**140034**
**XNE-4AO-U/I**





# DELIVERY PROGRAM

Function
XI/ON I/O modules

Function
XNE Slice module

Short Description
4 Analog outputs
-10/0 to +10 V DC
0/4 to 20 mA
Switchable as channels

# TECHNICAL DATA

## General

Standards
EN 61000-6-2
EN 61000-6-4
EN 61131-2

Potential isolation
Yes, through optocoupler

Ambient temperature
Ambient temperature, operation
0 - +55 °C

Ambient temperature
Storage, transport [ϑ]
-25 - +85 °C

Relative humidity
Relative humidity
5 - 95 % (indoor), Level RH-2, no condensation
(for storage at 45°C)

Ambient conditions, mechanical
Degree of Protection
IP20

Ambient conditions, mechanical
Harmful gases
$SO_2$: 10 (rel. humidity < 75%, no condensation)
$H_2S$: 1.0 (rel. humidity < 75 %,no condensation)
ppm

Vibration resistance, operating conditions
according to IEC/EN 60068-2-6

Mechanical shock resistance
according to IEC 60068-2-27 g

Continuous shock resistance (IEC/EN 60068-2-29)
According to IEC 60068-2-29

Drop and topple
According to IEC 60068-2-31, free fall according to
IEC 60068-2-32

Electromagnetic compatibility (EMC)
ESD [Air/contact discharge]
EN 61000-4-2 kV

Electromagnetic compatibility (EMC)
Electromagnetic fields [(0.08…1) / (1,4…2) / (2…
2,7) GHz ]

EN 61100-4-2 V/m

Electromagnetic compatibility (EMC)
Burst
EN 61100-4-4

Electromagnetic compatibility (EMC)
Surge
EN 61100-4-5

Electromagnetic compatibility (EMC)
Radiated RFI
EN 61100-4-6 V

Electromagnetic compatibility (EMC)
Emitted interference (radiated, high frequency)
[(30...230 MHz) / (230...1000 MHz)]
EN 55016-2-3 dB

Electromagnetic compatibility (EMC)
Voltage fluctuations/voltage dips
EN 61131-2

Electromagnetic compatibility (EMC)
Type test
to EN 61131-2

Approvals
CE, cULus
EAC

Other technical data (sheet catalogue)
Technical Data

## Terminations

Rated data
according to VDE 0611 Part 1/8.92 /

IEC/EN 60947-7-1

Connection design in TOP direction
Push-In spring-cage terminals

Stripping length
8 mm

Clamping range
max. 0.14 - 1.5 mm²

Connectable conductors
"e" solid H07V-U
0.25 - 1.5 mm²

Connectable conductors
"f" flexible H07V-K
0.25 - 1.5 mm²

Connectable conductors
"f" with ferrules without plastic collar according to DIN 46228-1 (ferrules crimped gas-tight)
0.25 - 1.5 mm²

Connectable conductors
"f" with ferrules with plastic collar according to DIN 46228-1 (ferrules crimped gas-tight)
0.25 - 0.75 mm²

Connectable conductors
"e" solid H07V-U
0.25 - 1.5 mm²

Connectable conductors
"f" flexible H07V-K
0.25 - 1.5 mm²

Connectable conductors
"f" with ferrules without plastic collar according to DIN 46228-1 (ferrules crimped gas-tight)
0.25 - 1.5 mm²

Connectable conductors
"f" with ferrules with plastic collar according to DIN 46228-1 (ferrules crimped gas-tight)
0.25 - 0.75 mm²

Gauge pin IEC/EN 60947-1
A1

## Analog input modules

Measured variables
Voltage, Current

Channels
4 Number

Rated voltage through supply terminal [$U_L$]
24 V DC

Rated current consumption from supply terminal [$I_L$]
150 mA

Rated current consumption from module bus [$I_{MB}$]
□ 40 mA

Heat dissipation
< 3 W

Offset error
0.1 %

Basic error limit at 23 °C
0.2 %

Temperature coefficient
200 ppm/°C of full-scale value

Measured value representation
16-bit signed integer
12-bit full range, flush left
Standard/extended range/PA (NE43)

## Analog output modules

Measured variables
Voltage, Current

Channels
4 Number

Rated voltage through supply terminal [$U_L$]
24 V DC

Rated current consumption from supply terminal [$I_L$]
150 mA

Rated current consumption from module bus [$I_{MB}$]
□ 40 mA

Heat dissipation
< 3 W

Output voltage
-10/0…+10 V DC

Output current
0/4 - 20 mA

Load resistance
Resistive load
< 450 (Strom), > 1000 (Spannung) Ω

Load resistance
Inductive load
< 0.001 h

Load resistance
Capacitive load
>1 µF

Short-circuit current
40 mA

Transfer frequency
20 Hz

Offset error
0.1 %

Basic error limit at 23 °C
0.2 %

Temperature coefficient
200 ppm/°C of full-scale value

Settling time
Resistive load
1 ms

Settling time

Inductive load
2 ms

Settling time
Capacitive load
2 ms

Measured value representation
16-bit signed integer
12-bit full range, flush left
Standard/extended range/PA (NE43)

## Digital outputs

Channels
4 Number

Rated voltage through supply terminal [$U_L$]
24 V DC

Rated current consumption from the supply terminal (at load current = 0 mA) [$I_L$]
150 mA

