

Motor starter - IBS IP 400 ME-ELR 2-3A DI4 - 2732907

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Electronic motor starter, electronic module without lower part of housing, 2-channel direct starter



The figure shows the version IBS IP 400 ME-ELR R-3A

Product Description

The motor starter modules allow three-phase standard motors to be switched via INTERBUS and are available with two housing variants. The standard housing in IP54 protection is especially suited for direct use in machines and systems in conveyor technology, whereas the high-grade steel variant in IP67 protection is designed for installation in food industry systems. Since they are available in different versions, INTERBUS motor control switches cover the most important applications. The 1 and 2-channel motor starters allow direct drives to be controlled and there are reversing load versions for applications involving different drive directions. If different speeds are required, the variable frequency drives provide the right control.

Additional features include:

- Easy installation and pluggable connections
- Removable module electronics
- Power networking:


Motor starter 400 V AC / 20 A

Variable frequency drive 500 V AC / 20 A

- Comprehensive status and diagnostics displays on the module
- Startup without bus possible with manual operate function (with VFD also with RS -232)
- Initiator inputs for the connection of sensors and
- High-grade steel housing, which is extremely resistant to cleaning agents and
- Sheet steel housing, ideal for use in the plant, with pluggable cable feed-throughs for ready-assembled cable.



Key Commercial Data

Packing unit	1 pc
GTIN	 4 017918 173586
GTIN	4017918173586

Technical data

Note

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

Dimensions

Caption	The figure shows the product with lower part of the housing
Width	355 mm
Height	180 mm
Depth	100 mm
Note on dimensions	Module electronics without lower part
Drill hole spacing	386 mm

Ambient conditions

Ambient temperature (operation)	-20 °C ... 55 °C (non-condensing)
Ambient temperature (storage/transport)	-25 °C ... 75 °C
Permissible humidity (operation)	4 % ... 100 % (non-condensing)
Permissible humidity (storage/transport)	75 % (slight temporary condensation may sometimes appear on the housing)
Air pressure (operation)	86 kPa ... 106 kPa (up to 2000 m above sea level)
Air pressure (storage/transport)	86 kPa ... 106 kPa (up to 2000 m above sea level)
Degree of protection	IP54
Note	Notes on operation Line protection for the network supply line, max. 20 A. Observe derating of the POWER-COMBICON connector

Interfaces

Designation	INTERBUS
Connection method	MINI COMBICON
Designation connection point	X30 (IN) and X31 (OUT)
Number of positions	10
Permissible conductor cross section	max. 1.5 mm ²

Power supply for module electronics

Connection method	POWER-COMBICON
Designation	Terminal strip X13 and X15
Number of positions	2
Permissible conductor cross section	1.5 mm ² ... 4 mm ²
Pg screw connection	Pg16R
Supply voltage	24 V DC (U _{S1})
Supply voltage range	20 V DC ... 30 V DC (including ripple)
Ripple	Permissible ripple 3.6 V _{pp} within the permissible voltage range
Supply current	0.17 A (at U _{S1} = 24 V; plus current of digital inputs/outputs)
Max. current carrying capacity	16 A
Derating	From 30°C 0.1A/K

Mains connection

Designation	Mains connection
Connection method	POWER-COMBICON with silver contacts
Designation connection point	Terminal strip X11 and X12

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Mains connection

Number of positions	4
Permissible conductor cross section	2.5 mm ² ... 4 mm ²
Pg screw connection	Pg16
Operating voltage	360 V AC ... 440 V AC (line voltage 50/60 Hz)
Max. current carrying capacity	20 A

Motor starter, output

Connection method	POWER-COMBICON
Number	2
Output name	Motor outputs (3 phases), not short-circuit proof
Designation connection point	Terminal strip X10 and X14
Number of positions	8
Permissible conductor cross section	1 mm ² ... 1.5 mm ²
Pg screw connection	Pg16
Operating voltage	360 V AC ... 440 V AC (line voltage 50/60 Hz)
Frequency range	50 Hz ... 60 Hz (mains frequency)
Nominal current range	0.2 A ... 3.6 A
Utilization category	On the basis of AC 53a
Switching rate	max. 24 per minute (observe derating)
Motor startup time	0.5 s
Min. switch-on time	1 s
Min. switch-off time	1 s
Fuse type	Safety fuse 10 AT

Motor monitoring

Parameterization	Via INTERBUS
Parameterization range	0.2 A ... 3.6 A
Overspeed tripping	≥ 15 A (after 1 second)

