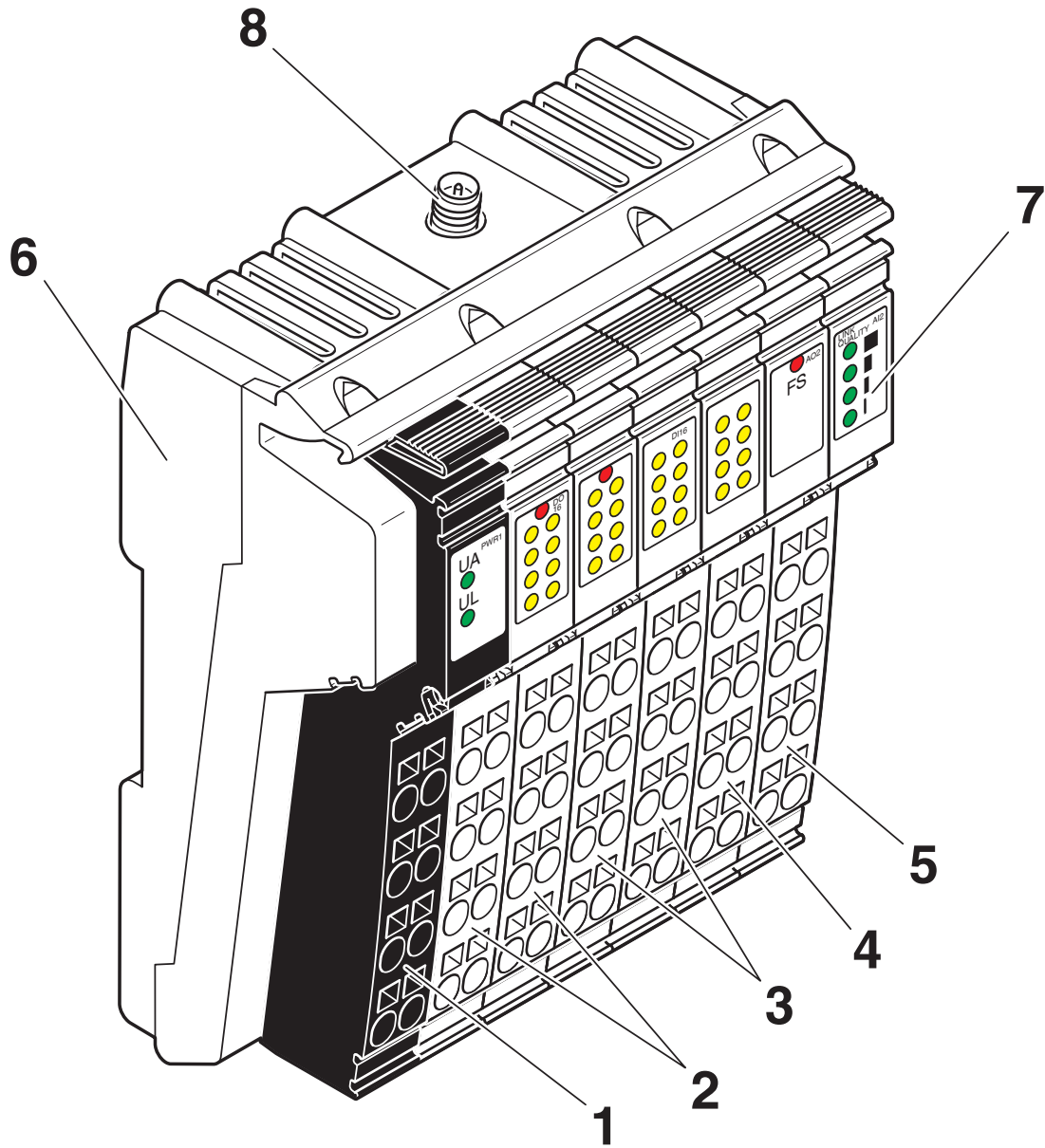


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Schematic diagram



