

Wireless set - ILB BT ADIO MUX-OMNI - 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, incl. omnidirectional antennas with 1.5 m cable

Your advantages

- ✓ It couldn't be simpler: unpack – connect – switch on
- ✓ 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
- ✓ Plug&Play - startup without configuration
- ✓ Current Bluetooth 4.0 technology

Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 049597
GTIN	4046356049597
Weight per Piece (excluding packing)	900.000 g
Custom tariff number	85176200
Country of origin	Germany

Technical data

Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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Dimensions

Width	95 mm
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Wireless set - ILB BT ADIO MUX-OMNI - 2884208

Technical data

Dimensions

Height	123.4 mm
Depth	57 mm
Note on dimensions	with connectors

Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
Ambient temperature (storage/transport)	-25 °C ... 85 °C
Permissible humidity (operation)	95 % (non-condensing)
Permissible humidity (storage/transport)	95 %
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)
Degree of protection	IP20

Wireless interface

Wireless standard	Based on Bluetooth 4.0
Modulation type	GFSK (Gaussian Frequency Shift Keying)
Antenna connection method	RSMA (female)
Frequency range	2.402 GHz ... 2.48 GHz (ISM bandwidth)
Transmission power	5 dBm
Receiver sensitivity	-95 dBm

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

Digital inputs

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

Wireless set - ILB BT ADIO MUX-OMNI - 2884208

Technical data

Digital inputs

Typical input current per channel	2.3 mA
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Digital outputs

Output name	Digital outputs
Connection method	Spring-cage connection
Connection technology	1-wire
Number of outputs	16
Protective circuit	Short-circuit protection, overload protection, protected against reverse voltages
Nominal output voltage	24 V DC
Output current	8 A (Total)
Maximum output current per channel	500 mA
Nominal load, inductive	12 VA (1.2 H, 50 Ω)
Nominal load, lamp	12 W
Nominal load, ohmic	12 W (48 Ω)
Output current when switched off	≤ 10 μA (When not loaded, a voltage can be measured even at an output that is not set.)
Behavior with overload	Auto restart
Behavior with inductive overload	Output can be destroyed
Reverse voltage resistance to short pulses	Reverse voltage proof

Analog inputs

Description of the input	Single ended
Input name	Analog inputs
Number of inputs	2
Type of protection	Surge voltage
Measured value resolution	12 bits
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

Analog outputs

Number of outputs	2
Output name	Analog outputs
Type of protection	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

Wireless set - ILB BT ADIO MUX-OMNI - 2884208

Technical data

Analog outputs

Load/output load voltage output	≥ 2 kΩ
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General

Housing material	PA 6.6-FR
Mounting type	DIN rail
Color	green
Net weight	885 g
Note on weight specifications	one module, incl. connector, without antenna
Degree of pollution	2
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))
MTTF	1458 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day))
	557 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day))
	219 Years (Telcordia standard, temperature 40 °C, operating cycle 100 % (7 days a week, 24 hours a day))
Diagnostics messages	Short-circuit / overload of the digital outputs LED
	Wireless connection FS LED
	Logic and actuator voltage LED
	Link quality of the wireless connection 4 LEDs
Switch-on time	≤ 3 s (Until the wireless connection is established)
Delay time	≤ 10 ms (Latency, typical)
	≤ 800 ms (Failsafe function for wireless interruption)
Wireless licenses	Europe, additional countries in the e-shop
Wireless licences	Belgium
	Bulgaria
	Denmark
	Germany
	Estonia
	Finland
	France
	Greece
	Great Britain
	Ireland
	Iceland
	Israel

Wireless set - ILB BT ADIO MUX-OMNI - 2884208

Technical data

General

	Italy
	Japan
	Canada
	Latvia
	Liechtenstein
	Lithuania
	Luxembourg
	Malta
	Netherlands
	Norway
	Austria
	Poland
	Portugal
	Romania
	Russia
	Sweden
	Switzerland
	Singapore
	Slovakia
	Slovenia
	Spain
	South Africa
	Czech Republic
	Turkey
	Hungary
	USA
	Cyprus (rep.)
Mounting type	DIN rail mounting

Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Standard designation	RED directive 2014/53/EU
Standards/regulations	EN 300328
	EN 61000-6-4
	EN 61000-6-2
	EN 62311
	EN 60950

