

# Specifications



## Eaton 178782

Eaton XN-312 Gateway to bus system  
CANopen

### General specifications

|                     |                      |
|---------------------|----------------------|
| <b>PRODUCT NAME</b> | Eaton XN-312 Gateway |
|---------------------|----------------------|

|                       |        |
|-----------------------|--------|
| <b>CATALOG NUMBER</b> | 178782 |
|-----------------------|--------|

|                   |               |
|-------------------|---------------|
| <b>MODEL CODE</b> | XN-312-GW-CAN |
|-------------------|---------------|

|            |               |
|------------|---------------|
| <b>EAN</b> | 7640130098442 |
|------------|---------------|

|                             |          |
|-----------------------------|----------|
| <b>PRODUCT LENGTH/DEPTH</b> | 104.2 mm |
|-----------------------------|----------|

|                       |         |
|-----------------------|---------|
| <b>PRODUCT HEIGHT</b> | 16.8 mm |
|-----------------------|---------|

|                      |         |
|----------------------|---------|
| <b>PRODUCT WIDTH</b> | 80.3 mm |
|----------------------|---------|

|                       |          |
|-----------------------|----------|
| <b>PRODUCT WEIGHT</b> | 0.061 kg |
|-----------------------|----------|

|                       |                                                                                                                                                                               |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CERTIFICATIONS</b> | CE<br>DNV GL<br>IEC/EN 61000-6-2<br>cULus<br>IEC/EN 61131-2<br>UL File No.: E135462<br>IEC/EN 61000-6-4<br>UL508<br>Rated data for terminations according to IEC/EN 60947-7-1 |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Ambient conditions, mechanical

|                             |                                                                    |
|-----------------------------|--------------------------------------------------------------------|
| <b>DROP AND TOPPLE</b>      | According to IEC 60068-2-31, free fall according to IEC 60068-2-32 |
| <b>SHOCK RESISTANCE</b>     | Mechanical, According to IEC/EN 60068-2-27                         |
| <b>VIBRATION RESISTANCE</b> | According to IEC/EN 60068-2-6                                      |

## Communication

|                           |                                                                                                                                                                                                                                                           |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>ADDRESSING</b>         | Address set via DIP switch                                                                                                                                                                                                                                |
| <b>BUS TERMINATION</b>    | Via DIP switch, Networking                                                                                                                                                                                                                                |
| <b>CONNECTION TYPE</b>    | Push-In spring-cage terminals, Field bus Push-In spring-cage terminals, Connection design in TOP direction                                                                                                                                                |
| <b>DATA TRANSFER RATE</b> | Setting through DIP switch or automatically<br>1000 kBit/s, Networking<br>10 kBit/s, Networking<br>125 kBit/s, Networking<br>20 kBit/s, Networking<br>500 kBit/s, Networking<br>50 kBit/s, Networking<br>250 kBit/s, Networking<br>800 kBit/s, Networking |
| <b>FIELD VOLTAGE</b>      | 24 V DC (UL)                                                                                                                                                                                                                                              |
| <b>INTERFACES</b>         | CANopen®, Field bus connection<br>Mini-USB Type B (Service interface)                                                                                                                                                                                     |
| <b>PROTOCOL</b>           | CAN<br>CANopen®<br>Other bus systems                                                                                                                                                                                                                      |

## Climatic environmental conditions

|                                            |                           |
|--------------------------------------------|---------------------------|
| <b>AMBIENT OPERATING TEMPERATURE - MAX</b> | 85 °C                     |
| <b>AMBIENT STORAGE TEMPERATURE - MAX</b>   | 80 °C                     |
| <b>AMBIENT OPERATING TEMPERATURE - MIN</b> | -25 °C                    |
| <b>AMBIENT STORAGE TEMPERATURE - MIN</b>   | -40 °C                    |
| <b>RELATIVE HUMIDITY</b>                   | 5 - 95 % (non-condensing) |