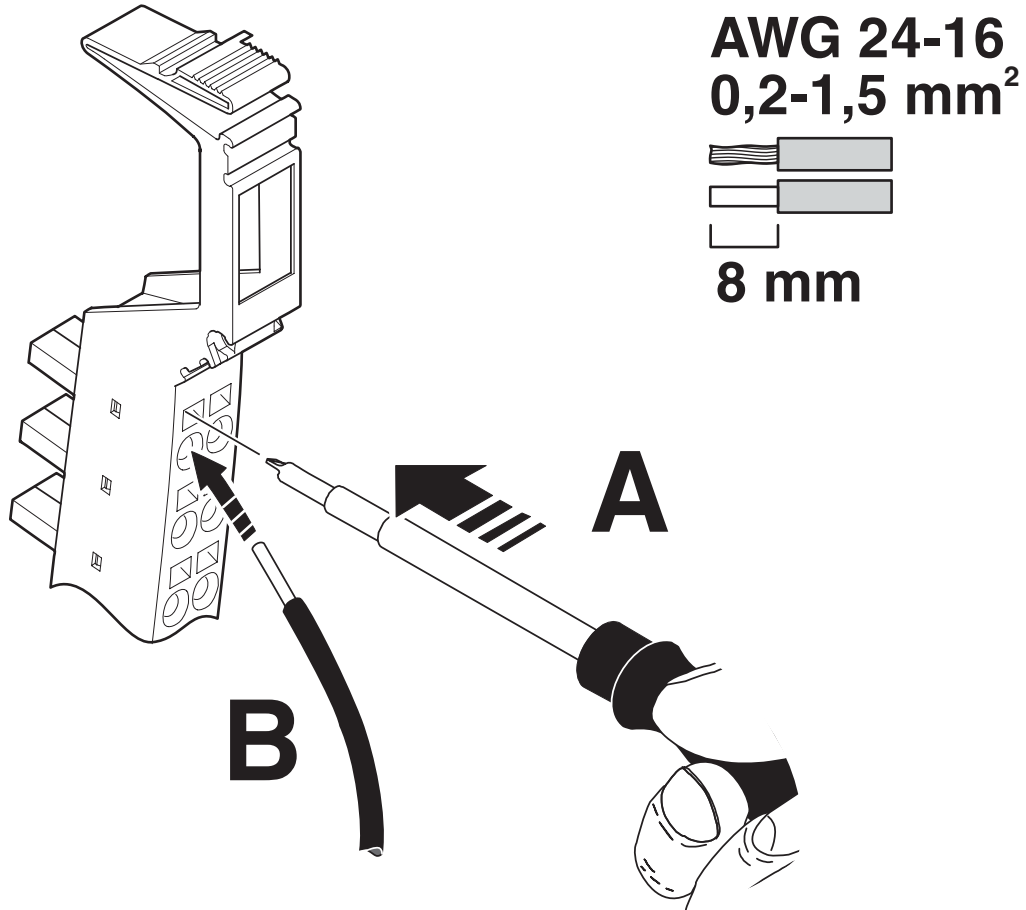
Function elements

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Schematic diagram



Connecting cables