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Standards and Regulations

Mechanical tests	Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6 5g, 10...150 Hz, 2.5 h, in XYZ direction
	Shock in acc. with EN 60068-2-27/IEC 60068-2-27 16g, 11 ms
Free from substances that could impair the application of coating	according to P-VW 3.10.7 57 65 0 VW-AUDI-Seat central standard
Connection in acc. with standard	CUL
Standards/regulations	EN 61000-4-2
Contact discharge	± 6 kV (Test Level 3)
Indirect discharge	± 6 kV
Standards/regulations	EN 61000-4-3
Frequency range	26 MHz ... 3 GHz (Test Level 3)
Standards/regulations	EN 61000-4-4
Comments	Criterion B
Standards/regulations	EN 61000-4-5
Signal	± 1 kV (Signal line, asymmetrical)
Standards/regulations	EN 61000-4-6
Frequency range	0.15 MHz ... 80 MHz
Protection class	III
Overvoltage category	II

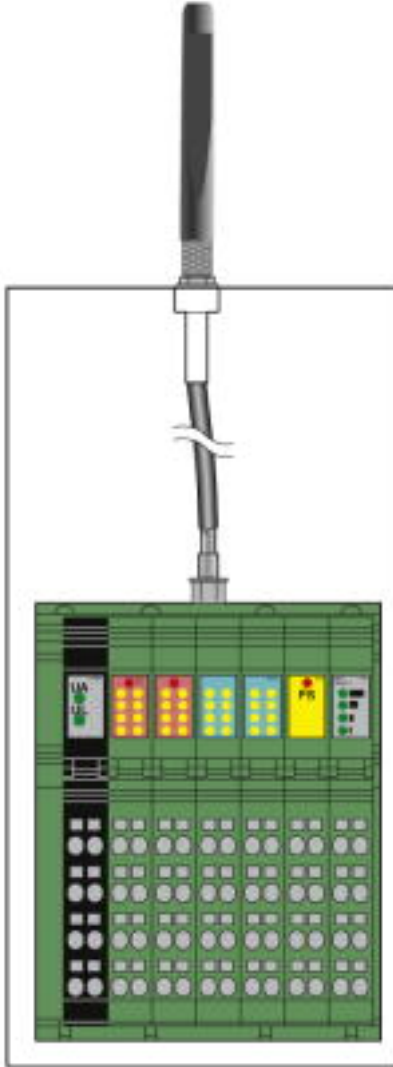
Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
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Drawings

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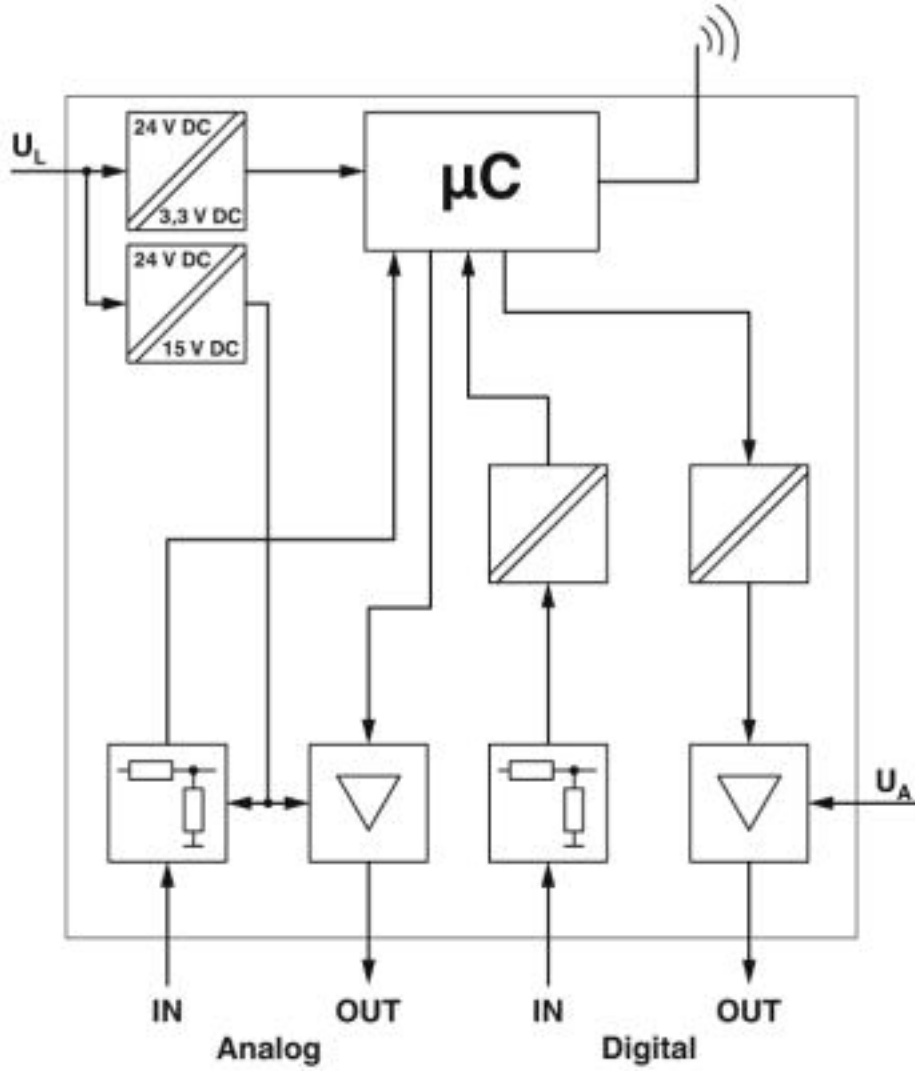
Schematic diagram



