

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.

Your advantages

- ✓ 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
GTIN	 4 046356 175777
GTIN	4046356175777
Weight per Piece (excluding packing)	240.000 g
Custom tariff number	85371098
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

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Technical data

Ambient conditions

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

Input data

Input name	Device supply
Rated control circuit supply voltage U_S	24 V DC
Control supply voltage range	19.2 V DC ... 30 V DC
Rated control supply current I_S	25 mA
Switching threshold	9.6 V DC ("0" signal)
	19.2 V DC ("1" signal)
Input name	Digital inputs (IN1 - IN4)
Number of inputs	4 (IN1 - IN4)
Rated actuating voltage U_C	24 V DC
Rated actuating current I_C	3.3 mA

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)
Output voltage range	19.2 V DC ... 30 V DC
Continuous load current	500 mA
Residual voltage	< 200 mV
Protective circuit	Suppressor diode
Surge voltage protection	> 33 V DC

Current measurement

Measuring via	Internal current transformer
Basic accuracy	typ. 0.5 %

Voltage measurement/phase-to-neutral voltage

Voltage range	0 V AC ... 350 V AC (Phase-to-neutral voltage)
Basic accuracy	typ. 0.75 %

Power measurement

Power range	14 kW
Basic accuracy	typ. 2 %

General

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Technical data

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
Operating voltage display	Green LED
Status display	LED yellow right rotation (R), LED yellow left rotation (L), LED green data communication
Indication	Red LED

Connection data

Connection name	Control circuits
Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
Conductor cross section solid	0.2 mm ² ... 2.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross section AWG	24 ... 14

Connection data 2

Connection name	Load circuit
Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
Conductor cross section solid	0.2 mm ² ... 2.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross section AWG	24 ... 14

Standards and Regulations

Designation	Standards/regulations
Standards/regulations	DIN EN 50178
	EN 60947
	EN 60947-4-2

Conformance/approvals

Designation	ATEX
Identification	# II (2) G [Ex e] [Ex d] [Ex px]
	# II (2) D [Ex t] [Ex p]
Certificate	PTB 10 ATEX 3024
Designation	UL, USA/Canada
Certificate	NKCR.E140324

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Technical data

Conformance/approvals

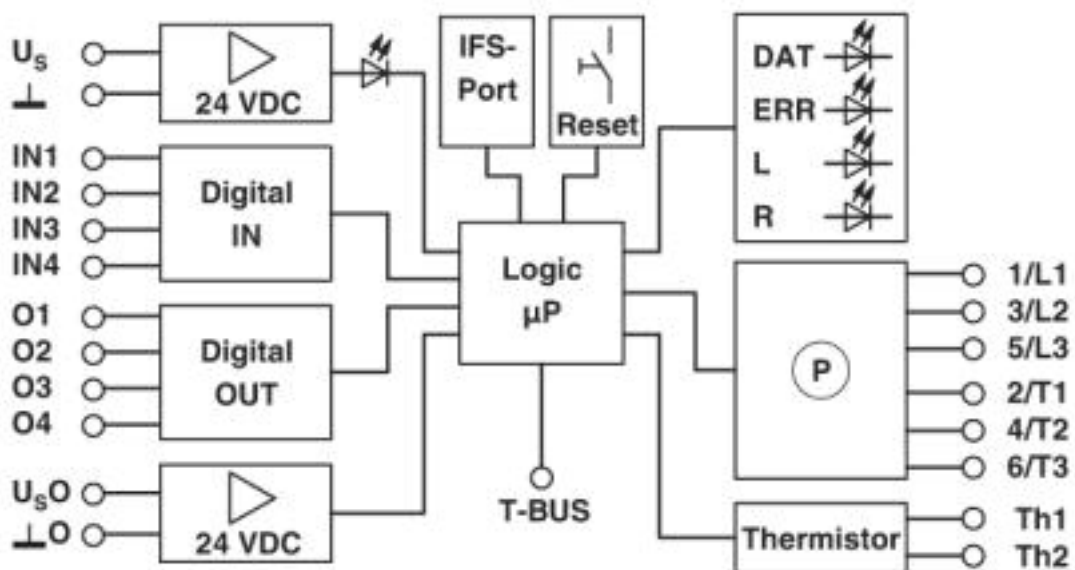
Designation	Safety Integrity Level (SIL, IEC 61508)
Identification	≤ 1
Additional text	Safe shutdown
Designation	Safety Integrity Level (SIL, IEC 61508)
Identification	1
Additional text	Motor protection
Designation	Category (ISO 13849)
Identification	≤ 1
Additional text	Safe shutdown
Identification	≤ b
Additional text	Safe shutdown

