# EMM 3-24DC/500AC-90-EXM-IFS - Motor management

2908602

https://www.phoenixcontact.com/gb/products/2908602

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Electronic machine management for operation with an external current transformer (90 A) - precise energy measurement and active power measurement of motors, machines, and other 3-phase loads. Freely configurable switching/signaling thresholds. Order cables separately.

## Product description

Electronic machine management for operation with external current transformers (90 A) – Precise energy measurement, real power measurement, current and voltage measurement of motors, machines or other 3-phase loads. Freely parameterizable switching and signaling thresholds. As an option, can be networked with all common fieldbus systems via a gateway.

## Commercial data

| | |
|---|---|
| Item number | 2908602 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | DK7521 |
| Product key | DK7521 |
| GTIN | 4055626311777 |
| Weight per piece (including packing) | 384 g |
| Weight per piece (excluding packing) | 225.2 g |
| Customs tariff number | 85371098 |
| Country of origin | DE |

## Technical data

### Product properties

| | |
|---|---|
| Product type | Electronic motor manager |
| Product family | CONTACTRON |
| Operating mode | 100% operating factor |

### Electrical properties

| | |
|---|---|
| Number of phases | 3 |
| Maximum power dissipation for nominal condition | 2.5 W |

#### 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 $I_S$ | < 33 mA |

#### Insulation characteristics

| | |
|---|---|
| Rated insulation voltage | 500 V |
| Rated surge voltage | 6 kV |
| Overvoltage category | III |
| Degree of pollution | 2 |

### Input data

#### Digital inputs

| | |
|---|---|
| Number of inputs | 4 (IN1 - IN4) |
| Rated actuating voltage $U_C$ | 24 V DC |
| Triggering voltage range | 19.2 V DC ... 30 V DC |
| Rated actuating current $I_C$ | 3.3 mA |
| Switching threshold | 9.6 V (“0” signal) |
| | 19.2 V (“1” signal) |

#### Supply for digital outputs

| | |
|---|---|
| Nominal supply voltage | 24 V DC |
| Nominal supply voltage range | 19.2 V DC ... 30 V DC |

#### Power measurement

| | |
|---|---|
| Basic accuracy | typ. 0.25 % (Tu= 20 °C, U= 400 V, Cos Phi= 0,8) |
| Power range | 138 W ... 62 kW (400 V AC) |

#### Voltage measurement/star voltage

| | |
|---|---|
| Basic accuracy | typ. 0.5 % |
| Voltage range | 42 V AC ... 550 V AC |

#### Current measurement

| | |
|---|---|
| Basic accuracy | typ. 0.5 % |
| Current range | 0.2 A ... 90 A |

| | |
|---|---|
| Measuring via | External push-through current transformers connected upstream |

## 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 | < 100 mV |
| Protective circuit | Suppressor diode |
| Surge voltage protection | > 33 V DC |

## Connection data

### Control circuits

| | |
|---|---|
| Connection method | Screw connection |
| Stripping length | 8 mm |
| Screw thread | M3 |
| Conductor cross-section rigid | 0.14 mm² ... 2.5 mm² |
| Conductor cross-section flexible | 0.14 mm² ... 2.5 mm² |
| Conductor cross-section AWG | 26 ... 12 |
| Tightening torque | 0.5 Nm ... 0.6 Nm (5-7 lbs-in) |

### Load circuit

| | |
|---|---|
| Connection method | Screw connection |
| Stripping length | 8 mm |
| Screw thread | M3 |
| Conductor cross-section rigid | 0.14 mm² ... 2.5 mm² |
| Conductor cross-section flexible | 0.14 mm² ... 2.5 mm² |
| Conductor cross-section AWG | 26 ... 12 |
| Tightening torque | 0.5 Nm ... 0.6 Nm (5-7 lbs-in) |

### Signal connection on electronic management module (EMM)

| | |
|---|---|
| Connection method | D-SUB pin strip |
| Number of connections | 1 |
| Number of positions | 9 |

### Signal connection on current transformer module

| | |
|---|---|
| Connection method | D-SUB socket strip |
| Number of connections | 1 |
| Number of positions | 9 |

## Signaling

| | |
|---|---|
| Status display | LED (yellow) |

| | |
|---|---|
| Operating voltage display | Green LED |
| Error indication | Red LED |
| Data communication display | green LED |

