Catalog | May 2026

# Modicon Edge I/O NTS

## The future-ready I/O system for data aggregation with built-in cybersecurity

www.se.com

Schneider Electric

# Modicon

## Discover Modicon

### Edge control for industrial internet of things (IoT)

**Modicon** IIoT-native edge controllers manage complex interfaces across assets and devices or directly into the cloud, with embedded functional safety and cybersecurity. **Modicon** provides performance and scalability for a wide range of industrial applications up to high-performance multi-axis machines and high-available redundant processes.

## Explore our offer

- Modicon HVAC Controllers
- Modicon PLC
- Modicon Motion Controllers
- Modicon PAC
- Modicon Edge I/O
- Modicon I/O
- Modicon Networking
- Modicon Power Supply
- Modicon Wiring
- Modicon Safety

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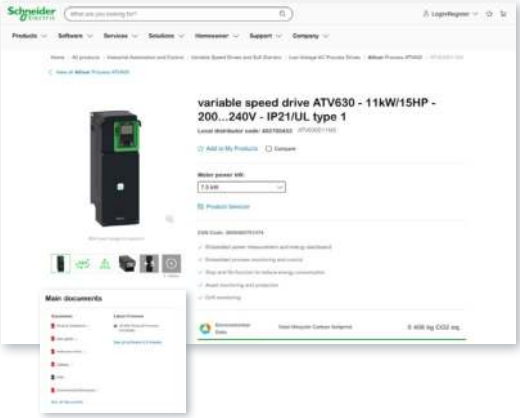
# Quick access to product information

## Get technical information about your product

Each commercial reference presented in a catalog contains a hyperlink. Click on it to obtain the technical information of the product:

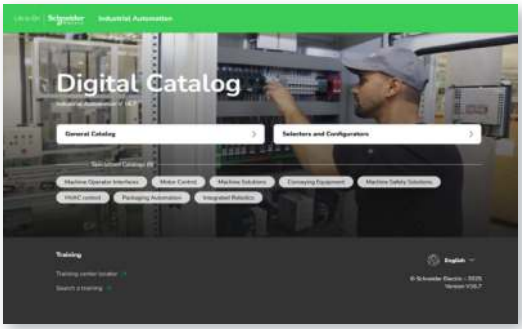
- Characteristics, Dimensions and drawings, Mounting and clearance, Connections and schemas, Performance curves
- Instruction sheets, User guides, Product certifications, End of life manuals, etc




## View the Automation Catalog libraries

On Digi-Cat Online you can access the Industrial Automation and Control catalogs, in both English and French

- Up-to-date catalogs
- Optimized search by commercial references
- Integrated product selectors and configurators




## Direct access to Configurators Home pages

- Configure your motor control and protection solution
- Configure your control system with a PLC controller and I/O modules
- Configure your motion control and robotics system

## Select your training

- Find the right Training for your needs on our Global website
- Locate the Training center with the selector tool

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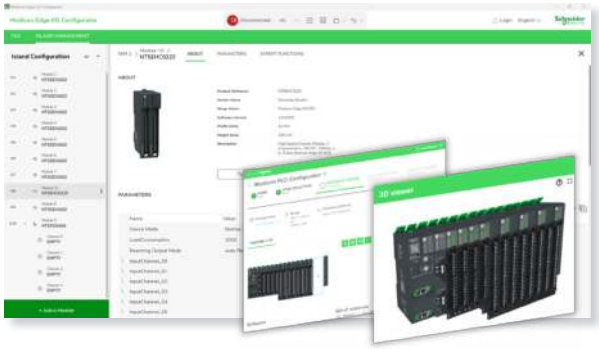
# Your Resource Hub

## Easily design your island

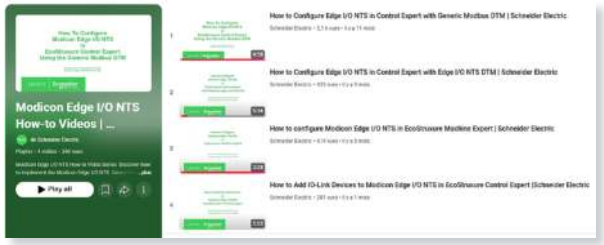


Select the right PLC and I/Os in a fast and easy way.

This tool provides a step-by-step guidance to help you select the controller that better suits your needs with recommended accessories and services.

Modicon PLC Configurator
*(Click to open the tool)*

## How-to videos

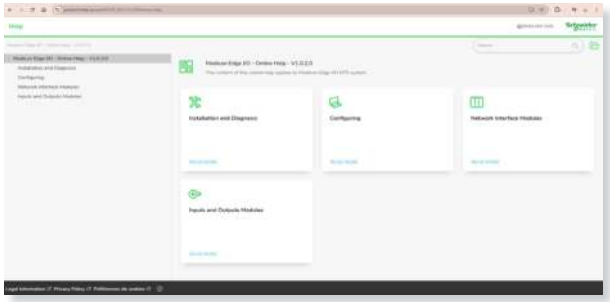



> How-to video playlist in YouTube is the easier way to get quick start-up and use of Modicon Edge I/O NTS.

> Add the playlist to your library for instant access—it's continuously updated with fresh tutorials to keep you ahead of the curve.

Modicon Edge I/O NTS How-to Videos
*(Click to access the videos)*

## Online Help



This online help applies to the Modicon Edge I/O NTS system and covers four main topics:

> Installation and Diagnosis

> Configuring

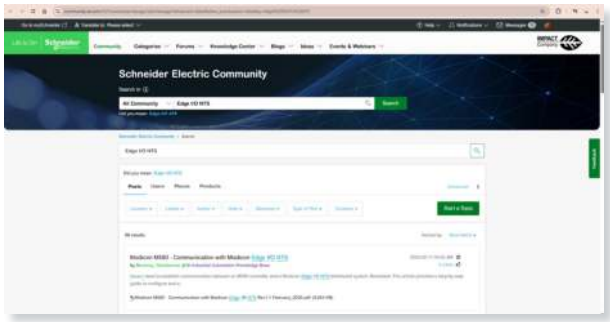
> Network Interface Modules

> Inputs and Outputs Modules

Each section provides detailed guidance accessible via "Read More" links.

Modicon Edge I/O NTS – Online Help
*(Click to open the tool)*

## Schneider Electric Community




> Your hub to connect with peers and experts

> Get continuous support from experts, join active communities and showcase your expertise.

Schneider Electric Community
*(Click to open the hub)*

# General content

**Modicon** Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity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  - *Selection guide (Temperature)* . . . . . *page 30 and 31*
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# EcoStruxure™ Industrial Automation

EcoStruxure

## Optimize
Software & Services

## Operate
Edge Computing & Control

Edge Nodes

## Onboard
Intelligence Devices

**Enterprise Software** Planon | RIB | etap | AVEVA | SE ADVISORY SERVICES

**EcoStruxure** Plant Apps

Industrial Digital Transformation Services

Consulting, **EcoStruxure** Service Plan, **EcoFit**

APIs & 3rd party apps

**EcoStruxure** Automation Expert (incl. Foxboro SDA)

**EcoStruxure** Process Expert

**EcoStruxure** Control Expert

**EcoStruxure** Foxboro DCS

**EcoStruxure** Triconex Safety Systems

SCADA Systems

APIs & 3rd party apps

**Harmony**

Harmony Edge Box and Industrial PC

**Modicon**

Industrial Edge Control for IIoT

Edge I/O NTS

**Foxboro**

Edge I/O NTH

**Altivar**

Innovative & connected variable speed drives

**TeSys**

Innovative & connected solutions for motor starters

**Set** Series

Power Distribution and Motor Control Center

**EcoStruxure**

Process Instrumentation

**Harmony**

Basic Operator Panels, Push button & signaling

3rd party devices

Data Cube

Energy & Industrial Intelligence

Enterprise Data

Operational Data

Field Data + 3rd party Data

**Building** | **Data Center** | **Industry** | **Infrastructure**

# **Modicon** Edge I/O NTS

## The future-ready I/O system for data aggregation with built-in cybersecurity

I/O systems for logic, motion, and PAC controllers

| I/O systems | Type | I/O expansion modules | The future-ready I/O system for data aggregation with built-in cybersecurity | Common platform of modules for Modicon M580 and Modicon M340 PACs |
|---|---|---|---|---|
| | Range | Modicon TM3 | Modicon Edge I/O NTS | Modicon X80 I/O |
| | | | | |
| Consult the catalog | | DIA3ED2140109EN | DIA3ED2240601EN | DIA6ED2131203EN |
| **Certifications and standards** (depending on the model) | International certifications | > CE, UKCA, RCM, EAC, cULus, cULus Haz. Loc.<br>> EN/IEC 61131-2, CSA C22.2 No. 142, ANSI/ISA 12-12-01, CSA C22.2 No. 213, IEC/EN 61010-2-201 | > CE, UKCA, cULus, RCM<br>> Power generation market | > CE, UL, CSA, RCM, EAC, UKCA<br>> Power generation market: IEC 61000-6-5, IEC 61850-3 |
| | > Safety standards<br>> Safety performance level | > EN/IEC 60947-1, EN/IEC 60947-5-1 (TÜV with functional safety modules)<br>> Up to PL e/Category 4 conforming to EN/ISO 13849-1 and SIL 3 conforming to EN/IEC 62061 | > Hazardous Location: cULus Haz. Loc. Class 1 Div.2, ATEX/IECEx (Zone 2/22) (pending), CCC Ex (Zone 2/22) (pending) | > Hazardous Location Class I Division 2 Groups ABCD and for ATEX/UKEX/ IECEx (Zone 2/22)<br>> SIL 3 standards according to IEC 61508 |
| | Marine certification | > EU RO Mutual Recognition | > EU RO Mutual Recognition (Marine certification) | > IACS E10 and agencies: ABS, BV, DNV, GL, LR, RINA, RMRS, and CCS (Marine certification) |
| | Railway certification | – | > Rolling stock, Railway and stationary facilities | – |
| **Line power supply** | | > External 24 VDC (power supplied by the controller via the bus expansion connector) | > Embedded power distribution module: 24 VDC | > Embedded power supply module: 24 VDC isolated, 24...48 VDC isolated, 100...150 VDC, or 100...240 VAC |
| **Island configuration** | | With bus expansion modules (transmitter and receiver) and bus expansion cable | Up to 32 modules | With bus expansion modules (transmitter and receiver), backplane, and bus expansion cable |
| **Performance** | | Up to 7 modules managed in 2 ms, 14 modules maximum | Up to 32 modules managed in 1 ms | Up to 7 expansion racks maximum, depending on the CPU performance level |
| **Networks** | EtherNet/IP | Yes | Yes | Yes |
| | CANopen bus | Yes | – | Yes |
| | Modbus Serial Line | Yes | – | – |
| | Modbus TCP | Yes | Yes | Yes |
| | Sercos III bus | – | Yes | – |
| | OPC UA | – | Explicit only | – |
| | Fiber converter | – | – | – |
| **Communication modules** | AS-interface Master | – | – | Yes |
| | Profibus DP bus | – | – | Yes |
| | IO-Link Master | – | Yes | – |
| | Modbus TCP | – | – | Yes |
| | Serial Line | – | Yes | Yes |
| **I/O expansion capacity** | Discrete I/O | Yes | Yes | Yes |
| | Analog I/O | Yes | Yes | Yes |
| | Expert I/O | > TeSys motor starter<br>> High-speed counter | > Encoder<br>> CAM<br>> Encoder generator *(1)*<br>> Fast I/O (Timestamping, Oversampling)<br>> Pulse Output Generator *(1)* | > Counter<br>> Timestamping<br>> SSI encoder<br>> Frequency input<br>> Weighing |
| | Safety I/O | > Functional safety I/O modules for control of Emergency stop, switches, pressure-sensitive mats and edges, solid-state output safety light curtains, and pressure sensors with PNP+PNP or PNP+NPN outputs | – | > Safety I/O<br>> Safety redundant power supply |
| **Services** | | > Cybersecurity<br>> Web Server | > Cybersecurity<br>> Web Server (Including commisionning without PLC)<br>> Integrated protection and diagnostics | > Cybersecurity<br>> Web Server |
| **Mounting** | | On DIN rail ⊥, on plate, or panel with dedicated accessory | Mounting: Directly on DIN rail, horizontally or vertically (refer to documentation for specific conditions):<br>> top hat type TH35-7.5 rail, IEC 60715<br>> top hat type TH35-15 rail, IEC 60715 | On rack with backplane (rack can be mounted on a panel or a plate) |
| **I/O Connection** | | By removable screw terminal blocks, spring terminal blocks, and removable HE10 connectors (MIL20) | By removable screw or spring terminal blocks, with or without plastic cover<br>By HE-10 terminal blocks for Discrete I/O *(2)* | By removable screw or spring terminal blocks |
| **Hot-swapping capability** | | – | Yes | Yes |
| **Compatibilty with controllers** | Logic controllers | ■ Modicon M221/M221 Book<br>■ Modicon M241<br>■ Modicon M251<br>■ Modicon M262 | ■ Modicon M241<br>■ Modicon M251<br>■ Modicon M262 | – |
| | Motion controllers | ■ Modicon M262 | ■ Modicon M262<br>■ PacDrive LMC Eco/Pro2<br>■ Modicon M660 | – |
| | Programmable Automation Controllers | – | ■ dPAC controller Modicon M262<br>■ Modicon M580 | ■ Modicon M580<br>■ Modicon M340 |
| | Remote Terminal Units | – | ■ SCADAPack™ 47x \| 47xi \| 470R | – |

*(1) Soon commercialized. (2) Planned commercialization.*

# **Modicon** Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Industrial automation controllers

| Industrial automation controllers | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **Applications** | Controllers for industrial machines | | | | | | Programmable Automation Controllers | |
| | **Type** | Logic controllers | | | Logic/Motion controllers | Motion controllers | Advanced iPC* Motion Controllers | Mid-range PLCs for industrial process and infrastructure | Ethernet Programmable Automation Controllers |
| | **Range** | Modicon M221 | Modicon M241 | Modicon M251 | Modicon M262 | PacDrive LMC Eco, LMC Pro2 | Modicon M660 | Modicon M340 | Modicon M580 |
| | | | | | | | | | |
| Consult the catalog | | DIA3ED2140106EN | DIA3ED2140107EN | DIA3ED2140108EN | DIA3ED2180503EN | DIA7ED2160303EN | DIA3ED2241201EN *industrial PC | DIA6ED2110104EN | DIA6ED2151012EN |
| **Memory** | | 640 KB RAM, 2 MB Flash | 64 MB RAM, 128 MB Flash | 64 MB RAM, 128 MB Flash | 192 MB RAM, 256 MB Flash | 128 KB to 256 KB NV RAM, 512 MB DDR2 to 1 GB DDR3L | Up to 8 GB RAM (depending on processor type) | 1,792 KB or 3,584 KB internal RAM (depending on processor type) | 64 MB RAM |
| **Supply voltage** | | 24 VDC or 100...240 VAC | 24 VDC or 100...240 VAC | 24 VDC | 24 VDC | 24 VDC | 24 VDC | 24 VDC, 24...48 VDC, 125 VDC, 100...240 VDC, or 100...240 VAC | 24 VDC, 24...48 VDC, 125 VDC, 100...240 VDC, or 100...240 VAC |
| **Communication** | Embedded communication fieldbuses and networks | > EtherNet/IP Adapter<br>> Modbus TCP<br>> RS 232/RS 485 serial link<br>> Mini USB-B programming port | > EtherNet/IP<br>> Modbus TCP<br>> CANopen (master) and SAE J1939<br>> Serial link<br>> Mini USB-B programming port | > EtherNet/IP<br>> Modbus TCP<br>> CANopen (master) and SAE J1939<br>> Serial link<br>> Mini USB-B programming port | > EtherNet/IP<br>> Modbus TCP<br>> Sercos III<br>> Serial link<br>> Mini USB-B programming port | > EtherNet/IP<br>> Sercos III<br>> CANopen<br>> Profibus<br>> Profinet<br>> EtherCAT | > Sercos III<br>> EtherNet/IP | > EtherNet/IP<br>> Modbus TCP<br>> CANopen<br>> Serial link<br>> Mini USB-B programming port | > EtherNet/IP<br>> Modbus TCP<br>> CANopen<br>> Profibus DP<br>> FactoryCast<br>> DNP3 (RTU)<br>> Global Data<br>> Serial link<br>> AS-Interface<br>> Mini USB-B programming port |
| | OPC Unified Architecture (OPC UA) | – | Server | Server | Server/Client (encrypted) | Server/Client (encrypted) | Client | Client | Client |
| | Cybersecurity | With external firewall | With external firewall | With external firewall | Embedded | With external firewall | Embedded | Embedded | Embedded |
| | Optional communication fieldbuses and networks | > 1 Serial link | > Ethernet<br>> Profibus DP | > Ethernet<br>> Profibus DP | > Ethernet, EtherNet/IP Adapter<br>> CANopen Master | > CANopen<br>> Profibus DP<br>> RT-Ethernet | – | > EtherNet<br>> Modbus TCP<br>> Serial link<br>> FactoryCast Modbus/TCP<br>> RTU<br>> AS-Interface | > EtherNet/IP and Modbus TCP<br>> FactoryCast<br>> IP forwarding<br>> OPC UA<br>> IEC 61850<br>> DNP3/IEC 60870-5-101/104<br>> Global Data |
| **Embedded I/O (number and type)** | | > Up to 40 logic inputs<br>> 2 analog inputs<br>> Up to 16 relay outputs<br>> Up to 16 transistor outputs | > Up to 24 logic inputs<br>> Up to 16 transistor outputs<br>> Up to 16 relay outputs<br>> Up to 8 high-speed inputs<br>> Up to 4 high-speed outputs | – | > 4 fast digital inputs<br>> 4 fast digital outputs | > Up to 20 digital inputs<br>> Up to 16 touch probe inputs<br>> Up to 4 interrupt inputs<br>> Up to 2 analog inputs<br>> Up to 16 digital outputs<br>> Up to 2 analog outputs | > 4 digital inputs | > Up to 1,024 discrete I/O<br>> Up to 256 analog I/O<br>> Up to 36 application-specific channels (process counter, motion control, and serial link or RTU) | > Up to 6,144 discrete I/O<br>> Up to 1,536 analog I/O<br>> Up to 216 application-specific channels (process counter, motion control, and serial link or RTU) |
| **Embedded functional /severe environment** | | –/– | –/– | –/– | Yes/– | Yes/– | –/– | Yes /Yes | Yes /Yes |
| **Synchronized axes** | | – | – | – | Up to 24 synchronized axes over Sercos III | Up to 130 synchronized axes over Sercos III | Up to 64 (planned 130) synchronized axes over Sercos III | – | – |
| **Dedicated configuration software** | | EcoStruxure Machine Expert - Basic | EcoStruxure Machine Expert | | | | EcoStruxure Machine Expert | EcoStruxure Control Expert | |

| **Compatibility with I/O systems** *(click on the range name to open the catalog)* | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Local I/O | ■ Modicon TM3 | ■ Modicon TM3 | | | – | – | ■ Modicon X80 | ■ Modicon X80 |
| | Remote I/O | ■ Modicon TM3 | ■ Modicon TM3 | | | – | – | ■ Modicon X80 | ■ Modicon X80 |
| | Distributed I/O – Over Ethernet | ■ Modicon TM3 | ■ Modicon TM3<br>■ Modicon Edge I/O NTS<br>■ Modicon TM5 | | | ■ Modicon TM5 | – | ■ Modicon Edge I/O NTS | ■ Modicon Edge I/O NTS |
| | Distributed I/O – Over CANopen | – | ■ Modicon TM3 | ■ Modicon TM3 | ■ Modicon TM3<br>■ Modicon TM5 & Modicon TM7 | ■ Modicon TM3<br>■ Modicon TM5 & Modicon TM7 | – | – | – |
| | Distributed I/O – Over Sercos | – | – | – | ■ Modicon Edge I/O NTS<br>■ Modicon TM5 | ■ Modicon Edge I/O NTS<br>■ Modicon TM5 | ■ Modicon Edge I/O NTS | – | – |
| | Distributed I/O – Over Modbus Serial Line | ■ Modicon TM3 | ■ Modicon TM3 | ■ Modicon TM3 | ■ Modicon TM3 | – | – | – | – |
| | Distributed I/O – Over Profibus | – | – | – | – | – | – | – | – |
| | Distributed I/O – Over AS-Interface master | – | – | – | – | – | – | – | – |
| | Safety I/O | ■ Modicon TM3 (functional safety) | ■ Modicon TM3 (functional safety) | ■ Modicon TM3 (functional safety) | ■ Modicon TM3 (functional safety)<br>■ Modicon TM5 & Modicon TM7 | ■ Modicon TM5 & Modicon TM7 | – | ■ Modicon X80 | ■ Modicon X80 |

# **Modicon** Edge I/O NTS

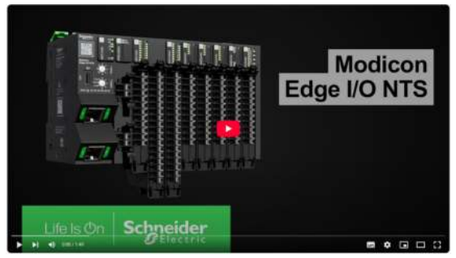
## The future-ready I/O system for data aggregation with built-in cybersecurity

System components

- Modicon Edge I/O NTS is an I/O system designed to remain relevant and effective as technology and data requirements evolve over time.
  - This implies that the I/O (input/output) system can gather and consolidate data from various sources in a points that adapts to future advancements and changes in data technology.
  - This could involve scalability, flexibility, and compatibility with emerging data protocols and standards, helping to ensure that the system can continue to aggregate and process data effectively in the face of future developments.
  - Using open Ethernet protocols, Edge I/O NTS embeds the latest technologies to deliver optimum performance, availability, and cybersecurity.

