

## Distributed I/O device - IBS RL 24 DIO 8/8/8-LK-2MBD - 2731571

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Digital I/O device for INTERBUS; fiber optic technology with 2 Mbaud, eight inputs (24 V DC), eight outputs (24 V DC, 0.5 A), sensor/actuator connection via 5-pos. M12 female connectors, rugged metal housing, IP67 protection




The illustration shows version IBS RL 24 DIO 8/8/8-LK

### Why buy this product

- ✓ Rugged metal housing
- ✓ Comprehensive diagnostic functions
- ✓ Rugged Line connector for INTERBUS, either with fiber optic or twisted pair, and supply voltage
- ✓ M12 connector for I/O devices



### Key Commercial Data

Packing unit	1 STK
GTIN	 4 017918 185725
GTIN	4017918185725
Weight per Piece (excluding packing)	809.700 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	179 mm
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## Technical data

### Dimensions

Height	67 mm
Depth	71 mm
Note on dimensions	With bus connectors and mounting plate

### Ambient conditions

Ambient temperature (operation)	0 °C ... 55 °C
Ambient temperature (storage/transport)	-25 °C ... 70 °C
Permissible humidity (operation)	100 %
Permissible humidity (storage/transport)	95 % (non-condensing)
Air pressure (operation)	860 hPa ... 1080 hPa (up to 1500 m above sea level)
Degree of protection	IP65/IP67

### General

Mounting type	Wall mounting
Net weight	720 g
Note on weight specifications	Without plug or mounting plate
Note	Seal unused slots/connections to ensure the degree of protection.

### Interfaces

Designation	INTERBUS
Connection method	Optic fiber (polymer fiber 980/1000 µm)
Transmission speed	2 Mbps
Transmission physics	FO

### Power supply for module electronics

Supply voltage	24 V DC
Supply voltage range	18.5 V DC ... 32 V DC (including ripple)
Ripple	Max 3.6 V <sub>SS</sub> within the permissible voltage range
Supply current	typ. 120 mA (plus sensor current)
Current consumption	typ. 120 mA (plus sensor current)

### Digital inputs

Input name	Digital inputs
Connection technology	2, 3, 4-wire
Number of inputs	8
Protective circuit	Electronic short-circuit/overload protection for each group
Input voltage range "0" signal	0 V DC ... 5 V DC
Input voltage range "1" signal	11 V DC ... 30 V DC
Typical input current per channel	3 mA
Delay at signal change from 0 to 1	3 ms

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## Technical data

### Digital inputs

Delay at signal change from 1 to 0	3 ms
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### Digital outputs

Output name	Digital outputs
Connection technology	2, 3-wire
Number of outputs	8
Protective circuit	Electronic short-circuit/overload protection for each channel
Output voltage	24 V
Nominal output voltage	24 V
Maximum output current per channel	500 mA
Maximum output current per group	2 A
Nominal load, inductive	12 VA (1.2 H, 48 Ω)
Nominal load, lamp	12 W
Nominal load, ohmic	12 W

### Electrical isolation

Test section	Between bus logic and outputs 500 V AC 50 Hz 1 min.
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### Standards and Regulations

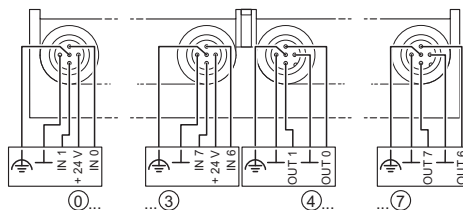
Connection in acc. with standard	CUL
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### Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

## Drawings

Connection diagram



## Classifications

eCl@ss

eCl@ss 4.0	27250302
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### Classifications

#### eCl@ss

eCl@ss 4.1	27250302
eCl@ss 5.0	27250302
eCl@ss 5.1	27242604
eCl@ss 6.0	27242604
eCl@ss 7.0	27242604
eCl@ss 8.0	27242604
eCl@ss 9.0	27242604

#### ETIM

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

#### UNSPSC

UNSPSC 6.01	43172015
UNSPSC 7.0901	43201404
UNSPSC 11	43172015
UNSPSC 12.01	43201404
UNSPSC 13.2	32151602

### Approvals

#### Approvals

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#### Approvals

UL Recognized / cUL Recognized / INTERBUS CLUB / cULus Recognized

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#### Ex Approvals

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#### Approval details

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## Approvals

UL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 140324
Nominal current IN		0.003 A	
Nominal voltage UN		24 V	

cUL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 140324
Nominal current IN		0.003 A	
Nominal voltage UN		24 V	

INTERBUS CLUB	360/23.11.01
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cULus Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>
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## Accessories