Installation example

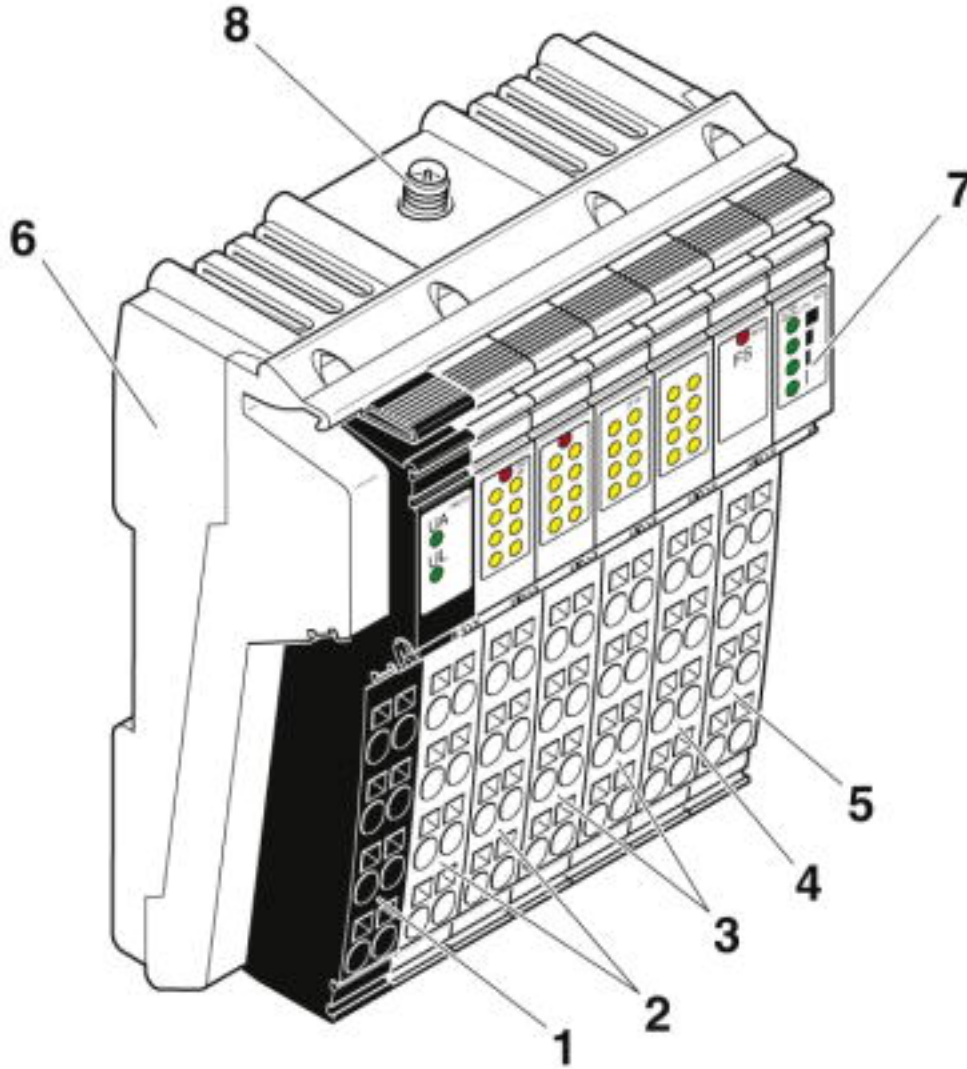
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Block diagram



