



**MFD-CPU, AC, with easy-NET**



**Part no.** MFD-AC-CP8-NT  
**Catalog No.** 274092

**EL-Nummer (Norway)** 4519711

**Delivery program**

|                      |  |  |   |
|----------------------|--|--|---|
| Product range        |  |  | Multi-function-display MFD-Titan  |
| Basic function       |  |  | Power supply unit/CPU modules   |
| Subrange             |  |  | CPU modules   |
| Supply voltage       |  |  | 100 - 240 V AC  |
| easyNet/easyLink     |  |  | mit easyNet   |
| Description          |  |  | can be combined with display/operating unit MFD-80-.. and I/O module<br>Expandable: Digital/analog inputs/outputs and AS-Interface, PROFIBUS-DP, CANopen®, DeviceNet bus systems<br>Bussystem easyNet optional on board<br>Program and screen memory<br>Delivery with user program possible with MFD-COMBINATION product (Article no. 201801) |
| Description          |  |  | Program and screen memory, with easyNet   |
| Connection type      |  |  | screw terminal  |
| Degree of Protection |  |  | IP20  |

**Technical data**

**General**

|                        |  |    |  |
|------------------------|--|----|--|
| Standards              |  |    | EN 61000-6-1/-2/-3/-4, IEC 60068-2-6, IEC 60068-2-27   |
| Dimensions (W x H x D) |  | mm | 107.5 x 90 x 30  |
| Weight                 |  | kg | 0.145  |
| Mounting               |  |    | Fitted on the fixing shaft of the display or on top-hat rail according to IEC/EN 60715, 35 mm deep (without display) |

**Terminal capacities**

|                       |  |                 |                      |
|-----------------------|--|-----------------|----------------------|
| Solid                 |  | mm <sup>2</sup> | 0.24 (AWG 24 - 12)   |
| Flexible with ferrule |  | mm <sup>2</sup> | 0.22.5 (AWG 24 - 12) |
| Standard screwdriver  |  | mm              | 3.5 x 0.6            |

**Climatic environmental conditions**

|   |  |     |   |
|---|--|-----|---|
| Operating ambient temperature                         |  | °C  | -25 to 55, cold as per IEC 60068-2-1, heat as per IEC 60068-2-2 |
| Condensation  |  |     | Take appropriate measures to prevent condensation               |
| Storage   |  | °C  | - 40 - 70   |
| Relative humidity, non-condensing (IEC/EN 60068-2-30) |  | %   | 5 - 95  |
| Air pressure (operation)                              |  | hPa | 795 - 1080  |

**Ambient conditions, mechanical**

|  |             |         |                        |
|--|-------------|---------|------------------------|
| Protection type (IEC/EN 60529, EN50178, VBG 4)                             |             |         | IP20                   |
| Vibrations (IEC/EN 60068-2-6)  |             | Hz      |                        |
| Constant amplitude 0.15 mm   |             | Hz      | 10 - 57                |
| Constant acceleration 2 g  |             | Hz      | 57 - 150               |
| Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms |             | Impacts | 18                     |
| Drop to IEC/EN 60068-2-31  | Drop height | mm      | 50                     |
| Free fall, packaged (IEC/EN 60068-2-32)                                    |             | m       | 1                      |
| Mounting position  |             |         | Vertical or horizontal |

**Electromagnetic compatibility (EMC)**

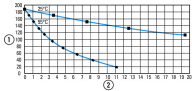
|  |  |     |                                    |
|--|--|-----|------------------------------------|
| Electrostatic discharge (IEC/EN 61000-4-2, Level 3, ESD) |  | kV  |                                    |
| Air discharge  |  | kV  | 8                                  |
| Contact discharge  |  | kV  | 6                                  |
| Electromagnetic fields (RFI) to IEC EN 61000-4-3         |  | V/m | 10                                 |
| Radio interference suppression                           |  |     | EN 55011 Class B, EN 55022 Class B |
| Burst Impulse (IEC/EN 61000-4-4, Level 3)                |  |     |                                    |
| Supply cable   |  | kV  | 2                                  |

|   |    |   |
|---|----|---|
| Signal lines  | kV | 2   |
| power pulses (surge) (IEC/EN 61000-4-5, level 2)              | kV | 2 (supply cables symmetrical, MFD-AC-CP8..) |
| Immunity to line-conducted interference to (IEC/EN 61000-4-6) | V  | 10  |

### Insulation resistance

|   |  |                                      |
|---|--|--------------------------------------|
| Clearance in air and creepage distances |  | EN 50178, UL 508, CSA C22.2, No. 142 |
| Insulation resistance                   |  | EN 50178                             |

