

## Motor management - EMM 3- 24DC/500AC-16-IFS - 2297523

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Electronic motor management with integrated current transformers up to 16 A - active power measurement for overload and underload monitoring of motors and systems for optimum protection. Freely parameterizable switching and signaling thresholds.

### Product Features

- Optional connection to INTERFACE system and PROFIBUS-GATEWAY-IFS via TBUS
- Digital outputs control external switching elements
- Freely parameterizable signaling or switching thresholds



### Key commercial data

Packing unit	1 pc
Weight per Piece (excluding packing)	240.0 GRM
Custom tariff number	85371099
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	22.5 mm
Height	99 mm
Depth	114.5 mm

#### Ambient conditions

Ambient temperature (operation)	-25 °C ... 70 °C
Ambient temperature (storage/transport)	-25 °C ... 70 °C
Degree of protection	IP20

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## Technical data

### Input data

Input name	Device supply
Rated control supply voltage $U_S$	24 V DC
Voltage range with reference to $U_S$	0.8 ... 1.25
Rated control supply current $I_S$	25 mA
Switching threshold "0" signal, voltage	9.6 V DC
Switching threshold "1" signal voltage	19.2 V DC
Operating voltage display	Green LED
Status display	LED yellow right rotation (R), LED yellow left rotation (L), LED green data communication
Indication	Red LED
Input name	Digital inputs (IN1 - IN4)
Rated actuating voltage $U_C$	24 V DC
Rated actuating current $I_C$	3.3 mA
Input name	Voltage measuring input V1, V2, V3
	Current measuring input L1/T1, L2/T2, L3/T3
Typical input current at $U_N$	max. 16 A

### Output data

Output name	Acknowledging contacts O1-O4
Note	The meaning of the acknowledgement outputs can be freely parameterized, see user manual
Number of outputs	4
Nominal output voltage	24 V DC (semiconductor output)
Nominal output voltage range (factor)	0.8 ... 1.25
Continuous load current	500 mA
Residual voltage	< 200 mV
Protective circuit/component	Suppressor diode
Surge voltage protection	> 33 V DC

### Output data, signaling contact

Name	Current measurement
Measuring via	Internal current transformer
Basic accuracy	typ. 0.5 %
Name	Voltage measurement/phase-to-neutral voltage
Voltage range	0 V AC ... 350 V AC (Phase-to-neutral voltage)
Basic accuracy	typ. 0.75 %
Name	Power measurement
Basic accuracy	typ. 2 %

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## Technical data

### Connection data

Connection method	Screw connection
Conductor cross section solid min.	0.14 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section stranded min.	0.14 mm <sup>2</sup>
Conductor cross section stranded max.	2.5 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	26
Conductor cross section AWG/kcmil max	12

### General

Test voltage input/output	8 kV
Mounting position	Vertical (horizontal DIN rail)
Assembly instructions	In rows with zero spacing
Operating mode	100% operating factor
Name	Low voltage switching device
Standards/regulations	EN 60947
	EN 60947-4-2
Name	Power station requirements
Standards/regulations	DWR 1300 / ZXX01/DD/7080.8d
Name	Noise immunity
Standards/regulations	EN 61000-6-2
	EN 61000-6-3
	EN 61000-6-4
Rated surge voltage / insulation	6 kV/safe isolation
Rated insulation voltage	500 V
Pollution degree	2
Surge voltage category	III

## Classifications

### eCl@ss

eCl@ss 4.0	27371102
eCl@ss 4.1	27371102
eCl@ss 5.0	27371601
eCl@ss 5.1	27371601
eCl@ss 6.0	27371601
eCl@ss 7.0	27371601
eCl@ss 8.0	27371601

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## Classifications

### ETIM

ETIM 2.0	EC000066
ETIM 3.0	EC000066
ETIM 4.0	EC000066
ETIM 5.0	EC001437

### UNSPSC

UNSPSC 6.01	30211915
UNSPSC 7.0901	39121514
UNSPSC 11	39121514
UNSPSC 12.01	39121514
UNSPSC 13.2	39121514

## Approvals

### Approvals

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#### Approvals

UL Listed / cUL Listed / cULus Listed

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#### Ex Approvals

ATEX

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#### Approvals submitted

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### Approval details

UL Listed
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cUL Listed
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## Motor management - EMM 3- 24DC/500AC-16-IFS - 2297523

### Approvals



### Accessories

#### Accessories

#### Configuration set

Configuration package - MM-CONF-SET - 2297992



Configuration package for the EMM ... IFS, comprising CONTACTRON-DTM-IFS, USB programming adapter, and user manual on CD.