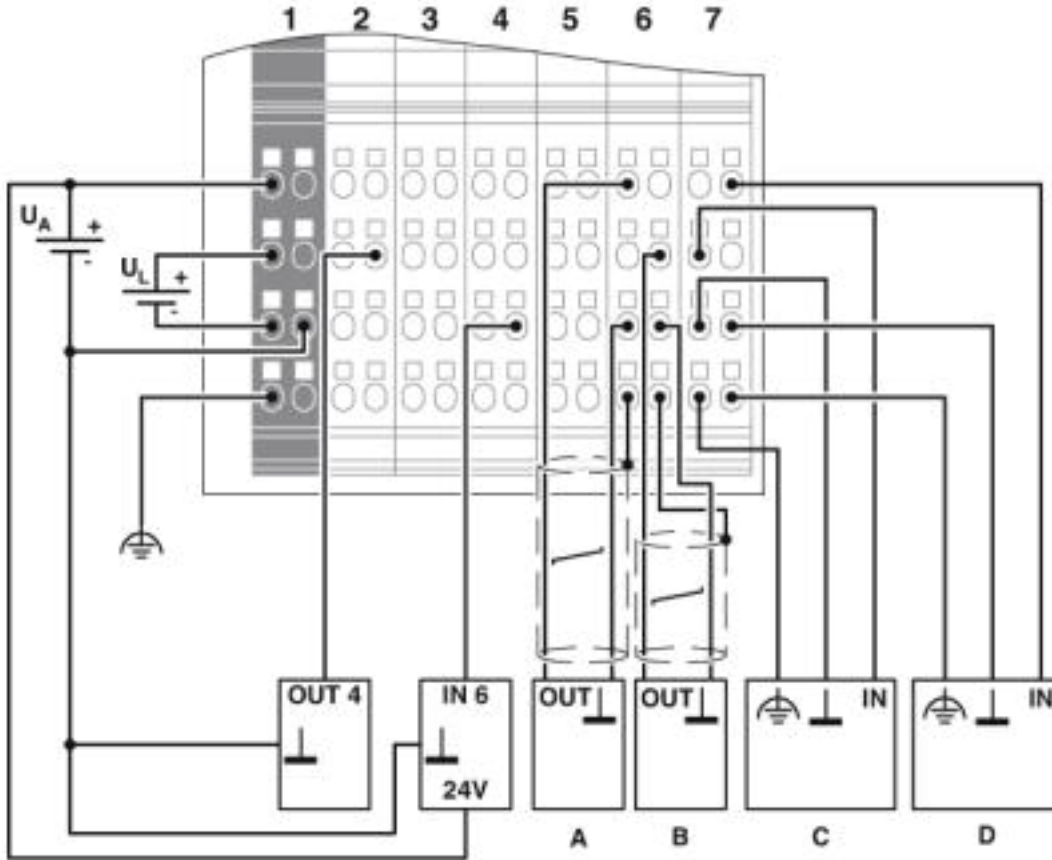
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Schematic diagram



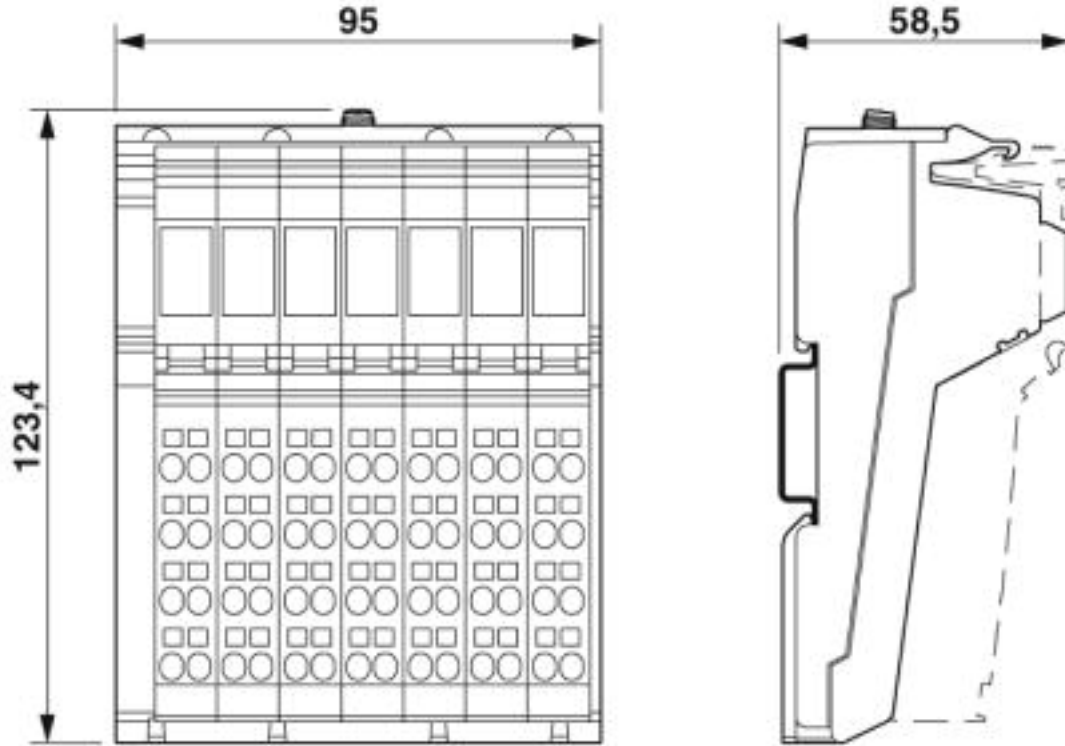
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Connection diagram



