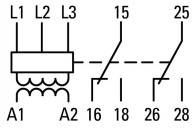




Phase monitoring relay, multi-function, 2W, 180-280V50/60Hz

Part no. EMR5-AWN280-1-F
Catalog No. 134226
Alternate Catalog No. EMR5-AWN280-1-F
EL-Nummer (Norway) 4110386

Delivery program

| | | | |
|------------------------------|-------|------|--|
| | | | This item will continue to be available for a limited time only and is being replaced by the following item: 184770, EMR6-AWN280-D-1 |
| Product range | | | EMR Measuring and monitoring relays |
| Basic function | | | Phase monitoring relays |
| Function | | | Multi-functional |
| | | | 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 |
| Monitoring voltage per phase | U_N | V AC | 180 - 280 V AC, 50/60 Hz |
| Monitoring of | | | Phase sequence Phase failure Overvoltage Undervoltage Imbalance Neutral cable break |
| Threshold value | | | U_{max} 240 - 280 V AC U_{min} 180 - 220 V AC |
| Adjustable threshold values | | | Overvoltage Undervoltage Imbalance |
| Contact sequence | | |  |
| Supply voltage | | | 180 - 280 V AC, 50/60 Hz |
| Width | | mm | 22.5 |

Technical data

Technical data in sheet catalogue

| | | |
|--|--|-------------------------|
| Other technical data (sheet catalogue) | | Phase monitoring relays |
|--|--|-------------------------|

Design verification as per IEC/EN 61439

| | | | |
|--|------------|----|--|
| Technical data for design verification | | | |
| Rated operational current for specified heat dissipation | I_n | A | 0 |
| Heat dissipation per pole, current-dependent | P_{vid} | W | 0 |
| Equipment heat dissipation, current-dependent | P_{vid} | W | 0 |
| Static heat dissipation, non-current-dependent | P_{vs} | W | 2 |
| Heat dissipation capacity | P_{diss} | W | 0 |
| Operating ambient temperature min. | | °C | -25 |
| Operating ambient temperature max. | | °C | 60 |
| IEC/EN 61439 design verification | | | |
| 10.2 Strength of materials and parts | | | |
| 10.2.2 Corrosion resistance | | | |
| 10.2.2.1 Verification of thermal stability of enclosures | | | Meets the product standard's requirements. |
| 10.2.3.2 Verification of resistance of insulating materials to normal heat | | | Meets the product standard's requirements. |
| 10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects | | | Meets the product standard's requirements. |
| 10.2.4 Resistance to ultra-violet (UV) radiation | | | Meets the product standard's requirements. |
| 10.2.5 Lifting | | | Does not apply, since the entire switchgear needs to be evaluated. |

| | | |
|--|--|--|
| 10.2.6 Mechanical impact | | Does not apply, since the entire switchgear needs to be evaluated. |
| 10.2.7 Inscriptions | | Meets the product standard's requirements. |
| 10.3 Degree of protection of ASSEMBLIES | | Does not apply, since the entire switchgear needs to be evaluated. |
| 10.4 Clearances and creepage distances | | Meets the product standard's requirements. |
| 10.5 Protection against electric shock | | Does not apply, since the entire switchgear needs to be evaluated. |
| 10.6 Incorporation of switching devices and components | | Does not apply, since the entire switchgear needs to be evaluated. |
| 10.7 Internal electrical circuits and connections | | Is the panel builder's responsibility. |
| 10.8 Connections for external conductors | | Is the panel builder's responsibility. |
| 10.9 Insulation properties | | |
| 10.9.2 Power-frequency electric strength | | Is the panel builder's responsibility. |
| 10.9.3 Impulse withstand voltage | | Is the panel builder's responsibility. |
| 10.9.4 Testing of enclosures made of insulating material | | Is the panel builder's responsibility. |
| 10.10 Temperature rise | | The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices. |
| 10.11 Short-circuit rating | | Is the panel builder's responsibility. The specifications for the switchgear must be observed. |
| 10.12 Electromagnetic compatibility | | Is the panel builder's responsibility. The specifications for the switchgear must be observed. |
| 10.13 Mechanical function | | The device meets the requirements, provided the information in the instruction leaflet (IL) is observed. |

