

# EEM-EM375 - Measuring instrument



2908581

<https://www.phoenixcontact.com/us/products/2908581>

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3-phase energy meter for active power measurement with current transformer measurement  
1 A/5 A in grids of up to 500 V, with S0 output, Ethernet interface, certified in accordance with the  
MID directive



## Commercial data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 2908581             |
| Packing unit                         | 1 pc                |
| Minimum order quantity               | 1 pc                |
| Sales key                            | C446                |
| Product key                          | CK4C11              |
| Catalog page                         | Page 205 (C-5-2019) |
| GTIN                                 | 4055626338248       |
| Weight per piece (including packing) | 450 g               |
| Weight per piece (excluding packing) | 444.9 g             |
| Customs tariff number                | 90283019            |
| Country of origin                    | IT                  |

## Technical data

### Product properties

|                            |                 |
|----------------------------|-----------------|
| Product type               | Energy meter    |
| Insulation characteristics |                 |
| Protection class           | II (EN 50470-1) |
| Insulation characteristics |                 |
| Pollution degree           | 2               |

### Electrical properties

|                   |                        |
|-------------------|------------------------|
| Electric strength | 6 kV                   |
|                   | 4 kV (EN 50470-3, 7.2) |

### Supply

|                      |                                   |
|----------------------|-----------------------------------|
| Supply voltage range | Supply from the measuring circuit |
|----------------------|-----------------------------------|

### Input data

#### Measurement

|                                  |                                       |
|----------------------------------|---------------------------------------|
| Input voltage range              | 3x 184 V ... 288 V (320 V ... 500 V)  |
| Input current range              | up to transformer ratio 10000         |
| Power consumption                | 3.5 VA (1 W)                          |
| Frequency range                  | 45 Hz ... 65 Hz                       |
| Start current $I_{st}$           | 0.002 A                               |
| Minimal current $I_{min}$        | 0.01 A                                |
| Maximum current $I_{max}$        | 6 A                                   |
| Transient current $I_{tr}$       | 0.05 A                                |
| Nominal current $I_{ref}$        | 1 A                                   |
| Secondary rated current $I_{sn}$ | 1 A                                   |
|                                  | 5 A                                   |
| Current transformer ratio        | 1 ... 10000 (max. 10000/1 or 50000/5) |
| Current transformer load         | 1.5 mΩ                                |
| Energy (EN 50470-3)              | Class B                               |
| Real energy (IEC 62053-21)       | Class 1                               |
| Reactive power (IEC 62053-23)    | Class 2                               |

### Output data

#### S0 output

|                           |                       |
|---------------------------|-----------------------|
| Output description        | Passive opto-isolated |
| Maximum switching voltage | 27 V DC               |
| Max. switching current    | 27 mA                 |
| Pulse time                | 50 ms ±2 ms           |
| Pause time                | 30 ms ±2 ms           |

|                |  |
|----------------|--|
| Pulse LED      | 10000 imp/kWh                                |
| Meter constant | 100 imp/kWh, kVAh, kvarh                     |
|                | 1000 imp/kWh, kVAh, kvarh (CT 1 ... 4)       |
|                | 200 imp/kWh, kVAh, kvarh (CT 5 ... 24)       |
|                | 40 imp/kWh, kVAh, kvarh (CT 25 ... 124)      |
|                | 8 imp/kWh, kVAh, kvarh (CT 125 ... 624)      |
|                | 1 imp/kWh, kVAh, kvarh (CT 625 ... 3124)     |
|                | 0.1 imp/kWh, kVAh, kvarh (CT 3125 ... 10000) |

## Connection data

### Measurement connection

|                                  |   |
|----------------------------------|---|
| Connection method                | Screw connection                          |
| Conductor cross section rigid    | 1.5 mm <sup>2</sup> ... 6 mm <sup>2</sup> |
| Conductor cross section flexible | 1.5 mm <sup>2</sup> ... 6 mm <sup>2</sup> |
| Conductor cross section AWG      | 16 ... 10 (rigid/flexible)                |
| Tightening torque                | 1.5 Nm                                    |

### Other connections

|                                  |  |
|----------------------------------|--|
| Connection method                | Screw connection                             |
| Conductor cross section rigid    | 0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Conductor cross section flexible | 0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Conductor cross section AWG      | 26 ... 16 (rigid/flexible)                   |
| Tightening torque                | 0.5 Nm                                       |

## Interfaces

### Communication

|                          |                      |
|--------------------------|----------------------|
| Communication protocol   | Modbus/TCP           |
|                          | HTTP                 |
|                          | NTP                  |
|                          | DHCP                 |
|                          | FTP                  |
| Communication standard   | IEEE 802.3           |
| Connection method        | RJ45                 |
| Transmission speed range | 10 Mbps ... 100 Mbps |