- Modicon Edge I/O NTS provides flexibility and allows you to meet the requirements of a wide range of applications.
- The offer is delivered as a kit: a pre-assembly of a base (for mounting on the DIN rail, power bus, and data transmission) associated with an electronic module (main function).

- The offer is composed of I/O modules, bases, terminal blocks, mounting accessories, labels, spare parts, and a configuration software.
- The type of connection can be selected between spring or screw terminal blocks, with or without articulated transparent plastic cover.
- The offer is available in standard and hardened versions:
  - Standard version: -30 to 60 °C *(-22 to 140 °F)*
  - Hardened version provides an extended operating temperature and conformal coating, allowing operation in severe environments (up to GX): -40 to 70 °C *(-40 to 158 °F)*




Click to open video *(1:49)*

*Modicon Edge I/O NTS is a future-ready unified I/O solution tailored for data aggregation.*
*With its distributed IP20 design, it provides a diverse range of options to accommodate various applications within a I/O family, helping to ensure adaptability and future readiness.*

**Up to 32 modules per cluster**
**In addition to a Network Interface Module, main power supply, and Cluster termination**

| Network Interface modules | Power supply modules | Discrete I/O modules | Analog I/O modules | Counter modules | Motion Expert modules | Field Device Master modules | Passive modules | Accessories | Terminal Blocks |
|---|---|---|---|---|---|---|---|---|---|
| ■ Enable communication between controllers and Edge I/O NTS islands<br>■ Embeded Web server: Edge I/O NTS – Web interface<br>■ OPC UA Server (Explicit)<br>■ Commissioning possible even without a PLC<br>■ Optional and Virtual module management | ■ Distribute the bus power supply to the Network Interface Modules (NIM) and I/O modules<br>■ Distribute the field power supply in a cluster of modules<br>■ Simplified wiring | ■ Internal or external field power supply<br>■ Range of options for different electrical ratings and wiring connections<br>■ With sensor or actuator power supply<br>■ Isolated channels<br>■ Protected<br>■ With diagnostics | ■ Voltage or Current<br>■ Versatile modules (current or voltage configurable per channel)<br>■ Temperature (RTD, thermistor, or thermocouple)<br>■ HART (Tolerance or communication)<br>■ Versatile modules (current or voltage configurable per channel)<br>■ With sensor or loop power supply<br>■ Isolated channels | ■ High-speed counter<br>■ Up to 250 kHz<br>■ Integrated reflex ouput based on dedicated functions | ■ Encoder<br>■ CAM<br>■ Encoder generator *(1)*<br>■ Fast I/O<br>■ Pulse Output Generator | ■ Seamlessly integrate the fieldbuses directly within the I/O islands (no need to add a gateway) | ■ Provide flexibility and facilitate the wiring of modules with additional 0 VDC or 24 VDC connection<br>■ Reserve space physically for future expansion | ■ Cluster termination (Provided with Network Interface Modules Kit)<br>■ Mounting accessories<br>■ Labels | ■ Spring terminal blocks with or without cover<br>■ Screw terminal blocks with or without cover<br>■ Terminal Blocks for connecting discrete I/O modules to the Telefast ABE7 connection sub-bases *(2)* |
| □ EtherNet/IP Adapter<br>□ Modbus TCP Server<br>□ SERCOS III | □ 24 VDC<br>□ Diagnostics *(1)* | □ Discrete inputs<br>• 12/24/48 VDC<br>• 24/48/120/230 VAC<br>□ Discrete outputs<br>• 24 VDC transistor<br>• 100 to 240 VAC triac<br>• 5 to 125 VDC, 24 to 240 VAC NO or NO/NC relay | □ Analog inputs<br>• ±5 V, 0/1...5 V<br>• -10/+10 VDC, 0/+10 VDC<br>• 0-20 mA, 4-20 mA, ±20 mA<br>□ Analog outputs<br>• -10/+10 VDC, 0/+10 VDC<br>• 0-20 mA, 4-20 mA<br>□ Combo | □ 250 kHz high-speed counter<br>□ with reflex output<br>□ 24 VDC auxiliary inputs | □ RS-422 incremental encoder (1 MHz)<br>□ SinCos (400 kHz)<br>□ Hiperface (400 kHz)<br>□ CAM switch<br>□ Pulse output (400 kHz)<br>□ EnDat V2.1 & V2.2<br>□ Timestamping<br>□ Oversampling | □ Serial Line Master<br>□ IO-Link Master | □ 0 VDC and 24 VDC common distribution<br>□ Dummy | | |
| See page 60 | See page 56 | See page 18 | See page 28 | See page 40 | See page 44 | See page 48 | See page 52 | See page 65 | See page 64 |

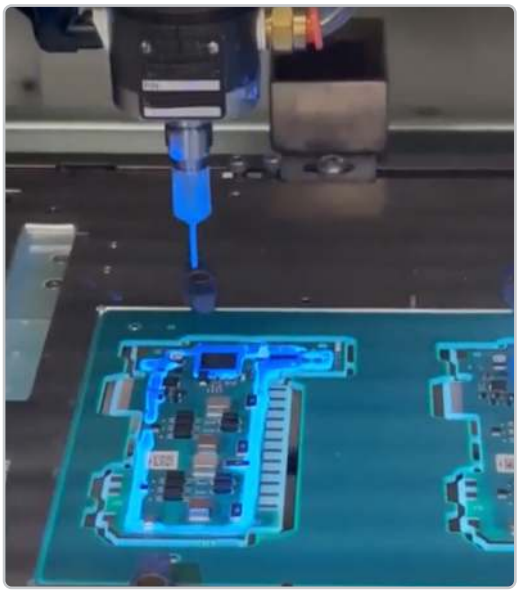
*(1) Soon commercialized.*

*(2) Planned commercialization.*

# **Modicon** Edge I/O NTS

## The future-ready I/O system for data aggregation with built-in cybersecurity

Robust – Performant



*Conformal coating: Compliance is achieved for each hardened functional module by depositing resin film on the electronic components and on the seal around the module, for protection against dust, moisture, and corrosive environments.*

*High-quality manufacturing with Modicon Edge I/O NTS*
*Click to open video (1:34)*

## Robust

### Supporting features

- Thermal Tolerance
  - Standard version: -30 to 60 °C *(-22 to 140 °F)* operating temperature
  - Hardened version: -40 to 70 °C *(-40 to 158 °F)* operating temperature
- Hardened -40 to 70 °C with conformal coating
- Wide range of certifications *(1)*
  - CE, UKCA, cULus, RCM
  - Power generation market
  - Hazardous Location: cULus Haz. Loc. Class 1 Div.2, ATEX/IECEx (Zone 2/22) (pending), CCC Ex (Zone 2/22) (pending)
  - EU RO Mutual Recognition (Marine certification)
  - Rolling stock, Railway and stationary facilities
  - cURus (for Terminal Blocks)
- EMC Tolerance: exceeds industrial standards resistance level (IEC 61000-6-2 and IEC 61000-6-4)
- Vibration Tolerance: up to 2 g (with accessory)
- Corrosive environment
  - Standard (non-hardened) modules, with exception
    - Floating mixed Gas G3
    - Floating mixed Gas C3
    - Mould growth 3B2
    - Dust & Sand 3S6
  - Hardened modules, with exception
    - Floating mixed Gas Gx
    - Floating mixed Gas Cx
    - Salt Spray Severity 2
    - Mould growth 3B3
    - Dust & Sand 3S7

### Details

- Railway certification as evidence of robustness
- Choose between the Standard version for general-purpose use and the Hardened version for enhanced durability in demanding environments
- Minimizes the need for climate control equipment (e.g., air conditioners, heaters) in electrical or control panels
- I/O layouts can match process geography (altitude)
- No need to use specific offer to achieve a high level of robustness

### Customer benefits

- Lower cost (less environmental conditioning needed)
- More freedom to place I/O closer to machine signals which reduces wiring costs
- Longer lifecycle

## Performant

### Supporting features

- Synchronized internal bus
- Simple motion without motion CPU
- Reflex output in some modules
- 16-bit resolution analog value

### Details

- Precise control with High-resolution analog value
- CAM switch without motion controller
- Very fast response time (up to 20 µs)

### Customer benefits

- Increased machine productivity - speed and throughput
- Lower cost of small/simple motion machine
- More freedom to place the right I/O where they are needed

*(1) Consult the Offer Certification plan, see pages 72 and 73.*

# **Modicon** Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Available – Convenient – Sustainable

*"How-to" playlist*

*Environmental Data Program*

## Available

### Supporting features

- Patented passive base optimizing installation robustness
- Hot swap
- Modules with a detected fault do not affect rest of the island
- Integrated protection functions and diagnostics
- RSTP ring redundancy

### Details

- Operate using a Modicon M580 Hot Standby system to ensure full PLC redundancy
- Designed for reliability - less downtime
- Higher MTTF and shorter MTTR
- Robust communication
- Improved failure detection, shorter time to start or restart

### Customer benefits

- Less production lost to unplanned downtime
- Faster troubleshooting with less downtime

## Convenient

### Supporting features

- Removable teminal block staying in place even unplugged
- Numbering and easy identification of terminal pins
- Enlarged test probe hole
- Terminal Blocks stay in place even unplugged
- Choice of screw or spring terminals, with or without plastic cover
- Dummy module: reserve the space for future requirement
- Coding keys: help prevent assembly or wiring mistakes

### Details

- Terminal Blocks can be removed allowing more tests (easier than rewiring)
- Wires are easy to insert in right place and to be identified
- Voltage test still possible even with spring

### Customer benefits

- Save time during interventions
- Faster wiring
- Help to ensure functional safety during manipulation and testing, even with terminal blocks unplugged
- Facilitate wiring for users who are not familiar with the offer

## Sustainable

### Supporting features

- 89% of the overall plastics parts contain bio-based plastic, providing:
  - A lower carbon footprint (-5%) compared to conventional resin
  - Higher circularity versus conventional resin (at least 20% content of bio-based plastics *(1)*

### Details

- New packaging style reducing by 58% the quantity of cardboard and plastic- free
- Paper of the Instruction sheet reduced by 75%
- Produced with high level quality by automated lines, in Schneider Electric Lighthouse Factory (WEF) implementing energy efficient and lean manufacturing and leveraging renewable energy

### Customer benefits

- Easy to recycle with flat cardboard after opening
- Grade “A” repair index for a typical configuration (8,6/10)

*(1) Starting in H1 2026, new products will be consistently manufactured using bio-based plastics*

# **Modicon** Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Integrated

## Integrated

| Sofware level | | Tools |
|---|---|---|
| EcoStruxure **Machine Expert** | - Create the design of the Edge I/O islands - Configure the modules - Store and retrieve the configuration file - Online parameter adjustment: Commissioning and Diagnostics - | EcoStruxure **Architecture Builder** *(The cloud-based collaboration tool for optimized quotations)* |
| EcoStruxure **Control Expert**/ *(Classic and Topology Manager)* | | Modicon **PLC Configurator** *(Create your controller and I/O architecture by usage and application)* |
| EcoStruxure **Automation Expert** | | EcoStruxure **Automation Device Manager** *(Firmware updates)* |
| | | EcoStruxure **Cybersecurity Admin Expert** *(Cybersecurity rules)* |
| **Edge I/O level** | | |
| Modicon **Edge I/O Configurator** *NTSCSW1000 (1)* | | - Commissioning without PLC - Export EDS file for third-party use - Manage some cybersecurity rules - |
| Modicon **Edge I/O NTS – Web interface** | | |

### Supporting features

- Open to future, current, legacy and third-party offers
- Integrated in Control Expert, Machine Expert, Automation Expert, Automation Device Manager, PLC Configurator, and Architecture Builder
- Dedicated configurator mainly for third-party PLCs also accessible from embedded Web server
- Integrated diagnostics accessible from application and from embedded Web server
- OPC UA Server (Explicit)

### Details

- An I/O system for all architectures and eco-systems
- Smooth journey from design to program versus programming from scratch
- Access to diagnostics - shorter downtime
- Access information in parallel with implicit communication

### Customer benefits

- Save time and money in design and build phase
- Potential remote dignostics service offer
- Ability to build best-in-class machine control systems from best-in-class components

### Software portfolio

| Designation | Minimum version to use |
|---|---|
| EcoStruxure **Machine Expert** | V2.5 |
| EcoStruxure **Control Expert** | V16.2<br>V16.2 Hotfix |
| EcoStruxure **Automation Expert** | V25.0<br>V25.0.1 |
| EcoStruxure **Automation Device Manager** | V3.4.120 |
| EcoStruxure **Cybersecurity Admin Expert** | V2.4.8 |

**NOTE**

*These versions support seamless integration of Edge I/O NTS. However, availability depends on both the release dates of specific modules and the corresponding software versions. Because of these dependencies—and certain module-specific constraints—not all Edge I/O NTS modules are supported across all software releases. Always refer to the documentation for each software package to confirm compatibility.*

*Edge I/O NTS offers standard, open integration, making it suitable for third-party systems as well as older software and PLC versions.*

*A built-in filter in Modicon PLC Configurator lets you view only the modules supported by the software you select.*

*(1) Modicon Edge I/O Configurator Software type NTSCSW1000 is a free software, downloadable with this link*

For details on the commercialized version, refer to the Software Seamless integration Table on page 70.

# **Modicon** Edge I/O NTS

## The future-ready I/O system for data aggregation with built-in cybersecurity

Cybersecure - Flexible

## Cybersecure

### Supporting features

- Built-in cybersecurity: integrated in the hardware by design
- Manufacturer certificate to authenticate each module
- Easy to integrate in IT cybersecurity infrastructure
- Ready for cybersecurity regulatory changes (such as the Cyber Resilience Act, NIS2.0, etc.)
- Compliance with:
  - GDPR
  - SB327
  - IEC 62443-4-1, IEC 62443-4-2 + 3-3

### Details

- Embedded Trusted Platform Module (TPM)
- Secure boot
- Signed firmware, secure update
- Device genuineness
- Backbone bus based on OPC UA over TSN
- Encrypted communications (Services)
- Centralized user access management (RBAC)

### Customer benefits

- Enhanced product cybersecurity increases overall machine cybersecurity
- Less downtime caused by cyberattacks
- Increased security for remote diagnostics, machine monitoring, communications, and other digital transformation activities

## Flexible

### Supporting features

- 75+ discrete/analog/specialist I/O modules
- Compact and high-end (more environmentally robust) versions available
- Modbus TCP, EtherNet/IP, SERCOS fieldbus network
- Spring or screw terminal blocks, with or without cover
- Same offer for classic, motion, and hardened I/O
- Adapted compactness for function provided

### Details

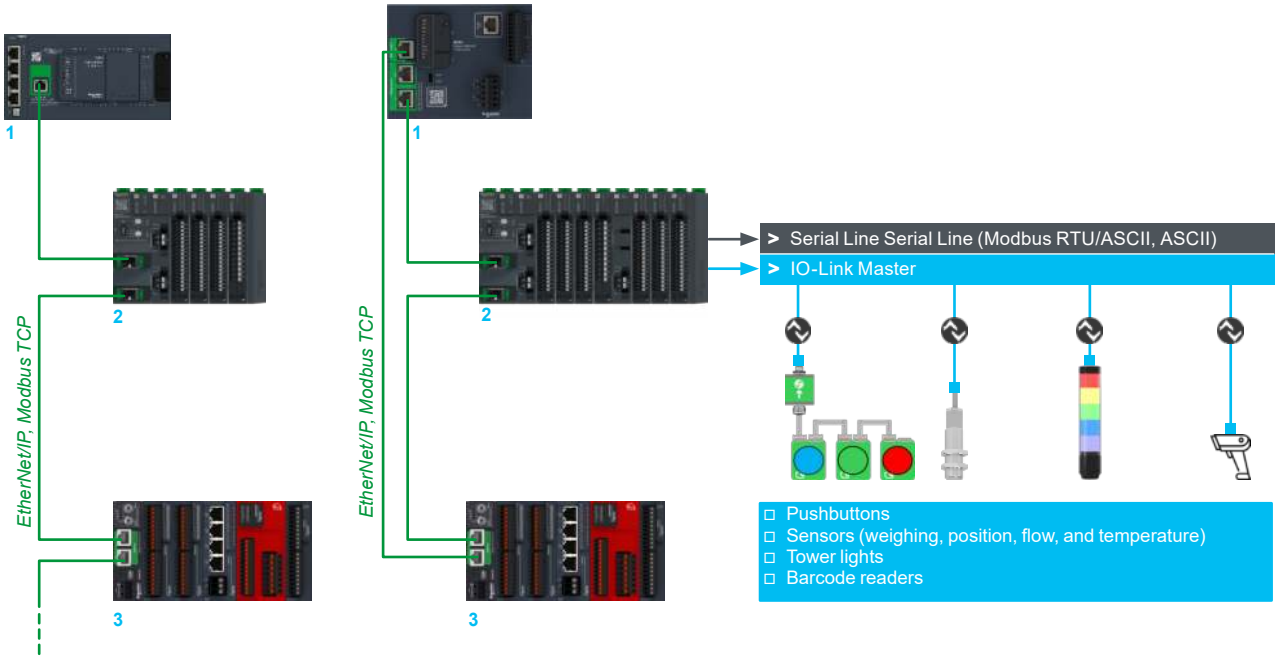
- A I/O range for plant and machine systems
- Compact standard or high-end option available for more features, diagnostics, and easier wiring
- Open IP protocols
- Choice of Connection methods (spring or screw)
- Right balance between wire and finger size for the purposes of wiring and manipulation for maintenance
- Commissioning possible even without a PLC or virtual module

### Customer benefits

- Lower spare part and supply chain costs
- Less staff training, increased effectiveness
- Enhanced network flexibility - the capability to select the most suitable network to fulfill overall requirements
- Choice of modules and terminal blocks that suit your requirements instead of adjusting your needs
- Meet typical application needs with fewer product references
- Compact design reduces costs and maintenance