## Design verification

|                                                                                         |                                                                                                                                  |
|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <b>10.10 TEMPERATURE RISE</b>                                                           | The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices. |
| <b>10.11 SHORT-CIRCUIT RATING</b>                                                       | Is the panel builder's responsibility.                                                                                           |
| <b>10.12 ELECTROMAGNETIC COMPATIBILITY</b>                                              | Is the panel builder's responsibility.                                                                                           |
| <b>10.13 MECHANICAL FUNCTION</b>                                                        | The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.                         |
| <b>10.2.2 CORROSION RESISTANCE</b>                                                      | Meets the product standard's requirements.                                                                                       |
| <b>10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES</b>                         | Meets the product standard's requirements.                                                                                       |
| <b>10.2.3.2 VERIFICATION OF RESISTANCE OF INSULATING MATERIALS TO NORMAL HEAT</b>       | Meets the product standard's requirements.                                                                                       |
| <b>10.2.3.3 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS</b> | Meets the product standard's requirements.                                                                                       |
| <b>10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION</b>                                 | Meets the product standard's requirements.                                                                                       |
| <b>10.2.5 LIFTING</b>                                                                   | Does not apply, since the entire switchgear needs to be evaluated.                                                               |
| <b>10.2.6 MECHANICAL IMPACT</b>                                                         | Does not apply, since the entire switchgear needs to be evaluated.                                                               |

|                                                                 |                                                                    |
|-----------------------------------------------------------------|--------------------------------------------------------------------|
| <b>10.2.7 INSCRIPTIONS</b>                                      | Meets the product standard's requirements.                         |
| <b>10.3 DEGREE OF PROTECTION OF ASSEMBLIES</b>                  | Meets the product standard's requirements.                         |
| <b>10.4 CLEARANCES AND CREEPAGE DISTANCES</b>                   | Meets the product standard's requirements.                         |
| <b>10.5 PROTECTION AGAINST ELECTRIC SHOCK</b>                   | Does not apply, since the entire switchgear needs to be evaluated. |
| <b>10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS</b>   | Does not apply, since the entire switchgear needs to be evaluated. |
| <b>10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS</b>        | Is the panel builder's responsibility.                             |
| <b>10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS</b>                 | Is the panel builder's responsibility.                             |
| <b>10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH</b>                 | Is the panel builder's responsibility.                             |
| <b>10.9.3 IMPULSE WITHSTAND VOLTAGE</b>                         | Is the panel builder's responsibility.                             |
| <b>10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL</b> | Is the panel builder's responsibility.                             |
| <b>STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS</b>       | 2.4 W                                                              |

## Electrical rating

|                                   |                |
|-----------------------------------|----------------|
| <b>SUPPLY VOLTAGE</b>             | 4.7 - 5.3 V DC |
| <b>SUPPLY VOLTAGE AT DC - MAX</b> | 30 V           |
| <b>SUPPLY VOLTAGE AT DC - MIN</b> | 18 V           |

## Electro magnetic compatibility

|                               |                                                                                                                                        |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <b>AIR DISCHARGE</b>          | According to EN 61131-2                                                                                                                |
| <b>BURST IMPULSE</b>          | According to IEC/EN 61131-2                                                                                                            |
| <b>CONTACT DISCHARGE</b>      | According to EN 61131-2                                                                                                                |
| <b>ELECTROMAGNETIC FIELDS</b> | According to EN 61131-2                                                                                                                |
| <b>EMITTED INTERFERENCE</b>   | 30 - 230 MHz (radiated, high frequency, according to EN 61131-2)<br>230 - 1000 MHz (radiated, high frequency, according to EN 61131-2) |
| <b>RADIATED RFI</b>           | IEC/EN 61131-2                                                                                                                         |
| <b>SURGE RATING</b>           | According to IEC/EN 61131-2                                                                                                            |
| <b>VOLTAGE DIPS</b>           | According to EN 61131-2 (Voltage fluctuations/voltage dips)                                                                            |