Rated current consumption from module bus [$I_{MB}$]
□ 40 mA

Power loss [P]
Normally 3 W

Resistive load
< 450 (Strom), > 1000 (Spannung) Ω

Inductive load
< 0.001 h

## Digital inputs

Channels
4 Number

Rated voltage through supply terminal [$U_L$]
24 V DC

Rated current consumption from supply terminal [$I_L$]
150 mA

Rated current consumption from module bus [$I_{MB}$]
□ 40 mA

Heat dissipation
< 3 W

## Relay modules

Rated voltage through supply terminal [$U_L$]
24 V DC

Rated current consumption from supply terminal [$I_L$]
150 mA

Rated current consumption from module bus [$I_{MB}$]
□ 40 mA

Power loss [P]
Normally 3 W

## Power supply module

Rated voltage through supply terminal [$U_L$]
24 V DC

Rated current consumption from supply terminal [$I_L$]
150 mA

Rated current consumption from module bus [$I_{MB}$]
□ 40 mA

Power loss [P]
3 W

## Counter module

Channels

4 Number

Rated voltage through supply terminal [$U_L$]
24 V DC

Rated current consumption from supply terminal [$I_L$]
150 mA

Rated current consumption from module bus [$I_{MB}$]
□ 40 mA

Heat dissipation
< 3 W

### Measuring modes

Temperature coefficient
200 ppm/°C of full-scale value

### Interfaces

Rated voltage through supply terminal [$U_L$]
24 V DC

Rated current consumption from supply terminal [$I_L$]
150 mA

Rated current consumption from module bus [$I_{MB}$]
□ 40 mA

Power loss [P]
Normally 3 W

## DESIGN VERIFICATION AS PER IEC/EN 61439

### Technical data for design verification

Rated operational current for specified heat dissipation [$I_n$]

0 A

Heat dissipation per pole, current-dependent [$P_{vid}$]
0 W

Equipment heat dissipation, current-dependent [$P_{vid}$]
0 W

Static heat dissipation, non-current-dependent [$P_{vs}$]
3 W

Heat dissipation capacity [$P_{diss}$]
0 W

Operating ambient temperature min.
0 °C

Operating ambient temperature max.
+55 °C

Degree of Protection
IP20

## 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 Strength of materials and parts
10.2.3.1 Verification of thermal stability of enclosures
Meets the product standard's requirements.

10.2 Strength of materials and parts
10.2.3.2 Verification of resistance of insulating materials to normal heat
Meets the product standard's requirements.

10.2 Strength of materials and parts
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 Strength of materials and parts
10.2.4 Resistance to ultra-violet (UV) radiation
Meets the product standard's requirements.

10.2 Strength of materials and parts
10.2.5 Lifting
Does not apply, since the entire switchgear needs to be evaluated.

10.2 Strength of materials and parts
10.2.6 Mechanical impact
Does not apply, since the entire switchgear needs to be evaluated.

10.2 Strength of materials and parts
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 Insulation properties
10.9.3 Impulse withstand voltage
Is the panel builder's responsibility.

10.9 Insulation properties
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) / Fieldbus, decentr. periphery - analogue I/O module (EC001596)

Electric engineering, automation, process control engineering / Control / Field bus, decentralized peripheral / Field bus, decentralized peripheral - analogue I/O module (ecl@ss10.0.1-27-24-26-01 [BAA061014])

Supply voltage AC 50 Hz
0 - 0 V

Supply voltage AC 60 Hz
0 - 0 V

Supply voltage DC
20.4 - 28.8 V

Voltage type of supply voltage
DC

Input, current
No

Input, voltage
No

Input, resistor
No

Input, resistance thermometer
No

Input, thermocouple
No

Input signal, configurable
No

Resolution of the analogue inputs
0 Bit

Output, current
Yes

Output, voltage
Yes

Output signal configurable
Yes

Resolution of the analogue outputs
16 Bit

Number of analogue inputs
0

Number of analogue outputs
4

Analogue inputs configurable
Yes

Analogue outputs configurable
Yes

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 parallel
0

Number of HW-interfaces Wireless
0

Number of HW-interfaces USB
0

Number of HW-interfaces other
1

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
No

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

System accessory
Yes

Degree of protection (IP)
IP20

Degree of protection (NEMA)

Type of electric connection
Screw-/spring clamp connection

Fieldbus connection over separate bus coupler possible
Yes

Rail mounting possible
Yes

Wall mounting/direct mounting
No

Front build in possible
No

Rack-assembly possible
No

Suitable for safety functions
No

Category according to EN 954-1

SIL according to IEC 61508
None

Performance level acc. EN ISO 13849-1
None

Appendant operation agent (Ex ia)
No

Appendant operation agent (Ex ib)
No

Explosion safety category for gas
None

Explosion safety category for dust
None

Width
13 mm

Height
161.5 mm

Depth
74.5 mm

## APPROVALS

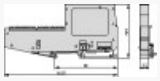
Product Standards
IEC/EN 61131-2; CE marking

North America Certification
Request filed for UL and CSA

Specially designed for North America
No

Current Limiting Circuit-Breaker
No

## DIMENSIONS



Link to sheet catalogue
Dimensions