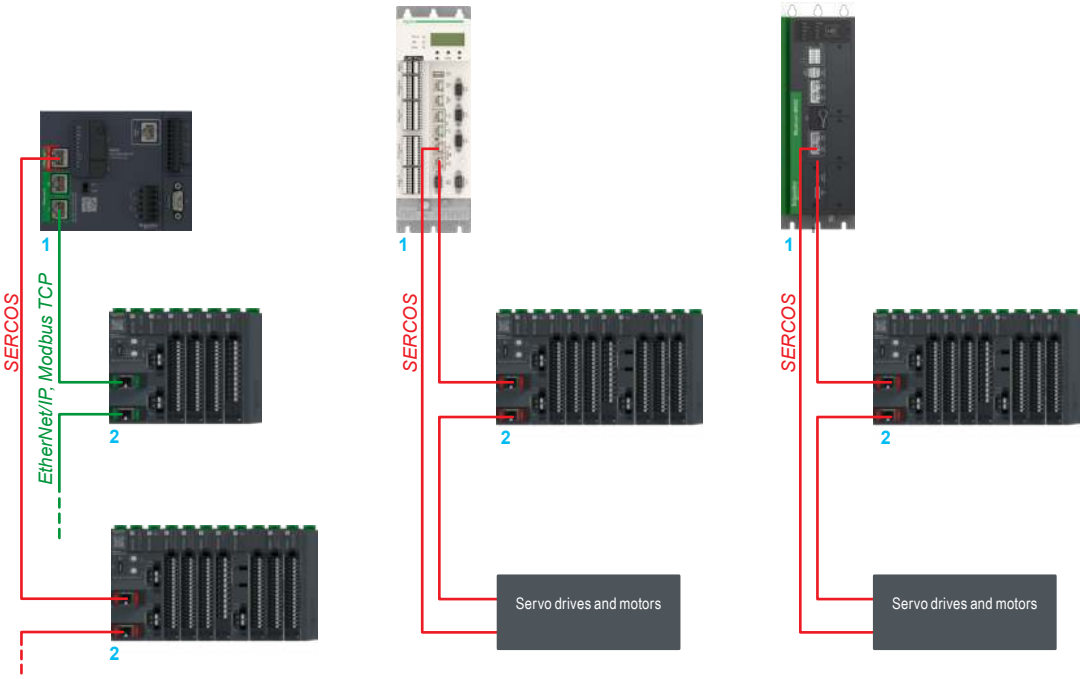
## Machine architectures

### Over Modbus TCP and EtherNet/IP




1 PLC: Modicon M241, Modicon M262, or third-party controller
2 Modicon Edge I/O NTS: Cluster composed of a Network Interface Module and a Power supply module, plus discrete modules, analog modules, counter modules, motion expert modules, Field Device Master modules, or passive modules based on a modular configuration.
3 Modicon TM3

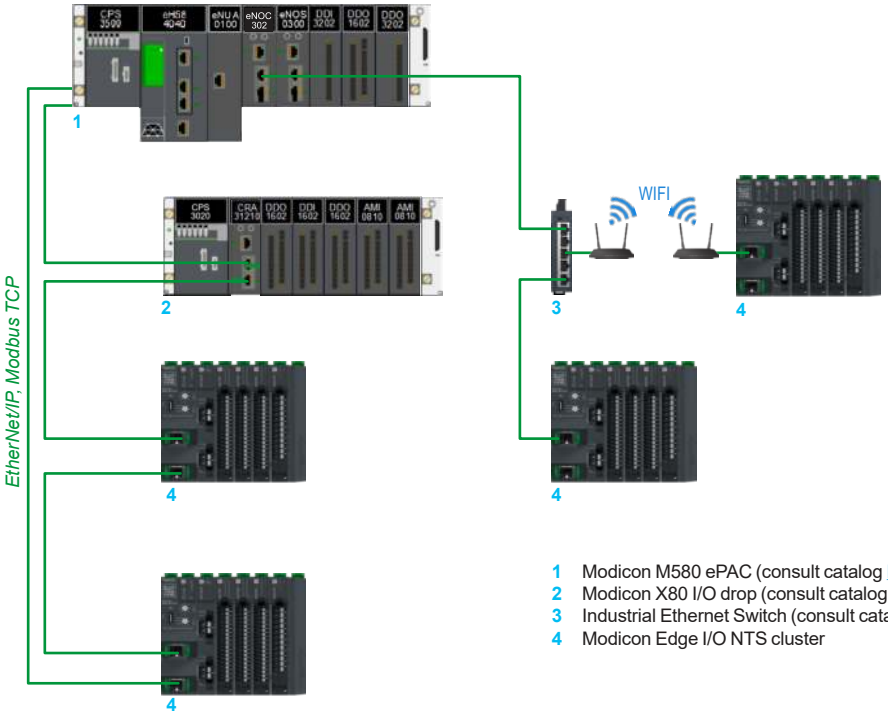
### Synchronized Motion Control over SERCOS




1 Motion controllers: Modicon M262, PacDrive LMC, or Modicon M660
2 Modicon Edge I/O NTS: Cluster composed of a Network Interface Module and a power supply module, plus discrete modules, analog modules, counter modules, motion expert modules, Field Device Master modules, or passive modules based on a modular configuration.

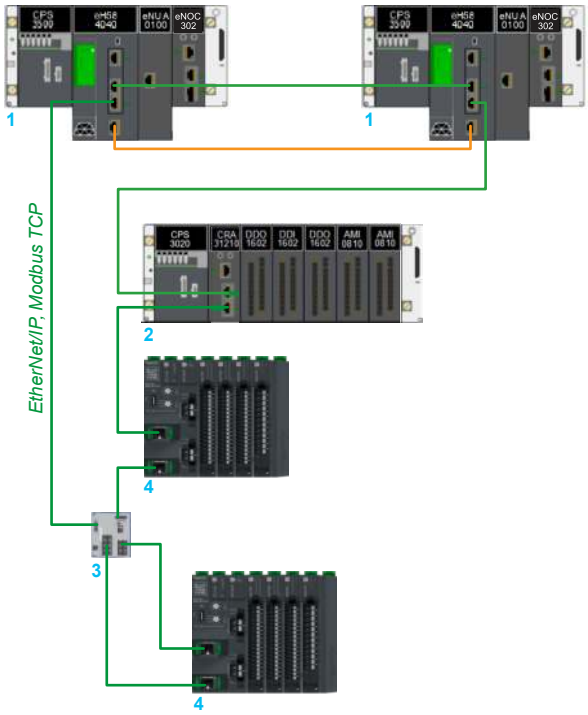
## Plant architectures

### Architecture with Modicon M580 ePAC (Distributed I/O, ring topology)



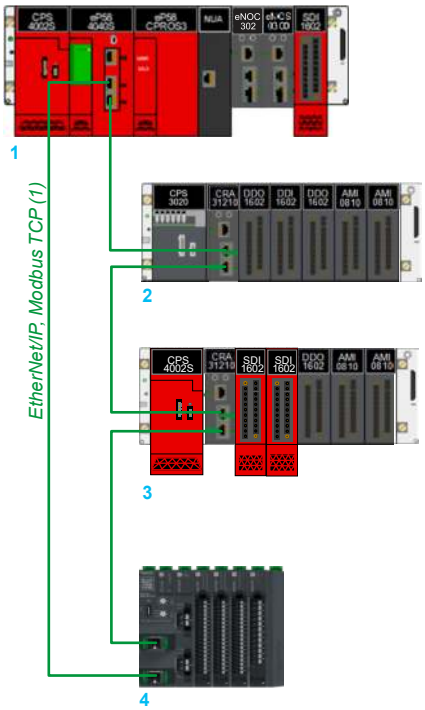

1 Modicon M580 ePAC (consult catalog DIA6ED2151012EN)
2 Modicon X80 I/O drop (consult catalog DIA6ED2131203EN)
3 Industrial Ethernet Switch (consult catalog DIA6ED2140903EN)
4 Modicon Edge I/O NTS cluster

### Architecture with Modicon M580 Redundant ePAC
(bumpless CPU switchover)




1 Modicon M580 Redundant ePAC: Operates with hot-standby CPU (consult catalog DIA6ED2151012EN)
2 Modicon X80 I/O drop (consult catalog DIA6ED2131203EN)
3 Industrial Ethernet Switch (consult catalog DIA6ED2140903EN)
4 Modicon Edge I/O NTS cluster

### Architecture with Modicon M580 Safety ePAC




1 Modicon M580 Safety ePAC (consult catalog DIA6ED2151012EN)
2 Modicon X80 I/O drop (consult catalog DIA6ED2131203EN)
3 Modicon X80 Safety I/O (consult catalog DIA6ED2131203EN)
4 Modicon Edge I/O NTS cluster

*(1) Planned commercialization.*

# **Modicon** Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Topology

## Topology

**Typical Modicon Edge I/O NTS island/cluster**

**Cluster solution detail**

1 PLC
2 Network Interface module
3 Power supply module
4 Discrete module, analog module, counter module, motion expert module, Field Device Master module, passive module
5 Cluster termination

- The cluster is made up of kits (pre-assembled module and base).
- Up to 32 modules per cluster
- The island is made of one cluster.
- A high-speed Ethernet backbone provides communication and power transmission between modules.
- Fast device replacement in five steps:
  - Enter password requirements
  - Scan the setup
  - Configure the setup in the DHCP name
  - Create the FDR backup
  - Replace the head

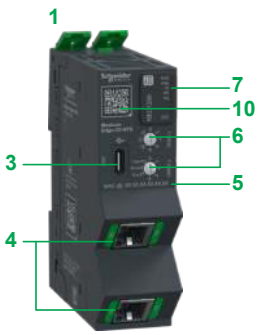
# Modicon Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Topology

## Topology

### System components



- The Network Interface Modules serve as the head units of a cluster, managing communication and coordination between connected modules.:

1 Standard version: -30 to 60 °C *(-22 to 140 °F)* operating temperature, 30 mm *(1.18 in.)* wide

2 Hardened version: -40 to 70 °C *(-40 to 158 °F)* operating temperature, 45 mm *(1.77 in.)* wide

3 USB port:
- USB-C as commissioning port, to save configuration
- Access to integrated Web server/configurator

4 Two Ethernet ports
- EtherNet/IP, Modbus TCP, or SERCOS III
- Baud rate: 100 Mbps
- Diagnostics
- Star, Daisy chain, RSTP

5 Marking: MAC address printed on the front

6 Rotary switches:
- Manual IP definition
- DHCP

7 LED for maintenance information

8 Rotary switch for cybersecure mode (can also reset the module to factory settings)

9 Cluster termination (sold with the Network Interface kits)

10 QR code provides direct access to a maintenance webpage with both commercialization data and maintenance resources

- Two versions of the power supply module:

1 Distributes bus power to Network Interface Modules (NIMs) and I/O modules and supplies field power within a module cluster. One supply module is required after each NIM, and only one per cluster is permitted.

2 Distributes the field power within a module cluster. Required when additional field power is needed, depending on the application.

3 Connects via removable screw or spring terminals.

- Both versions are hardened: -40 to 70 °C *(-40 to 158 °F)* operating temperature, 15 mm *(0.59 in.)* wide, with automatic disconnect (a self-protecting power output that turns off automatically in abnormal electrical conditions).

- I/O modules can be discrete, analog, counting, motion expert, Field Device Master, or passive.
- Three parts to operate:

1 a base, for mounting on DIN rail (easy mounting with one hand)

2 an I/O module

3 One or two removable terminal blocks depending on the module type

4 An HE10 terminal block for connecting discrete inputs and outputs to the Telefast ABE7 connection sub-bases *(Planned commercialization)*

- Sold as a kit: comprising a pre-assembled base (1) and a module (2), the terminal block (3) must be ordered separately
- Hot-swap capability: replacing or adding components without having to power down or interrupt system operation
- Completed with a removable terminal block:
  - Can be easily unplugged for commissioning, maintenance, and testing
  - With spring or screw connectors, with or without cover

# **Modicon** Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Discrete inputs (DC, AC)

| Function | | Discrete inputs | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | |
| **Number of channels** | | 4 | 6 | 8 | 16 | 16 | 16 | 4 | 2 (isolated) | 4 | 8 |
| **Discrete input voltage** | | 24 VDC | 24 VDC | 24 VDC | 24 VDC | 24 VDC | 24 VDC | 24 VAC or 48 V AC/DC (configurable) | 100...240 VAC | 100...120 VAC | 100...120 VAC |
| **Discrete input logic** | | Sink | Sink | Sink | Sink | Sink | Source | Sink | – | – | – |
| **Number of channel groups** | | 1 group | 1 group | 1 group | 1 group | 4 groups of 4 channels | 1 group | 1 group | 2 isolated groups of 1 channel | 1 group | 1 group |
| **Wiring mode** | | 1-/2-/3-wire | 1-/2-/3-wire | 1-/2-wire | 1-wire | 1-/2-/3-wire | 1-wire | 1-/2-/3-wire | 1-/2-/3-wire | 1-/2-wire | 1-wire |
| **Discrete input current** | | 2.3 mA<br>6.32 mA | 2.5 mA | 2.5 mA | 2.5 mA | 2.5 mA | 2.5 mA | 2...4 mA | 3.6 mA at 120 VAC, 50 Hz<br>7.1 mA at 230 VAC, 50 Hz | 6.7 mA at 120 VAC, 50 Hz | 6.5 mA at 120 VAC, 50 Hz |
| **Input compatiblity according to IEC/EN 61131-2** | | Configurable as Type 2 or Type 3 | Type 3 | Type 3 | Type 3 | Type 3 | Type 3 | Type 1 | Type 1 | Type 1 | Type 1 |
| **Input voltage** | Logic state 1 | 11...30 VDC | 11...30 VDC | 11...30 VDC | 11...30 VDC | 11...30 VDC | 11...30 VDC | ≥ 34 VAC for 48 VAC<br>≥ 14 VAC for 24 VAC<br>≥ 34 VDC for 48 VDC | ≥ 79 V | ≥ 79 V | ≥ 79 V |
| | Logic state 0 | < 5 VDC | < 5 VDC | < 5 VDC | < 5 VDC | < 5 VDC | < 5 VDC | ≤ 10 VAC for 48 VAC<br>≤ 5 VAC for 24 VAC<br>≤ 10 VDC for 48 VDC | ≤ 40 V | ≤ 20 V | ≤ 20 V |
| **Input current** | Logic state 1 | 2 mA min (Type 3)<br>≥ 6 mA min (Type 2) | 2 mA min | 2 mA min | 2 mA min | 2 mA min | 2 mA min | > 2 mA | > 2 mA | > 2 mA | > 2 mA |
| | Logic state 0 | 1.5 mA max | 1.5 mA max | 1.5 mA max | 1.5 mA max | 1.5 mA max | 1.5 mA max | < 2 mA | < 2 mA | < 2 mA | < 2 mA |
| **Input response time** | Logic state 1 to Logic state 0 | < 10 µs | < 125 µs | < 60 µs | < 125 µs | < 60 µs | < 125 µs | 0.5 line cycles max | 5.8 ms | 5.8 ms | 0.5 line cycles max |
| | Logic state 0 to Logic state 1 | < 20 µs | < 125 µs | < 90 µs | < 125 µs | < 90 µs | < 125 µs | 0.5 line cycles max | 5.8 ms to 16.4 ms (+5.8 ms delay) | 5.8 ms to 16.4 ms | 0.5 line cycles max |
| **Input protection type** | | Over voltage protection<br>Over current protection on sensor supply<br>Reverse polarity protection | Over voltage protection<br>Over current protection on sensor supply<br>Reverse polarity protection | | Over voltage protection<br>Reverse polarity protection | Over voltage protection<br>Over current protection on sensor supply<br>Reverse polarity protection | Over voltage protection<br>Over current protection on sensor supply<br>Reverse polarity protection | Over voltage protection | Over voltage protection | Over voltage protection | Over voltage protection |
| **Input diagnostics** | | Detected power supply error per channel<br>Broken wire error per channel<br>Short circuit error per channel<br>Detected sensor power supply error per channel | Detected power supply error per channel<br>Detected sensor power supply error per channel | | Detected power supply error per channel | Detected power supply error per channel<br>Detected sensor power supply error per channel | | Detected external power supply error per channel<br>Detected broken wire error per channel | | | |
| **Isolation** | Between channels | – | – | – | – | – | – | – | 1,780 VAC | – | – |
| | Between groups | – | – | – | – | – | – | – | | – | – |
| | Between channel and bus | 1,500 VAC | 1,500 VAC | 1,500 VAC | 1,500 VAC | 1,500 VAC | 1,500 VAC | 3,000 VAC | 3,000 VAC | 3,000 VAC | 3,000 VAC |
| | Between channels and ground | 1,500 VAC | 1,500 VAC | 1,500 VAC | 1,500 VAC | 1,500 VAC | 1,500 VAC | 3,000 VAC | 3,000 VAC | 3,000 VAC | 3,000 VAC |
| **Synchronization** | | Yes | Yes | Yes | Yes | Yes | Yes | – | – | – | – |
| **Dangerous voltage** | | – | – | – | – | – | – | Yes | Yes | Yes | Yes |
| **Size** | Height | 100 mm *(3.94 in.)* | 100 mm *(3.94 in.)* | 121 mm *(4.76 in.)* | 100 mm *(3.94 in.)* | 121 mm *(4.76 in.)* | 100 mm *(3.94 in.)* | 100 mm *(3.94 in.)* | 100 mm *(3.94 in.)* | 100 mm *(3.94 in.)* | 100 mm *(3.94 in.)* |
| | Width | 15 mm *(0.59 in.)* (1 slot) | 15 mm *(0.59 in.)* (1 slot) | 15 mm *(0.59 in.)* (1 slot) | 15 mm *(0.59 in.)* (1 slot) | 30 mm *(1.18 in.)* (2 slots) | 15 mm *(0.59 in.)* (1 slot) | 15 mm *(0.59 in.)* (1 slot) | 15 mm *(0.59 in.)* (1 slot) | 15 mm *(0.59 in.)* (1 slot) | 15 mm *(0.59 in.)* (1 slot) |
| **Operating temperature** | Standard version | -30 to 60 °C (*-22 to 140 °F*) | -30 to 60 °C (*-22 to 140 °F*) | -30 to 60 °C (*-22 to 140 °F*) | -30 to 60 °C (*-22 to 140 °F*) | -30 to 60 °C (*-22 to 140 °F*) | -30 to 60 °C (*-22 to 140 °F*) | – | – | – | -30 to 60 °C (*-22 to 140 °F*) |
| | Hardened version | -40 to 70 °C (*-40 to 158 °F*) | – | – | – | -40 to 70 °C (*-40 to 158 °F*) | – | -40 to 70 °C (*-40 to 158 °F*) | -40 to 70 °C (*-40 to 158 °F*) | -40 to 70 °C (*-40 to 158 °F*) | – |
| **Sold as a kit** (base + functional module) | Standard version | **NTSDDI0402K** | **NTSDDI0602K** | **NTSDDI0802XK** | **NTSDDI1602K** | **NTSDDI1602XK** | **NTSDDI1642K** | – | – | – | **NTSDAI0804K** |
| | Hardened version | **NTSDDI0402HK** | – | – | – | **NTSDDI1602XHK** | – | **NTSDAI0403HK** | **NTSDAI0215HK** | **NTSDAI0404HK** | – |
| **See page** | | 20 | | | | | | | | | |
| **Compatible terminal block** | Number of points - Pitch - Voltage | 12 - 5 mm *(0.19 in.)* - DC | 18 - 3.81 mm *(0.15 in.)* - DC | 18 - 5 mm *(0.19 in.)* - DC | 18 - 3.81 mm *(0.15 in.)* - DC | 18 - 5 mm *(0.19 in.)* - DC | 18 - 3.81 mm *(0.15 in.)* - DC | 12 - 5 mm *(0.19 in.)* - AC | 12 - 5 mm *(0.19 in.)* - AC | 12 - 5 mm *(0.19 in.)* - AC | 12 - 5 mm *(0.19 in.)* - AC |
| | Number of terminal blocks to use | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 |
| | Spring terminal block – Without cover | **NTSXTB12200H** | **NTSXTB18200H** | **NTSXTB18200XH** | **NTSXTB18200H** | **NTSXTB18200XH** | **NTSXTB18200H** | **NTSXTB12210H** | **NTSXTB12210H** | **NTSXTB12210H** | **NTSXTB12210H** |
| | Spring terminal block – With cover | **NTSXTB12201H** | **NTSXTB18201H** | **NTSXTB18201XH** | **NTSXTB18201H** | **NTSXTB18201XH** | **NTSXTB18201H** | **NTSXTB12211H** | **NTSXTB12211H** | **NTSXTB12211H** | **NTSXTB12211H** |
| | Screw terminal block – Without cover | **NTSXTB12000H** | **NTSXTB18000H** | **NTSXTB18000XH** | **NTSXTB18000H** | **NTSXTB18000XH** | **NTSXTB18000H** | **NTSXTB12010H** | **NTSXTB12010H** | **NTSXTB12010H** | **NTSXTB12010H** |
| | Screw terminal block – With cover | **NTSXTB12001H** | **NTSXTB18001H** | **NTSXTB18001XH** | **NTSXTB18001H** | **NTSXTB18001XH** | **NTSXTB18001H** | **NTSXTB12011H** | **NTSXTB12011H** | **NTSXTB12011H** | **NTSXTB12011H** |
| **Terminal block for connecting the inputs to the Telefast ABE7 connection sub-bases** | | – | – | – | – | **NTSXTS0000H** *(1)* | – | – | – | – | – |

*(1) Planned commercialization.*

# **Modicon** Edge I/O NTS

## The future-ready I/O system for data aggregation with built-in cybersecurity

Discrete inputs (DC, AC)

## Presentation

### Function

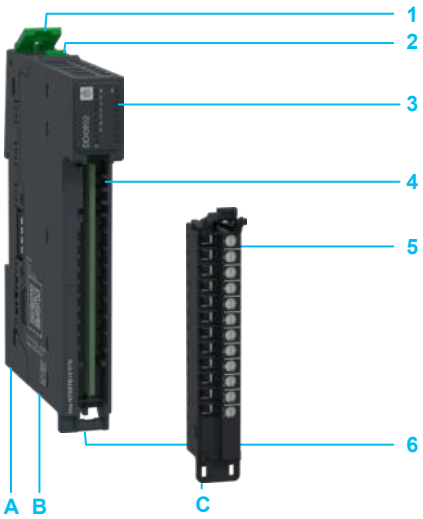
- The discrete input kits include an electronic module and its corresponding base, which match in height and width.
  - The electronic module provides the discrete Input function.
  - The base enables DIN rail mounting, data transmission, and the supply of power to the discrete modules through the backplane bus. The base also provides the field device power supply.
  - Discrete input kits provide 2 up to 16 channels with different levels of performance, protection, or diagnostics.

