



**Display/HMI device, 80mm, 132x64pixels, monochrome, IP65\_x, without logotype**

**Part no. MFD-80-B-X**  
**Catalog No. 284905**

**EL-Nummer 4560923**  
**(Norway)**

## Delivery program

|                      |  |  |                                                                                                                                                                                         |
|----------------------|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product range        |  |  | Multi-function-display MFD-Titan                                                                                                                                                        |
| Accessories          |  |  | Remote text display                                                                                                                                                                     |
|                      |  |  | monochrome display 132 x 64 pixels with switchable backlight<br>removable Titan front frame<br>Custom laser inscriptions possible with MFD-COMBINATION (article no. 2010801)<br>product |
| Display              |  |  | with display, with keypad                                                                                                                                                               |
| Eaton logotype       |  |  | without Eaton company logotype                                                                                                                                                          |
| Degree of Protection |  |  | IP65                                                                                                                                                                                    |

## 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 | 86.5 x 86.5 x 21.5 (with actuators) 86.5 x 86.5 x 20 (without actuators)                                                                |
| Weight                 |   | kg | 0.13                                                                                                                                    |
| Mounting               |   |    | 2 x 22.5 mm, display fixed with 2 fixing rings.<br>Wall thickness:<br>without top-hat rail (CPU) 1 - 6 mm<br>with top-hat rail 1 - 4 mm |
| Power loss             | P | W  | 0                                                                                                                                       |

### 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                                   |
| LCD display (clearly legible)                         |  | °C  | -5 - 50 - (-10 to 0 when background lighting is switched on (continuous operation)) |
| 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)                             |             |         | IP65                   |
| 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                                  |
| 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                             |

## Design verification as per IEC/EN 61439

|                                                                                                                        |                   |    |                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------------------|-------------------|----|----------------------------------------------------------------------------------------------------------------------------------|
| Technical data for design verification                                                                                 |                   |    |                                                                                                                                  |
| Rated operational current for specified heat dissipation                                                               | I <sub>n</sub>    | A  | 0                                                                                                                                |
| Heat dissipation per pole, current-dependent                                                                           | P <sub>vid</sub>  | W  | 0                                                                                                                                |
| Equipment heat dissipation, current-dependent                                                                          | P <sub>vid</sub>  | W  | 0                                                                                                                                |
| Static heat dissipation, non-current-dependent                                                                         | P <sub>vs</sub>   | W  | 0                                                                                                                                |
| Heat dissipation capacity                                                                                              | P <sub>diss</sub> | 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                                                                       |                   |    | Please enquire                                                                                                                   |
| 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 6.0

|                                                                                                                                                               |  |   |             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---|-------------|
| PLC's (EG000024) / Graphic panel (EC001412)                                                                                                                   |  |   |             |
| Electric engineering, automation, process control engineering / Control / Operate and Observe (HMI) / Graphic panel (HMI) (ecl@ss8.1-27-24-23-02 [BAA722010]) |  |   |             |
| Supply voltage AC 50 Hz                                                                                                                                       |  | V | 0 - 0       |
| Supply voltage AC 60 Hz                                                                                                                                       |  | V | 0 - 0       |
| Supply voltage DC                                                                                                                                             |  | V | 20.4 - 28.8 |
| Voltage type of supply voltage                                                                                                                                |  |   | DC          |
| Number of HW-interfaces industrial Ethernet                                                                                                                   |  |   | 0           |
| Number of HW-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                                                                                                                                 |  |   | 1           |
| With SW interfaces                                                                                                                                            |  |   | No          |
| Supporting protocol for TCP/IP                                                                                                                                |  |   | No          |