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

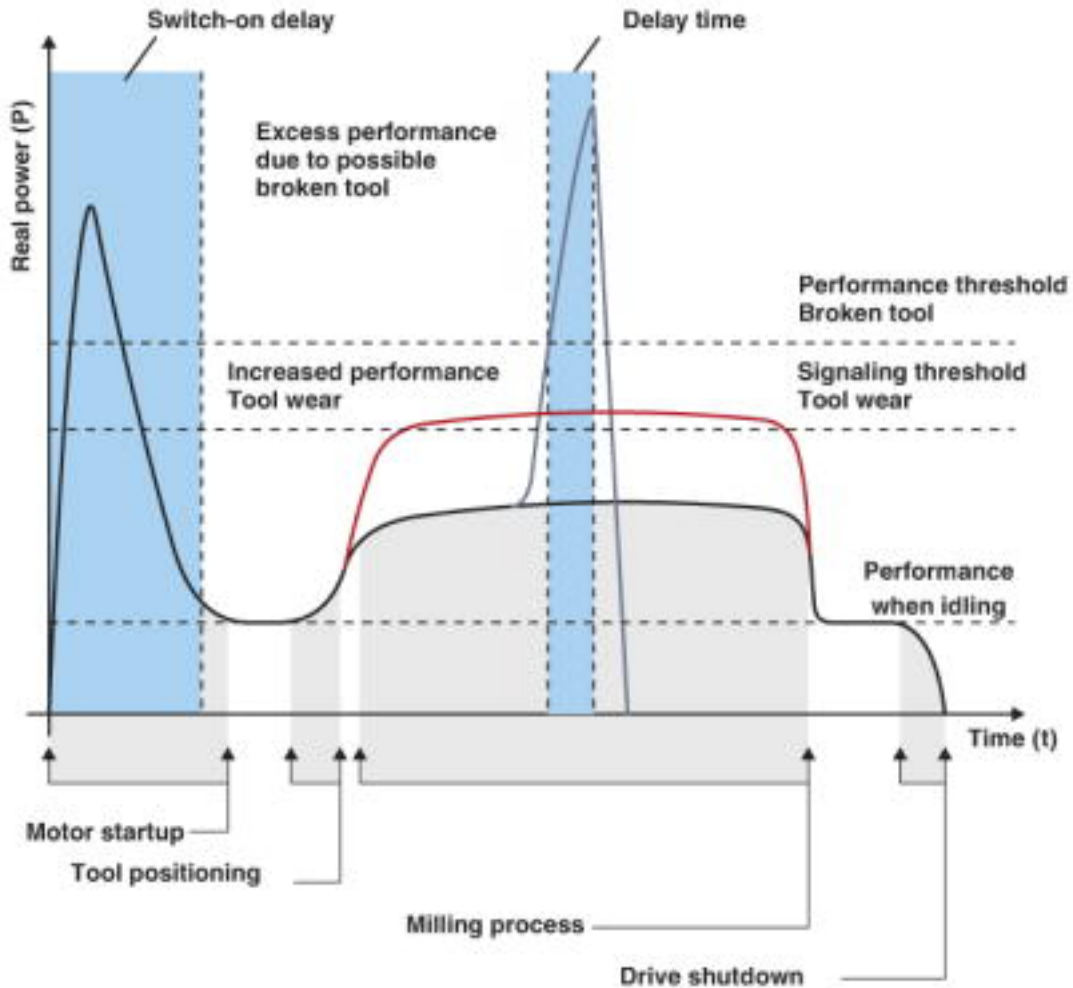
Drawings

Block diagram



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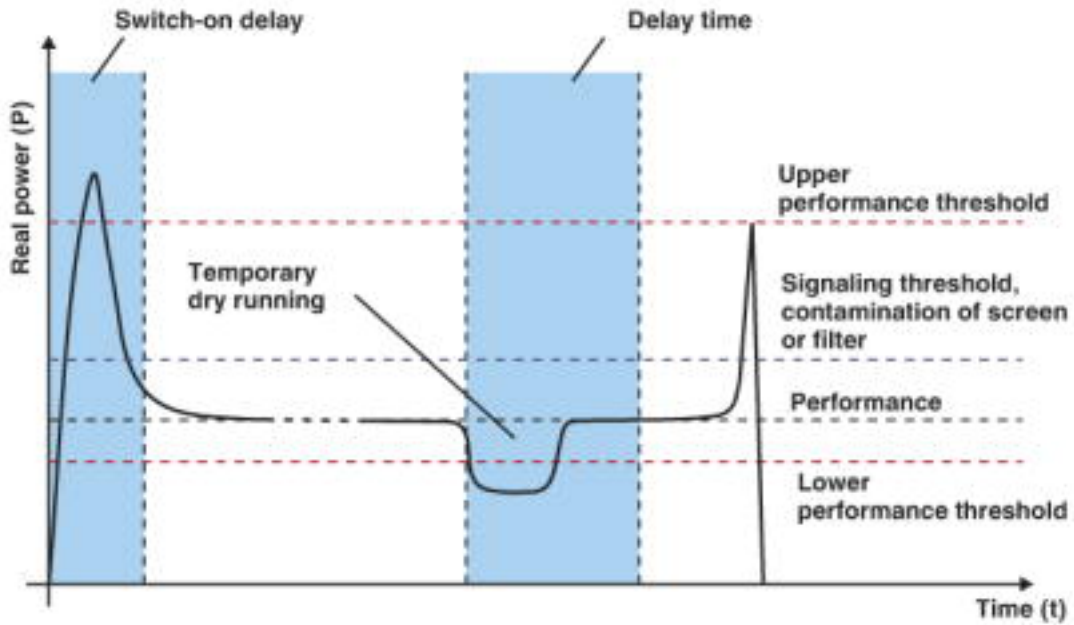