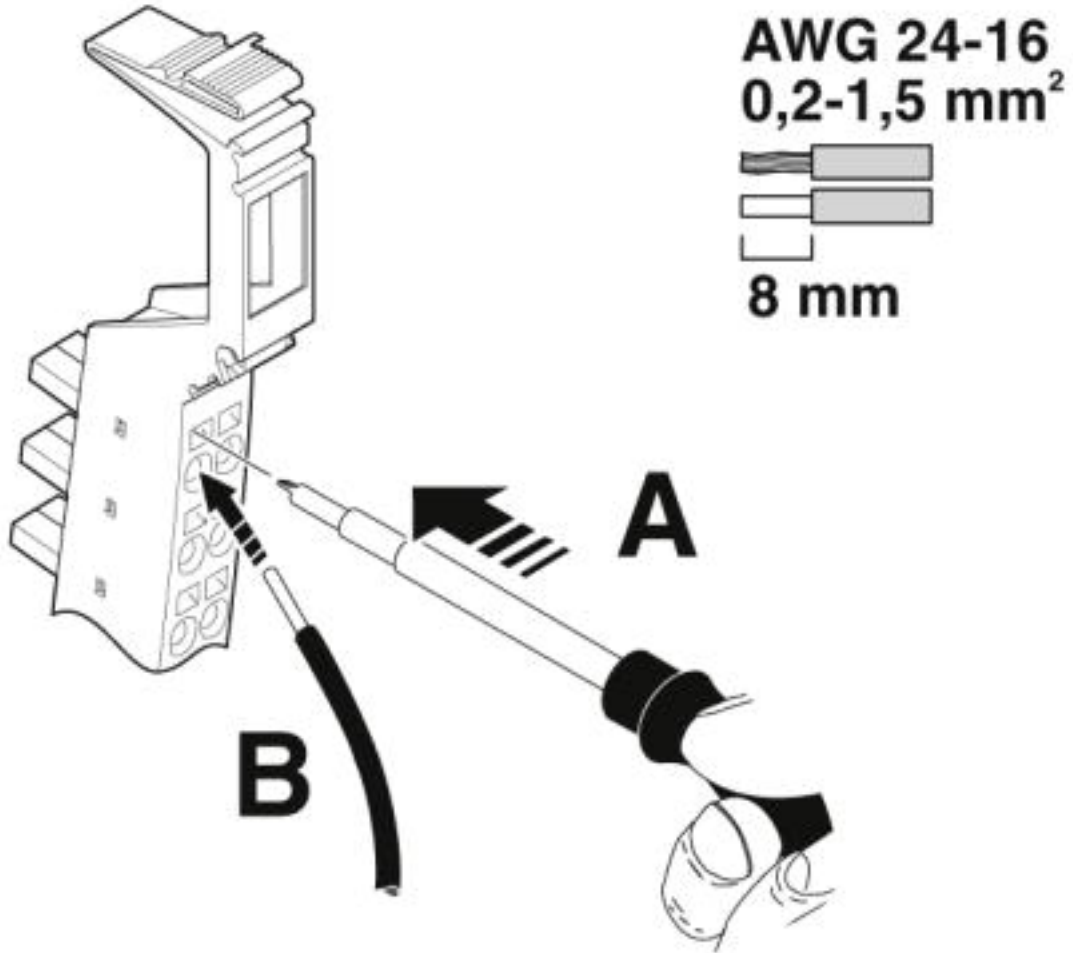
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Dimensional drawing



