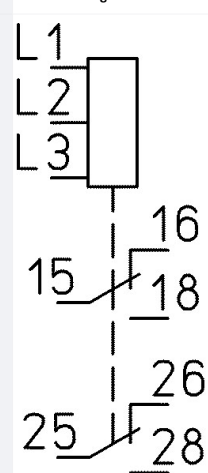




Phase monitoring relays, On- and Off-delayed, 300 - 500 V AC, 50/60 Hz

Part no. **EMR6-W500-D-1**
 Catalog No. **184779**
 Alternate Catalog No. **EMR6-W500-D-1**
 No.
 EL-Nummer **4101975**
 (Norway)

Delivery program

| | | | |
|------------------------------|----------------|------|--|
| Product range | | | EMR Measuring and monitoring relays |
| Basic function | | | Phase monitoring relays |
| Function | | | On- and Off-delayed |
| | | | Power supply from the measuring circuit On-delay/off-delay: none = 0 or adjustable between 0.1 - 30 s Imbalance threshold values adjustable 2 - 25 % of mean value of phase voltages Three-phase networks |
| Monitoring voltage per phase | U _N | V AC | 300 - 500 V AC, 50/60 Hz |
| Monitoring of | | | Phase sequence (can be deactivated) Phase failure Overvoltage Undervoltage |
| Contact sequence | | |  |
| Supply voltage | | | 300 - 500 V AC, 50/60 Hz |
| Width | | mm | 22.5 |

Technical data

| | | | |
|------------------------------------|------------|-------------------|---|
| General | | | |
| Standards | | | IEC, UL, CSA, CCC, GL |
| Lifespan, mechanical | Operations | x 10 ⁶ | 30 |
| Climatic proofing | | | Damp heat, cyclical to IEC 60068-2-30: 24 h cycle, 55° C, 93% relative humidity, 96 h |
| Ambient temperature | | | |
| Operation | | °C | |
| Operating ambient temperature min. | | °C | -25 |
| Operating ambient temperature max. | | °C | + 60 |
| Storage | | °C | - 40 - 85 |
| Mounting position | | | As required |
| Shock resistance | | | Class 2 |
| Degree of protection | | | |
| Terminals | | | IP20 |
| Enclosures | | | IP50 |
| Terminal capacities | | mm ² | |
| Solid | | mm ² | 1 x 0.5-2.5 (1 x 18-14 AWG) |
| Flexible with ferrule | | mm ² | 2 x 0.5-1.5 (2 x 18-16 AWG) |

| | | | |
|-----------------------------------|--|----|--|
| Standard screwdriver | | mm | 5.5 x 0.8 |
| Tightening torque | | Nm | 0.6 - 0.8 |
| Fixing | | | Snap fixing, top-hat rail IEC/EN 60715 |
| MTBF (mean time between failures) | | | 382977 h |

Contacts

| | | | |
|---------------------------------------|-----------|------|-------|
| Rated impulse withstand voltage | U_{imp} | V AC | 4000 |
| Overvoltage category/pollution degree | | | III/3 |

Power supply

| | | | |
|-------------------|---|---------|--------------------------|
| Supply voltage | | | 300 - 500 V AC, 50/60 Hz |
| Voltage tolerance | | x U_c | 0.85 - 1.1 |
| Power consumption | | VA | 18 |
| Rated frequency | f | Hz | 50 - 60 |
| Duty factor | | % DF | 100 |

Timing cycle

| | | | |
|-------------------------------------|--|------|--------------------------|
| Response delay time | | s | 0.2 |
| Reset delay/Off-delay time | | s | Adjustable from 0.1 – 30 |
| Time error within supply voltage | | % | 0.5 |
| Time error within temperature range | | %/°C | 0.06 |

Measuring circuits

| | | | |
|-----------------------------|--|------|--------------|
| Frequency | | Hz | 50/60 ± 10 % |
| Hysteresis | | % | 0 ... 5 |
| Frequency | | Hz | 50/60 ± 10 % |
| Measuring cycle | | ms | 50 |
| Temperature error | | %/°C | 0.06 |
| Error within supply voltage | | % | 0.5 |

Status indication

| | | | |
|------------------------|--|--|--|
| Supply voltage | | | LED yellow |
| Overvoltage | | | LED red: F1 on |
| Undervoltage | | | LED red: F2 on |
| Status indicator (LED) | | | Yellow, solid: Supply voltage Yellow, solid (R/T): Relay energized Yellow, flashing (R/T): Delay time running Red, solid (F1): Overvoltage Red, solid (F2): Undervoltage Red: F1 solid, F2 flashing: Phase failure Red, flashing (F1 & F2 alternating): Phase sequence fault |

Relay output contacts

| | | | |
|--|------------|----------|-----|
| Rated operational voltage | U_e | V AC | 250 |
| Rated operational current | I_e | A | |
| AC-12 at 230 V | I_e | A | 4 |
| AC-15 with 230 V | I_e | A | 3 |
| DC-12 at 24 V | I_e | A | 4 |
| DC-13 at 24 V | I_e | A | 2 |
| Lifespan, electrical (AC-12/230 V/4 A) | Operations | x 10^6 | |
| Lifespan, electrical | Operations | x 10^6 | 0.1 |
| Short-circuit rating | | | |
| max. fuse | Fast/gL | A | 5 |