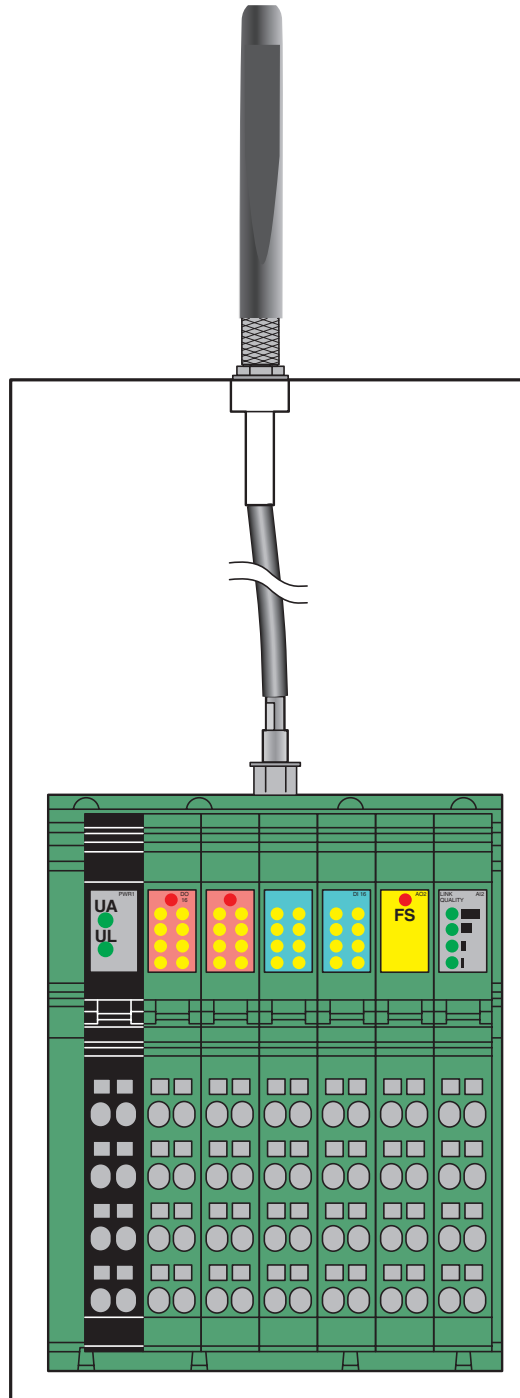
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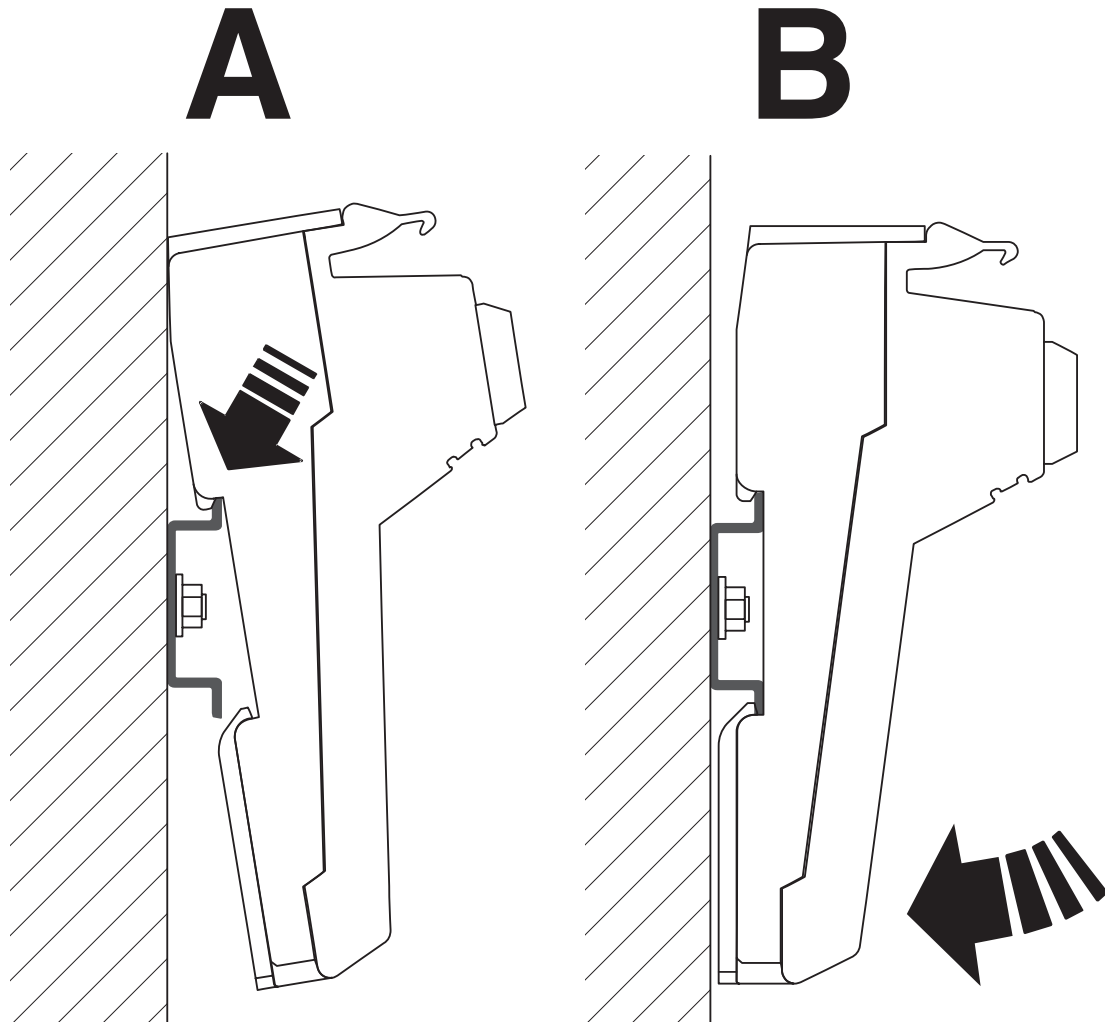