## Features & functions

### FEATURES

Fieldbus connection over separate bus coupler possible  
Fieldbus connection over separate bus coupler possible

### FITTED WITH:

Potential separation

## Safety

### EXPLOSION SAFETY CATEGORY FOR DUST

None

### EXPLOSION SAFETY CATEGORY FOR GAS

None

### POTENTIAL ISOLATION

Yes

## General information

### ADMISSIBLE RANGE

18 - 30 V DC, Networking  
19.2 - 30 V DC, Networking

### CONFIGURATION

Maximum station configuration: 32 modules (XN-322) in slice design

### DEGREE OF PROTECTION

IP20

### MOUNTING METHOD

Rail mounting possible

### RESIDUAL RIPPLE

According to EN 61131-2

### TYPE

- CANopen XN-312 gateway for XN300
- Digital gateway for CANopen field bus in the form of an XN300 I/O system slice module
- XN300 CANopen gateway for running XN300 slice modules on a CANopen field bus
- XN300 gateway

### USED WITH

XN-322-...  
XN300

### VOLTAGE TYPE

DC

## Terminal capacities

### GAUGE PIN

A1 (according to IEC/EN 60947-1)

### STRIPPING LENGTH (MAIN CABLE)

10 mm

### TERMINAL CAPACITY

0.2 - 1.5 mm<sup>2</sup>, flexible without ferrule, H07V-K  
0.25 - 1.5 mm<sup>2</sup>, with ferrules without plastic collar according to DIN 46228-1 (ferrules crimped gas-tight)  
0.2 - 1.5 mm<sup>2</sup>, solid, H07V-U  
0.25 - 1.5 mm<sup>2</sup>, with ferrules with plastic collar according to DIN 46228-1 (ferrules crimped gas-tight)

## Resources

|                            |                                                                                                                                                                                            |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BROCHURES                  | <a href="#">Slice card modular I/O system for the machine building industry XN300 - brochure</a><br><a href="#">eaton-xc300-modular-plc-brochure-br050008en-en-us.pdf</a>                  |
| DECLARATIONS OF CONFORMITY | <a href="#">eaton-gateway-declaration-of-conformity-uk250934en.pdf</a><br><a href="#">eaton-gateway-declaration-of-conformity-eu250451en.pdf</a>                                           |
| DRAWINGS                   | <a href="#">eaton-modular-plc-xn-input-module-dimensions.eps</a><br><a href="#">eaton-general-xv-touch-panel-symbol.eps</a><br><a href="#">eaton-modular-plc-xn-gateway-3d-drawing.eps</a> |
| ECAD MODEL                 | <a href="#">DA-CE-ETN.XN-312-GW-CAN</a>                                                                                                                                                    |
| INSTALLATION INSTRUCTIONS  | <a href="#">IL050017ZU</a>                                                                                                                                                                 |
| MANUALS AND USER GUIDES    | <a href="#">eaton-xn-312-gw-can-canopen-gateway-mn050003-en-us.pdf</a><br><a href="#">eaton-xn300-slice-modules-mn050002-en-us.pdf</a>                                                     |
| MCAD MODEL                 | <a href="#">eaton-communication-modules-mcad-drawings-xn-312-gw-can.dwg</a><br><a href="#">eaton-communication-modules-mcad-3d-models-xn-312-gw-can.stp</a>                                |
| MULTIMEDIA                 | <a href="#">XC100, XC200, XC300 – Eaton's modular PLC ranges</a><br><a href="#">System solutions based on EtherCAT</a>                                                                     |
| PRODUCT NOTIFICATIONS      | <a href="#">eaton-xn-312-gw-can-end-user-license-agreement-mz050022-en-us.pdf</a>                                                                                                          |

|                 |
|-----------------|
| PROJECT NAME:   |
| PROJECT NUMBER: |
| PREPARED BY:    |
| DATE:           |



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