### Back-up of real-time clock

|                                 |       |   |
|---------------------------------|-------|---|
| Back-up of real-time clock      |       |         |
|                                 |       | ① Backup time (hours) with fully charged double layer capacitor<br>② Service life (years) |
| Accuracy of the real-time clock | s/day | Normally $\pm 5$ s/day ( $\pm 0.5$ h/year)  |

### Repetition accuracy of timing relays

|                                       |     |            |
|---------------------------------------|-----|------------|
| Accuracy of timing relays (of values) | %   | $\pm 0.02$ |
| Resolution                            |     |            |
| Range "S"                             | ms  | 5          |
| Range "M:S"                           | s   | 1          |
| Range "H:M"                           | min | 1          |

### Retentive memory

|                                      |  |                               |
|--------------------------------------|--|-------------------------------|
| Write cycles of the retentive memory |  | $10^{10}$ (read/write cycles) |
|--------------------------------------|--|-------------------------------|

### Power supply

|                             |       |      |   |
|-----------------------------|-------|------|---|
| Rated operational voltage   | $U_e$ | V    | 100/110/115/120//230/240 AC (+10/-15 %) |
| Admissible range            |       | V AC | 85 ... 264                              |
| Frequency                   |       | Hz   | 50/60 ( $\pm 5\%$ )                     |
| Input current               |       |      |   |
| at 115/120 V AC 60 Hz       |       | mA   | Normally 90                             |
| at 230/240 V AC 50 Hz       |       | mA   | Normally 60                             |
| Voltage dips                |       | ms   | 10                                      |
| Power loss                  |       |      |   |
| Heat dissipation at 24 V DC |       | W    | 17                                      |
| at 115/120 V AC             |       | VA   | Normally 11                             |
| at 230/240 V AC             |       | VA   | Normally 15                             |

### Network easyNet

|   |        |  |
|---|--------|--|
| Stations  | Number | max. 8   |
| Data transfer rate/distance                     |        | 1000 kBit/s, 6 m<br>500 Kbit/s, 25 m<br>250 Kbit/s, 40 m<br>125 kBit/s, 125 m<br>50 Kbit/s, 300 m<br>20 Kbit/s, 700 m<br>10 Kbit/s, 1000 m |
| Distance  | m      | 5  |
| Potential isolation                             |        |  |
| From power supply                               |        | yes  |
| From the inputs                                 |        | yes  |
| From the outputs                                |        | yes  |
| to PC interface, memory card, easyNet, easyLink |        | yes  |
| Bus termination (first and last station)        |        | yes  |
| Connection technique                            |        | RJ45, 8-pole   |

### 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  | 17  |
| Heat dissipation capacity                                | $P_{diss}$ | W  | 0   |
| Operating ambient temperature min.                       |            | °C | -25 |

|  |    |  |
|--|----|--|
| Operating ambient temperature max.   | °C | 55   |
| IEC/EN 61439 design verification   |    |  |
| 10.2 Strength of materials and parts   |    |  |
| 10.2.2 Corrosion resistance  |    | Meets the product standard's requirements.   |
| 10.2.3.1 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  |    | Meets the product standard's requirements.   |
| 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.   |
| 10.12 Electromagnetic compatibility  |    | Is the panel builder's responsibility.   |
| 10.13 Mechanical function  |    | The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.                         |

## Technical data ETIM 7.0

|  |   |          |
|--|---|----------|
| PLC's (EG000024) / Graphic panel (EC001412)  |   |          |
| Electric engineering, automation, process control engineering / Display and control component / Panel (HMI) / Graphic panel (HMI) (ecl@ss10.0.1-27-33-02-01 [AFX016003]) |   |          |
| Supply voltage AC 50 Hz  | V | 85 - 264 |
| Supply voltage AC 60 Hz  | V | 85 - 264 |
| Supply voltage DC  | V | 0 - 0    |
| Voltage type of supply voltage   |   | AC       |
| Number of HW-interfaces industrial Ethernet  |   | 0        |
| Number of interfaces PROFINET  |   | 0        |
| Number of HW-interfaces RS-232   |   | 0        |
| Number of HW-interfaces RS-422   |   | 0        |
| Number of HW-interfaces RS-485   |   | 0        |
| Number of HW-interfaces serial TTY   |   | 0        |
| Number of HW-interfaces USB  |   | 0        |
| Number of HW-interfaces parallel   |   | 0        |
| Number of HW-interfaces Wireless   |   | 0        |
| Number of HW-interfaces other  |   | 4        |
| With SW interfaces   |   | Yes      |
| Supporting protocol for TCP/IP   |   | No       |
| Supporting protocol for PROFIBUS   |   | No       |
| Supporting protocol for CAN  |   | No       |
| Supporting protocol for INTERBUS   |   | No       |
| Supporting protocol for ASI  |   | No       |
| Supporting protocol for KNX  |   | No       |
| Supporting protocol for MODBUS   |   | No       |
| Supporting protocol for Data-Highway   |   | No       |
| Supporting protocol for DeviceNet  |   | No       |

