

## Motor management - EMM 3- 24DC/500AC-IFS - 2297497

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Electronic motor management for operation with external current transformer- active power measurement for overload and underload monitoring of motors and systems for optimum protection for all performance classes. Freely parameterizable switching and signaling thresholds.

The figure shows version: EMM 3-24DC/500AC-16

### Product Features

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



### Key Commercial Data

|                                      |          |
|--------------------------------------|----------|
| Packing unit                         | 1 pc     |
| Weight per Piece (excluding packing) | 200.0 g  |
| 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 |
|-------------------------|---|

#### Input data

|  |                       |
|--|-----------------------|
| Input name                                 | Device supply         |
| Rated control circuit supply voltage $U_S$ | 24 V DC               |
| Voltage range with reference to $U_S$      | 0.8 ... 1.25          |
| 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) |

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## Technical data

### Input data

|                                |   |
|--------------------------------|---|
|                                | 19.2 V DC ("1" signal)  |
| 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  |
| Rated actuating voltage $U_c$  | 24 V DC   |
| Rated actuating current $I_c$  | 3.3 mA  |
| Input name                     | Voltage measuring input V1, V2, V3  |
| Input voltage range            | 42 V AC ... 575 V AC  |
| Typical input current at $U_N$ | < 0.5 mA  |
| Input name                     | Current measuring input L1/T1, L2/T2, L3/T3   |
| Typical input current at $U_N$ | 5 A (Secondary external converter)  |

### 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   |

### Current measurement

|                |   |
|----------------|---|
| Measuring via  | External push-through current transformers connected upstream |
| 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    | 4.5 kW () |
| Basic accuracy | typ. 2 %  |

### Connection data, control circuit

|                   |                  |
|-------------------|------------------|
| Connection name   | Control circuits |
| Connection method | Screw connection |

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## Technical data

### Connection data, control circuit

|                                  |   |
|----------------------------------|---|
| Stripping length                 | 8 mm  |
| Screw thread                     | M3  |
| Conductor cross section solid    | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Conductor cross section flexible | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Conductor cross section AWG      | 24 ... 14                                   |

### Connection data load circuit

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

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

## 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             |

## Standards and Regulations

|                       |                       |
|-----------------------|-----------------------|
| Designation           | Standards/regulations |
| Standards/regulations | DIN EN 50178          |
|                       | EN 60947              |

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## Technical data

### Standards and Regulations

|  |              |
|--|--------------|
|  | EN 60947-4-2 |
|--|--------------|

## 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 | 27370804 |

### ETIM

|          |          |
|----------|----------|
| ETIM 2.0 | EC000066 |
| ETIM 3.0 | EC000066 |
| ETIM 4.0 | EC000066 |
| ETIM 5.0 | EC002572 |

### 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 / EAC / cULus Listed

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#### Ex Approvals

#### ATEX

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## Approvals

Approvals submitted

### Approval details

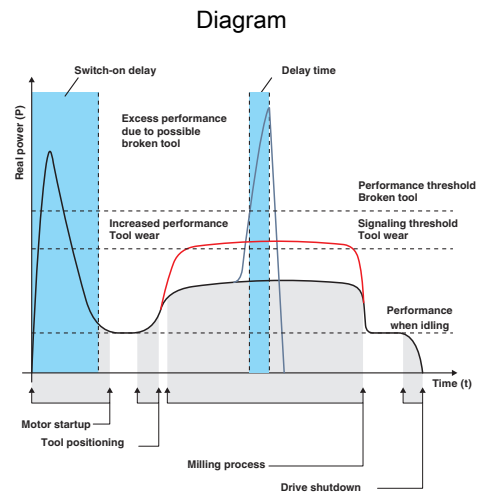
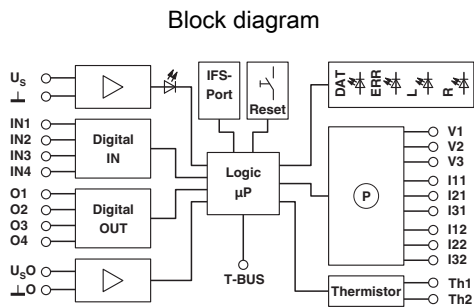
UL Listed

cUL Listed

EAC

cULus Listed

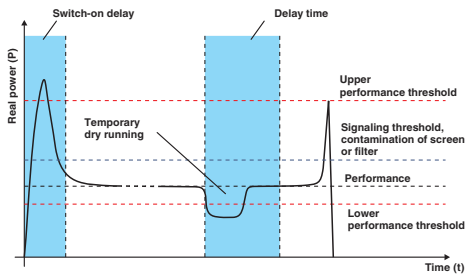
## Drawings



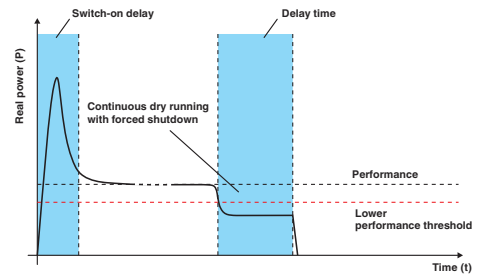
Status monitoring: machine tool for milling

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Diagram



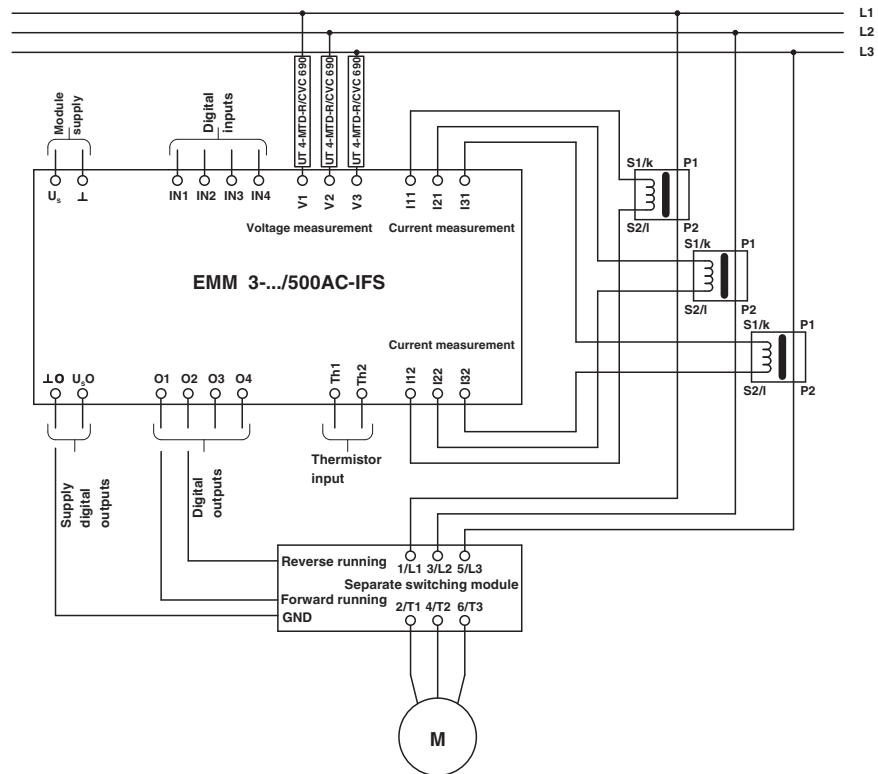
Diagram



Status monitoring: air bubbles in motor-operated pumps

Status monitoring: dry run in motor-operated pumps

Connection diagram



EMM 3-.../500AC-IFS with connected CONTACTRON VOLTAGE CONVERTER

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Connection diagram