Diagram



Status monitoring: machine tool for milling

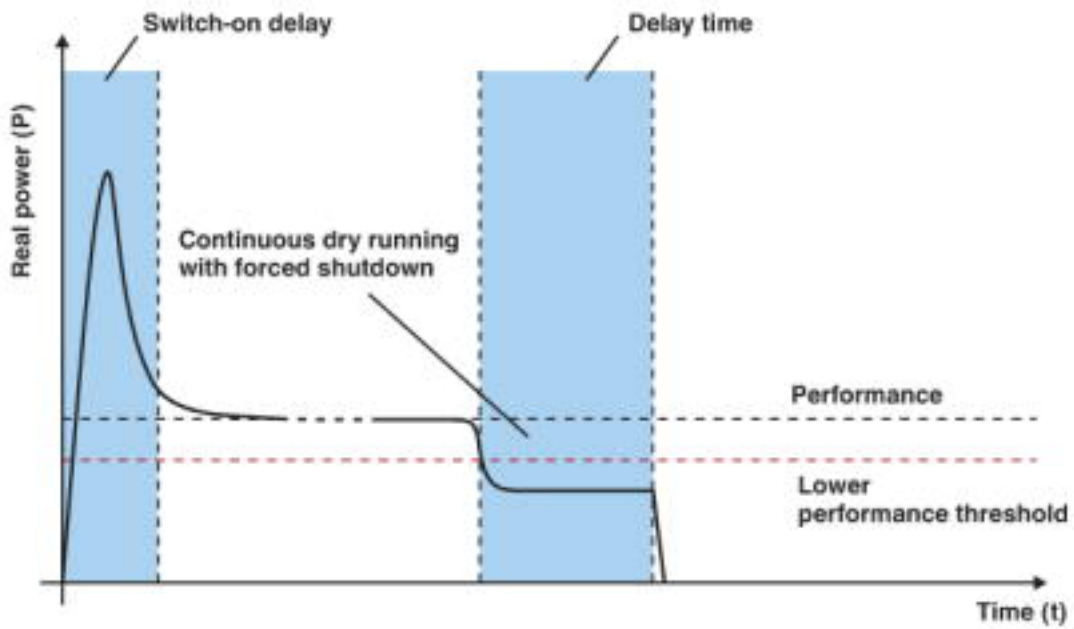
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Diagram



