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Distributed I/O device - IBS RL 24 DIO 8/8/8-R-LK - 2734167

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Digital I/O device for INTERBUS; fiber optic technology 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

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 and 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.

Product Features

- 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
Weight per Piece (excluding packing)	813.8 GRM
Custom tariff number	85176200

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Country of origin	Germany

Technical data

Note

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

Dimensions

Width	179 mm
Height	67 mm
Depth	71 mm
Note on dimensions	With bus connectors and mounting plate

Ambient conditions

Ambient temperature (operation)	-20 °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 mean sea level)
Air pressure (storage/transport)	660 hPa ... 1080 hPa (up to 3500 m above mean sea level)
Degree of protection	IP65/IP67

General

Weight	790 g
Note on weight specifications	Without plug or mounting plate
Mounting type	Wall mounting
Protection class	III, IEC 61140, EN 61140, VDE 0140-1
Note	Seal unused slots/connections to ensure the degree of protection.
Test section	Between bus logic and outputs 500 V AC 50 Hz 1 min

Interfaces

Fieldbus system	INTERBUS
Designation	INTERBUS
Connection method	Optic fiber (polymer fiber 980/1000 µm)
Transmission speed	500 kBit/s
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_{SS} within the permissible voltage range
Supply current	typ. 120 mA (plus sensor current)
Current consumption	typ. 120 mA (plus sensor current)

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Technical data

Digital inputs

Input name	Digital inputs
Connection method	2, 3, 4-wire
Number of inputs	8
Protective circuit	Electronic short-circuit/overload protection for each group
Input voltage range "0" signal	-30 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	1.5 ms
Delay at signal change from 1 to 0	3.5 ms

Digital outputs

Output name	Digital outputs
Connection method	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

Classifications

eCl@ss

eCl@ss 4.0	27250302
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

ETIM

ETIM 2.0	EC001430
ETIM 3.0	EC001599
ETIM 4.0	EC001599

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Classifications

ETIM

ETIM 5.0	EC001599

UNSPSC

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

Approvals

Approvals

Approvals

UL Recognized / cUL Recognized / INTERBUS CLUB / cULus Recognized

Ex Approvals

Approvals submitted

Approval details

UL Recognized

cUL Recognized

INTERBUS CLUB

cULus Recognized

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Drawings

Connection diagram