

## IB IL 400 MLR 1-8A

Order No.: 2727365

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Inline power-level terminal blocks, electronic direct starter, up to  
3.7 kW / 400 V AC

Commercial data	
GTIN (EAN)	4017918168483
sales group	K415
Pack	1 pcs.
Customs tariff	85389091
Weight/Piece	0.68 KG
Catalog page information	Page 309 (AX-2009)

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### Product description

The INTERBUS Inline power-level terminals allow three-phase standard motors to be switched, protected, and monitored via INTERBUS.

The terminal blocks are available in the product range as direct-on-line and reversing starters as electronic and electro-mechanical versions.

Each power-level terminal block is equipped with electronic motor protection and provides the same advantages as the INTERBUS motor starter, such as motor current monitoring, overcurrent protection and overspeed tripping in acc. with IEC. The integrated controller allows motor current parameterization via INTERBUS in the ranges from 15 W to 1.5 kW and from 0.1 to 3.7 kW.

As with all Inline automation terminals, the power-level terminals are snap-on versions and can be installed on the DIN rail without the need for tools.

Labeling is carried out directly on the module using the familiar Zack strip and a snap-on marking tag with a generous area for labeling.

The features include:

- Mains voltage up to 400 V AC 3~
- Mains output capacity: Electronic: 15 W to 1.5 kW, Electro-mechanical version: 0.1 kW to 3.7 kW,
- Manual operation on-site without bus possible
- Optional extension with brake function and
- Thermal motor monitoring using the Inline thermistor terminal

#### Technical data

##### Interface

Fieldbus system	Lokalbus
Name	Inline local bus
Type of connection	Inline data jumper
Transmission speed	500 kBaud 500 kBit/s
Transmission physics	Copper

##### Power supply for module electronics

Type of connection	Through the potential jumper
Name	Terminal strips X11 and X12

##### Mains connection

Name	Mains connection
Type of connection	Power connector or power bridge
Designation connection point	Terminal strip; X11 and X12
Number of positions	5
Permissible conductor cross section	max. 2.5 mm <sup>2</sup> (L1+L2+L3+N-PE)
Operating voltage	187 V AC ... 500 V AC +0 % (conductor voltage)
Max. current carrying capacity	20 A

##### Motor starter, output

Type of connection	(3-phase), via COMBICON
No.	1
Output name	Motor outputs (three phases), short-circuit-proof with external line protection fuse 20 A
Designation connection point	Terminal strip; X10
Number of positions	4

Permissible conductor cross section	1 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Operating voltage	200 V AC ... 600 V AC +0 %
Frequency range	50 Hz ... 60 Hz
Nominal current range	0.2 A ... 8 A
Switching rate	Max. 5 cycles per minute

**Motor monitoring**

Parameterization range	0.2 A ... 8 A (steps of 50/100/200 mA, via fieldbus)
Overspeed tripping	≥ 40 A (after 0.3 seconds)

**Thermistor input**

Number of inputs	2
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**Inline potential routing**

Communications voltage U <sub>L</sub>	7.5 V
Current consumption from U <sub>L</sub>	max. 45 mA
Segment power supply voltage U <sub>S</sub>	24 V DC (nominal value)
Current consumption from U <sub>S</sub>	max. 160 mA

**General data**

Width	63 mm
Height	224 mm
Depth	109 mm
Weight	550 g
Note on weight specifications	Without plug
Mounting type	DIN rail
Ambient temperature (operation)	-25 °C ... 55 °C
Ambient temperature (storage/transport)	-25 °C ... 85 °C
Permissible humidity (operation)	75 % ... 85 % (75% average, 85% seldom)
Permissible humidity (storage/transport)	75 % ... 85 % (75% average, 85% seldom)
Air pressure (operation)	70 kPa ... 106 kPa (up to 3000 m above mean sea level)
Air pressure (storage/transport)	70 kPa ... 106 kPa (up to 3000 m above mean sea level)
Degree of protection	IP20 in acc. with IEC 60529
Class of protection	I, IEC 60536/VDE 0106
Note	Notes on operation Line protection for the network supply line, max. 20 A. Observe derating of the POWER-COMBICON plug connector

Test section	Supply voltage UL/400 V level 1.2 kV AC 50 Hz 1 min
	Supply voltage US/400 V level 1.2 kV AC 50 Hz 1 min
	Supply voltage US/brake control switch 1.2 kV AC 50 Hz 1 min
	Supply voltage UL/brake control switch 1.2 kV AC 50 Hz 1 min
	Remote bus/400 V level 1.2 kV AC 50 Hz 1 min
	Remote bus/Brake control switch 1.2 kV AC 50 Hz 1 min
Electromagnetic compatibility	Conformance with EMC directive 89/336/EEC
Conformance with EMC directives	Test for immunity to interference in acc. with EN 50082-2:1995 Discharge of electrostatic electricity (ESD) EN 61000-4-2:1995/ IEC 61000-4-2 6 kV contact discharge, criterion B; 8 kV air discharge, criterion B
	Electromagnetic fields EN 61000-4-3:1993/IEC 61000-4-3 Criterion A; field strength: 3 V/m
	Fast transients (Burst) EN 61000-4-4:1995/IEC 61000-4-4 Criterion B; Supply lines: 2 kV; Signal/data lines: 2 kV
	Transient surge voltage (Surge) EN 61000-4-5:1995/IEC 61000-4-5 Criterion B; supply lines DC: 0.5 kV/0.5 kV (symm./ asymm.); criterion B; supply lines AC: 2 kV/4 kV (symm./asymm.)
	Conducted interference EN 61000-4-6:1993/IEC 61000-4-6 Criterion A; Test voltage 10 V
Emitted interference	Test of emitted interference, housing, in acc. with EN 50081-2:1993 EN 55011:1991 class A
Mechanical tests	Vibration resistance in acc. with IEC 60068-2-6 1g, evaluation criterion 1
	Shock test in acc. with IEC 60068-2-27 10 g, evaluation criterion 1
Diagnostics messages	Overcurrent Error message in the diagnostic code (bus) and display via the LED ERR on the module
	Output stage cannot be controlled Error message in the diagnostic code (bus) and display via the LED ERR on the module
	Module error during self test Message to the master