## Dimensions

| | |
|---|---|
| Width | 22.5 mm |
| Width Current transformer | 138 mm |
| Height | 99 mm |
| Height Current transformer | 45 mm |
| Depth | 114.5 mm |
| Depth Current transformer | 56 mm |
| Diameter Primary circular conductor | 11 mm |

Current transformer

| | |
|---|---|
| Designation | Ext 90 CT |
| Width | 138 mm |
| Height | 45 mm |
| Depth | 56 mm |
| Primary round conductor (diameter) | 11 mm |

## Material specifications

| | |
|---|---|
| Color | gray (RAL 7042) |

## Environmental and real-life conditions

Ambient conditions

| | |
|---|---|
| Degree of protection | IP20 |
| Ambient temperature (operation) | -25 °C ... 50 °C |
| Ambient temperature (storage/transport) | -40 °C ... 80 °C |

## Approvals

UKCA

| | |
|---|---|
| Certificate | UKCA-compliant |

## Standards and regulations

Standards/regulations

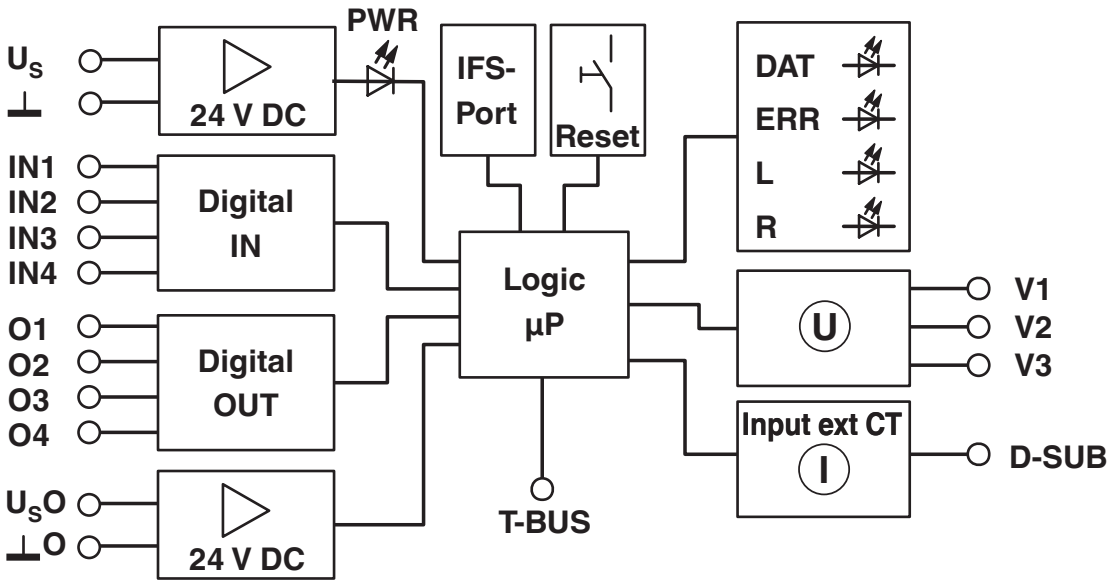
| | |
|---|---|
| Standards/regulations | EN 60947-1 |
| | EN 60947-4-2 |
| | EN 61000-6-2 |
| | EN 61000-6-3 |

## Mounting

| | |
|---|---|
| Mounting type | DIN rail mounting |
| Assembly note | in rows with zero spacing |
| Mounting position | any |

## Drawings

Block diagram



## Classifications

### ECLASS

| | |
|---|---|
| ECLASS-13.0 | 27370804 |

### ETIM

| | |
|---|---|
| ETIM 9.0 | EC002572 |

### UNSPSC

| | |
|---|---|
| UNSPSC 21.0 | 39121100 |

## Environmental product compliance

EU RoHS

| | |
|---|---|
| Fulfills EU RoHS substance requirements | Yes |
| Exemption | 6(c), 7(a), 7(c)-I |

China RoHS

| | |
|---|---|
| Environment friendly use period (EFUP) | EFUP-50 |
| | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |

EU REACH SVHC

| | |
|---|---|
| REACH candidate substance (CAS No.) | Lead(CAS: 7439-92-1) |
| SCIP | 962b7d63-a983-4b4b-a7c1-711b98e853e4 |


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