### Accessories

#### Adapter cable

Cable set - IBS RL CABLE POF/ - 2819956

Assembled cable sets with fiber optic bus connectors, sold by the meter



### Assembly element

Lower mounting part - IBS RL AP - 2731128

Mounting plate for Ruggedline devices



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### Accessories

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#### Assembly tool

Fiber cutter - IBS RL FOC - 2725147



Fiber cutter for assembling polymer fiber cables for connecting INTERBUS Ruggedline devices

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Assembly tool - PSM-POF-KONFTOOL - 2744131



Polymer fiber DIY case, consisting of: Stripping knife, stripping pliers, polishing wheels for F-SMA and SC-RJ quick mounting connectors, polishing pad and emery paper

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#### Bridge

Cable set - IBS RL CONNECTION-LK - 2733029



Assembled cable jumper as a short connection between two INTERBUS Rugged Line devices with fiber optic bus connectors and power supply, approximately 30 cm

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#### Cable by the meter

Cable - IBS PWR/5HD/F - 2731775



Power supply cable, gray, welding-splash-resistant in standard applications, 5 x 1.5 mm<sup>2</sup>, highly flexible, sold by the meter

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### Accessories

Cable - IBS PWR/5 - 2820000



Power supply cable, gray, welding-splash-resistant in standard applications, 5 x 1.5 mm<sup>2</sup>, sold by the meter

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### Circular connector (cable-side)

Sensor/actuator connector - SACC-M12MS-4QO-0,75 - 1641769



Sensor/actuator connector, 4-position, Plug straight M12, A-coded, Insulation displacement connection, knurl material: Plastic, External cable diameter 4 mm ... 8 mm

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### Connector set

Connector set - IBS CCO-R/L - 2759883



M23 solder connection for bus connector set, male/female connector, 9-pos. (8+1)

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### Data cable by the meter

FO cable - PSM-LWL-RUGGED-980/1000 - 2744322



Polymer fiber cable, duplex, 980 µm/1000 µm, heavy version for permanent indoor installation, sold by the meter without connectors

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### Accessories

FO cable - PSM-LWL-RUGGED-FLEX-980/1000 - 2744335



Polymer fiber cable, duplex 980/1000  $\mu\text{m}$ , heavy-weight, highly flexible version for flexible conduit applications, by the meter, without connector

FO cable - PSM-LWL-KDHEAVY-980/1000 - 2744319



Polymer fiber cable, duplex 980/1000  $\mu\text{m}$ , medium-weight version for permanent indoor installation, by the meter, without connector

### Labeling panel

Marking label - IBS RL MARKER-SET - 2732729



Set of 50 small and 50 large metal marking labels

Marking label - IBS RL MARKER-G-SET - 2734727



100 large metal marking labels

Marking label - IBS RL MARKER-K-SET - 2734730



100 small metal marking labels



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### Accessories

#### Measuring tools

Measuring instrument - PSM-FO-POWERMETER - 2799539



Fiber optic measuring case, consisting of an optical power meter, F-SMA, B-FOC adapters, reference fibers and operating instructions

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#### Media converter

FO converters - IBS OPTOSUB-MA/M/R-LK-OPC - 2732635



INTERBUS fiber optic converter for converting the remote OUT interface to fiber optics, correction of the optical transmission capacity, FO output right

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#### Plug

Bus connector - IBS RL PLUG-LK/POF - 2731076



Connector for the fiber optic bus with polymer fiber cable and for the power supply with QUICKON connection method

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Adapter set - IBS RL 24 ADAP-LK/T - 2725040



INTERBUS Rugged Line adapter for converting the fiber optic remote bus to a copper wire remote bus

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### Accessories

Adapter set - IBS RL 24 ADAP-T/LK - 2725037



INTERBUS Rugged Line adapter for converting the copper wire remote bus to a fiber optic remote bus

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Bus connector - IBS RL PLUG-LK/POF-F - 2734183



Connector for the fiber optic bus with polymer fiber cable and for the power supply with spring-cage connection method

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Connector set - IBS CCO-PSF/L - 2780878



M23 power supply connector, female connector, 6-pos.

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Connector set - IBS CCO-PSM/L - 2759906



M23 power supply connector, male connector, 6-pos.

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### Y-distributor

Y distributor - SAC-3P-M12Y/2XM12FS PE - 1683455



Y distributor, 4-position, Plug straight M12, A-coded, on Socket straight M12, A-coded and Socket straight M12, A-coded

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### Accessories

User manual - IBS RL SYS PRO UM - 2743705



User manual, German, for configuring and installing the Rugged Line product range, only available as a download.