### Implementation

- Discrete input kits use one slot (15 mm *(0.59 in.)* width) or two slots (30 mm *(1.18 in.)* width) on the DIN rail, depending on the model.
- The kits must be completed with spring or screw removable terminal blocks to wire the devices. The terminal blocks must be chosen and ordered separately.
- Spring terminal blocks are recommended for quick, tool-free connection of the sensors and actuators. The quality of the spring terminals avoids the need for periodic re-tightening.

### Characteristics

- The kits are available in two versions:
  - Standard, with an operating temperature of -30 to 60 °C (-22 to 140 °F)
  - Hardened, with an operating temperature of -40 to 70 °C *(-40 to 158 °F)*. The hardened version can operate as the standard version.
- Hot-swap capability: replacing or adding components without having to power down or interrupt system operation.
- IP degree of protection is IP20. Hardened versions are treated with a conformal coating to ensure additional environmental protection and long-term reliability.




## Description

A discrete input kit comprises a base **A** and an electronic module **B**. The terminal block **C** must be ordered separately.

1 Mechanical clip for locking the kit onto the DIN rail
2 Release button for disengaging the module from the base
3 Status LEDs:
- One RUN LED (green): module running
- One LED per channel (green): channel diagnostics
- One ERR LED (red): detected module error

4 Housing for the terminal block
5 Terminal block
6 Hinge for mounting the terminal block

# Modicon Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Discrete inputs (DC, AC)

*NTSDDI0402K*
*NTSDDI0402HK*
*NTSDDI0602K*
*NTSDDI1602K*
*NTSDDI1642K*
*NTSDAI0804K*
*NTSDAI0215HK*
*NTSDAI0403HK*
*NTSDAI0404HK*

*NTSDDI0802XK*

*NTSDDI1602XK*
*NTSDDI1602XHK*

*12-points - 5 mm (0.19 in.) - DC/AC*

*18-points - 5 mm (0.19 in.) - DC*

*18-points - 3.81 mm (0.15 in.) - DC*

*20-points - HE connector*

## References

### Discrete input kits (discrete input module + base)

| Number of channels | Input voltage | Logic type | Wiring mode | Synchronization | Version | Reference | Weight kg/*lb* |
|---|---|---|---|---|---|---|---|
| **4** | 24 VDC | Sink | 1-/2-/3-wire | **Yes** | Standard | **NTSDDI0402K** | 0.097/ *0.213* |
| | | | | **Yes** | Hardened | **NTSDDI0402HK** | 0.098/ *0.216* |
| **6** | 24 VDC | Sink | 1-/2-/3-wire | **Yes** | Standard | **NTSDDI0602K** | 0.099/ *0.218* |
| **8** | 24 VDC | Sink | 1-/2-wire | **Yes** | Standard | **NTSDDI0802XK** | 0.106/ *0.233* |
| **16** | 24 VDC | Sink | 1-wire | **Yes** | Standard | **NTSDDI1602K** | 0.099/ *0.218* |
| | | Sink | 1-/2-/3-wire | **Yes** | Standard | **NTSDDI1602XK** *(1)* | 0.163/ *0.359* |
| | | | 1-/2-/3-wire | **Yes** | Hardened | **NTSDDI1602XHK** *(1)* | 0.166/ *0.365* |
| | | Source | 1-wire | **Yes** | Standard | **NTSDDI1642K** | 0.166/ *0.365* |
| **4** | 24 VAC or 48 V AC/DC (configurable) | Sink | 1-/2-/3-wire | – | Hardened | **NTSDAI0403HK** | 0.077/ *0.169* |
| **2** (isolated) | 100...240 VAC | – | 1-/2-/3-wire | – | Hardened | **NTSDAI0215HK** | 0.077/ *0.169* |
| **4** | 100...120 VAC | – | 1-/2-wire | – | Hardened | **NTSDAI0404HK** | 0.099/ *0.218* |
| **8** | 100...120 VAC | – | 1-wire | – | Standard | **NTSDAI0804K** | 0.077/ *0.169* |

### Terminal Blocks

| Number of points - Pitch - Voltage | Type | Cover | Reference | Weight kg/*lb* | *For use with the kit* |
|---|---|---|---|---|---|
| 12 - 5 mm *(0.19 in.)* - DC | Spring | Without cover | **NTSXTB12200H** | 0.029/*0.063* | *NTSDDI0402K*, *NTSDDI0402HK* |
| | | With cover | **NTSXTB12201H** | 0.040/*0.088* | |
| | Screw | Without cover | **NTSXTB12000H** | 0.048/*0.105* | |
| | | With cover | **NTSXTB12001H** | 0.058/*0.127* | |
| 12 - 5 mm *(0.19 in.)* - AC | Spring | Without cover | **NTSXTB12210H** | 0.029/*0.063* | *NTSDAI0215HK*, *NTSDAI0403HK*, *NTSDAI0404HK*, *NTSDAI0804K* |
| | | With cover | **NTSXTB12211H** | 0.040/*0.088* | |
| | Screw | Without cover | **NTSXTB12010H** | 0.048/*0.105* | |
| | | With cover | **NTSXTB12011H** | 0.058/*0.127* | |
| 18 - 5 mm *(0.19 in.)* - DC | Spring | Without cover | **NTSXTB18200XH** | 0.038/*0.083* | *NTSDDI0802XK*, *NTSDDI1602XK (1)*, *NTSDDI1602XHK (1)* |
| | | With cover | **NTSXTB18201XH** | 0.050/*0.110* | |
| | Screw | Without cover | **NTSXTB18000XH** | 0.064/*0.141* | |
| | | With cover | **NTSXTB18001XH** | 0.077/*0.169* | |
| 18 - 3.81 mm *(0.15 in.)* - DC | Spring | Without cover | **NTSXTB18200H** | 0.028/*0.061* | *NTSDDI0602K*, *NTSDDI1602K*, *NTSDDI1642K* |
| | | With cover | **NTSXTB18201H** | 0.038/*0.083* | |
| | Screw | Without cover | **NTSXTB18000H** | 0.039/*0.085* | |
| | | With cover | **NTSXTB18001H** | 0.049/*0.108* | |

### Terminal block for connecting the inputs to the Telefast ABE7 connection sub-bases

| | | | | | |
|---|---|---|---|---|---|
| 20 | HE10 | Without cover | **NTSXTS0000H** *(2)* | 0.480/*1.058* | *NTSDDI1602XK*, *NTSDDI1602XHK* |

### Accessories

Terminal Blocks, Telefast terminal blocks – Mounting accessories See pages 64 and 65

### Spare parts

Modules and Bases, Termination, Cover See pages 66 to 69

*(1) This kit requires two terminal blocks.*
*(2) Planned commercialization.*

# **Modicon** Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Discrete outputs (Transistor)

| Function | | Discrete outputs | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| **Number of channels** | | 2 (isolated) | 4 | 6 | 8 | 8 | 16 | 16 | 16 |
| **Discrete output type** | | **Transistor** | | | **Transistor** | | | | |
| **Discrete output voltage** | | 24 VDC | 24 VDC | 24 VDC | 24 VDC | 24 VDC | 24 VDC | 24 VDC | 24 VDC |
| **Number of channel groups** | | 2 isolated groups of 1 channel | 1 group | 1 group | 2 groups of 4 channels | 1 group | 1 group | 2 isolated groups of 8 channels | 2 groups of 8 channels |
| **Discrete output logic** | | Source | Source | Source | Source | Source | Source | Source | Source |
| **Wiring mode** | | 1-/2-/3-wire | 1-/2-/3-wire | 1-/2-/3-wire | 1-wire | 1-/2-wire | 1-wire | 1-/2-wire | 1-/2-wire |
| **Discrete output current** | | 2 A per channel<br>4 A per module | 500 mA per channel<br>2 A per module | 500 mA per channel<br>3 A per module | 2 A per channel<br>4 A per group<br>8 A per module | 500 mA per channel<br>4 A per module | 500 mA per channel<br>8 A per module | 500 mA per channel<br>4 A per group<br>8 A per module | 500 mA per channel<br>4 A per module |
| **Minimum switching current** | | – | – | – | – | – | – | – | – |
| **Operating voltage range** | | 20.4...28.8 VDC | 20.4...28.8 VDC | 20.4...28.8 VDC | 20.4...28.8 VDC | 20.4...28.8 VDC | 20.4...28.8 VDC | 20.4...28.8 VDC | 20.4...28.8 VDC |
| **Output response time** | State 1 to state 0 | 120 µs | 110 µs | 120 µs | 110 µs | 110 µs | 110 µs | 110 µs | 110 µs |
| | State 0 to state 1 | 70 µs | 90 µs | 70 µs | 90 µs | 90 µs | 90 µs | 90 µs | 90 µs |
| **Output protection type** | Transient voltage suppression per channel | Yes | Yes | Yes | Yes | Yes | – | Yes | Yes |
| | Short-circuit protection per channel | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| | Overload/thermal protection per channel | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| **Power supply type** | Bus power from power supply bus (24 VDC) | 24 VDC | 24 VDC | 24 VDC | 24 VDC | 24 VDC | 24 VDC | 24 VDC | 24 VDC |
| | Field power from internal power supply | 24 VDC (optional) | 24 VDC | 24 VDC | – | 24 VDC | 24 VDC | – | 24 VDC |
| | Field power from external power supply | 24 VDC (optional) | – | – | 24 VDC | – | – | 24 VDC | – |
| **Output diagnostics** | Detected power supply error per channel | Yes | Yes | Yes | – | Yes | Yes | Yes | Yes |
| | Detected external power supply error per channel | Yes | – | – | Yes | – | – | Yes | – |
| | Detected short-circuit/overcurrent per channel | Yes | Yes | By group of 2 channels | Yes | By group of 2 channels | By group of 2 channels | By group of 2 channels | By group of 2 channels |
| | Detected broken wire error per channel | – | Yes | – | – | – | – | – | – |
| | Detected read back error per channel | – | Yes | – | – | – | – | – | – |
| **Isolation** | Between channels | 500 VAC (with external power supply) | – | – | – | – | – | – | – |
| | Between groups | | – | – | – | – | – | 500 VAC | – |
| | Between channel and bus | 1,500 VAC | 1,500 VAC | 1,500 VAC | 1,500 VAC | 1,500 VAC | 1,500 VAC | 1,500 VAC | 1,500 VAC |
| | Between channels and ground | 1,500 VAC | 1,500 VAC | 1,500 VAC | 1,500 VAC | 1,500 VAC | 1,500 VAC | 1,500 VAC | 1,500 VAC |
| **Synchronization** | | **Yes** | – | – | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Dangerous voltage** | | – | – | – | – | – | – | – | – |
| **Size** | Height | 100 mm *(3.94 in.)* | 100 mm *(3.94 in.)* | 100 mm *(3.94 in.)* | 100 mm *(3.94 in.)* | 121 mm *(4.76 in.)* | 100 mm *(3.94 in.)* | 121 mm *(4.76 in.)* | 121 mm *(4.76 in.)* |
| | Width | 15 mm *(0.59 in.)* (1 slot) | 15 mm *(0.59 in.)* (1 slot) | 15 mm *(0.59 in.)* (1 slot) | 15 mm *(0.59 in.)* (1 slot) | 15 mm *(0.59 in.)* (1 slot) | 15 mm *(0.59 in.)* (1 slot) | 30 mm *(1.18 in.)* (2 slots) | 30 mm *(1.18 in.)* (2 slots) |
| **Operating temperature** | Standard version | – | -30 to 60 °C (*-22 to 140 °F*) | -30 to 60 °C (*-22 to 140 °F*) | -30 to 60 °C (*-22 to 140 °F*) | -30 to 60 °C (*-22 to 140 °F*) | -30 to 60 °C (*-22 to 140 °F*) | -30 to 60 °C (*-22 to 140 °F*) | -30 to 60 °C (*-22 to 140 °F*) |
| | Hardened version | -40 to 70 °C *(-40 to 158 °F)* | -40 to 70 °C *(-40 to 158 °F)* | – | – | – | – | -40 to 70 °C *(-40 to 158 °F)* | -40 to 70 °C *(-40 to 158 °F)* |
| **Sold as a kit** (base + functional module) | Standard version | – | **NTSDDO0402K** | **NTSDDO0602K** | **NTSDDO0802K** | **NTSDDO0802XK** | **NTSDDO1602K** | **NTSDDO1602XAK** | **NTSDDO1602XK** |
| | Hardened version | **NTSDDO0212HK** | **NTSDDO0402HK** | – | – | – | – | **NTSDDO1602XAHK** | **NTSDDO1602XHK** |
| **See page** | | 26 | | | | | | | |
| **Compatible terminal b locks** | Number of points - Pitch - Voltage | 12 - 5 mm *(0.19 in.)* - DC | 12 - 5 mm *(0.19 in.)* - DC | 18 - 3.81 mm *(0.15 in.)* - DC | 12 - 5 mm *(0.19 in.)* - DC | 18 - 5 mm *(0.19 in.)* - DC | 18 - 3.81 mm *(0.15 in.)* - DC | 18 - 5 mm *(0.19 in.)* - DC | 18 - 5 mm *(0.19 in.)* - DC |
| | Number of terminal blocks to use | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 |
| | Spring terminal block – Without cover | **NTSXTB12200H** | **NTSXTB12200H** | **NTSXTB18200H** | **NTSXTB12200H** | **NTSXTB18200XH** | **NTSXTB18200H** | **NTSXTB18200XH** | **NTSXTB18200XH** |
| | Spring terminal block – With cover | **NTSXTB12201H** | **NTSXTB12201H** | **NTSXTB18201H** | **NTSXTB12201H** | **NTSXTB18201XH** | **NTSXTB18201H** | **NTSXTB18201XH** | **NTSXTB18201XH** |
| | Screw terminal block – Without cover | **NTSXTB12000H** | **NTSXTB12000H** | **NTSXTB18000H** | **NTSXTB12000H** | **NTSXTB18000XH** | **NTSXTB18000H** | **NTSXTB18000XH** | **NTSXTB18000XH** |
| | Screw terminal block – With cover | **NTSXTB12001H** | **NTSXTB12001H** | **NTSXTB18001H** | **NTSXTB12001H** | **NTSXTB18001XH** | **NTSXTB18001H** | **NTSXTB18001XH** | **NTSXTB18001XH** |
| **Terminal block for connecting the outputs to the Telefast ABE7 connection sub-bases** | | – | – | – | – | – | – | – | **NTSXTS0001H** *(1)* |

*(1) Planned commercialization.*

# **Modicon** Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Discrete outputs (Relay, Triac)

| Function | | Discrete outputs | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| **Number of channels** | | 2 (isolated) (Form C with NO/NC contacts) | 4 (isolated) (Form C with NO/NC contacts) | 6 (isolated) (Form A with NO contact) | 2 | 4 (isolated) |
| **Discrete output type** | | **Relay** | **Relay** | **Relay** | **Triac** | **Triac** |
| **Discrete output voltage** | | 24...250 VAC (47...63Hz)<br>5...125 VDC | 24...250 VAC (47...63Hz)<br>5...125 VDC | 24...250 VAC (47...63Hz)<br>5...125 VDC | 80...264 VAC (47...63 Hz) | 80...264 VAC (47...63 Hz) |
| **Number of channel groups** | | 2 isolated groups of 1 channel | 4 isolated groups of 1 channel | 6 isolated groups of 1 channel | 1 group | 4 isolated groups of 1 channel |
| **Discrete output logic** | | – | | | | |
| **Wiring mode** | | 2-wire | 2-wire | 2-wire | 1-/2-/3-wire | 1-/2-/3-wire |
| **Discrete output current** | | 2 A max. per output at 30 VDC or 250 VAC (resistive)<br>0.2 A max. per output at 125 VDC (resistive) | 5 A max. per output at 30 VDC or 250 VAC (resistive)<br>0.2 A max. per output at 125 VDC (resistive) | 2 A max. per output at 30 VDC or 250 VAC (resistive)<br>0.2 A max. per output at 125 VDC (inductive) | 1 A per channel | 2 A per channel |
| **Minimum switching current** | | 10 mA 5 VDC | 10 mA 5 VDC | 10 mA 5 VDC | – | – |
| **Operating voltage range** | | 19.2...30 VDC | 19.2...30 VDC | 19.2...30 VDC | 80...264 VAC (47...63 Hz) | |
| **Output response time** | State 1 to state 0 | < 13 ms (deactivation) | < 13 ms (deactivation) | < 10 ms (deactivation) | 0.5 line cycles max. | |
| | State 0 to state 1 | < 20 ms (activation) | < 20 ms (activation) | < 20 ms (activation) | 0.5 line cycles max. | |
| **Output protection type** | Transient voltage suppression per channel | – | – | – | RC snubber suppression per channel | |
| | Short-circuit protection per channel | – | – | – | | |
| | Overload/thermal protection per channel | – | – | – | | |
| | Reverse polarity protection per module | – | – | | | |
| **Power supply type** | Bus power from power supply bus (24 VDC) | 24 VDC | 24 VDC | 24 VDC | 24 VDC | 24 VDC |
| | Field power from internal power supply | 24 VDC | 24 VDC | 24 VDC | – | – |
| | Field power from external power supply | 5...125 VDC or 24...250 VAC | | | 100…240 VAC | |
| **Output diagnostics** | Detected power supply error per channel | Yes | Yes | Yes | – | – |
| | Detected external power supply error per channel | – | – | – | Yes | Yes |
| | Detected short-circuit/overcurrent per channel | – | – | – | – | – |
| | Detected broken wire error per channel | – | – | – | – | – |
| | Detected read back error per channel | – | – | – | – | – |
| **Isolation** | Between channels | 1,780 VAC | 1,780 VAC | 1,780 VAC | – | 2,500 VAC |
| | Between channel and bus | 3,000 VAC | 3,000 VAC | 3,000 VAC | 3,000 VAC | 3,000 VAC |
| | Between channels and ground | 3,000 VAC | 3,000 VAC | 3,000 VAC | 3,000 VAC | 3,000 VAC |
| **Synchronization** | | – | – | – | – | – |
| **Dangerous voltage** | | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Size** | Height | 100 mm *(3.94 in.)* | 100 mm *(3.94 in.)* | 100 mm *(3.94 in.)* | 100 mm *(3.94 in.)* | 100 mm *(3.94 in.)* |
| | Width | 15 mm *(0.59 in.)* (1 slot) | 30 mm *(1.18 in.)* (2 slots) | 30 mm *(1.18 in.)* (2 slots) | 15 mm *(0.59 in.)* (1 slot) | 30 mm *(1.18 in.)* (2 slots) |
| **Operating temperature** | Standard version | -30 to 60 °C (*-22 to 140 °F*) | -30 to 60 °C (*-22 to 140 °F*) | -30 to 60 °C (*-22 to 140 °F*) | -30 to 60 °C (*-22 to 140 °F*) | -30 to 60 °C (*-22 to 140 °F*) |
| | Hardened version | – | -40 to 70 °C *(-40 to 158 °F)* | – | – | -40 to 70 °C *(-40 to 158 °F)* |
| **Sold as a kit** (base + functional module) | Standard version | **NTSDRC0215K** | **NTSDRC0415K** | **NTSDRA0615K** | **NTSDAO0205K** | **NTSDAO0415K** |
| | Hardened version | – | **NTSDRC0415HK** | – | – | **NTSDAO0415HK** |
| **See page** | | 26 | | | | |
| **Compatible terminal b locks** | Number of points - Pitch - Voltage | 12 - 5 mm *(0.19 in.)* - AC | 12 - 5 mm *(0.19 in.)* - AC | 12 - 5 mm *(0.19 in.)* - AC | 12 - 5 mm *(0.19 in.)* - AC | 12 - 5 mm *(0.19 in.)* - AC |
| | Number of terminal blocks to use | 1 | 1 | 1 | 1 | 1 |
| | Spring terminal block – Without cover | **NTSXTB12210H** | **NTSXTB12210H** | **NTSXTB12210H** | **NTSXTB12210H** | **NTSXTB12210H** |
| | Spring terminal block – With cover | **NTSXTB12211H** | **NTSXTB12211H** | **NTSXTB12211H** | **NTSXTB12211H** | **NTSXTB12211H** |
| | Screw terminal block – Without cover | **NTSXTB12010H** | **NTSXTB12010H** | **NTSXTB12010H** | **NTSXTB12010H** | **NTSXTB12010H** |
| | Screw terminal block – With cover | **NTSXTB12011H** | **NTSXTB12011H** | **NTSXTB12011H** | **NTSXTB12011H** | **NTSXTB12011H** |

# **Modicon** Edge I/O NTS

## The future-ready I/O system for data aggregation with built-in cybersecurity

Discrete outputs (Transistor, Relay, Triac)

## Presentation

### Function

- The discrete output kits include an electronic module and its corresponding base, which match in height and width.
  - The electronic module provides the discrete output function.
  - The base enables DIN rail mounting, data transmission, and the supply of power to the discrete modules through the backplane bus. The base also provides the field device power supply.
- Discrete output kits provide 2 up to 16 channels with different levels of performance, protection, or diagnostics.