Status monitoring: air bubbles in motor-operated pumps

Diagram



Status monitoring: dry run in motor-operated pumps

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Classifications

eCl@ss

eCl@ss 4.0	27371100
eCl@ss 4.1	27371100
eCl@ss 5.0	27371600
eCl@ss 5.1	27371600
eCl@ss 6.0	27370800
eCl@ss 7.0	27370804
eCl@ss 8.0	27370804
eCl@ss 9.0	27370804

ETIM

ETIM 4.0	EC002572
ETIM 5.0	EC002572
ETIM 6.0	EC002572
ETIM 7.0	EC002572

UNSPSC

UNSPSC 6.01	30211915
UNSPSC 7.0901	39121514
UNSPSC 11	39121514
UNSPSC 12.01	39121514
UNSPSC 13.2	39121104

Approvals

Approvals

Approvals

UL Listed / cUL Listed / EAC / cULus Listed

Ex Approvals

ATEX

Approval details

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 140324
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Approvals

cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 140324
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EAC			RU C- DE.A*30.B.01082
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cULus Listed			
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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.

Device marking

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Accessories

Plastic label - US-EMLP (15X5) - 0828790



Plastic label, Card, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: adhesive, lettering field size: 15 x 5 mm

Plastic label - UC-EMLP (15X5) - 0819301



Plastic label, Sheet, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: adhesive, lettering field size: 15 x 5 mm

DIN rail connector

DIN rail bus connectors - ME 22,5 TBUS 1,5/ 5-ST-3,81 GY - 2201937



DIN rail connector, number of positions: 5, pitch: 3.81 mm

Gateways/Proxies

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



Gateway for the connection of up to 32 INTERFACE system devices to a higher-level controller via PROFIBUS DP. The INTERFACE system devices are connected to the Gateway via DIN rail connectors, the DIN rail connectors are provided.

Data interface - EM-RS232-GATEWAY-IFS - 2901526



Gateway for the connection of up to 32 INTERFACE system devices to a higher-level controller via Modbus/RS-232. The INTERFACE system devices are connected to the Gateway via DIN rail connectors, the DIN rail connectors are provided.

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Accessories

Data interface - EM-RS485-GATEWAY-IFS - 2901527



Gateway for the connection of up to 32 INTERFACE system devices to a higher-level controller via Modbus/RS-485. The INTERFACE system devices are connected to the Gateway via DIN rail connectors, the DIN rail connectors are provided.

Data interface - EM-MODBUS-GATEWAY-IFS - 2901528



Gateway for the connection of up to 32 INTERFACE system devices via Modbus/TCP to a higher-level controller. The INTERFACE system devices are connected to the Gateway via DIN rail connectors, the DIN rail connectors are provided.

Data interface - EM-DNET-GATEWAY-IFS - 2901529



Gateway for the connection of up to 32 INTERFACE system devices to a higher-level controller via DeviceNet™. The INTERFACE system devices are connected to the Gateway via DIN rail connectors, the DIN rail connectors are provided.

Data interface - EM-CAN-GATEWAY-IFS - 2901504



Gateway for the connection of up to 32 INTERFACE system devices to a higher-level controller via CANopen®. The INTERFACE system devices are connected to the Gateway via DIN rail connectors, the DIN rail connectors are provided.

Data interface - EM-PNET-GATEWAY-IFS - 2904472



Gateway for the connection of up to 32 INTERFACE system devices via PROFINET to a higher-level controller. The INTERFACE system devices are connected to the Gateway via DIN rail connectors, the DIN rail connectors are provided.

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Accessories

Data interface - EM-ETH-GATEWAY-IFS - 2901988



Gateway for the connection of up to 32 INTERFACE system devices to a higher-level controller via EtherNet/IP™. The INTERFACE system devices are connected to the Gateway via DIN rail connectors, the DIN rail connectors are provided.

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.

Memory block - IFS-CONFSTICK - 2986122



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

PCB plug

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



PCB connector, nominal current: 8 A, number of positions: 5, pitch: 3.81 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin

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



PCB connector, nominal current: 8 A, number of positions: 5, pitch: 3.81 mm, connection method: Screw connection with tension sleeve, 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

Necessary 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.