## Dimensions

|        |       |
|--------|-------|
| Width  | 72 mm |
| Height | 90 mm |
| Depth  | 67 mm |

## Environmental and real-life conditions

### Ambient conditions

|                              |              |
|------------------------------|--------------|
| Degree of protection (Front) | IP51 (Front) |
|------------------------------|--------------|

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|  |                    |
|--|--------------------|
| Degree of protection (Connections)             | IP20 (Connections) |
| Ambient temperature (operation)                | -25 °C ... 55 °C   |
| Ambient temperature (storage/transport)        | -25 °C ... 75 °C   |
| Max. permissible relative humidity (operation) | 80 %               |

## Approvals

CE

|             |              |
|-------------|--------------|
| Certificate | CE-compliant |
|-------------|--------------|

MID

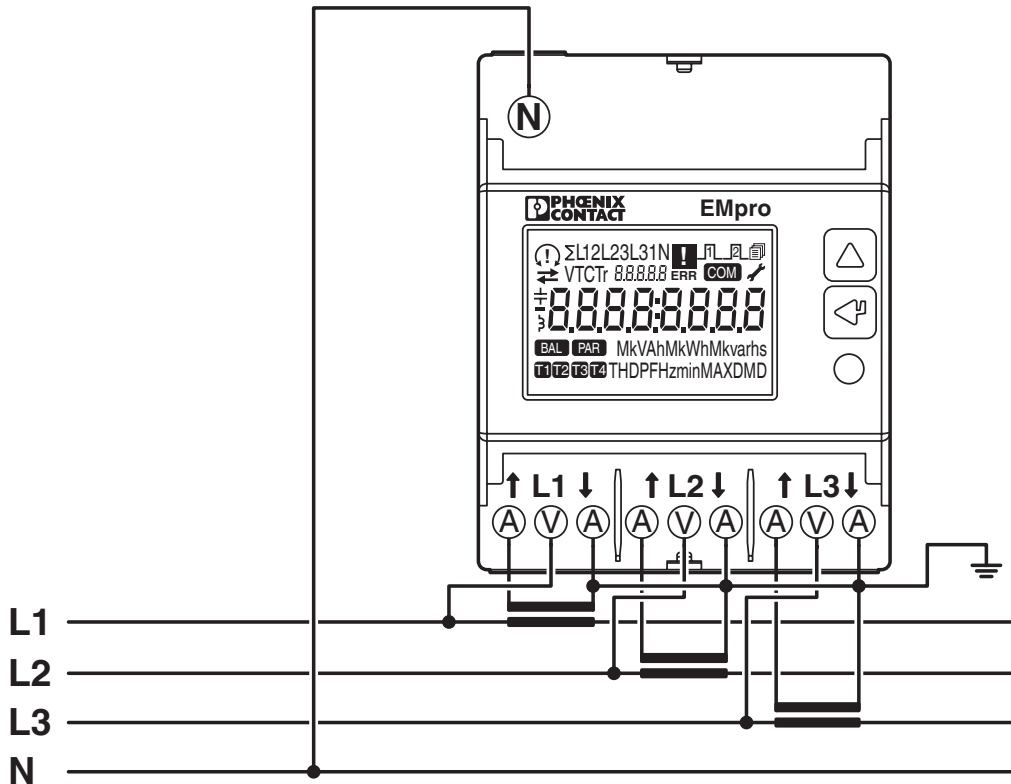
|                |               |
|----------------|---------------|
| Identification | MID-compliant |
|----------------|---------------|

## Standards and regulations

|                          |            |
|--------------------------|------------|
| Standards/specifications | EN 50470-1 |
|                          | EN 50470-3 |

## Drawings

Connection diagram



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## Approvals

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**EAC**

Approval ID: RU \*-DE.A\*30.B.01628

**MID**

Approval ID: No. 306/MID

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27142330 |
| ECLASS-12.0 | 27142330 |
| ECLASS-13.0 | 27142330 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC002301 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 41113600 |
|-------------|----------|

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## Environmental product compliance

### EU RoHS

|   |                    |
|---|--------------------|
| Fulfills EU RoHS substance requirements | Yes, No exemptions |
|---|--------------------|

### China RoHS

|  |  |
|--|--|
| Environment friendly use period (EFUP) | EFUP-E                                   |
|  | No hazardous substances above the limits |

### EU REACH SVHC

|                                     |                            |
|-------------------------------------|----------------------------|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

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