### Implementation

- Discrete output kits use one slot (15 mm *(0.59 in.)* width) or two slots (30 mm *(1.18 in.)* width) on the DIN rail, depending on the model.
- The kits must be completed with spring or screw removable terminal blocks to wire the devices. The terminal blocks must be chosen and ordered separately.
- Spring terminal blocks are recommended for quick, tool-free connection of the sensors and actuators. The quality of the spring terminals avoids the need for periodic re-tightening.

### Characteristics

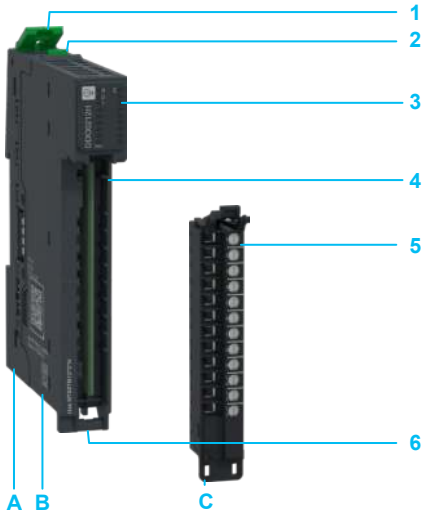
- The kits are available in two versions:
  - Standard, with an operating temperature of -30 to 60 °C *(-22 to 140 °F)*
  - Hardened, with an operating temperature of -40 to 70 °C *(-40 to 158 °F)*. The hardened version can operate as the standard version.
- Hot-swap capability: replacing or adding components without having to power down or interrupt system operation.
- IP degree of protection is IP20. Hardened versions are treated with a conformal coating to ensure additional environmental protection and long-term reliability.
- The modules NTSDDO0802K, NTSDDO1602XAK, NTSDDO1602XAHK, and NTSDDO0212HK (when the internal power supply is not used) require an external power supply for their digital outputs.They do not draw any current from the Field Power Supply bus.

## Description

A discrete output kit comprises a dase **A** and an electronic module **B**. The terminal block **C** must be ordered separately.

**1** Mechanical clip for locking the kit onto the DIN rail
**2** Release button for disengaging the module from the base
**3** Status LEDs:
- One RUN LED (green): module running
- One LED per channel (green): channel diagnostics
- One ERR LED (red): detected module error

**4** Housing for the terminal block
**5** Terminal block
**6** Hinge for mounting the terminal block



# Modicon Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Discrete outputs (Transistor, Relay, Triac)

*NTSDDO0212HK*
*NTSDDO0402K*
*NTSDDO0402HK*
*NTSDDO0602K*
*NTSDDO0802K*
*NTSDDO1602K*
*NTSDRC0215K*
*NTSDAO0205K*

*NTSDDO0802XK*

*NTSDDO1602XK*
*NTSDDO1602XHK*
*NTSDDO1602XAK*
*NTSDDO1602XAHK*

*NTSDRC0415K*
*NTSDRC0415HK*
*NTSDRA0615K*
*NTSDAO0415K*
*NTSDAO0415HK*

*12-points - 5 mm (0.19 in.) - DC/AC*

*18-points - 5 mm (0.19 in.) - DC*

*18-points - 3.81 mm (0.15 in.) - DC*

*20-points - HE10 connector*

## References

### Discrete output kits (discrete output module + base)

| Number of channels | Output voltage | Output type | Wiring mode | Synchronization | Version | Reference | Weight kg/*lb* |
|---|---|---|---|---|---|---|---|
| **2** (isolated) | 24 VDC | Transistor (source) | 1-/2-/3-wire | **Yes** | Hardened | **NTSDDO0212HK** | 0.099/*0.218* |
| **4** | 24 VDC | Transistor (source) | 1-/2-/3-wire | – | Standard | **NTSDDO0402K** | 0.099/*0.218* |
| | | | 1-/2-/3-wire | – | Hardened | **NTSDDO0402HK** | 0.099/*0.218* |
| **6** | 24 VDC | Transistor (source) | 1-/2-/3-wire | – | Standard | **NTSDDO0602K** | 0.077/*0.169* |
| **8** | 24 VDC | Transistor (source) | 1-wire | **Yes** | Standard | **NTSDDO0802K** *(1)* | 0.098/*0.216* |
| | | | 1-/2-wire | **Yes** | Standard | **NTSDDO0802XK** | 0.107/*0.235* |
| **16** | 24 VDC | Transistor (source) | 1-wire | **Yes** | Standard | **NTSDDO1602K** | 0.100/*0.220* |
| | | | 1-/2-wire | **Yes** | Standard | **NTSDDO1602XK** *(2)* | 0.138/*0.304* |
| | | | 1-/2-wire | **Yes** | Hardened | **NTSDDO1602XHK** *(2)* | 0.138/*0.304* |
| **16** | 24 VDC | Transistor (source) | 1-/2-wire | – | Standard | **NTSDDO1602XAK** *(1) (2)* | 0.138/*0.304* |
| | | | 1-/2-wire | – | Hardened | **NTSDDO1602XAHK** *(1) (2)* | 0.138/*0.304* |
| **2** (isolated) (Form C with NO/NC contacts) | 24...250 VAC (47...63Hz) 5...125 VDC | Relay | 2-wire | – | Standard | **NTSDRC0215K** | 0.077/*0.169* |
| **4** (Form C with NO/NC contacts) | 24 to 250 VAC (47...63 Hz) | Relay | 2-wire | – | Standard | **NTSDRC0415K** | 0.156/*0.343* |
| | | Relay | 2-wire | – | Hardened | **NTSDRC0415HK** | 0.157/*0.346* |
| **6** (Form A with NO contact) | 120 VDC/230 VAC | Relay | 2-wire | – | Standard | **NTSDRA0615K** | 0.152/*0.335* |
| **2** | 80...264 VAC (47...63 Hz) | Triac | 1-/2-/3-wire | – | Standard | **NTSDAO0205K** | 0.099/*0.218* |
| **4** (isolated) | 80...264 VAC (47...63 Hz) | Triac | 1-/2-/3-wire | – | Standard | **NTSDAO0415K** | 0.131/*0.288* |
| | | Triac | 1-/2-/3-wire | – | Hardened | **NTSDAO0415HK** | 0.158/*0.348* |

### Terminal Blocks

| Number of points - Pitch - Voltage | Type | Cover | Reference | Weight kg/*lb* | *For use with the kit* |
|---|---|---|---|---|---|
| 12 - 5 mm *(0.19 in.)* - DC | Spring | Without cover | **NTSXTB12200H** | 0.029/*0.063* | *NTSDDO0212HK, NTSDDO0402K, NTSDDO0402HK, NTSDDO0802K (1)* |
| | | With cover | **NTSXTB12201H** | 0.040/*0.088* | |
| | Screw | Without cover | **NTSXTB12000H** | 0.048/*0.105* | |
| | | With cover | **NTSXTB12001H** | 0.058/*0.127* | |
| 12 - 5 mm *(0.19 in.)* - AC | Spring | Without cover | **NTSXTB12210H** | 0.029/*0.063* | *NTSDRC0215K, NTSDRC0415K, NTSDRC0415HK, NTSDRA0615K, NTSDAO0205K, NTSDAO0415K, NTSDAO0415HK* |
| | | With cover | **NTSXTB12211H** | 0.040/*0.088* | |
| | Screw | Without cover | **NTSXTB12010H** | 0.048/*0.105* | |
| | | With cover | **NTSXTB12011H** | 0.058/*0.127* | |
| 18 - 5 mm *(0.19 in.)* - DC | Spring | Without cover | **NTSXTB18200XH** | 0.038/*0.083* | *NTSDDO0802XK, NTSDDO1602XK (2), NTSDDO1602XHK (2), NTSDDO1602XAK (1) (2), NTSDDO1602XAHK (1) (2)* |
| | | With cover | **NTSXTB18201XH** | 0.050/*0.110* | |
| | Screw | Without cover | **NTSXTB18000XH** | 0.064/*0.141* | |
| | | With cover | **NTSXTB18001XH** | 0.077/*0.169* | |
| 18 - 3.81 mm *(0.15 in.)* - DC | Spring | Without cover | **NTSXTB18200H** | 0.028/*0.061* | *NTSDDO0602K, NTSDDO1602K* |
| | | With cover | **NTSXTB18201H** | 0.038/*0.083* | |
| | Screw | Without cover | **NTSXTB18000H** | 0.039/*0.085* | |
| | | With cover | **NTSXTB18001H** | 0.049/*0.108* | |

### Terminal block for connecting the outputs to the Telefast ABE7 connection sub-bases

| | | | | | |
|---|---|---|---|---|---|
| 20 | HE10 | Without cover | **NTSXTS0001H** *(3)* | 0.480/*1.058* | *NTSDDO1602XK, NTSDDO1602XHK* |

### Accessories

Terminal Blocks, Telefast terminal blocks – Mounting accessories See pages 64 and 65

### Spare parts

Modules and Bases, Termination, Cover See pages 66 to 69

*(1) This kit uses external power supply for DO. (2) This kit requires two terminal blocks. (3) Planned commercialization.*

# **Modicon** Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Analog inputs (Voltage/Current, Current)

| Function | | Analog inputs | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| **Number of channels** | | 2 (isolated) | 4 | 4 | 8 | 4 (isolated) | 8 |
| **Analog input type** | | **Voltage/current (single-ended/differential)** | **Voltage/current (single-ended)** | **Voltage/current (differential)** | **Voltage/current (single-ended)** | **Current (single-ended/differential)** | **Current (single-ended)** |
| | Input current | ± 20 mA, 0...20 mA, 4...20 mA | ± 20 mA, 0...20 mA, 4...20 mA | ± 20 mA, 0...20 mA, 4...20 mA | ± 20 mA, 0...20 mA, 4...20 mA | 4...20 mA | ± 20 mA, 0...20 mA, 4...20 mA |
| | Input voltage | ± 10 VDC, 0...10 VDC, ± 5 VDC, 0...5 VDC, 1...5 VDC | ± 10 VDC, 0...10 VDC, ± 5 VDC, 0...5 VDC, 1...5 VDC | ± 10 VDC, 0...10 VDC, ± 5 VDC, 0...5 VDC, 1...5 VDC | ± 10 VDC, 0...10 VDC, ± 5 VDC, 0...5 VDC, 1...5 VDC | – | – |
| **Resolution** | | 15 bits + sign | 15 bits + sign | 15 bits + sign | 15 bits + sign | 15 bits + sign | 15 bits + sign |
| **Input impedance** | Voltage | > 10 MΩ | > 10 MΩ | > 5 MΩ | > 7 MΩ | – | – |
| | Current | 250 Ω + internal current protector, 10 Ω typical | 100 Ω + internal current protector, 10 Ω typical | 100 Ω + internal current protector, 10 Ω typical | 100 Ω + internal current protector, 10 Ω typical | 250 Ω + internal current protector, 10 Ω typical | 250 Ω + internal current protector, 10 Ω typical |
| **Input protection type** | Voltage | Miswiring protection per channel | Miswiring protection per channel | Miswiring protection per channel | Miswiring protection per channel | – | – |
| | Current | Overcurrent/miswiring protection per channel | Overcurrent/miswiring protection per channel | Overcurrent/miswiring protection per channel | Overcurrent/miswiring protection per channel | Overcurrent/miswiring protection per channel | Overcurrent/miswiring protection per channel |
| **Sensor power supply protection** | | Overcurrent and short-circuit protection on sensor power supply per channel<br>Overcurrent and short-circuit protection on loop power supply per channel | – | – | – | Overcurrent and short-circuit protection on loop power supply per channel | Overcurrent and short-circuit protection on loop power supply per channel |
| **Input diagnostics** | | Detected underflow error per channel<br>Detected overflow error per channel<br>Detected broken wire error per channel<br>Detected hardware error per channel<br>Detected calibration error per channel<br>Detected loop power supply error per channel<br>Detected internal field power supply error per channel | Detected underflow error per channel<br>Detected overflow error per channel<br>Detected broken wire error per channel<br>Detected hardware error per channel<br>Detected internal field power supply error per channel | | | Detected underflow error per channel<br>Detected overflow error per channel<br>Detected broken wire error per channel<br>Detected hardware error per channel<br>Detected calibration error per channel<br>Detected loop power supply error per channel<br>Detected internal field power supply error per channel | |
| **Input wire connection** | | 2-/3-/4-wire | 2-wire | 2-wire | 1-/2-wire | 2-wire | 1-/2-wire |
| **Accuracy** | | 0.05% of full scale at 25 °C *(77 °F)*<br>0.1% of full scale over temperature range | 0.3% of full scale at 25 °C *(77 °F)*<br>0.5% of full scale over temperature range | | | 0.05% of full scale at 25 °C *(77 °F)*<br>0.1% of full scale over temperature range | 0.1% of full scale at 25 °C *(77 °F)*<br>0.3% of full scale over temperature range |
| **Isolation** | Between channels | 530 VAC | – | – | – | 530 VAC | – |
| | Between channel and bus | 1,500 VAC | 1,500 VAC | 1,500 VAC | 1,500 VAC | 1,000 VAC | 1,500 VAC |
| | Between channels and field power | Not for module sensor power supply<br>1,000 VAC for module loop power supply | – | 1,000 VAC | – | Not for external loop power supply<br>1,000 VAC for module loop power supply | – |
| | Between field power and bus | 1,500 VAC | 1,500 VAC | 1,500 VAC | 1,500 VAC | 1,500 VAC | 1,500 VAC |
| **Synchronization** | | **Yes (synchronous or isochronous)** | **Yes (isochronous)** | **Yes (isochronous)** | **Yes (isochronous)** | – | **Yes (isochronous)** |
| **HART (Tolerance or communication)** | | Tolerance | – | – | – | Communication | Tolerance |
| **Size** | Height | 100 mm *(3.94 in.)* | 100 mm *(3.94 in.)* | 100 mm *(3.94 in.)* | 100 mm *(3.94 in.)* | 121 mm *(4.76 in.)* | 121 mm *(4.76 in.)* |
| | Width | 15 mm *(0.59 in.)* (1 slot)<br>30 mm *(1.18 in.)* (2 slots) (hardened version) | 15 mm *(0.59 in.)* (1 slot) | 15 mm *(0.59 in.)* (1 slot) | 15 mm *(0.59 in.)* (1 slot) | 30 mm *(1.18 in.)* (2 slots) | 30 mm *(1.18 in.)* (2 slots) |
| **Operating temperature** | Standard version | -30 to 60 °C (*-22 to 140 °F)* | -25 to 60 °C (*-13 to 140 °F)* | -30 to 60 °C (*-22 to 140 °F)* | -30 to 60 °C (*-22 to 140 °F)* | – | -30 to 60 °C (*-22 to 140 °F)* |
| | Hardened version | -40 to 70 °C *(-40 to 158 °F)* | – | – | – | -40 to 70 °C *(-40 to 158 °F)* | -40 to 70 °C *(-40 to 158 °F)* |
| **Sold as a kit** (base + functional module) | Standard version | **NTSAMI0210K** | **NTSAMI0400K** | **NTSAMI0420K** | **NTSAMI0800K** | – | **NTSACI0802XK** |
| | Hardened version | **NTSAMI0210HK** | – | – | – | **NTSAHI0412XHK** | **NTSACI0802XHK** |
| **See page** | | 32 | | | | | |
| **Compatible terminal blocks** | Number of points - Pitch - Voltage | 12 - 5 mm *(0.19 in.)* - DC | 12 - 5 mm *(0.19 in.)* - DC | 12 - 5 mm *(0.19 in.)* - DC | 18 - 3.81 mm *(0.15 in.)* - DC | 18 - 5 mm *(0.19 in.)* - DC | 18 - 5 mm *(0.19 in.)* - DC |
| | Number of terminal blocks to use | 1 | 1 | 1 | 1 | 1 | 1 |
| | Spring terminal block – Without cover | **NTSXTB12200H** | **NTSXTB12200H** | **NTSXTB12200H** | **NTSXTB18200H** | **NTSXTB18200XH** | **NTSXTB18200XH** |
| | Spring terminal block – With cover | **NTSXTB12201H** | **NTSXTB12201H** | **NTSXTB12201H** | **NTSXTB18201H** | **NTSXTB18201XH** | **NTSXTB18201XH** |
| | Screw terminal block – Without cover | **NTSXTB12000H** | **NTSXTB12000H** | **NTSXTB12000H** | **NTSXTB18000H** | **NTSXTB18000XH** | **NTSXTB18000XH** |
| | Screw terminal block – With cover | **NTSXTB12001H** | **NTSXTB12001H** | **NTSXTB12001H** | **NTSXTB18001H** | **NTSXTB18001XH** | **NTSXTB18001XH** |