#### Data cable preassembled

Data cable - IFS-USB-DATACABLE - 2320500



Used for communicating between industrial PCs and Phoenix Contact devices with the 12-pos. IFS data port, such as QUINT UPS or TRIO UPS.

#### DIN rail connector

Cable - ME 22,5 TBUS 1,5/ 5-ST-3,81 GN - 2707437



DIN rail connector for DIN rail mounting. Universal for TBUS housing. Gold-plated contacts, 5-pos.

#### Gateways/Proxies

## Motor management - EMM 3- 24DC/500AC-16-IFS - 2297523

### Accessories

Data interface - EM-PB-GATEWAY-IFS - 2297620



The PROFIBUS module EM-PB-GATEWAY-IFS, certified as per DPV1 specification (EN 50170), connects up to 32 motor management modules (EMM-...IFS) or other INTERFACE system devices via the TBUS DIN rail connector.

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### Memory block

Memory block - IFS-CONFSTICK-L - 2901103



Multi-functional memory block with handle for the INTERFACE system; for easy storage and back up of the configuration.

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Memory block - IFS-CONFSTICK - 2986122



Multi-functional memory block for the INTERFACE systemf for easy storage and backup of the configuration.

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### PCB plug

Printed-circuit board connector - MC 1,5/ 5-ST-3,81 - 1803604



Plug component, Nominal current: 8 A, Rated voltage (III/2): 160 V, Number of positions: 5, Pitch: 3.81 mm, Connection method: Screw connection, Color: green, Contact surface: Tin

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Printed-circuit board connector - IMC 1,5/ 5-ST-3,81 - 1857919



Plug component, Nominal current: 8 A, Rated voltage (III/2): 160 V, Number of positions: 5, Pitch: 3.81 mm, Connection method: Screw connection, Color: green, Contact surface: Tin

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## Accessories

Plug - IMC 1,5/ 5-ST-3,81SET IL IFS 2M - 1784729

Assembled connecting cable, IL-IFS, 2 m in length

## Required add-on products

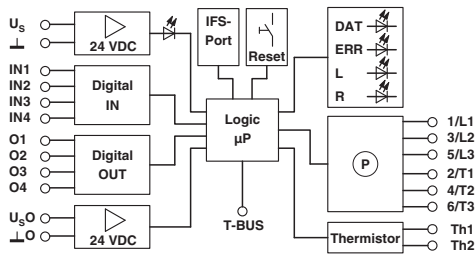
Data cable - IFS-USB-DATACABLE - 2320500



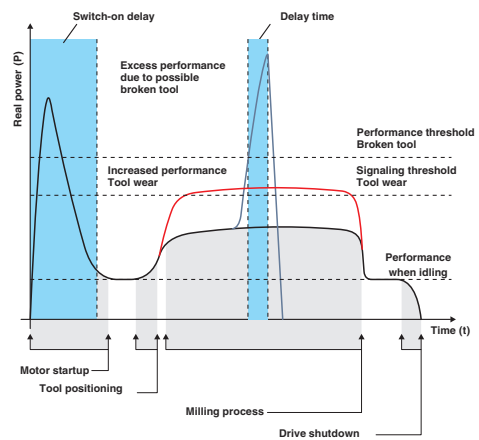
Used for communicating between industrial PCs and Phoenix Contact devices with the 12-pos. IFS data port, such as QUINT UPS or TRIO UPS.

## Drawings

Block diagram



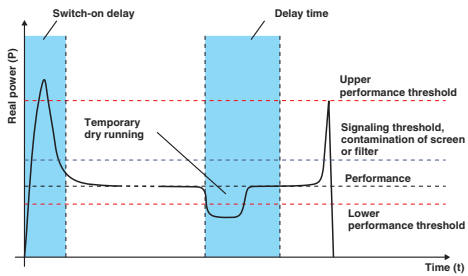
Diagram



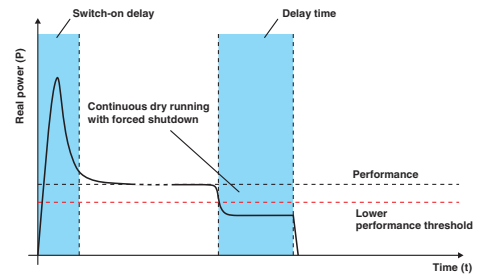
Status monitoring: machine tool for milling

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Diagram



Diagram



Status monitoring: air bubbles in motor-operated pumps

Status monitoring: dry run in motor-operated pumps

Connection diagram

