

Motor starter - IBS RL 400 MLR R DIO6/1 LK2MBD - 2731830

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Electromechanical reversing load motor starter for INTERBUS; fiber optic technology with 2 Mbaud, inputs (24 V DC), integrated motor protection relay (220 V AC to 440 V AC; 8 A, maximum), sensor connection via 5-pos. M12 female connectors, rugged metal housing, IP67 protection

Your advantages

- ✓ Rugged metal housing
- ✓ Emergency operation on the device or via external operating elements
- ✓ Comprehensive diagnostic functions including motor current monitoring
- ✓ M12 connector for digital inputs
- ✓ Rugged Line connector for INTERBUS with fiber optic and supply voltage
- ✓ COMBICON connector for motor output



Key Commercial Data

Packing unit	1 pc
GTIN	 4 017918 901820
GTIN	4017918901820
Weight per Piece (excluding packing)	3,800.000 g
Custom tariff number	85389091
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	185.1 mm
Height	193 mm
Depth	138 mm

Ambient conditions

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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

Interfaces

Designation	INTERBUS
Connection method	Fiber optics
Transmission speed	2 Mbps

Power supply for module electronics

Supply voltage	24 V DC
Supply voltage range	18.5 V DC ... 32 V DC (including ripple)
Ripple	3.6 V _{pp}

Mains connection

Designation	Mains connection
Connection method	POWER-COMBICON with silver contacts
Designation connection point	Terminal strip X11 and X12
Number of positions	4
Permissible conductor cross section	2.5 mm ² ... 4 mm ²
Operating voltage	200 V AC ... 440 V AC (conductor voltage)
Max. current carrying capacity	20 A

Motor starter, output

Connection method	POWER-COMBICON
Number	1
Designation connection point	X10
Number of positions	8
Pg screw connection	Pg16
Operating voltage	200 V AC ... 440 V AC
Frequency range	50 Hz ... 60 kHz
Nominal current range	0.2 A ... 8 A (parameterizable, observe derating)
Utilization category	on the basis of AC 3
Switching rate	max. 5 cycles per minute
Motor startup time	1 s

Motor monitoring

Parameterization	Via INTERBUS
Overspeed tripping	≥ 40 A (after 1 second at I _{nom} > 3.6 A)

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Technical data

Motor starter, brake

Continuous load current	max. 1 A
Type of contact	Mechanical relay contact
Connection technology	POWER-COMBICON terminal strips
Connection voltage	12 V AC/DC ... 440 V AC/DC

Digital inputs

Input name	Digital inputs
Number of inputs	6
Connection method	M12 connector
Connection technology	3, 4-wire
Number of positions	5
Input voltage	24 V DC (DIN EN 61131-2)
Input voltage range "0" signal	0 V ... 5 V
Input voltage range "1" signal	11 V ... 30 V
Typical input current per channel	5 mA (for $U_{S1} = 24$ V)
Filter time	3 ms
Power supply for sensors	$U_{IN1} = U_{S1}$ minus 1 V 50 mA Protected against inductive reverse voltages, electronically protected against short-circuiting

Digital outputs

Output name	Digital outputs
Number of outputs	1
Connection method	M12 connector
Number of positions	5
Output current	0.5 A
Minimum output voltage with nominal current	U_{S1} minus 2 V
Type of protection	Electronic short-circuit/overload protection

General

Mounting type	Wall mounting
Net weight	3800 g
Diagnostics messages	Mains failure, phase failure, blown fuse Error message in diagnostic code (bus) and display by means of the E LED on the motor starter
	Motor connector not plugged in, motor temperature exceeded, thermistor line short-circuited Error message in diagnostic code (bus) and display by means of the E LED on the motor starter
	Sensor supply failure Error message in diagnostic code (bus) and display by means of the E LED on the motor starter
	Failure of the actuator supply Error message in diagnostic code (bus) and display by means of the E LED on the motor starter
	Motor overcurrent Error message in diagnostic code (bus) and display by means of the E LED on the motor starter
	Output stage cannot be controlled Error message in diagnostic code (bus) and display by means of the E LED on the motor starter
	Module error during self test Message to the master

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Technical data

General

Mounting type	on mounting plate
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Standards and Regulations

Air clearances and creepage distances	according to EN 50178: 1998
Protection class	I (MЭК 61140, EN 61140, VDE 0140-1)

Environmental Product Compliance

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

Classifications

eCl@ss

eCl@ss 4.0	27250300
eCl@ss 4.1	27250300
eCl@ss 5.0	27250300
eCl@ss 5.1	27242600
eCl@ss 6.0	27242600
eCl@ss 7.0	27242609
eCl@ss 8.0	27242609
eCl@ss 9.0	27242609

ETIM

ETIM 2.0	EC001433
ETIM 3.0	EC001605
ETIM 4.0	EC001605
ETIM 5.0	EC001605
ETIM 6.0	EC001605
ETIM 7.0	EC001605

UNSPSC

UNSPSC 6.01	43172015
UNSPSC 7.0901	43201404
UNSPSC 11	43172015
UNSPSC 12.01	43201404
UNSPSC 13.2	32151602
UNSPSC 18.0	32151602
UNSPSC 19.0	32151602
UNSPSC 20.0	32151602
UNSPSC 21.0	32151602

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Approvals

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VDE Zeichengenehmigung / INTERBUS CLUB

Ex Approvals

Approval details

VDE Zeichengenehmigung		http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx	40015947
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INTERBUS CLUB	448/29.07.05
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Accessories

Accessories

Assembly element

Lower mounting part - IBS RL AP - 2731128



Mounting plate for Ruggedline devices

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

Cable by the meter

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Accessories

Cable - IBS PWR/5HD/F - 2731775



Power supply cable, gray, welding-splash-resistant in standard applications, 5 x 1.5 mm², highly flexible, sold by the meter

Cable - IBS PWR/5 - 2820000



Power supply cable, gray, welding-splash-resistant in standard applications, 5 x 1.5 mm², sold by the meter

Connector set

Connector set - IBS RL MLR PLSET R-8A - 2740504



Accessory set comprising: connectors and Pg screw connections

Data cable by the meter

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



Polymer fiber cable, duplex 980µm/1000µm, heavy-weight version for installation in stationary systems and machines, by the meter without male connector

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



Polymer fiber cable, duplex 980/1000 µm, heavy-weight, highly flexible version for flexible conduit applications, by the meter, without connector

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Accessories

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



Polymer fiber cable, duplex 980 µm/1000 µm, medium-weight version for installation in stationary systems and machines, by the meter without male connector

Labeling panel

Marking label - IBS RL MARKER-SET - 2732729



Set of 50 small and 50 large metal marking labels

Operator interface

Operator panel - IBS HVO/M12 - 2837006



Handheld operator panel, for INTERBUS motor starters and INTERBUS variable frequency drives in IP54 protection

Plug

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

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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Accessories

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

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.