# **Modicon** Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Analog inputs (Temperature)

| Function | | Analog inputs | | | |
|---|---|---|---|---|---|
| | | | | | |
| **Number of channels** | | 2 (isolated) | 4 | 4 | 6 |
| **Analog input type** | | **Temperature** | | | |
| | | ■ Thermocouple: Type J/K/R/S/B/T/N/E/C/L/U<br>■ RTD: Standard Ni100/1000, Pt100/1000, Cu10/50/100, JPt100/JPt1000 and high-precision Cu50/Cu100/Ni100/Ni1000/Pt100/Pt1000<br>■ Voltage: ± 40 mV; ± 80 mV; ± 160 mV; ± 320 mV; ± 640 mV; ±1.28 V<br>■ Resistance: 150 Ω, 300 Ω, 600 Ω, 2,000 Ω, and 4,500 Ω | | ■ Thermocouple: Type J/K/R/S/B/T/N/E/C/L/U<br>■ RTD: Standard Ni100/1000, Pt100/1000, Cu10/50/100, JPt100/JPt1000 and high-precision Cu50/Cu100/Ni100/Ni1000/Pt100/Pt1000<br>■ Voltage: ± 40 mV; ± 80 mV; ± 160 mV; ± 320 mV; ± 640 mV; ±1.28 V<br>■ Resistance: 150 Ω, 300 Ω, 600 Ω, 2,000 Ω,and 4,500 Ω | ■ Thermistor PTC 100 Ω to 10 kΩ, NTC 100 Ω to 200 kΩ or calculated temperature -90 to 150 °C (*-130 to 302 °F)*<br>■ RTD: Standard Ni100/1000, Pt100/1000, Cu10/50/100, JPt100/JPt1000 and high-precision Cu50/Cu100/Ni100/Ni1000/Pt100/Pt1000<br>■ Resistance: 100 Ω to 32 kΩ |
| **Signal type** | | Differential | | | |
| **Resolution** | | 16 bits with overflow | | | |
| **Input impedance** | | 10 MΩ typical | | | |
| **Input protection type** | | Overvoltage protection | | | |
| **Input wire connection** | | 2-/3-/4-wire for RTD and resistance inputs<br>2-wire for thermocouple and voltage inputs | 2-/3-wire for RTD and resistance inputs<br>2-wire for thermocouple and voltage inputs | 2-/3-/4-wire for RTD and resistance inputs<br>2-wire for thermocouple and voltage inputs | 2-/3-wire for RTD and resistance inputs<br>2-wire for thermistor NTC/PTC inputs |
| **Sensor power supply protection** | | – | | | |
| **Input diagnostics** | | Detected underflow error per channel<br>Detected overflow error per channel<br>Detected broken wire error per channel<br>Detected hardware error per channel<br>Detected calibration error per channel<br>Detected CJC error per channel<br>Detected internal field power supply error per channel | | Detected underflow error per channel<br>Detected overflow error per channel<br>Detected broken wire error per channel<br>Detected hardware error per channel<br>Detected calibration error per channel<br>Detected CJC error per channel<br>Detected internal field power supply error per channel | Detected underflow error per channel<br>Detected overflow error per channel<br>Detected broken wire error per channel<br>Detected hardware error per channel<br>Detected calibration error per channel<br>Detected internal field power supply error per channel |
| **Isolation** | Between channels | 530 VAC | – | – | – |
| | Between channel and bus | 1,500 VAC | 1,500 VAC | 1,500 VAC | 1,500 VAC |
| | Between channels and field power | 1,000 VAC | 1,000 VAC | 1,000 VAC | 1,000 VAC |
| | Between field power and bus | 1,500 VAC | 1,500 VAC | 1,500 VAC | 1,500 VAC |
| **Synchronization** | | – | – | – | – |
| **Size** | Height | 100 mm *(3.94 in.)* | 100 mm *(3.94 in.)* | 121 mm *(4.76 in.)* | 100 mm *(3.94 in.)* |
| | Width | 15 mm *(0.59 in.)* (1 slot) | 15 mm *(0.59 in.)* (1 slot) | 15 mm *(0.59 in.)* (1 slot) | 15 mm *(0.59 in.)* (1 slot) |
| **Operating temperature** | Standard version | -30 to 60 °C (*-22 to 140 °F)* | -30 to 60 °C (*-22 to 140 °F)* | – | -30 to 60 °C (*-22 to 140 °F)* |
| | Hardened version | -40 to 70 °C *(-40 to 158 °F)* | – | -40 to 70 °C *(-40 to 158 °F)* | – |
| **Sold as a kit** (base + functional module) | Standard version | **NTSART0214K** | **NTSART0404K** | – | **NTSART0603K** |
| | Hardened version | **NTSART0214HK** | – | **NTSART0404XHK** | – |
| **See page** | | 32 | | | |
| **Compatible terminal blocks** | Number of points - Pitch - Voltage | 12 - 5 mm *(0.19 in.)* - DC | 12 - 5 mm *(0.19 in.)* - DC | 18 - 5 mm *(0.19 in.)* - DC | 18 - 3.81 mm *(0.15 in.)* - DC |
| | Number of terminal blocks to use | 1 | 1 | 1 | 1 |
| | Spring terminal block – Without cover | **NTSXTB12200H** | **NTSXTB12200H** | **NTSXTB18200XH** | **NTSXTB18200H** |
| | Spring terminal block – With cover | **NTSXTB12201H** | **NTSXTB12201H** | **NTSXTB18201XH** | **NTSXTB18201H** |
| | Screw terminal block – Without cover | **NTSXTB12000H** | **NTSXTB12000H** | **NTSXTB18000XH** | **NTSXTB18000H** |
| | Screw terminal block – With cover | **NTSXTB12001H** | **NTSXTB12001H** | **NTSXTB18001XH** | **NTSXTB18001H** |

# **Modicon** Edge I/O NTS

## The future-ready I/O system for data aggregation with built-in cybersecurity

### Analog inputs (Voltage/Current, Current, Temperature)

## Presentation

### Function

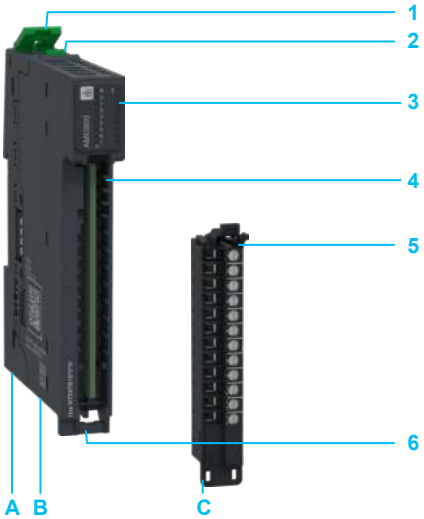
- The analog input kits include an electronic module and its corresponding base, which match in height and width.
  - The electronic module provides the current, voltage, or temperature input functions.
  - The base enables DIN rail mounting, data transmission, and the supply of power to device power supply.
- Analog input kits provide 2 up to 8 channels with different levels of performance, protection, or diagnostics.

### Implementation

- Analog input kits use one slot (15 mm *(0.59 in.)* width) or two slots (30 mm *(1.18 in.)* width) on the DIN rail, depending on the model.
- The kits must be completed with spring or screw removable terminal blocks to wire the devices. The terminal blocks must be chosen and ordered separately.
- Spring terminal blocks are recommended for quick, tool-free connection of the sensors and actuators. The quality of the spring terminals avoids the need for periodic re-tightening.

### Characteristics

- The kits are available in two versions:
  - Standard, with an operating temperature of -30 to 60 °C *(-22 to 140 °F) (1)*
  - Hardened, with an operating temperature of -40 to 70 °C *(-40 to 158 °F)*. The hardened version can operate as the standard version.
- Hot-swap capability: replacing or adding components without having to power down or interrupt system operation.
- Some channels can be configured as voltage and others as current with the analog input kit.
- IP degree of protection is IP20. Hardened versions are treated with a conformal coating to ensure additional environmental protection and long-term reliability.




## Description

An analog input kit comprises a base **A** and an electronic module **B**. The terminal block **C** must be ordered separately.

**1** Mechanical clip for locking the kit onto the DIN rail
**2** Release button for disengaging the module from the base
**3** Status LEDs:
- One RUN LED (green): module running
- One LED per channel (green): channel diagnostics
- One ERR LED (red): detected module error

**4** Housing for the terminal block
**5** Terminal block
**6** Hinge for mounting the terminal block

*(1) Except for module NTSAMI0400 and kit NTSAMI0400K, whose operating temperature is -25 to 60 °C (-504 to 140 °F).*

# Modicon Edge I/O NTS

## The future-ready I/O system for data aggregation with built-in cybersecurity

### Analog inputs (Voltage/Current, Current, Temperature)

*NTSAMI0210K*
*NTSAMI0400K*
*NTSAMI0420K*
*NTSAMI0800K*
*NTSART0214K/HK*
*NTSART0404K*
*NTSART0603K*

*NTSAMI0210HK*

*NTSAHI0412XHK*

*NTSACI0802XK/HK*

*NTSART0404XHK*

## References

### Analog input kits (analog i ut module + base)

| Number of channels | Type | HART | Wiring mode | Synchronization | Version | Reference | Weight kg/*lb* |
|---|---|---|---|---|---|---|---|
| **2** (isolated) | **Voltage**: ± 10 VDC, 0...10 VDC, ± 5 VDC, 0...5 VDC, 1...5 VDC<br>**Current**: ± 20 mA, 0...20 mA, 4...20 mA | Tolerance | 2-/3-/4-wire | **Yes** | Standard | **NTSAMI0210K** | 0.100/*0.220* |
| | | | 2-/3-/4-wire | **Yes** | Hardened | **NTSAMI0210HK** | 0.143/*0.315* |
| **4** | | – | 2-wire | **Yes** | Standard | **NTSAMI0400K** | 0.098/*0.216* |
| | | | 2-wire | **Yes** | Standard | **NTSAMI0420K** | 0.077/*0.169* |
| **8** | | | 1-/2-wire | **Yes** | Standard | **NTSAMI0800K** | 0.077/*0.169* |
| **4** (isolated) | **Current**: 4...20 mA | Communication | 2-wire | – | Hardened | **NTSAHI0412XHK** | 0.138/*0.304* |
| **8** | **Current**: ± 20 mA, 0...20 mA, 4...20 mA | Tolerance | 1-/2-wire | **Yes** | Standard | **NTSACI0802XK** | 0.138/*0.304* |
| | | Tolerance | 1-/2-wire | **Yes** | Hardened | **NTSACI0802XHK** | 0.138/*0.304* |
| **2** (isolated) | **Temperature**:<br>- Thermocouple: Type J/K/R/S/B/T/N/E/C/L/U<br>- RTD: Standard Ni100/1000, Pt100/1000, Cu10/50/100, JPt100/1000, and high-precision Cu50/Cu100/Ni100/Ni1000/Pt100/Pt1000<br>- Voltage: ± 40 mV, ± 80 mV, ± 160 mV, ± 320 mV; ± 640 mV; ± 1.28 V<br>- Resistance: 150 Ω, 300 Ω, 600 Ω, 2,000 Ω, and 4,500 Ω | – | 2-/3-/4-wire for RTD and resistance inputs<br>2-wire for thermocouple and voltage inputs | – | Standard | **NTSART0214K** | 0.077/*0.169* |
| | | | | – | Hardened | **NTSART0214HK** | 0.077/*0.169* |
| **4** | | | 2-/3-wire for RTD and resistance inputs<br>2-wire for thermocouple and voltage inputs | – | Standard | **NTSART0404K** | 0.077/*0.169* |
| | | | 2-/3-/4-wire for RTD and resistance inputs<br>2-wire for thermocouple and voltage inputs | – | Hardened | **NTSART0404XHK** | 0.077/*0.169* |
| **6** | **Temperature**:<br>- Thermistor PTC 100 Ω to 10 kΩ, NTC 100Ω to 200 kΩ or calculated temperature -90 to 150 °C (*-130 to 302 °F)*<br>- RTD: Standard Ni100/1000, Pt100/1000, Cu10/50/100, JPt100/JPt1000, and high-precision Cu50/Cu100/Ni100/Ni1000/Pt100/Pt1000<br>- Resistance: 100 Ω to 32 kΩ | – | 2-/3-wire for RTD and resistance inputs<br>2-wire for thermistor NTC/PTC inputs | – | Standard | **NTSART0603K** | 0.077/*0.169* |

### Terminal Blocks

| Number of points - Pitch - Voltage | Type | Cover | Reference | Weight kg/*lb* | *For use with the kit* |
|---|---|---|---|---|---|
| 12 - 5 mm *(0.19 in.)* - DC | Spring | Without cover | **NTSXTB12200H** | 0.029/*0.063* | *NTSAMI0210K, NTSAMI0210HK, NTSAMI0400K, NTSAMI0420K, NTSART0214K, NTSART0214HK, NTSART0404K* |
| | | With cover | **NTSXTB12201H** | 0.040/*0.088* | |
| | Screw | Without cover | **NTSXTB12000H** | 0.048/*0.105* | |
| | | With cover | **NTSXTB12001H** | 0.058/*0.127* | |
| 18 - 5 mm *(0.19 in.)* - DC | Spring | Without cover | **NTSXTB18200XH** | 0.038/*0.083* | *NTSAHI0412XHK, NTSACI0802XK, NTSACI0802XHK, NTSART0404XHK* |
| | | With cover | **NTSXTB18201XH** | 0.050/*0.110* | |
| | Screw | Without cover | **NTSXTB18000XH** | 0.064/*0.141* | |
| | | With cover | **NTSXTB18001XH** | 0.077/*0.169* | |
| 18 - 3.81 mm *(0.15 in.)* - DC | Spring | Without cover | **NTSXTB18200H** | 0.028/*0.061* | *NTSAMI0800K, NTSART0603K* |
| | | With cover | **NTSXTB18201H** | 0.038/*0.083* | |
| | Screw | Without cover | **NTSXTB18000H** | 0.039/*0.085* | |
| | | With cover | **NTSXTB18001H** | 0.049/*0.108* | |

### Accessories

Terminal Blocks – Mounting accessories See pages 64 and 65

### Spare parts

Modules and Bases, Termination, Cover See pages 66 to 69

*12-points - 5 mm (0.19 in.) - DC/AC*

*18-points - 5 mm (0.19 in.) - DC*

*18-points - 3.81 mm (0.15 in.) - DC*

# **Modicon** Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Analog outputs (Current, Voltage/Current)

| Function | | Analog outputs | | |
|---|---|---|---|---|
| | | | | |
| **Number of channels** | | 2 (isolated) | 2 (isolated) | 4 |
| **Analog output type** | | **Current (single-ended/differential)** | **Voltage/Current (single-ended/differential)** | **Voltage/Current (single-ended)** |
| | | 4...20 mA | Voltage: ± 10 V, 0...10 VDC, ± 5 VDC, 0...5 V, 1...5 VDC<br>Current: ± 20 mA, 0...20 mA, 4...20 mA | Voltage: ± 10 VDC, 0...10 VDC, ± 5 VDC, 0...5 VDC, 1...5 VDC<br>Current: 0...20 mA, 4...20 mA |
| **Resolution** | | 16 bits | 15 bits + sign | 15 bits + sign |
| **Output impedance** | | Current output: 750 Ω max. | Voltage output: 1 kΩ minimum<br>Current output: 750 Ω max. | Voltage output: 1 kΩ minimum<br>Current output: 600 Ω max. |
| **Output protection** | | Current output: overvoltage 30 V | Voltage output: short-circuit: 16 mA, overvoltage: 30 V<br>Current output: overvoltage 30 V | Voltage output: short-circuit: 16 mA, overvoltage: 30 V<br>Current output: overvoltage 30 V |
| **Output response time** | | 500 µs at 750 Ω per module (HART disabled) | 500 µs at 750 Ω | 1 ms at 600 Ω |
| **HART (Tolerance or communication)** | | Communication | Tolerance | Tolerance |
| **Output diagnostics** | | Detected underflow error per channel<br>Detected overflow error per channel<br>Detected broken wire error per channel<br>Detected short-circuit error per channel<br>Detected hardware error per channel<br>Detected calibration error per channel<br>Detected DAC power error per channel<br>Detected internal field power supply error per channel | | |
| **Output wire connection** | | 2-wire | 2-/3-/4-wire | 2-wire |
| **Accuracy** | | 0.1% of full scale at 25 °C *(77 °F)*; 0.2% of full scale over temperature range | | |
| **Isolation** | Between channels | 530 VAC | 530 VAC | – |
| | Between channel and bus | 1,500 VAC | 1,500 VAC | 1,500 VAC |
| | Between channels and field power | 1,000 VAC | 1,000 VAC | – |
| | Between field power and bus | 1,500 VAC | 1,500 VAC | 1,500 VAC |
| **Synchronization** | | – | **Yes (synchronous and isochronous)** | **Yes (isochronous)** |
| **Size** | Height | 100 mm *(3.94 in.)* | 100 mm *(3.94 in.)* | 100 mm *(3.94 in.)* |
| | Width | 30 mm *(1.18 in.)* (2 slots) | 15 mm *(0.59 in.)* (1 slot) | 15 mm *(0.59 in.)* (1 slot) |
| **Operating temperature** | Standard version | – | -30 to 60 °C (*-22 to 140 °F)* | -30 to 60 °C (*-22 to 140 °F)* |
| | Hardened version | -40 to 70 °C *(-40 to 158 °F)* | -40 to 70 °C *(-40 to 158 °F)* | -40 to 70 °C *(-40 to 158 °F)* |
| **Sold as a kit** (base + functional module) | Standard version | – | **NTSAMO0210K** | **NTSAMO0400K** |
| | Hardened version | **NTSAHO0212HK** | **NTSAMO0210HK** | **NTSAMO0400HK** |
| **See page** | | 36 | | |
| **Compatible terminal blocks** | Number of points - Pitch - Voltage | 12 - 5 mm *(0.19 in.)* - DC | 12 - 5 mm *(0.19 in.)* - DC | 12 - 5 mm *(0.19 in.)* - DC |
| | Number of terminal blocks to use | 1 | 1 | 1 |
| | Spring terminal block – Without cover | **NTSXTB12200H** | **NTSXTB12200H** | **NTSXTB12200H** |
| | Spring terminal block – With cover | **NTSXTB12201H** | **NTSXTB12201H** | **NTSXTB12201H** |
| | Screw terminal block – Without cover | **NTSXTB12000H** | **NTSXTB12000H** | **NTSXTB12000H** |
| | Screw terminal block – With cover | **NTSXTB12001H** | **NTSXTB12001H** | **NTSXTB12001H** |

# **Modicon** Edge I/O NTS

## The future-ready I/O system for data aggregation with built-in cybersecurity

### Analog outputs (Current, Voltage/Current)

## Presentation

### Function

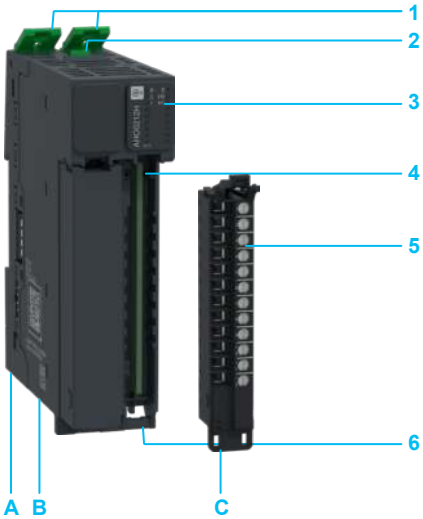
- The analog output kits include an electronic module and its corresponding base, which match in height and width.
  - The electronic module provides current and voltage/current output functions.
  - The base enables DIN rail mounting, data transmission, and the supply of power to the analog modules through the backplane bus. The base also provides the field device power supply.
- Analog output kits provide 2 up to 4 channels with different levels of performance, protection, or diagnostics.

### Implementation

- Analog output kits use one slot (15 mm *(0.59 in.)* width) or two slots (30 mm *(1.18 in.)* width) on the DIN rail, depending on the model .
- The kits must be completed with spring or screw removable terminal blocks to wire the devices. The terminal blocks must be chosen and ordered separately.
- Spring terminal blocks are recommended for quick, tool-free connection of the sensors and actuators. The quality of the spring terminals avoids the need for periodic re-tightening.

### Characteristics

- The kits are available in two versions:
  - Standard, with an operating temperature of -30 to 60 °C (-22 to 140 °F)
  - Hardened, with an operating temperature of -40 to 70 °C (-40 to 158 °F). The hardened version can operate as the standard version.
- Hot-swap capability: replacing or adding components without having to power down or interrupt system operation.
- IP degree of protection is IP20. Hardened versions are treated with a conformal coating to ensure additional environmental protection and long-term reliability.




## Description

An analog output kit comprises a base **A** and an electronic module **B**. The terminal block **C** must be ordered separately.