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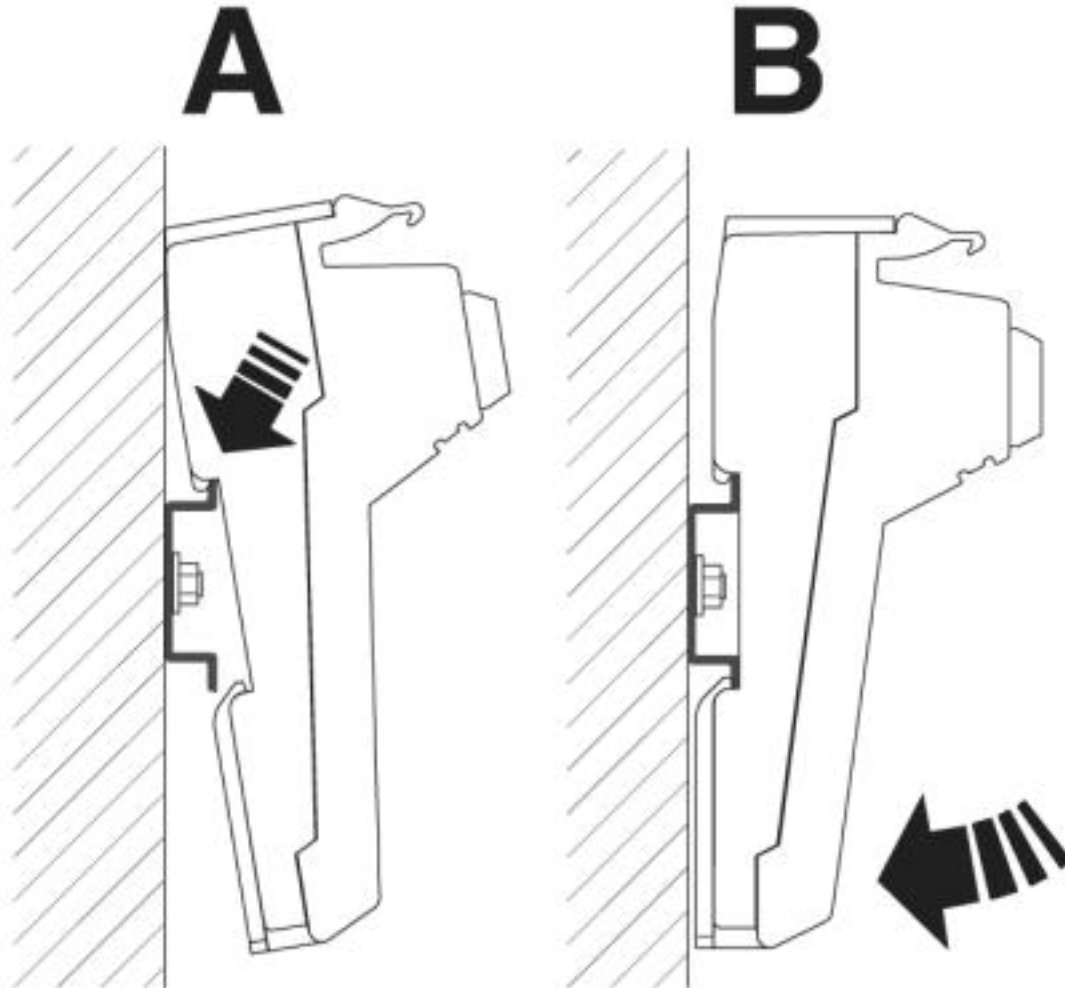
Schematic diagram



Connecting cables

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Schematic diagram



Mounting

Articles in set

Wireless set - ILB BT ADIO MUX - 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, without antennas

Wireless set - ILB BT ADIO MUX-OMNI - 2884208

Articles in set

Antenna - RAD-ISM-2400-ANT-OMNI-2-1-RSMA - 2701362



Omnidirectional antenna, 2.4 GHz, gain: 2 dBi, polarization: linear, opening angle: h/v 360°/75°, degree of protection: IP65, connection: RSMA (male), incl. 1.5 m / 5 ft. connecting cable and mounting bracket for wall mounting

Classifications

eCl@ss

eCl@ss 4.0	27250300
eCl@ss 4.1	27250300
eCl@ss 5.0	27250600
eCl@ss 5.1	27242600
eCl@ss 6.0	27242600
eCl@ss 7.0	27242602
eCl@ss 8.0	27242602
eCl@ss 9.0	27242602