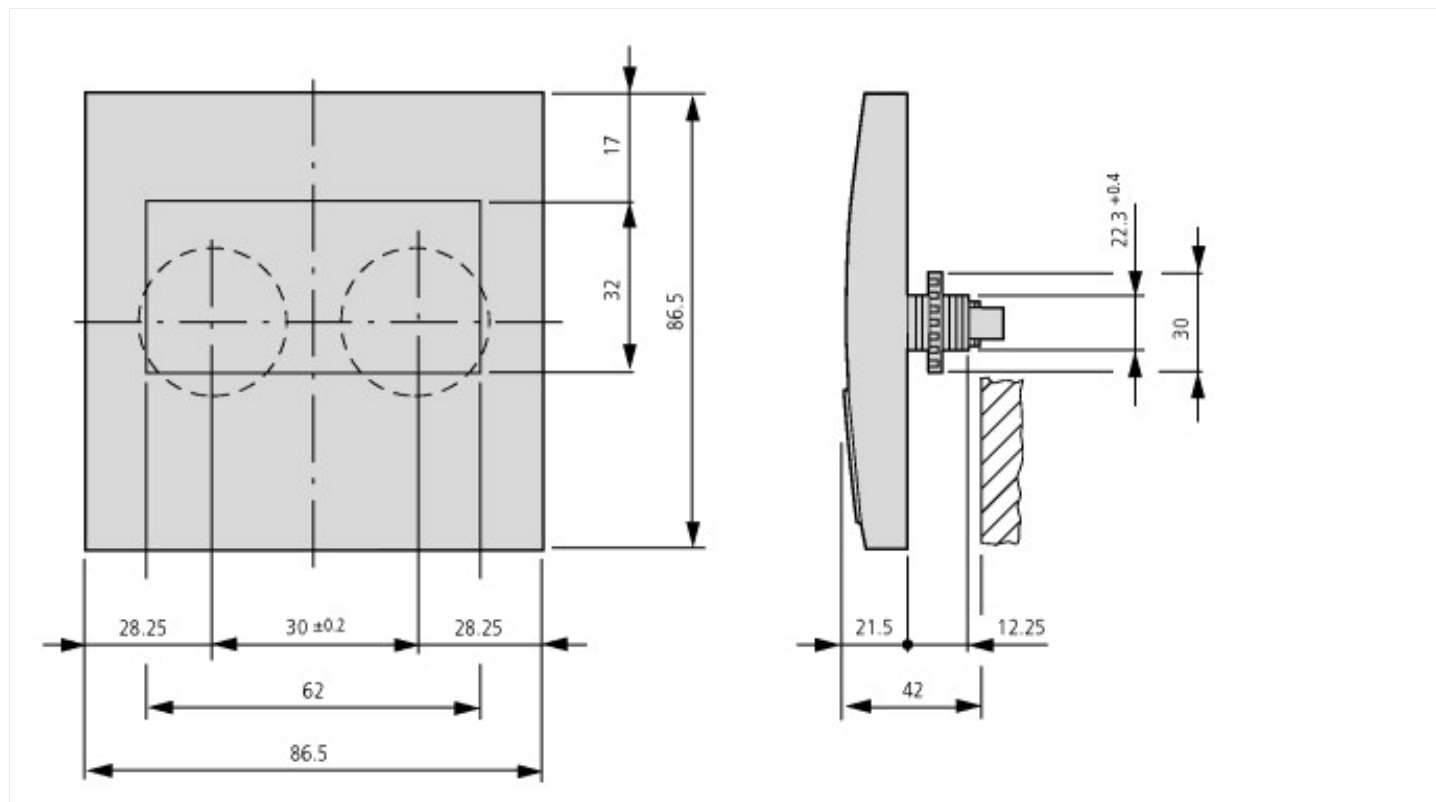
|                                                     |  |       |         |
|-----------------------------------------------------|--|-------|---------|
| Supporting protocol for PROFIBUS                    |  |       | No      |
| Supporting protocol for CAN                         |  |       | No      |
| 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                                     |  |       | LCD     |
| With colour display                                 |  |       | No      |
| Number of colours of the display                    |  |       | 2       |
| Number of grey-scales/blue-scales of display        |  |       | 2       |
| Screen diagonal                                     |  | inch  | 2.75    |
| Number of pixels, horizontal                        |  |       | 132     |
| Number of pixels, vertical                          |  |       | 64      |
| Useful project memory/user memory                   |  | kByte | 0       |
| 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                            |  |       | 9       |
| With touch screen                                   |  |       | No      |
| 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                           |  |       | 0       |
| Printer output available                            |  |       | No      |
| Number of online languages                          |  |       | 256     |
| Additional software components, loadable            |  |       | Yes     |
| Degree of protection (IP), front side               |  |       | IP65    |
| Operation temperature                               |  | °C    | -5 - 55 |
| Rail mounting possible                              |  |       | Yes     |
| Wall mounting/direct mounting                       |  |       | No      |
| Suitable for safety functions                       |  |       | No      |

|                     |    |      |
|---------------------|----|------|
| Width of the front  | mm | 86.5 |
| Height of the front | mm | 86.5 |
| Built-in depth      | mm | 43   |

## 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: IP65, in combination with MFD-XM-80: UL/CSA Type 4X                                        |

## 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) [ftp://ftp.moeller.net/DOCUMENTATION/AWA\\_INSTRUCTIONS/IL05013014Z2010\\_11.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL05013014Z2010_11.pdf)

### Instruction leaflet "protective diaphragm for multi-function display" IL05013017Z (AWA2528-2174)

Instruction leaflet "protective diaphragm for multi-function display" IL05013017Z (AWA2528-2174) [ftp://ftp.moeller.net/DOCUMENTATION/AWA\\_INSTRUCTIONS/IL05013017Z2010\\_11.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL05013017Z2010_11.pdf)

### Instruction leaflet "power supply unit, communication"

Instruction leaflet "power supply unit, communication" [ftp://ftp.moeller.net/DOCUMENTATION/AWA\\_INSTRUCTIONS/IL05013018Z.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL05013018Z.pdf)

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

Handbuch Multi-Funktions-Display MFD-Titan MN05002001Z (AWB2528-1480) - Deutsch [ftp://ftp.moeller.net/DOCUMENTATION/AWB\\_MANUALS/MN05002001Z\\_DE.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN05002001Z_DE.pdf)

Manual "MFD-Titan multi-function display" MN05002001Z (AWB2528-1480) - English [ftp://ftp.moeller.net/DOCUMENTATION/AWB\\_MANUALS/MN05002001Z\\_EN.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN05002001Z_EN.pdf)

### Manual "MFD-CP4, power supply unit/communication module" MN05013011Z (AWB2528-1548)

Handbuch MFD-CP4, Netzteil-Kommunikationsmodul MN05013011Z (AWB2528-1548) - Deutsch [ftp://ftp.moeller.net/DOCUMENTATION/AWB\\_MANUALS/MN05013011Z\\_DE.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN05013011Z_DE.pdf)

Manual "MFD-CP4, power supply unit/communication module" MN05013011Z (AWB2528-1548) - English [ftp://ftp.moeller.net/DOCUMENTATION/AWB\\_MANUALS/MN05013011Z\\_EN.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN05013011Z_EN.pdf)