1 Mechanical clip for locking the kit onto the DIN rail
2 Release button for disengaging the module from the base
3 Status LEDs:
- One RUN LED (green): module running
- One LED per channel (green): channel diagnostics
- One ERR LED (red): detected module error

4 Housing for the terminal block
5 Terminal block
6 Hinge for mounting the terminal block

# Modicon Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Analog outputs (Current, Voltage/Current)

*NTSAHO0212HK*

*NTSAMO0210K/HK*
*NTSAMO0400K/HK*

*12-points - 5 mm (0.19 in.) - DC*

## References

**Analog output kits** (Analog output module + Base)

| Number of channels | Type | HART | Wiring mode | Synchronization | Version | Reference | Weight kg/*lb* |
|---|---|---|---|---|---|---|---|
| **2** (isolated) | **Current**: 4...20 mA | Communication | 2-wire | – | Hardened | NTSAHO0212HK | 0.144/ *0.317* |
| **2** (isolated) | **Current**: ± 20 mA, 0...20 mA, 4...20 mA **Voltage**: ± 10 VDC, 0...10 VDC, ± 5 VDC, 0...5 VDC, 1...5 VDC | Tolerance | 2-/3-/4-wire | **Yes** | Standard | NTSAMO0210K | 0.077/ *0.169* |
| | | | 2-/3-/4-wire | **Yes** | Hardened | NTSAMO0210HK | 0.077/ *0.169* |
| **4** | **Current**: 0...20 mA, 4...20 mA **Voltage**: ± 10 VDC, 0...10 VDC, ± 5 VDC, 0...5 VDC, 1...5 VDC | Tolerance | 2-wire | **Yes** | Standard | NTSAMO0400K | 0.101/ *0.222* |
| | | | 2-wire | **Yes** | Hardened | NTSAMO0400HK | 0.101/ *0.222* |

**Terminal Blocks**

| Number of points - Pitch - Voltage | Type | Cover | Reference | Weight kg/*lb* | *For use with the kit* |
|---|---|---|---|---|---|
| 12 - 5 mm *(0.19 in.)* - DC | Spring | Without cover | NTSXTB12200H | 0.029/*0.063* | *NTSAHO0212HK, NTSAMO0210K, NTSAMO0210HK, NTSAMO0400K, NTSAMO0400HK* |
| | | With cover | NTSXTB12201H | 0.040/*0.088* | |
| | Screw | Without cover | NTSXTB12000H | 0.048/*0.105* | |
| | | With cover | NTSXTB12001H | 0.058/*0.127* | |

**Accessories**

Terminal Blocks – Mounting accessories See pages 64 and 65

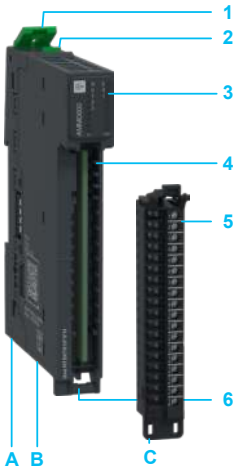
**Spare parts**

Modules and Bases, Termination, Cover See pages 66 to 69

# **Modicon** Edge I/O NTS

## The future-ready I/O system for data aggregation with built-in cybersecurity

### Analog Combo (Voltage/Current)




## Presentation

### Function

- The analog combo kit includes an electronic module and its corresponding base, which match in height and width..
- The electronic module provides the analog I/O function.
- The base enables DIN rail mounting, data transmission, and the supply of power to the analog combo through the backplane bus. The base also provides the field device power supply.
- The combo kit integrates both input and output capabilities on a module to manage voltage and current I/O, and provides six channels with different levels of performance, protection, or diagnostics.
- Combining inputs and outputs in a module minimizes wiring complexity and optimizes space utilization within the control cabinet.

### Implementation

- The analog combo kit uses 1 slot (15 mm *(0.59 in.)* width) on the DIN rail.
- The kit must be completed with spring or screw removable terminal blocks to wire the devices. The terminal blocks must be chosen and ordered separately.
- Spring terminal blocks are recommended for quick, tool-free connection of the sensors and actuators. The quality of the spring terminals avoids the need for periodic re-tightening.

### Characteristics

- Analog combo kit is offered in a standard version, with an operating temperature of -30 to 60 °C *(-22 to 140 °F).*
- Hot swap capability is available for each combo: replacing or adding components without having to power down or interrupt system operation.
- IP degree of protection is IP20.
- Diagnostics: continuous monitoring of inputs and outputs to quickly detect anomalies, reduce production downtime, and enhance predictive maintenance

## Description

An analog combo kit comprises a base **A** and an electronic module **B**. The terminal block **C** must be ordered separately.

1 Mechanical clip for locking the kit onto the DIN rail
2 Release button for disengaging the module from the base
3 Status LEDs:
- One RUN LED (green): module running
- One LED per channel (green): channel diagnostics
- One ERR LED (red): detected module error

4 Housing for the terminal block
5 Terminal block
6 Hinge for mounting the terminal block

# **Modicon** Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Analog Combo (Voltage/Current)

*NTSAMM0600K*

*18-points - 3.81 mm (0.15 in.) - DC*

## References

### **Analog combo kit** (combo module + base)

| Number and type of channel | | Wiring mode | Isolation | Synchronization | Version | Reference | Weight kg/*lb* |
|---|---|---|---|---|---|---|---|
| **4 analog inputs**:<br>- Voltage input ±10 V, 0/+10V, ±5V, 0/1...5V<br>- Current input ±20 mA, 4-20 mA (16-bit max. resolution)<br>Input accuracy:<br>0.3% of full scale at 25°C *(77°F)*<br>0.5% of full scale over temperature range | **2 analog outputs**:<br>- Voltage output -10/+10 VDC, 0/+10 VDC, ±5 V, 0/1...5 V<br>- Current output 1-20 mA, 4-20 mA, ±20 mA (16-bit max. resolution)<br>Output accuracy:<br>0.3% of full scale at 25°C *(77 °F)*<br>0.5% of full scale over temperature range | 2-wire | Inputs to Outputs group isolation 530 VAC, between channels and bus 1000 VAC, between channels and field power (Input 1000 VAC, Output 1000 VAC), between field power and bus 1500 VAC | Yes | Standard | NTSAMM0600K *(1)* | 0.104/ *0.229* |

### Terminal Blocks

| Number of points - Pitch - Voltage | Type | Cover | Reference | Weight kg/*lb* | *For use with the kit* |
|---|---|---|---|---|---|
| 18 - 3.81 mm *(0.15 in.)* - DC | Spring | Without cover | NTSXTB18200H | 0.028/*0.061* | *NTSAMM0600K(1)* |
| | | With cover | NTSXTB18201H | 0.038/*0.083* | |
| | Screw | Without cover | NTSXTB18000H | 0.039/*0.085* | |
| | | With cover | NTSXTB18001H | 0.049/*0.108* | |

### Accessories

| | |
|---|---|
| Terminal Blocks – Mounting accessories | See pages 64 and 65 |

### Spare parts

| | |
|---|---|
| Modules and Bases, Termination, Cover | See pages 66 to 69 |

*(1) This kit requires two terminal blocks.*

# **Modicon** Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

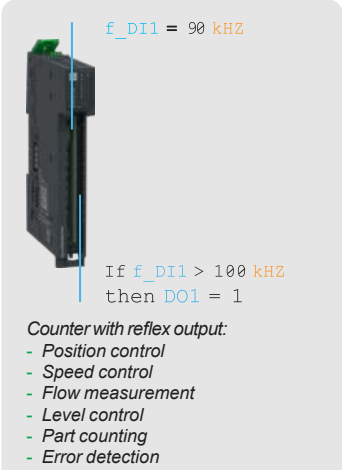
Counting (Incremental high-speed counter)

| Function | | Counting | | |
|---|---|---|---|---|
| | | | | |
| **Number and type of channels** | | 1x high-speed counter (HSC) channel for pulse counting | 1x high-speed counter (HSC) channel for pulse counting, with outputs | 2x high-speed counter (HSC) channel for pulse counting, with outputs |
| | | Supports 6 simple counting functions or 1 main expert function: single-phase counting, single-phase event counting, dual-phase counting, frequency meter, ratio meter or period meter | Supports 6 simple counting functions or 1 main expert function (single-phase counting, single-phase event counting, dual-phase counting, frequency meter, ratio meter or period meter) with 1 reflex output sub-function | Supports 12 simple counting functions or 2 main expert functions (single-phase counting, single-phase event counting, dual-phase counting, frequency meter, ratio meter or period meter) with 1 or 2 reflex output sub-functions |
| **Counting frequency** | | 250 kHz | 250 kHz | 250 kHz |
| **Inputs** | Number | 6 | 6 | 12 |
| | Logic | Sink/Source | Sink/Source | Sink/Source |
| | Voltage | 24 VDC | 24 VDC | 24 VDC |
| | Current | 2.27 mA at 24 V | 2.27 mA at 24 V | 2.27 mA at 24 VDC |
| **Outputs** | Number | – | 4 (configurable for 1 PWM output, or up to 4 reflex or standard outputs) | 8 (configurable for up to 2 PWM outputs, or up to 8 reflex or standard outputs) |
| | Logic | – | Push-pull (use as source) | Push-pull (use as source) |
| | Voltage | – | 24 VDC | 24 VDC |
| | Limits | – | 30 VDC | 30 VDC |
| | Current | – | 0.5 A | 0.5 A |
| **Current consumption** | Bus current | 40 mA at 24 VDC | 45 mA at 24 VDC | 55 mA at 24 VDC |
| | Max internal field current for input | 3 mA | 3 mA | 3 mA |
| | Max internal field current for output | – | 500 mA at 24 VDC | 500 mA at 24 VDC |
| **Isolation** | Between channels | – | – | – |
| | Between groups | 850 VAC | 850 VAC | 850 VAC |
| | Between channels and bus | 1,500 VAC | 1,500 VAC | 1,500 VAC |
| | Between channels and ground | – | – | – |
| **Synchronization** | | Yes | Yes | Yes |
| **Input protection** | | Overvoltage protection | Overvoltage protection | Overvoltage protection |
| **Output protection** | | – | Short-circuit protection | Short-circuit protection |
| **Size** | Height | 100 mm *(3.94 in.)* | 100 mm *(3.94 in.)* | 100 mm *(3.94 in.)* |
| | Width | 15 mm *(0.59 in.)* (1 slot) | 30 mm *(1.18 in.)* (2 slots) | 30 mm *(1.18 in.)* (2 slots) |
| **Operating temperature** | Standard version | -30 to 60 °C (*-22 to 140 °F)* | – | -30 to 60 °C (*-22 to 140 °F)* |
| | Hardened version | – | -40 to 70 °C *(-40 to 158 °F)* | – |
| **Sold as a kit (base + functional module)** | Standard version | **NTSEHC0100K** | – | **NTSEHC0220K** |
| | Hardened version | – | **NTSEHC0120HK** | – |
| **See page** | | 42 | | |
| **Compatible terminal blocks** | Number of points - Pitch - Voltage | 12 - 5 mm *(0.19 in.)* - DC | 12 - 5 mm *(0.19 in.)* - DC | 18 - 3.81 mm *(0.15 in.)* - DC |
| | Number of terminal blocks to use | 1 | 2 | 2 |
| | Spring terminal block – Without cover | **NTSXTB12200H** | **NTSXTB12200H** | **NTSXTB18200H** |
| | Spring terminal block – With cover | **NTSXTB12201H** | **NTSXTB12201H** | **NTSXTB18201H** |
| | Screw terminal block – Without cover | **NTSXTB12000H** | **NTSXTB12000H** | **NTSXTB18000H** |
| | Screw terminal block – With cover | **NTSXTB12001H** | **NTSXTB12001H** | **NTSXTB18001H** |

# **Modicon** Edge I/O NTS

## The future-ready I/O system for data aggregation with built-in cybersecurity

### Counting (Incremental high-speed counter)




## Presentation

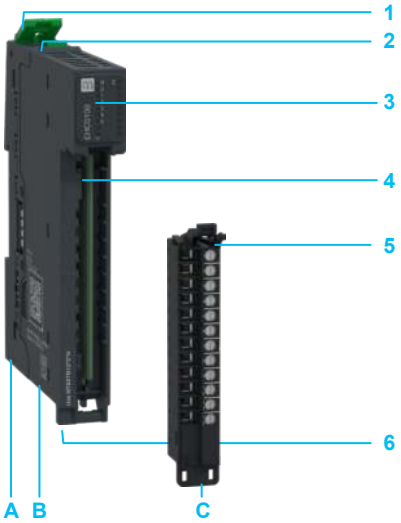
- The counting kits include an electronic module and its corresponding base, which match in height and width.
- The electronic module provides the high-speed counter function.
- The base enables DIN rail mounting, data transmission, and the supply of power to the counter module through the backplane bus. The base also provides the field device power supply.
- Counting kits provide one up to two channels with different levels of performance, protection, or diagnostics.

### Implementation

- Counting kits use one slot (15 mm *(0.59 in.)* width) or two slots (30 mm *(1.18 in.)* width) on the DIN rail, depending on the model.
- The kits must be completed with spring or screw removable terminal blocks to wire the devices. The terminal blocks must be chosen and ordered separately.
- Spring terminal blocks are recommended for quick, tool-free connection of the sensors and actuators. The quality of the spring terminals avoids the need for periodic re-tightening.

### Characteristics

- The kits are available in two versions:
- Standard, with an operating temperature of -30 to 60 °C *(-22 to 140 °F)*
- Hardened, with an operating temperature of -40 to 70 °C *(-40 to 158 °F)*. The hardened version can operate as the standard version.
- Hot-swap capability: replacing or adding components without having to power down or interrupt system operation.
- IP degree of protection is IP20. Hardened versions are treated with a conformal coating to ensure additional environmental protection and long-term reliability.




## Description

A counting kit comprises a base **A** and an electronic module **B**. The terminal block **C** must be ordered separately.

**1** Mechanical clip for locking the kit onto the DIN rail
**2** Release button for disengaging the module from the base
**3** Status LEDs:
- One RUN LED (green): module running
- One LED per channel (green): channel diagnostics
- One ERR LED (red): detected module error

**4** Housing for the terminal block
**5** Terminal block
**6** Hinge for mounting the terminal block

# Modicon Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Counting (Incremental high-speed counter)

*NTSEHC0100K*

*NTSEHC0120HK*

*NTSEHC0220K*

*12-points - 5 mm (0.19 in.) - DC/AC*

*18-points - 3.81 mm (0.15 in.) - DC*

## References

### Counting kits (counter module + base)

| Number of channels | type | Discrete inputs | Discrete outputs | Synchronization | Version | Reference | Weight kg/*lb* |
|---|---|---|---|---|---|---|---|
| **1** | 1x high-speed counter (HSC) channel for pulse counting **250 kHz** (using 4 inputs 24 VDC) | 6x 24 VDC Sink/Source | – | **Yes** | Standard | **NTSEHC0100K** | 0.096/ *0.211* |
| **1** | 1x high-speed counter (HSC) channel for pulse counting **250 kHz** (using 4 inputs 24 VDC) | 6x 24 VDC Sink/source | 4x 24 VDC Push-pull (use as source) Configurable for 1 PWM output, or up to 4 reflex or standard outputs | **Yes** | Hardened | **NTSEHC0120HK** *(1)* | 0.159/ *0.350* |
| **2** | HSC channel for pulse counting **250 kHz** (using 8 inputs 24 VDC) | 12x 24 VDC Sink/source | 8x 24 VDC Push-pull (use as source) Configurable for up to 2 PWM outputs, or up to 8 reflex or standard outputs | **Yes** | Standard | **NTSEHC0220K** *(1)* | 0.164/ *0.361* |

### Terminal Blocks

| Number of points - Pitch - Voltage | Type | Cover | Reference | Weight kg/*lb* | *For use with the kit* |
|---|---|---|---|---|---|
| 12 - 5 mm *(0.19 in.)* - DC | Spring | Without cover | **NTSXTB12200H** | 0.029/*0.063* | *NTSEHC0100K, NTSEHC0120HK (1)* |
| | | With cover | **NTSXTB12201H** | 0.040/*0.088* | |
| | Screw | Without cover | **NTSXTB12000H** | 0.048/*0.105* | |
| | | With cover | **NTSXTB12001H** | 0.058/*0.127* | |
| 18 - 3.81 mm *(0.15 in.)* - DC | Spring | Without cover | **NTSXTB18200H** | 0.028/*0.061* | *NTSEHC0220K (1)* |
| | | With cover | **NTSXTB18201H** | 0.038/*0.083* | |
| | Screw | Without cover | **NTSXTB18000H** | 0.039/*0.085* | |
| | | With cover | **NTSXTB18001H** | 0.049/*0.108* | |

### Accessories

Terminal Blocks – Mounting accessories See pages 64 and 65

### Spare parts

Modules and Bases, Termination, Cover See pages 66 to 69

*(1) This kit requires two terminal blocks.*

# **Modicon** Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Motion Expert (Encoders, Fast I/Os, Pulse train outputs)

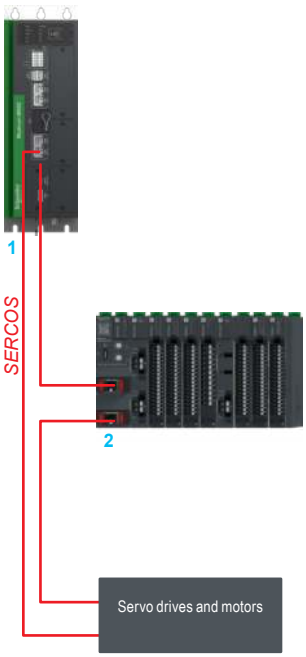
| Function | | Motion Expert | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | |
| **Type** | | **Encoder** | | | **CAM switch** | **Encoder generator** | **Fast I/Os** | | | | **Pulse Output Generator** |
| **Number of Channels** | | **2** | **1** | **1** | **1** | **1** | **8** | **8** | **8** | **8** | **2** |
| **Position control interface** | | RS-422 incremental encoder (1 MHz) or SSI encoder (500 kHz) or BiSS-C encoder | RS-422 incremental encoder (1 MHz) or SSI encoder (500 kHz) or BiSS-C encoder | SinCos (400 kHz) or Hiperface (400 kHz) or EnDat V2.1 & V2.2 (digital interface used for connecting encoders (1 MHz) | RS-422 incremental encoder (1 MHz) or SSI encoder (500 kHz) or BiSS-C encoder | RS-422 incremental encoder (400 kHz) | Oversampling and Timestamping combined | Timestamping | Timestamping | Oversampling | Pulse train output RS-422 (400 kHz) |
| **Auxiliary inputs** | Number and type | 4 Discrete | 2 Discrete | 2 Discrete | 2 Discrete | 2 Discrete | 4 Discrete | 8 Discrete | – | – | 8 Discrete, High side |
| | Rated input voltage | 24 VDC | 24 VDC | 24 VDC | 24 VDC | 24 VDC | 24 VDC | 24 VDC | – | – | 24 VDC |
| | Logic type | Sink | Sink | Sink | Sink | Sink | Sink | Sink | – | – | – |
| | IEC/EN 61131-2 conformity | Type 3 | Type 3 | Type 3 | Type 3 | Type 3 | Type 3 | Type 3 | – | – | Type 3 |
| | Wiring mode | 2-wire | 2-wire | 2-wire | 2-wire | 2-wire | 2-wire | 2-wire | – | – | 2-wire |
| **Auxiliary outputs** | Number and type | 8 Discrete, Push-pull | – | – | 8 Discrete, push-pull | – | 4 Discrete, Push-pull | – | 8 Discrete, Push-pull | 8 Discrete, Push-pull | 2 Discrete |
| | Rated output voltage | 24 VDC | – | – | 24 VDC | – | 24 VDC | – | 24 VDC | 24 VDC | 24 VDC |
| | Logic type | Source | – | – | Source | – | Source | – | Source | Source | Source |
| | Max current | 250 mA/channel | – | – | 250 mA/channel | – | 250 mA/channel | – | 250 mA/channel | 250 mA/channel | 50 mA/channel |
| | IEC/EN 61131-2 conformity | Type 3 | – | – | Type 3 | – | Type 3 | – | Type 3 | Type 3 | Type 3 |
| | Output voltage range | 24 VDC | – | – | 24 VDC | – | 24 VDC | – | 24 VDC | 24 VDC | 24 VDC |
| | Wiring mode | 2-wire | – | – | 2-wire | – | 2-wire | – | 2-wire | 2-wire | 2-wire |
| **Diagnostics** | | By LED per channel and a variable diagnostics | | | | By LED per channel and a variable diagnostics | | | | | |
| **Input protection** | Overvoltage | Up to ±60 VDC | Up to ±60 VDC | Up to ±60 VDC | Up to ±60 VDC | Up to ±60 VDC | Up to ±60 VDC | Up to ±60 VDC | – | – | Up to ±60 Vdc |
| | Reverse polarity | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** | – | – | **Yes** |
| **Output protection** | Overload | 1.84 A by group of 4 outputs | – | – | 1.84 A by group of 4 outputs | – | 1.84 A by group of 4 outputs | – | 1.84 A by group of 4 outputs | 1.84 A by group of 4 outputs | 111 mA by group of 2 outputs |
| | Short circuit | 4 A | – | – | 4 A | – | 4 A | – | 4 A | 4 A | – |
| **Synchronization** | | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Isolation** | Between input channels | No isolation | | | | | | | | | |
| | Between internal logic and input channels | 1,000 VAC | | | | | | | | | |
| | Between internal logic and pulse outputs | | | | | | | | | | |
| | Between internal logic and output channels | | | | | | | | | | |
| | Between internal logic and ground | | | | | | | | | | |
| | Between groups of input channel | 850 VAC | | | | | | | | | |
| | Between input channels and encoder signals | | | | | | | | | | |
| | Between input channels and pulse outputs | | | | | | | | | | |
| | Between input and outputs channels | | | | | | | | | | |
| | Between input channels and ground | 1,500 VAC | | | | | | | | | |
| | Between outputs channels and ground | | | | | | | | | | |
| | Between pulse outputs and ground | | | | | | | | | | |
| **Dangerous voltage** | | – | – | – | – | – | – | – | – | – | – |
| **Size** | Height | 100 mm *(3.93 in)* | 100 mm *(3.93 in)* | 100 mm *(3.93 in)* | 100 mm *(3.93 in)* | 100 mm *(3.93 in)* | 100 mm *(3.93 in)* | 100 mm *(3.93 in)* | 100 mm *(3.93 in)* | 100 mm *(3.93 in)* | 100 mm *(3.93 in)* |
| | Width | 30 mm *(1.18 in)* (2 slots) | 15 mm *(0.59 in)* (1 slot) | 15 mm *(0.59 in)* (1 slot) | 30 mm *(0.59 in)* (1 slot) | 15 mm *(0.59 in)* (1 slot) | 15 mm *(0.59 in)* (1 slot) | 15 mm *(0.59 in)* (1 slot) | 15 mm *(0.59 in)* (1 slot) | 15 mm *(0.59 in)* (1 slot) | 30 mm *(1.18 in)* (2 slots) |
| **Operating temperature** | Standard version | -30 to 60 °C *(-22 to +140°F)* | -30 to 60 °C *(-22 to +140°F)* | -30 to 60 °C *(-22 to +140°F)* | -30 to 60 °C *(-22 to +140°F)* | -30 to 60 °C *(-22 to +140°F)* | -30 to 60 °C *(-22 to +140°F)* | -30 to 60 °C *(-22 to +140°F)* | -30 to 60 °C *(-22 to +140°F)* | -30 to 60 °C *(-22 to +140°F)* | -30 to 60 °C *(-22 to +140°F)* |
| | Hardened version | – | – | – | – | – | – | – | – | – | – |
| **Sold as a kit** (Base + Functionnal module) | Standard version | **NTSEHE0221K** | **NTSEME0101K** | **NTSEME0102K** | **NTSECS0121K** | **NTSEME0110K** *(1) (2)* | **NTSEDM0822K** *(1) (2)* | **NTSEDT0800K** *(1)* | **NTSEDT0810K** *(1)* | **NTSEDO0810K** *(1)* | **NTSEMP0220K** |
| | Hardened version | – | – | – | – | – | – | – | – | – | – |
| **See page** | | 46 | | | | | | | | | |
| **Compatible terminal blocks** | Number of points-Pitch-Voltage | 18 Pts–3.81 mm–DC | 18 Pts–3.81 mm–DC | 18 Pts–3.81 mm–DC | 18 Pts–3.81 mm–DC | 18 Pts–3.81 mm–DC | 18 Pts–3.81 mm–DC | 18 Pts–3.81 mm–DC | 18 Pts–3.81 mm–DC | 18 Pts–3.81 mm–DC | 18 Pts–3.81 mm–DC |
| | Number of terminal blocks to use | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 2 |
| | Spring TB – Without cover | **NTSXTB18200H** | **NTSXTB18200H** | **NTSXTB18200H** | **NTSXTB18200H** | **NTSXTB18200H** | **NTSXTB18200H** | **NTSXTB18200H** | **NTSXTB18200H** | **NTSXTB18200H** | **NTSXTB18200H** |
| | Spring TB – With cover | **NTSXTB18201H** | **NTSXTB18201H** | **NTSXTB18201H** | **NTSXTB18201H** | **NTSXTB18201H** | **NTSXTB18201H** | **NTSXTB18201H** | **NTSXTB18201H** | **NTSXTB18201H** | **NTSXTB18201H** |
| | Screw TB – Without cover | **NTSXTB18000H** | **NTSXTB18000H** | **NTSXTB18000H** | **NTSXTB18000H** | **NTSXTB18000H** | **NTSXTB18000H** | **NTSXTB18000H** | **NTSXTB18000H** | **NTSXTB18000H** | **NTSXTB18000H** |
| | Screw TB – With cover | **NTSXTB18001H** | **NTSXTB18001H** | **NTSXTB18001H** | **NTSXTB18001H** | **NTSXTB18001H** | **NTSXTB18001H** | **NTSXTB18001H** | **NTSXTB18001H** | **NTSXTB18001H** | **NTSXTB18001H** |