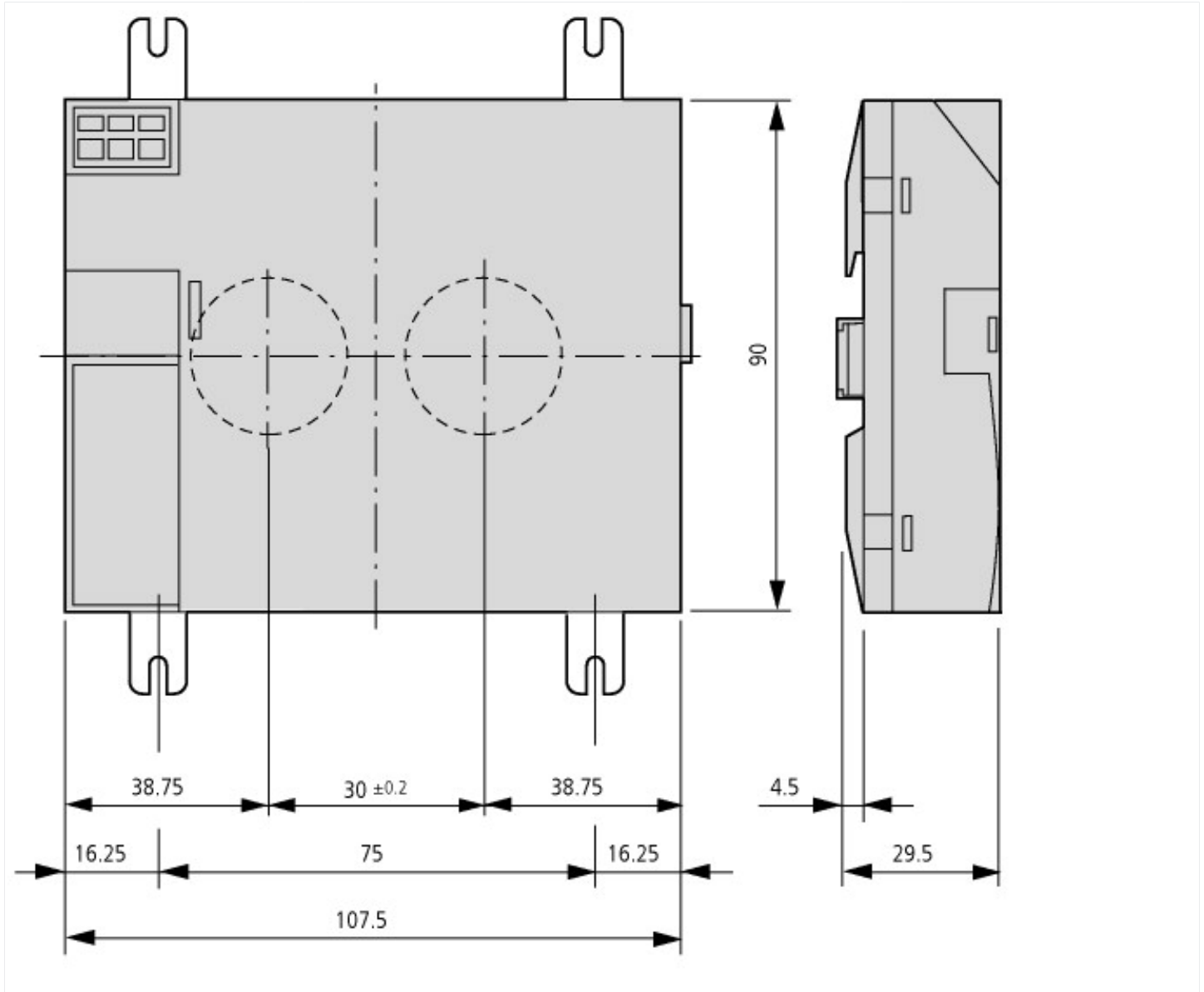
|   |  |       |         |
|---|--|-------|---------|
| Supporting protocol for SUCONET                     |  |       | No      |
| Supporting protocol for LON                         |  |       | No      |
| Supporting protocol for PROFINET IO                 |  |       | No      |
| Supporting protocol for PROFINET CBA                |  |       | No      |
| Supporting protocol for SERCOS                      |  |       | No      |
| Supporting protocol for Foundation Fieldbus         |  |       | No      |
| Supporting protocol for EtherNet/IP                 |  |       | No      |
| Supporting protocol for AS-Interface Safety at Work |  |       | No      |
| Supporting protocol for DeviceNet Safety            |  |       | No      |
| Supporting protocol for INTERBUS-Safety             |  |       | No      |
| Supporting protocol for PROFIsafe                   |  |       | No      |
| Supporting protocol for SafetyBUS p                 |  |       | No      |
| Supporting protocol for other bus systems           |  |       | Yes     |
| Radio standard Bluetooth                            |  |       | No      |
| Radio standard WLAN 802.11                          |  |       | No      |
| Radio standard GPRS                                 |  |       | No      |
| Radio standard GSM                                  |  |       | No      |
| Radio standard UMTS                                 |  |       | No      |
| IO link master                                      |  |       | No      |
| Type of display                                     |  |       | Other   |
| With colour display                                 |  |       | No      |
| Number of colours of the display                    |  |       | 0       |
| Number of grey-scales/blue-scales of display        |  |       | 0       |
| Screen diagonal                                     |  | inch  | 0       |
| Number of pixels, horizontal                        |  |       | 0       |
| Number of pixels, vertical                          |  |       | 0       |
| Useful project memory/user memory                   |  | kByte | 32      |
| With numeric keyboard                               |  |       | No      |
| With alpha numeric keyboard                         |  |       | No      |
| Number of function buttons, programmable            |  |       | 9       |
| Number of buttons with LED                          |  |       | 0       |
| Number of system buttons                            |  |       | 0       |
| Touch technology                                    |  |       | None    |
| With message indication                             |  |       | Yes     |
| With message system (incl. buffer and confirmation) |  |       | No      |
| Process value representation (output) possible      |  |       | Yes     |
| Process default value (input) possible              |  |       | Yes     |
| With recipes  |  |       | No      |
| Number of password levels                           |  |       | 1       |
| With printer output                                 |  |       | No      |
| Number of online languages                          |  |       | 256     |
| Additional software components, loadable            |  |       | Yes     |
| Degree of protection (IP), front side               |  |       | IP20    |
| Degree of protection (NEMA), front side             |  |       | 1       |
| Operation temperature                               |  | °C    | 25 - 55 |
| Rail mounting possible                              |  |       | Yes     |
| Wall mounting/direct mounting                       |  |       | No      |
| Suitable for safety functions                       |  |       | No      |
| Width of the front                                  |  | mm    | 0       |
| Height of the front                                 |  | mm    | 0       |
| Built-in depth                                      |  | mm    | 30      |