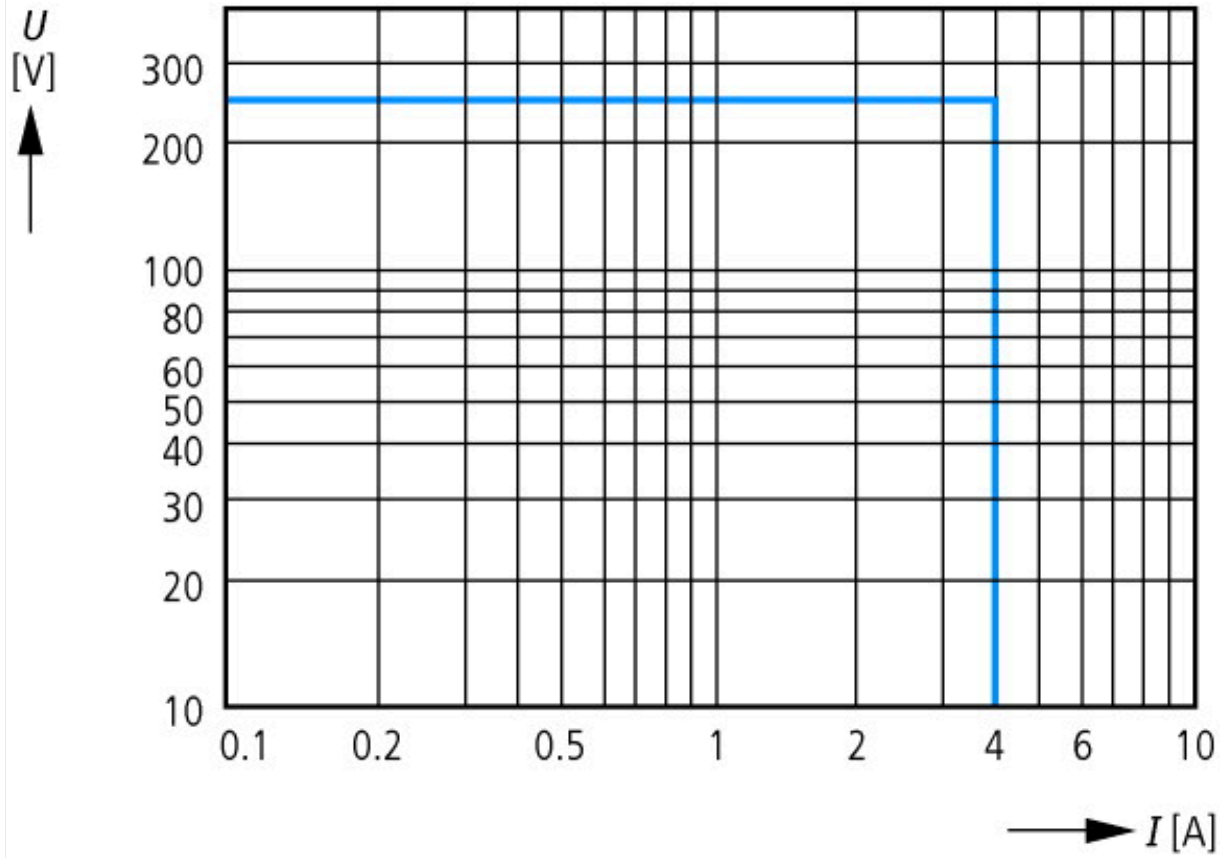
Technical data ETIM 6.0

| | | | |
|--|--|----|------------------|
| 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@ss8.1-27-37-18-03 [AKF097011]) | | | |
| Type of electric connection | | | Screw connection |
| With detachable clamps | | | No |
| Rated control supply voltage Us at AC 50HZ | | V | 0 - 280 |
| Rated control supply voltage Us at AC 60HZ | | V | 0 - 280 |
| Rated control supply voltage Us at DC | | V | 0 - 0 |
| Voltage type for actuating | | | AC |
| Phase sequence monitoring | | | Yes |
