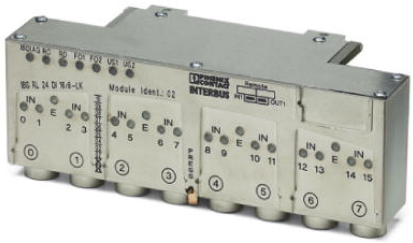
Extract from the online catalog

IBS RL 24 DI 16/8-LK

Order No.: 2724850



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Digital input device for INTERBUS; fiber optic technology with 500 kbaud, 16 inputs (24 V DC), sensor connection via 5-pos. M12 female connectors, rugged metal housing, IP67 protection

Product notes

WEEE/RoHS-compliant since: 01/08/2008

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Commercial data

GTIN (EAN)	4 017918 185428
sales group	K521
Pack	1 pcs.
Customs tariff	85389091
Catalog page information	Page 285 (AX-2011)

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 connectors, 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.

Technical data

General data

Width	179 mm
Height	67 mm
Depth	71 mm
Note on dimensions	With bus connectors and mounting plate
Weight	720 g
Note on weight specifications	Without connector or mounting plate
Mounting type	Wall mounting
Ambient temperature (operation)	0 °C ... 55 °C
Ambient temperature (storage/transport)	-25 °C ... 70 °C
Permissible humidity (operation)	100 %
Permissible humidity (storage/transport)	95 % (no condensation)
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	IP67, when screwed together
Note	Seal unused slots/connections to ensure the degree of protection.

Interface

Fieldbus system	INTERBUS
Name	Remote bus
Connection method	Optic fiber (polymer fiber 980/1000 µm)
Transmission speed	500 kBaud

Transmission physics	FO

Power supply for module electronics

Supply voltage	24 V DC
Supply voltage range	18.5 V ... 32 V (including ripple)
Ripple	Max 3.6 V_{pk-pk} within the permissible voltage range
Current consumption	120 mA

Digital inputs

Input name	Digital inputs
Connection method	2, 3, 4-wire
Number of inputs	16
Protective circuit	Electronic short-circuit/overload protection for each group
Input voltage range "0" signal	0 V ... 5 V
Input voltage range "1" signal	11 V ... 32 V
Typical input current per channel	50 mA

Certificates / Approvals

Certification	CUL, GOST, UL

Accessories

Item	Designation	Description
Assembly		
2731128	IBS RL AP	Mounting plate for Ruggedline devices
2819969	IBS RL PROT-LK	Transport protection for optic fiber bus connection
Cable/conductor		
2820000	IBS PWR/5	Power supply cable, gray, welding-splash-resistant in standard applications, 5 x 1.5 mm², sold by the meter
2731775	IBS PWR/5HD/F	Power supply cable, gray, welding-splash-resistant in standard applications, 5 x 1.5 mm², highly stranded, sold by the meter
2819956	IBS RL CABLE POF/	Assembled cable sets with fiber optic bus connectors, sold by the meter

2733029	IBS RL CONNECTION-LK	Assembled cable jumper as a short connection between two INTERBUS Rugged Line devices with fiber optic bus connectors and power supply, approximately 30 cm
2744319	PSM-LWL-KDHEAVY-980/1000	Polymer fiber cable, duplex 980/1000 µm, medium-weight version for permanent indoor installation, by the meter, without connector
2744322	PSM-LWL-RUGGED-980/1000	Polymer fiber cable, duplex, 980 µm/1000 µm, heavy version for permanent indoor installation, sold by the meter without connectors
2744335	PSM-LWL-RUGGED-FLEX-980/1000	Polymer fiber cable, duplex 980/1000 µm, heavy-weight, highly flexible version for flexible conduit applications, by the meter, without connector

General

2743705	IBS RL SYS PRO UM	User manual, German, for configuring and installing the Rugged Line product range, only available as a download.
1641769	SACC-M12MS-4QO-0,75	Sensor/actuator connector, plug, straight, 4-pos., M12, A-coded, QUICKON-ONE, plastic knurl, cable diameter max. 8 mm

Marking

2734727	IBS RL MARKER-G-SET	100 large metal marking labels
2734730	IBS RL MARKER-K-SET	100 small metal marking labels
2732729	IBS RL MARKER-SET	Set of 50 small and 50 large metal marking labels

Plug/Adapter

2780878	IBS CCO-PSF/L	M23 power supply connector, female connector, 6-pos.
2759906	IBS CCO-PSM/L	M23 power supply connector, male connector, 6-pos.
2759883	IBS CCO-R/L	M23 solder connection for bus connector set, male/female connector, 9-pos. (8+1)
2732635	IBS OPTOSUB-MA/M/R-LK-OPC	INTERBUS fiber optic converter for converting the remote OUT interface to fiber optics, correction of the optical transmission capacity, FO output right
2725040	IBS RL 24 ADAP-LK/T	INTERBUS Rugged Line adapter for converting the fiber optic remote bus to a copper wire remote bus
2725037	IBS RL 24 ADAP-T/LK	INTERBUS Rugged Line adapter for converting the copper wire remote bus to a fiber optic remote bus
2731076	IBS RL PLUG-LK/POF	Connector for the fiber optic bus with polymer fiber cable and for the power supply with screw connection method
2734183	IBS RL PLUG-LK/POF-F	Connector for the fiber optic bus with polymer fiber cable and for the power supply with spring-cage connection method
1683455	SAC-3P-M12Y/2XM12FS PE	Y-distributor, 3-pos. +PE, straight connector M12 on 2 x straight socket M12

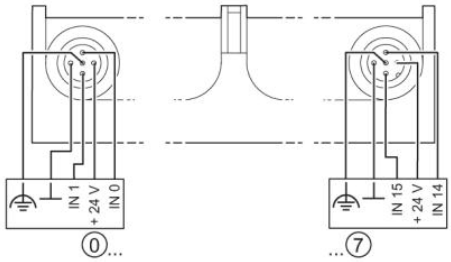
Tools

2725121	IBS RL ADAP FO	Measuring device adapter for INTERBUS Rugged Line devices

2725147	IBS RL FOC	Fiber cutter for assembling polymer fiber cables for connecting INTERBUS Rugged Line devices
1206146	KAMES LWL	Cable knife for polymer fiber, for external sheath
2799539	PSM-FO-POWERMETER	Fiber optic measuring case, consisting of an optical power meter, F-SMA, B-FOC adapters, reference fibers and operating instructions
2744131	PSM-POF-KONFTOOL	Polymer fiber DIY case, consisting of: Stripping knife, stripping pliers, polishing wheels for F-SMA and SCRJ quick mounting connectors, polishing pad and emery paper

Diagrams/Drawings

Connection diagram



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