Schematic diagram



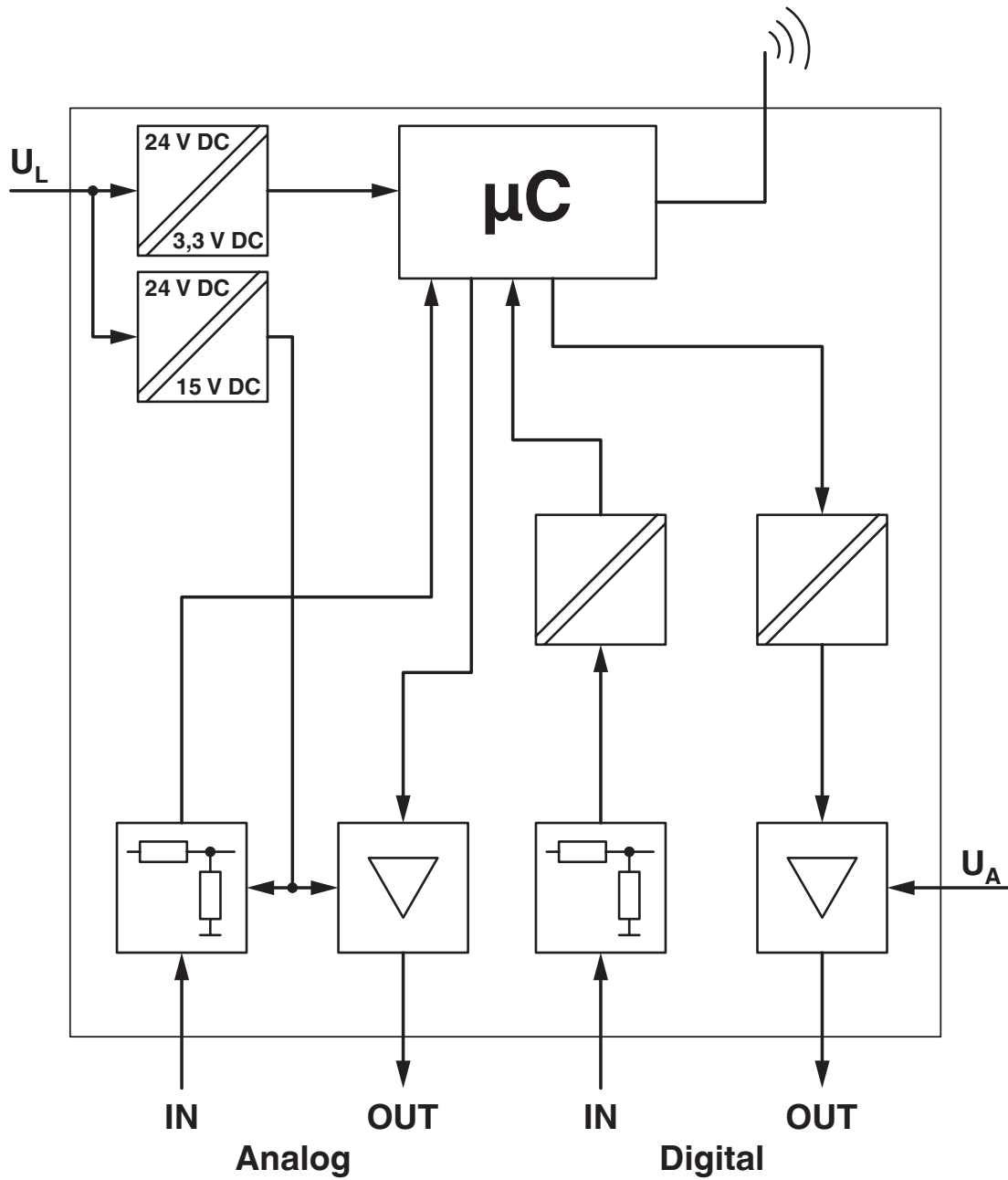
Installation example

Schematic diagram



Mounting

Block diagram



Block diagram

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2884208>



**KC**

Approval ID: MSIP-CRI-PCK-2884208

**FCC**

Approval ID: YG3ADIOMUX

**Industry Canada**

Approval ID: 4720B-ADIOMUX



**MIC**

Approval ID: 202-LSF002

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## Classifications

### ECLASS

ECLASS-13.0	27242602
ECLASS-15.0	27242602

### ETIM

ETIM 10.0	EC001597
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### UNSPSC

UNSPSC 21.0	32151600
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c), 7(a), 7(c)-I

### China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

### EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	82710383-ad84-4f18-bc08-99d7dfd2aa2d

### EF3.1 Climate Change

CO2e kg	22.86 kg CO2e
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