| Phase failure monitoring | | | Yes |
| Function under voltage detection | | | Yes |
| Function over voltage detection | | | Yes |
| Phase imbalance monitoring | | | Yes |
| Voltage measurement range | | V | 0 - 280 |
| 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 | 78 |
| Depth | | mm | 100 |

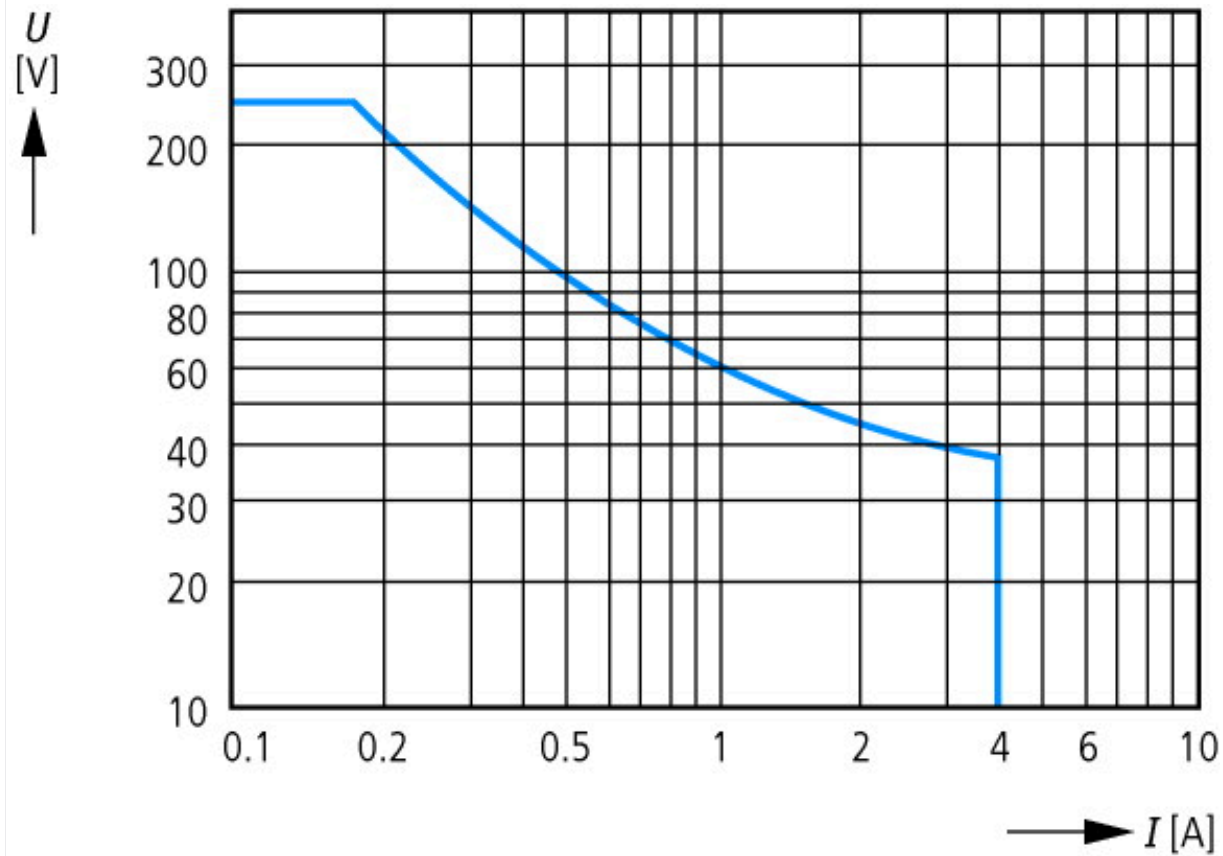
Approvals

| | | |
|-----------------------------|--|---|
| 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 |
| Degree of Protection | | IEC: IP20, UL/CSA Type: - |

