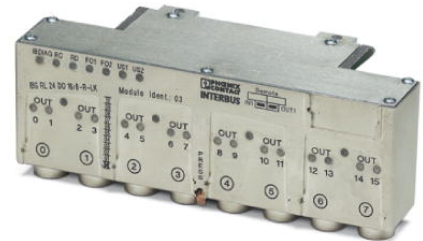


IBS RL 24 DO 16/8-R-LK


Order No.: 2734170



<http://eshop.phoenixcontact.de/phoenix/treeViewClick.do?UID=2734170>

Digital output device for INTERBUS, fiber optic technology with 500 kbaud, 16 readback outputs (24 V DC), actuator connection via 5-pos. M12 female connectors, rugged metal housing, IP67 degree of protection



| Commercial data | |
|--------------------------|--|
| GTIN (EAN) |  4 017918 819194 |
| sales group | K521 |
| Pack | 1 pcs. |
| Customs tariff | 85176200 |
| Catalog page information | Page 285 (AX-2011) |

Product notes

WEEE/RoHS-compliant since:
11/27/2007



<http://www.download.phoenixcontact.com>
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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 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 | 810 g |
| Note on weight specifications | Without connector or mounting plate |
| Mounting type | Wall mounting |
| Ambient temperature (operation) | -20 °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) | 800 hPa ... 1060 hPa (up to 2000 m above sea level) |
| Air pressure (storage/transport) | 700 hPa ... 1060 hPa (up to 3000 m above sea level) |
| Degree of protection | IP67, when screwed together |
| 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 |

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 DC ... 32 V DC (including ripple) |
| Ripple | Max 3.6 V _{pk-pk} within the permissible voltage range |
| Supply current | Typ. 120 mA |
| Current consumption | 120 mA |

Digital outputs

| | |
|------------------------------------|---|
| Output name | Digital outputs |
| Connection method | 2, 3-wire |
| Number of outputs | 16 |
| Protective circuit | Electronic short-circuit/overload protection for each channel |
| Output voltage | 24 V DC |
| Nominal output voltage | 24 V DC |
| Maximum output current per channel | 500 mA |
| Maximum output current per module | 4 A |
| Nominal load, inductive | 12 VA (1.2 H; 48 Ω) |
| Nominal load, lamp | 12 W |
| Nominal load, ohmic | 12 W |

Certificates / Approvals



Certification CUL, UL

Accessories

| Item | Designation | Description |
|-----------------|----------------|---|
| Assembly | | |
| 2731128 | IBS RL AP | Mounting plate for Ruggedline devices |
| 2819969 | IBS RL PROT-LK | Transport protection for optical fiber bus connection |

Cable/conductor

| | | |
|---------|------------------------------|---|
| 2820000 | IBS PWR/5 | Power supply cable, gray, welding-splash-resistant in standard applications, 5 x 1.5 mm ² , sold by the meter |
| 2731775 | IBS PWR/5HD/F | Power supply cable, gray, welding-splash-resistant in standard applications, 5 x 1.5 mm ² , 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 |

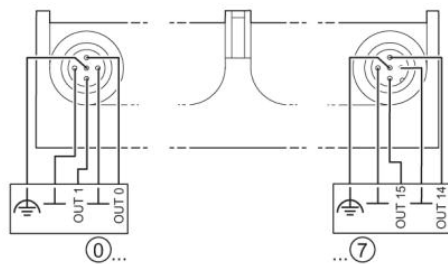
| | | |
|---------|------------------------|--|
| 2734183 | IBS RL PLUG-LK/POF-F | Connector for the fiber optic bus with polymer fiber cable and for the power supply with spring-cage connection method |
| 1683455 | SAC-3P-M12Y/2XM12FS PE | Y-distributor, 3-pos. +PE, straight connector M12 on 2 x straight 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



Address

PHOENIX CONTACT Inc., USA
586 Fulling Mill Road
Middletown, PA 17057, USA
Phone (800) 888-7388
Fax (717) 944-1625
<http://www.phoenixcon.com>



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