ETIM

ETIM 2.0	EC001430
ETIM 3.0	EC001599
ETIM 4.0	EC001599
ETIM 5.0	EC001597
ETIM 6.0	EC001597
ETIM 7.0	EC001597

UNSPSC

UNSPSC 6.01	20142601
UNSPSC 7.0901	20142601
UNSPSC 11	20142601
UNSPSC 12.01	20142601
UNSPSC 13.2	20142601

Approvals

Approvals

Wireless set - ILB BT ADIO MUX-OMNI - 2884208

Approvals

Approvals

FCC / Industry Canada / MIC / EAC / EAC / KC

Ex Approvals

Approval details

FCC		YG3ADIOMUX
Industry Canada		4720B-ADIOMUX
MIC		202-LSF002
EAC		EAC-Zulassung
EAC		RU *- DE.A*30.B.01735
KC		http://eng.kcc.go.kr/user/ehpMain.do MSIP-CRI- PCK-2884208

Accessories

Accessories

Antenna

Antenna - RAD-ISM-2400-ANT-OMNI-2-1-RSMA - 2701362



Omnidirectional antenna, 2.4 GHz, gain: 2 dBi, polarization: linear, opening angle: h/v 360°/75°, degree of protection: IP65, connection: RSMA (male), incl. 1.5 m / 5 ft. connecting cable and mounting bracket for wall mounting

Wireless set - ILB BT ADIO MUX-OMNI - 2884208

Accessories

Antenna - RAD-ISM-2400-ANT-VAN-3-0-RSMA - 2701358



Omnidirectional antenna with protection against vandalism, 2.4 GHz, gain: 3 dBi, polarization: linear, opening angle: h/v 360°/85°, degree of protection: IP55, connection: RSMA (male), for control cabinet mounting (optional wall mounting), incl. 1.5 m / 5 ft. connecting cable

Antenna - RAD-ISM-2400-ANT-OMNI-6-0 - 2885919



Omnidirectional antenna, 2.4 GHz, gain: 6 dBi, polarization: linear, opening angle: h/v 360°/30°, degree of protection: IP67, seawater-resistant, connection: N (female), incl. mounting bracket and mast clips, ATEX and IECEx approval

Antenna - ANT-OMNI-2459-02 - 2701408



Omnidirectional antenna, 2.4 GHz/5 GHz, gain: 2.5 dBi/5 dBi, polarization: linear, opening angle: h/v 360°/30°/16°, degree of protection: IP68, connection: N (male), corresponding connecting cable for control cabinet feed-through (Order No. 2701402)

Antenna - ANT-DIR-2459-01 - 2701186



Directional antenna, 2.4 GHz/5 GHz, gain: 9 dBi, polarization: linear, opening angle: h/v 75°/55°, degree of protection: IP67, seawater-resistant, connection: N (female), incl. mounting bracket and mast clips, ATEX and IECEx approval

Coaxial adapter

Adapter - RAD-ADP-N/F-N/F - 2867843



Antenna adapter for control cabinet feed-through, frequency range: 0.3 GHz ... 6 GHz, degree of protection: IP65, connection: 2 x N (female)

Wireless set - ILB BT ADIO MUX-OMNI - 2884208

Accessories

Adapter - RAD-ADP-RSMA/M-RSMA/F-90 - 2904790



Antenna adapter, frequency range: 0.3 GHz ... 6 GHz, connection: RSMA (male) -> RSMA (female), 90° angled

Coaxial cable

Antenna cable - RAD-PIG-EF316-N-RSMA - 2701402



Antenna cable for control cabinet feed-through, outside diameter: 3.2 mm (0.126 in.), inner conductor: stranded, attenuation: 0.6 / 0.9 / 1.4 dB at 0.9 / 2.4 / 5.8 GHz, connection: N (female) -> RSMA (male), cable length: 0.5 m (1.6 ft.)

Antenna cable - RAD-PIG-RSMA/N-0.5 - 2903263



Antenna cable, outside diameter: 5 mm (0.2 in.), inner conductor: solid, attenuation: 0.4 / 0.5 / 0.6 dB at 0.9 / 2.4 / 5.8 GHz, connection: N (male) -> RSMA (male), cable length: 0.5 m (1.6 ft.)

Antenna cable - RAD-PIG-RSMA/N-1 - 2903264



Antenna cable, outside diameter: 5 mm (0.2 in.), inner conductor: solid, attenuation: 0.5 / 0.8 / 1.1 dB at 0.9 / 2.4 / 5.8 GHz, connection: N (male) -> RSMA (male), cable length: 1 m (3.3 ft.)

Antenna cable - RAD-PIG-RSMA/N-2 - 2903265



Antenna cable, outside diameter: 5 mm (0.2 in.), inner conductor: solid, attenuation: 0.9 / 1.3 / 2.0 dB at 0.9 / 2.4 / 5.8 GHz, connection: N (male) -> RSMA (male), cable length: 2 m (6.5 ft.)