Characteristics



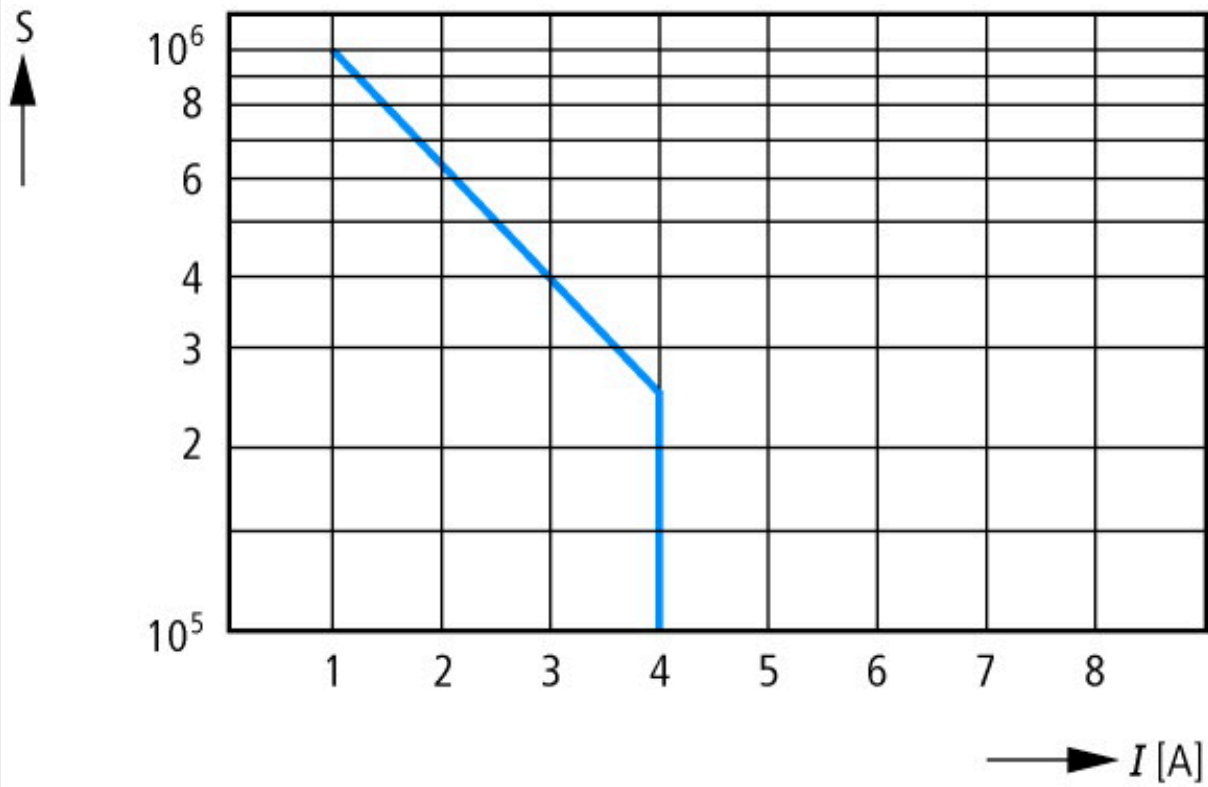
AC load (resistive)



DC load (resistive)