## Approvals

|                   |  |  |   |
|-------------------|--|--|---|
| Product Standards |  |  | IEC/EN see Technical Data; UL 508; CSA C22.2 No. 142-M1987; CSA C22.2 No. 213-M1987; CE marking |
| UL File No.       |  |  | E135462   |

|                             |  |                           |
|-----------------------------|--|---------------------------|
| UL Category Control No.     |  | NRAQ                      |
| CSA File No.                |  | 012528                    |
| CSA Class No.               |  | 2252-01 + 2258-02         |
| North America Certification |  | UL listed, CSA certified  |
| Degree of Protection        |  | IEC: IP20, UL/CSA Type: - |

## Dimensions



## Additional product information (links)

### Instruction leaflet "Multi-function display, easy control relays" IL05013014Z (AWA2528-2019)

Instruction leaflet "Multi-function display, easy control relays" IL05013014Z (AWA2528-2019) [https://es-assets.eaton.com/DOCUMENTATION/AWA\\_INSTRUCTIONS/IL05013014Z2018\\_02.pdf](https://es-assets.eaton.com/DOCUMENTATION/AWA_INSTRUCTIONS/IL05013014Z2018_02.pdf)

### Instruction leaflet "power supply unit, communication module" IL05013018Z (AWA2528-2175)

Instruction leaflet "power supply unit, communication module" IL05013018Z (AWA2528-2175) [https://es-assets.eaton.com/DOCUMENTATION/AWA\\_INSTRUCTIONS/IL05013018Z2018\\_02.pdf](https://es-assets.eaton.com/DOCUMENTATION/AWA_INSTRUCTIONS/IL05013018Z2018_02.pdf)

### Manual "MFD-Titan multi-function display" MN05002001Z (AWB2528-1480)

Handbuch „Multifunktions-Display MFD-Titan“ MN05002001Z (AWB2528-1480) - Deutsch [https://es-assets.eaton.com/DOCUMENTATION/AWB\\_MANUALS/MN05002001Z\\_DE.pdf](https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN05002001Z_DE.pdf)

Manual "MFD-Titan multi-function display" MN05002001Z (AWB2528-1480) - English [https://es-assets.eaton.com/DOCUMENTATION/AWB\\_MANUALS/MN05002001Z\\_EN.pdf](https://es-assets.eaton.com/DOCUMENTATION/AWB_MANUALS/MN05002001Z_EN.pdf)

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Product overview (WEB) <http://www.eaton.eu/mfd>