

# Distributed I/O device - IBS RL 24 DIO 8/8/8-T - 2836476

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Digital I/O device for INTERBUS; twisted pair with 500 kbaud, 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 figure shows version IBS RL 24 DIO 8/8/8-LK

## Product Description

INTERBUS Ruggedline modules are provided for harsh ambient conditions or in the case of high requirements regarding system diagnostics. To ensure maximum availability, these modules are equipped with a zinc die-cast housing (IP67). Therefore, they can be installed in the direct vicinity of welding tongs.

Each Ruggedline module consists of a mounting plate and an electronics module. The electronics module is snapped onto the mounting plate and fixed with two screws if necessary.

I/O errors can be clearly localized by means of extended diagnostics. Short-circuits of the power supply of the sensors, for example, are reported in groups of 4 inputs. And, in the case of a short-circuit at an output, the respective output is even reported directly. This information will be made available to the controller and displayed at the module.

In the case of modules with fiber optic connection, the diagnostics capability even goes one step further. By using the latest fiber optic technology, the quality of the transmission path is permanently ascertained and optimally adjusted. This information is available to the controller and at the module. Due to these additional features, slow deterioration of the transmission path can be detected before errors occur during transmission or transmission is interrupted.

In the case of Ruggedline modules, the bus medium can be selected. Apart from versions with fiber optic connection (polymer fiber), there are modules which are used with twisted pair cables. The bus medium can be changed from FO installation to a copper medium at any time using the corresponding plug-in adapters.

The bus is connected by means of IP67 plug-in plugs, which transport both the bus signal and the power supply to the modules. For easy preparation, the power supply cable is connected to the plug using the QUICKON fast connection method, and connection of the fiber optic cable is made using a simple cutting and assembly tool; additional polishing is not necessary.

If a fiber optic bus cable is assembled by the user, e.g. the bridge between 2 modules, it must be at least one meter long. For shorter cable bridges, please use only cable bridges from Phoenix Contact.

## Your advantages

- 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 pc
GTIN	
GTIN	4017918185602

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## 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
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)
Air pressure (storage/transport)	660 hPa ... 1080 hPa (up to 3500 m above sea level)
Degree of protection	IP65/IP67
Note	Seal unused slots/connections to ensure the degree of protection.

### General

Mounting type	Wall mounting
Net weight	830.1 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	IP67 RL connector
Designation connection point	Copper cable
Transmission speed	500 kbps
Transmission physics	Copper

### 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)

### Digital inputs

Input name	Digital inputs
Connection technology	2, 3, 4-wire
Number of inputs	8
Type of protection	Electronic short-circuit/overload protection for each group
Input voltage range "0" signal	0 V DC ... 5 V DC

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## Technical data

### Digital inputs

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
Delay at signal change from 1 to 0	3 ms

### Digital outputs

Output name	Digital outputs
Connection technology	2, 3-wire
Number of outputs	8
Type of protection	Electronic short-circuit/overload protection for each channel
Output voltage	24 V DC
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 I/O 500 V AC 50 Hz 1 min.
	Between bus logic and outputs 500 V AC 50 Hz 1 min.

### Standards and Regulations

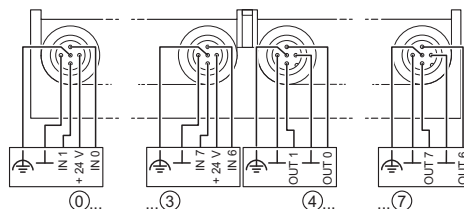
Connection in acc. with standard	CUL
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### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

## Drawings

Connection diagram



## Approvals

Approvals

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## 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

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 voltage UN		24 V	
Nominal current IN		0.003 A	

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 voltage UN		24 V	
Nominal current IN		0.003 A	

INTERBUS CLUB	354/31.10.01
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cULus Recognized	
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