Electromagnetic compatibility (EMC)

| | | | |
|--|-----------------------|----|--------------------------|
| Electromagnetic compatibility | | | IEC/EN 60947-6-2 |
| ESD | Air/contact discharge | kV | IEC/EN 61000-4-2 level 3 |
| HF-immunity to radiation | | | IEC/EN 61000-4-3 level 3 |
| Burst | | | IEC/EN 61000-4-4 level 3 |
| Surge | | | IEC/EN 61000-4-5 Level 4 |
| HF-immunity to line-conducted interference | | | IEC/EN 61000-4-6 level 3 |

Design verification as per IEC/EN 61439

| | | | |
|--|--|----|-----|
| Technical data for design verification | | | |
| Operating ambient temperature min. | | °C | -25 |

| | | |
|--|----|--|
| Operating ambient temperature max. | °C | 60 |
| IEC/EN 61439 design verification | | |
| 10.9 Insulation properties | | |
| 10.9.4 Testing of enclosures made of insulating material | | Is the panel builder's responsibility. |

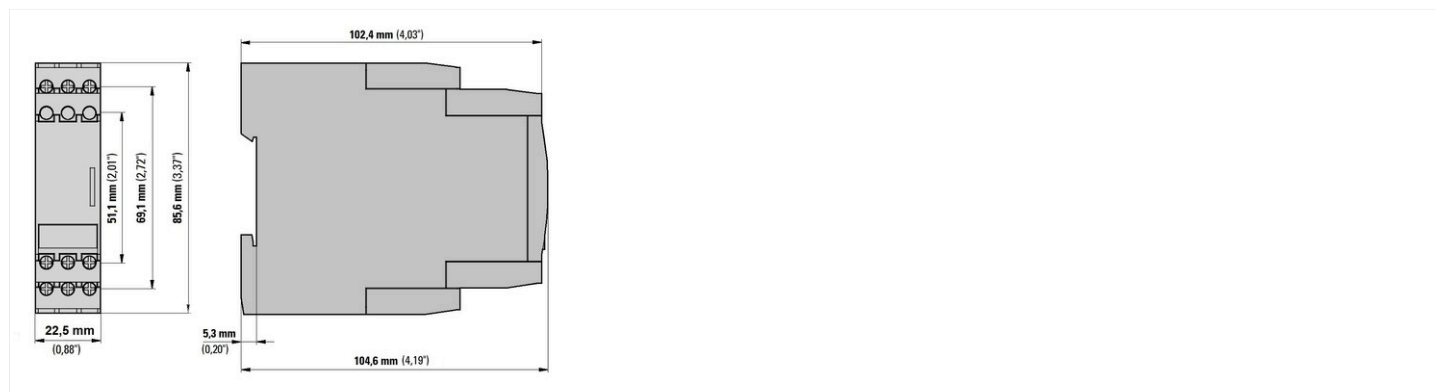
Technical data ETIM 7.0

| | | |
|--|----|------------------|
| Relays (EG000019) / Phase monitoring relay (EC001441) | | |
| Electric engineering, automation, process control engineering / Low-voltage switch technology / Monitoring equipment (low-voltage switch technology) / Asymmetry monitoring equipment (ec!@ss10.0.1-27-37-18-03 [AKF097014]) | | |
| Type of electric connection | | Screw connection |
| With detachable clamps | | No |
| Rated control supply voltage Us at AC 50HZ | V | 300 - 500 |
| Rated control supply voltage Us at AC 60HZ | V | 300 - 500 |
| Rated control supply voltage Us at DC | V | 0 - 0 |
| Voltage type for actuating | | AC |
| Phase sequence monitoring | | Yes |
| Phase failure detection | | Yes |
| Function under voltage detection | | Yes |
| Function over voltage detection | | Yes |
| Phase imbalance monitoring | | No |
| Voltage measurement range | V | 300 - 500 |
| Min. adjustable delay-on energization time | s | 0.1 |
| Max. permitted delay-on energization time | s | 30 |
| Min. adjustable off-delay time | s | 0.1 |
| Max. permitted off-delay time | s | 30 |
| Number of contacts as normally closed contact | | 0 |
| Number of contacts as normally open contact | | 0 |
| Number of contacts as change-over contact | | 2 |
| Width | mm | 22.5 |
| Height | mm | 85.6 |
| Depth | mm | 104.6 |

Approvals

| | | |
|-----------------------------|--|---|
| Product Standards | | IEC 255-6; UL 508; CSA-22.2 No. 14-05; CE marking |
| UL File No. | | E29184 |
| UL Category Control No. | | NKCR, NKCR7 |
| CSA File No. | | UL report valid |
| CSA Class No. | | 3211-03 |
| North America Certification | | UL listed, certified by UL for use in Canada |

Dimensions



Additional product information (links)

| | |
|---|---|
| IL121006ZU Single-function three-phase monitoring relays | |
| IL121006ZU Single-function three-phase monitoring relays | ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL121006ZU.pdf |

IL121006ZU Single-function three-phase monitoring relays

ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL121006ZU2018_07.pdf

Phase monitoring relays

<http://ecat.moeller.net/flip-cat/?edition=HPLEN&startpage=11.36>