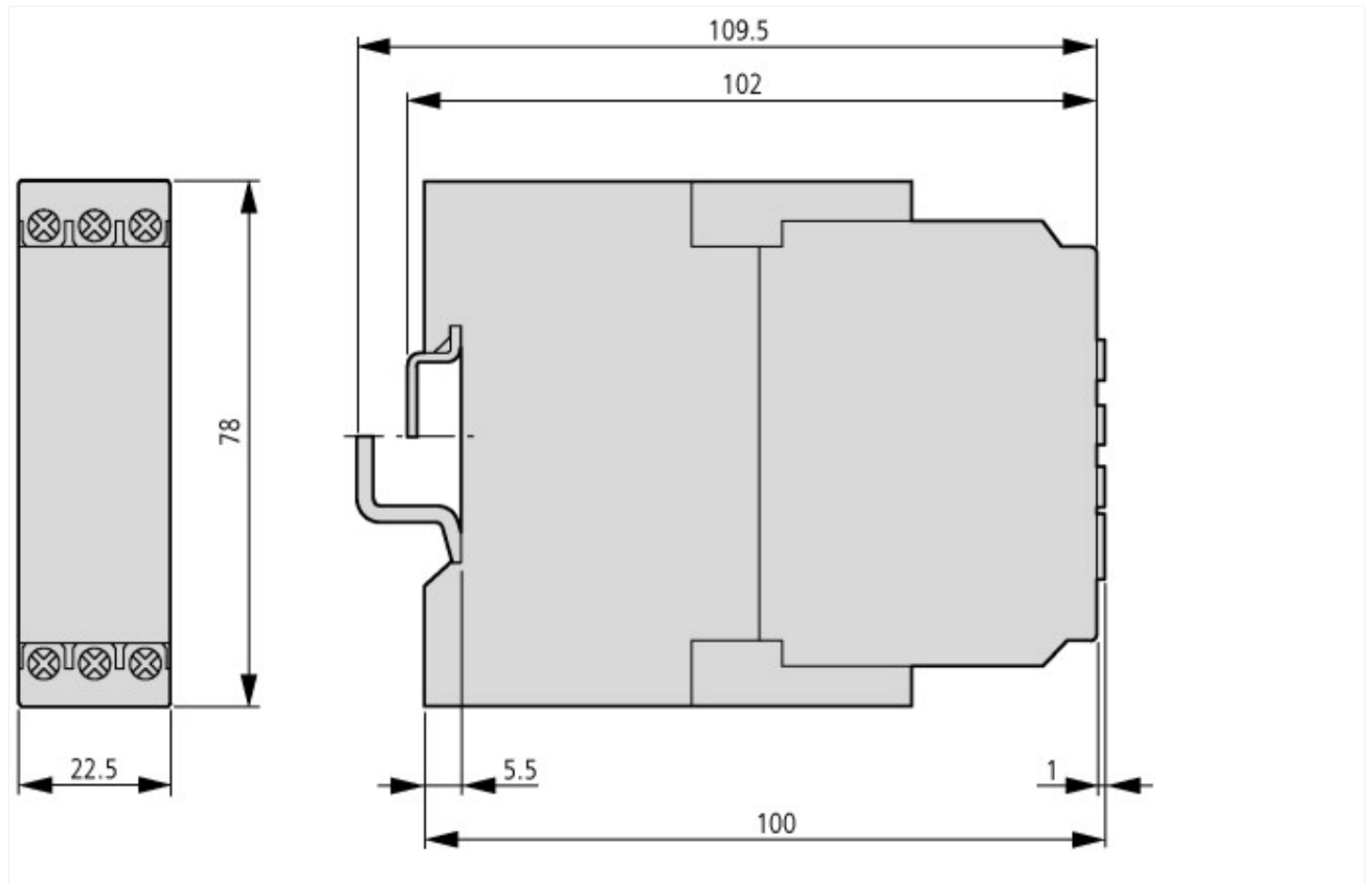


Derating factor F with inductive AC load



Contact life
 S operations
 220 V 50 Hz AC-1
 360 operations/h

Dimensions



Additional product information (links)

Phase monitoring relays

<http://ecat.moeller.net/flip-cat/?edition=HPLEN&startpage=11.37>