Motor starter, brake

Number of outputs	1
Designation	Brake relays
Continuous load current	max. 0.3 A
Type of contact	Polarized semi-conductor contact
Connection technology	With POWER-COMBICON terminal strip of the motor connection (X10)
Connection voltage	12 V DC ... 620 V DC
Residual voltage	max. 2.5 V DC

Thermistor input

Designation	Thermistor input 1 (11, 12)
Sensor types that can be used (TC)	Kaltleiter nach DIN 44081:1980
Connection method	POWER-COMBICON terminal strips X10
Connection technology	2-wire

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Thermistor input

Operating range	100 Ω ... 2.5 kΩ (total resistance)
Shutdown_range	> 4000 Ω (excess temperature)
	≤ 10 Ω (short-circuit of the thermistor cable)
Maximum thermistor current	1 mA
Working voltage	2.5 V
Filter time	100 ms
Potential	Safe isolation to 24 V supply voltage U_{S1}

Operator panel

Input name	Input for the handheld operating panel
Number of inputs	3
Connection method	M12 connector, (A-coded)
Connection technology	Sockets X32
Number of positions	5
Typical input current per channel	approx. 5 mA (for $U_{S1} = 24 V$)
Filter time	3 ms
Potential	Potential of supply voltage U_{S1}

Digital inputs

Input name	Digital inputs
Number of inputs	4
Connection method	M12 connector
Connection technology	3, 4-wire
Number of positions	5
Input voltage	24 V DC (U_{S1})
Input voltage range "0" signal	-30 V ... 5 V (binary "0")
Input voltage range "1" signal	13 V ... 30 V (binary "1")
Typical input current per channel	approx. 5 mA (for $U_{S1} = 24 V$)
Filter time	3 ms
Power supply for sensors	$U_{NI} = U_{S1}$ minus 2 V DC 50 mA Against inductive reverse voltages, polarity reversal and short-circuits

Digital outputs

Output name	Digital outputs
Number of outputs	2
Connection method	M12 connector, (A-coded)
Connection technology	2-wire
Number of positions	5
Output current	max. 500 mA (per channel)
Minimum output voltage with nominal current	U_{S1} minus 2 V
Type of protection	Electronic short-circuit/overload protection, damping diode

General

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Technical data

General

Mounting type	Wall mounting
Net weight	3299 g
Note on weight specifications	Module electronics without lower part
Note	Notes on operation Line protection for the network supply line, max. 20 A. Observe derating of the POWER-COMBICON connector
	Notes on operation Permitted network type TN network, TT network, IT network available on request
Diagnostics messages	Mains failure, phase failure Error message in the diagnostic code (bus) and display via the LED ERR on the module
	Motor connector not plugged in, motor temperature exceeded, thermistor line short-circuited Error message in the diagnostic code (bus) and display via the LED ERR on the module
	Sensor supply failure Error message in the diagnostic code (bus) and display via the LED ERR on the module
	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
	Short-circuit or overload of the digital outputs Message in the diagnostic code
	Module error during self test Message to the master

Standards and Regulations

Air clearances and creepage distances	according to EN 50178: 1998
Noise emission	Test of emitted interference, housing, in acc. with EN 50081-2:1993 EN 55011:1991 class A
Mechanical tests	Shock in acc. with EN 60068-2-27/IEC 60068-2-27 10g, evaluation criterion 1
	Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6 2g, evaluation criterion 1
Protection class	I (MЭК 61140, EN 61140, VDE 0140-1)

Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Classifications

eCl@ss

eCl@ss 4.0	27250309
eCl@ss 4.1	27250309
eCl@ss 5.0	27250309
eCl@ss 5.1	27242609
eCl@ss 6.0	27242600
eCl@ss 7.0	27242609

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Classifications

eCl@ss

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 19.0	32151602

Accessories

Accessories

Connector set

Connector set - IBS ELR PLSET 2-3A - 2836816



Connector set for sheet steel versions, consisting of: Connectors, slot-in Pg screw connections, shield bracket and cover cap for unused screw connections, protective caps for unused sensor connections

Housing

Housing - IBS IP 400 MBH/MS - 2734125



Housing with integrated circuit breaker

Lower part of the housing

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Accessories

Mounting base housing - IBS IP 400 MBH - 2732871



Lower housing part, standard version, degree of protection: IP54

Operator interface

Operator panel - IBS HVO/M12 - 2837006



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

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