Wireless set - ILB BT ADIO MUX-OMNI - 2884208

Accessories

Antenna cable - RAD-PIG-RSMA/N-3 - 2903266



Antenna cable, outside diameter: 5 mm (0.2 in.), inner conductor: solid, attenuation: 1.2 / 2.0 / 3.0 dB at 0.9 / 2.4 / 5.8 GHz, connection: N (male) -> RSMA (male), cable length: 3 m (10 ft.)

Antenna cable - RAD-PIG-RSMA/N-5 - 2702140



Antenna cable, outside diameter: 5 mm (0.2 in.), inner conductor: solid, attenuation: 2.0 / 3.3 / 4.8 dB at 0.9 / 2.4 / 5.8 GHz, connection: N (male) -> RSMA (male), cable length: 5 m (16 ft.)

Antenna cable - RAD-CAB-EF393- 3M - 2867649



Antenna cable, outside diameter: 10 mm (0.4 in.), inner conductor: stranded, attenuation: 1.0 / 1.8 / 3.1 dB at 0.9 / 2.4 / 5.8 GHz, connection: 2 x N (male), cable length: 3 m (10 ft.)

Antenna cable - RAD-CAB-EF393- 5M - 2867652



Antenna cable, outside diameter: 10 mm (0.4 in.), inner conductor: stranded, attenuation: 1.6 / 2.9 / 5.0 dB at 0.9 / 2.4 / 5.8 GHz, connection: 2 x N (male), cable length: 5 m (16 ft.)

Antenna cable - RAD-CAB-EF393-10M - 2867665



Antenna cable, outside diameter: 10 mm (0.4 in.), inner conductor: stranded, attenuation: 2.9 / 5.6 / 9.9 dB at 0.9 / 2.4 / 5.8 GHz, connection: 2 x N (male), cable length: 10 m (32 ft.)

Wireless set - ILB BT ADIO MUX-OMNI - 2884208

Accessories

Antenna cable - RAD-CAB-EF393-15M - 2885634



Antenna cable, outside diameter: 10 mm (0.4 in.), inner conductor: stranded, attenuation: 4.3 / 8.3 / 14.8 dB at 0.9 / 2.4 / 5.8 GHz, connection: 2 x N (male), cable length: 15 m (50 ft.)

Control box

Control box - FL RUGGED BOX - 2701204



Control box for robust construction of wireless systems for industrial applications, IP66, 25 x 18 x 13 cm, polycarbonate material, gray, drilled, incl. DIN rail, plugs, and screw connections, without devices

End block

End clamp - CLIPFIX 35-5 - 3022276



Quick mounting end clamp for NS 35/7,5 DIN rail or NS 35/15 DIN rail, with marking option, with parking option for FBS...5, FBS...6, KSS 5, KSS 6, width: 5.15 mm, color: gray

Labeling panel

Labeling field - IB IL FIELD 2 - 2727501

Labeling field, width: 12.2 mm



Mounting material

Wireless set - ILB BT ADIO MUX-OMNI - 2884208

Accessories

Mounting material - FL RUGGED BOX POLE SET - 2701205



Set for mast mounting of the FL RUGGED BOX housing, incl. screw clamps for masts up to a diameter of 89 mm

Weather protection tape - RAD-TAPE-SV-19-3 - 2903182



Vulcanizing sealing tape for external protection of adapters, cable connections, etc. against the effects of weather, roll length: 3 m

Plug

Inline shield connector - IB IL SCN 6-SHIELD-TWIN - 2740245



Inline shield connector

Inline connector - IB IL SCN-PWR IN-CP - 2727637



Connector, colored, for Inline power and segment terminal blocks

Inline connector - IB IL SCN-8 - 2726337



Connector, for digital 1, 2 or 8-channel Inline terminals

Wireless set - ILB BT ADIO MUX-OMNI - 2884208

Accessories

Surge protection for transceiver systems

Surge protection device - CN-LAMBDA/4-5.9-BB - 2838490



Attachment plug with Lambda/4 technology as surge protection for coaxial signal interfaces. Connection: N connectors socket-socket

Terminal marking

Insert strip - ESL 62X10 - 0809492



Insert strip, Sheet, white, unlabeled, can be labeled with: Office printing systems: Laser printer, mounting type: insert, lettering field size: 62 x 10 mm, Number of individual labels: 72

Flat zack marker sheet - ZBFM 6/WH:UNBEDRUCKT - 0803618



Flat zack marker sheet, Sheet, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into flat marker groove, for terminal block width: 6.2 mm, lettering field size: 5 x 5.5 mm, Number of individual labels: 100