### Certificates / Approvals



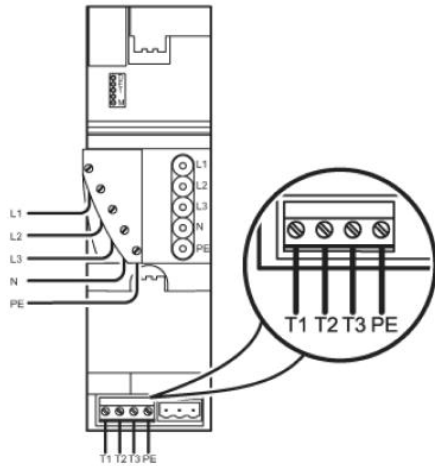
Certification

CUL Listed, GOST, TUEV-N, UL Listed

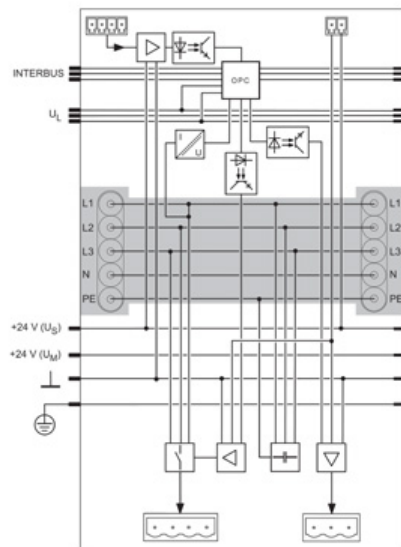
<b>Accessories</b>		
Item	Designation	Description
<b>Assembly</b>		
2860947	IB IL 400 CN-COV	Cover for 400 V mains connection of the Inline power terminal blocks
<b>Bridges</b>		
2836081	IB IL 400 CN-BRG	Power bridge, for Inline power-level terminal blocks
2836081	IB IL 400 CN-BRG	Power bridge, for Inline power-level terminal blocks
<b>General</b>		
2742036	IB IL 24 BR/DC	Inline expansion module, for brake control in connection with Inline power terminal blocks, brake module for 24 V DC brakes
2727394	IB IL 400 BR	Inline expansion module, for brake control in conjunction with Inline power level terminals, brake module for 440 V DC or 440 V AC brakes
<b>Handheld operator panel</b>		
2836052	IBS HVO	Handheld operator panel, for Inline power-level terminal blocks
<b>Marking</b>		
0809502	ESL 62X46	Insert strip for laser printer, lettering field: 62 x 46 mm
2727515	IB IL FIELD 8	Labeling field, width: 48.8 mm
<b>Plug/Adapter</b>		
1893957	GMVSTBW 2,5 HV/ 4-ST-7,62 NZIL	Motor-circuit connector, for Inline power-level terminal blocks
2836078	IB IL 400 CN-PWR-IN	Power connector

## Diagrams/Drawings

### Connection diagram

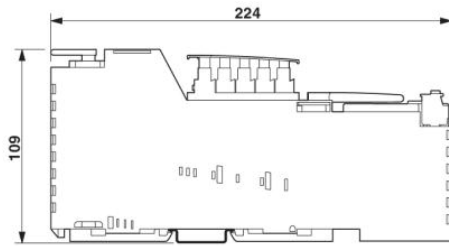


### Block diagram



Dimensioned drawing

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## FAQs

- **Do the motor starters have a motor protection relay or a motor protection switch?**

The INTERBUS Inline motor starters have a motor protection relay and not a motor protection switch. The motor starter must therefore have an external fuse (type gG, max. 20 A) in order for there to be short circuit protection.

- **How can errors that have been remedied be acknowledged?**

Errors can be acknowledged using bit 5 (RESET) or locally via the enable input (X32 pin 3) of the handheld operator panel.

- **How does the motor starter behave when phase L1, in which the current measurement is performed, fails?**

When the motor is switched on, the motor starter expects a current of at least 160 mA in the measured phase L1. If this current is not reached, the device switches off after 1 sec. with the message "Valve cannot be controlled". This mechanism only functions when minimum current evaluation is deactivated. If a fuse/phase fails in the branch in which no current measurement is performed, the motor runs in 2-phase operation when switched on. The current consumption of the motor is therefore considerably higher than in 3-phase operation, the motor protection relay triggers, and the motor switches off with the message "Overcurrent", provided the motor starter has been parameterized to the motor nominal current.

- **Must one take into account the asymmetry of a brake?**

As a rule, the current consumption of the brake is low in relation to the motor current and does not have to be taken into account further.

- **What is the purpose of contacts 1 and 2 of terminal strip X18?**

The power level is enabled with a bridge in terminal strip X18.

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