*(1) This kit is intended for use with a Network Interface kit operating on the Sercos III communication protocol.*
*(2) Soon commercialized.*

# **Modicon** Edge I/O NTS

## The future-ready I/O system for data aggregation with built-in cybersecurity

Motion Expert (Encoders, Fast I/Os, Pulse train outputs)




1 Motion controller Modicon M660
2 Modicon Edge I/O NTS: Cluster composed of a Network Interface Module and a power supply module plus discrete modules, analog modules, counter modules, motion expert modules, field device master modules, or passive modules based on a modular configuration.

## Presentation

- The Motion Expert kits include an electronic module and its corresponding base, which match in height and width.
- The electronic module provides the motion function.
- The base enables DIN rail mounting, data transmission, and the supply of power to the motion expert module through the backplane bus. The base also provides the field device power supply.
- Motion Expert kits control one up to eight axes with different levels of performance, protection, or diagnostics.

### Implementation

- Motion Expert kits use one slot (15 mm *(0.59 in.)* width) or two slots (30 mm *(1.18 in.)* width) on the DIN rail, depending on the model.
- The kits must be completed with spring or screw removable terminal blocks to wire the devices. The terminal blocks must be chosen and ordered separately.
- Spring terminal blocks are recommended for quick, tool-free connection of the sensors and actuators. The quality of the spring terminals avoids the need for periodic re-tightening.

### Characteristics

- Motion Expert kits are offered in a standard version with an operating temperature of -30 to 60 °C (*-22 to 140 °F).*
- Hot-swap capability: replacing or adding components without having to power down or interrupt system operation.
- IP degree of protection is IP20.

## Description

A motion expert kit comprises a base **A** and an electronic module **B**. The terminal blocks **C** are to order separately.

1 Mechanical clip for locking the kit onto the DIN rail
2 Release button for disengaging the module from the base
3 Status LEDs:
- One RUN LED (green): module running
- One LED per channel (green): channel diagnostics
- One ERR LED (red): detected module error

4 Housing for the terminal block
5 Terminal block
6 Hinge for mounting the terminal blocks *(1)*

*(1) This kit requires two terminal blocks.*

# Modicon Edge I/O NTS

## The future-ready I/O system for data aggregation with built-in cybersecurity

Motion Expert (Encoders, Fast I/Os, Pulse train outputs)

*NTSEHE0221K*
*NTSECS0121K*
*NTSEMP0220K*

*NTSEME0101K*
*NTSEME0102K*
*NTSEME0110K*
*NTSEDM0822K*
*NTSEDT0800K*
*NTSEDO0810K*
*NTSEDT0810K*

*18 - 3.81 mm (0.15 in.) - DC*

## References

### Motion Expert kits (Motion module + base)

| Number of Channels | Type | Aux. discrete inputs | Aux. discrete outputs | Diagnostics | Synchronization | Version | Reference | Weight kg/*lb* |
|---|---|---|---|---|---|---|---|---|
| **Encoder** | | | | | | | | |
| **2** | RS-422 incremental encoder (1 MHz) or SSI encoder (500 kHz), or BiSS-C encoder | 4x 24 VDC | 8x 24 VDC 250 mA/ch | **Yes** | **Yes** | Standard | **NTSEHE0221K** *(1)* | 0.131/ *0.289* |
| **1** | RS-422 incremental encoder (1 MHz) or SSI encoder (500 kHz), or BiSS-C encoder | 2x 24 VDC | – | **Yes** | **Yes** | Standard | **NTSEME0101K** | 0.077/ *0.169* |
| | SinCos (400 kHz) or Hiperface (400 kHz), or EnDat V2.1 & V2.2 (digital interface used for connecting encoders (1 MHz)) | 2x 24 VDC | – | **Yes** | **Yes** | Standard | **NTSEME0102K** | 0.077/ *0.169* |
| **CAM switch** | | | | | | | | |
| **1** | RS-422 incremental encoder (1 MHz) or SSI encoder (500 kHz), or BiSS-C encoder | 2x 24 VDC | 8x 24 VDC 250 mA/ch | **Yes** | **Yes** | Standard | **NTSECS0121K** *(1)* | 0.131/ *0.289* |
| **Encoder generator** | | | | | | | | |
| **1** | RS-422 incremental encoder (400 kHz) | 2x 24 VDC | – | **Yes** | **Yes** | Standard | **NTSEME0110K** *(2) (3)* | 0.077/ *0.169* |
| **Fast I/Os** | | | | | | | | |
| **8** | Oversampling and Timestamping combined | 4x 24 VDC | 4x 24 VDC 250 mA/ch | **Yes** | **Yes** | Standard | **NTSEDM0822K** *(2) (3)* | 0.077/ *0.169* |
| | Timestamping | 8x 24 VDC | – | **Yes** | **Yes** | Standard | **NTSEDT0800K** *(2)* | 0.077/ *0.169* |
| | | – | 8x 24 VDC 250 mA/ch | **Yes** | **Yes** | Standard | **NTSEDT0810K** *(2)* | 0.077/ *0.169* |
| | Oversampling | – | 8x 24 VDC 250 mA/ch | **Yes** | **Yes** | Standard | **NTSEDO0810K** *(2)* | 0.077/ *0.169* |
| **Pulse Output Generator** | | | | | | | | |
| 2 | Pulse train output, RS-422 (400 kHz) | 8x 24 VDC | 2x 24 VDC 50 mA/ch | **Yes** | **Yes** | Standard | **NTSEMP0220K** *(1)* | 0.131/ *0.289* |

### Terminal Blocks

| Number of points - Pitch - Voltage | Type | Cover | Reference | Weight kg/*lb* | *For use with the kit* |
|---|---|---|---|---|---|
| 18 - 3.81 mm *(0.15 in.)* - DC | Spring | Without cover | **NTSXTB18200H** | 0.028/*0.061* | *NTSEHE0221K (1), NTSEME0101K, NTSEME0102K, NTSECS0121K (1), NTSEME0110K, NTSEDT0800K, NTSEDM0822K, NTSEDT0810K, NTSEDO0810K, NTSEMP0220K (1)* |
| | | With cover | **NTSXTB18201H** | 0.038/*0.083* | |
| | Screw | Without cover | **NTSXTB18000H** | 0.039/*0.085* | |
| | | With cover | **NTSXTB18001H** | 0.049/*0.108* | |

### Accessories

Terminal Blocks – Mounting accessories See pages 64 and 65

### Spare parts

Modules and Bases, Termination, Cover See pages 66 to 69

*(1) This kit requires two terminal blocks.*
*(2) This kit is intended for use with a Network Interface kit operating on the Sercos III communication protocol.*
*(3) Soon commercialized.*

# **Modicon** Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Field Device Master

| | | | |
|---|---|---|---|
| **Function** | | **Field Device Master**<br>- Enabling efficient and robust communication between field devices and the I/O system<br>- Contributing to the overall performance and functionality of the control system | |
| | | | |
| **Number of channels** | | 1 Serial line | 4 |
| **Protocol** | | Serial RS-485/RS-422, Modbus RTU, ASCII, Client | IO-Link Master |
| **Specification version** | | – | Compliant with IO-Link standard V1.1 |
| **Number of inputs and outputs** | | – | - Up to 4 discrete channels (configurable as input 24 VDC Sink or output 24 VDC Push-Pull 200 mA/channel for C/Q output)<br>- Up to 4 additional discrete input channels |
| **Exchange mode** | | IO Scanner device mode: Up to 32 Modbus devices can be addressed. | C/Q signal in IO-Link master mode |
| **Transmission standard** | | Serial RS-485/RS-422 | IO-Link Master (IEC 61131-9) Standard with 4 ports |
| **Transmission rate** | | Up to 115.2 kbps | COM1: 4.8 kbit/s<br>COM2: 38.4 kbit/s<br>COM3: 230.4 kbit/s |
| **Communication features** | | Serial 2-wire and 4-wire RS-422/RS-485 | Ports Mode:<br>- IO-Link (COM1/2/3)<br>- SIO-Mode (digital input or output)<br>- Additional digital input (DI) |
| **Power supply type** | | 24 VDC field power from internal power supply | - 24 VDC internal field power supply for IO-Link Class A<br>- 24 VDC SELV external power supply for IO-Link Class B |
| **Protection type** | | – | Thermal protection<br>Short-circuit protection<br>Overcurrent protection |
| **Isolation** | Between channels | – | – |
| | Between groups | – | – |
| | Between channels and bus | Isolated | Isolated |
| | Between channels and ground | – | – |
| | Between IO-Link and bus | – | 500 VAC RMS |
| **Max. cable length** | | 1,200 m *(3,937 ft)* | 20 m *(65.6 ft)* |
| **Synchronization** | | – | – |
| **Size** | Height | 100 mm *(3.94 in.)* | 100 mm *(3.94 in.)* |
| | Width | 15 mm *(0.59 in.)* (1 slot) | 15 mm *(0.59 in.)* (1 slot) |
| **Operating temperature** | Standard version | -30 to 60 °C (*-22 to 140 °F)* | -30 to 60 °C (*-22 to 140 °F)* |
| | Hardened version | -40 to 70 °C *(-40 to 158 °F)* | – |
| **Sold as a kit** (base + functional module) | Standard version | **NTSFMB0120K** | **NTSFIO0400K** |
| | Hardened version | **NTSFMB0120HK** | – |
| **See page** | | 50 | |
| **Compatible terminal blocks** | Number of points - Pitch - Voltage | 12 - 5 mm *(0.19 in.)* - DC | 18 - 3.81 mm *(0.15 in.)* - DC |
| | Number of terminal blocks to use | 1 | 1 |
| | Spring terminal block – Without cover | **NTSXTB12200H** | **NTSXTB18200H** |
| | Spring terminal block – With cover | **NTSXTB12201H** | **NTSXTB18201H** |
| | Screw terminal block – Without cover | **NTSXTB12000H** | **NTSXTB18000H** |
| | Screw terminal block – With cover | **NTSXTB12001H** | **NTSXTB18001H** |

# **Modicon** Edge I/O NTS

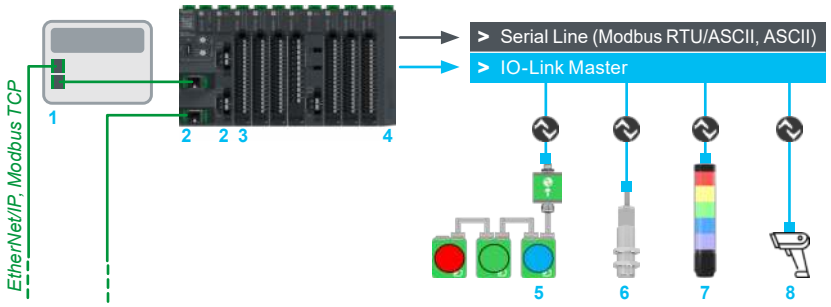
## The future-ready I/O system for data aggregation with built-in cybersecurity

### Field Device Master

## Presentation

The Field Device Master (FDM) kits include an electronic module and its corresponding base, which match in height and width.

- The electronic module provides the centralized communication interface for connecting field devices (sensors and actuators), in industrial automation systems.
- The FDM modules enable efficient data exchange, diagnostics, and configuration of field devices with the following protocols:
  - Serial RS-485/RS-422, Modbus RTU, ASCII, Client: the kit enables communication to be initiated and controlled with other server devices on the network.
  - IO-Link Master: the kit allows sensors and actuators to be connected to the Edge I/O NTS system in accordance with the IO-Link standard, and in conjunction with the Network Interface Module kit. It transforms the devices into real communicators, offering a wide range of functions with associated setting options and status information because of their communication capability.
- The base enables DIN rail mounting, data transmission, and the supply of power to the FDM module through the backplane bus. The base also provides the field device power supply.



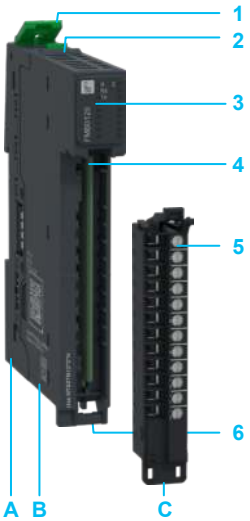

1 PLC using EtherNet/IP or Modbus TCP
2 Network Interface module, Power supply module
3 I/O modules
4 Cluster termination
5 Pushbuttons
6 Sensors (weighing, position, flow, and temperature)
7 Tower lights
8 Barcode readers

### Implementation

- Up to four IO-Link devices per module (3/4 wires - Class A) *(1)* can be installed in a configuration.
- FDM kits use one slot (15 mm *(0.59 in.)* width) on the DIN rail.
- The kits must be completed with spring or screw removable terminal blocks to wire the devices. The terminal blocks must be chosen and ordered separately.
- Spring terminal blocks are recommended for quick, tool-free connection of the sensors and actuators. The quality of the spring terminals avoids the need for periodic re-tightening.

### Characteristics

- The kits are available in two versions:
  - Standard, with an operating temperature of -30 to 60 °C *(-22 to 140 °F)*
  - Hardened, with an operating temperature of -40 to 70 °C *(-40 to 158 °F)*. The hardened version can operate as the standard version.
- Hot-swap capability: replacing or adding components without having to power down or interrupt system operation.
- IP degree of protection is IP20. Hardened versions are treated with a conformal coating to ensure additional environmental protection and long-term reliability.




## Description

A Field Device Master kit comprises a base **A** and an electronic module **B**. The terminal block **C** must be ordered separately.

1 Mechanical clip for locking the kit onto the DIN rail
2 Release button for disengaging the module from the base
3 Status LEDs:
- One RUN LED (green): module running
- One LED per channel (green): channel diagnostics
- One ERR LED (red): detected module error

4 Housing for the terminal block
5 Terminal block
6 Hinge for mounting the terminal block

*(1) IO-Link devices Class B (M12 connector) can be connected with an external power supply.*

# Modicon Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Field Device Master

NTSFMB0120K

NTSFMB0120HK

NTSFIO0400K

## References

### Field Device Master kits (FDM module + base)

| Number of channels | Protocol | Number of inputs and outputs | Synchronization | Version | Reference | Weight kg/*lb* |
|---|---|---|---|---|---|---|
| **1 serial line** Up to 32 Modbus devices can be addressed | RS-485/RS-422, Modbus RTU, ASCII, Client | – | – | Standard | NTSFMB0120K | 0.077/ *0.169* |
| | | | – | Hardened | NTSFMB0120HK | 0.077/ *0.169* |
| **Up to 4 IO-Link devices** | IO-Link Master | - Up to 4 discrete channels (configurable as input 24 VDC sink or output 24 VDC push-pull 200 mA/ channel for C/Q output)<br>- Up to 4 additional discrete input channels | – | Standard | NTSFIO0400K | 0.102/ *0.224* |

*12-points - 5 mm (0.19 in.) - DC/AC*

*18-points - 3.81 mm (0.15 in.) - DC*

### Terminal Blocks

| Number of points - Pitch - Voltage | Type | Cover | Reference | Weight kg/*lb* | *For use with the kit* |
|---|---|---|---|---|---|
| 12 - 5 mm *(0.19 in.)* - DC | Spring | Without cover | NTSXTB12200H | 0.029/*0.063* | *NTSFMB0120K (1), NTSFMB0120HK (1)* |
| | | With cover | NTSXTB12201H | 0.040/*0.088* | |
| | Screw | Without cover | NTSXTB12000H | 0.048/*0.105* | |
| | | With cover | NTSXTB12001H | 0.058/*0.127* | |
| 18 - 3.81 mm *(0.15 in.)* - DC | Spring | Without cover | NTSXTB18200H | 0.028/*0.061* | *NTSFIO0400K* |
| | | With cover | NTSXTB18201H | 0.038/*0.083* | |
| | Screw | Without cover | NTSXTB18000H | 0.039/*0.085* | |
| | | With cover | NTSXTB18001H | 0.049/*0.108* | |

### Accessories

Terminal Blocks – Mounting accessories See pages 64 and 65

### Spare parts

Modules and Bases, Termination, Cover See pages 66 to 69

# **Modicon** Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Passive (Common distribution, Dummy)

| Function | | Passive | | | | |
|---|---|---|---|---|---|---|
| | | Common distribution kits for distributing electrical power | | | Dummy kits: non-functional or simulated module that replicates the physical form and connection interface of a real module without performing any actual control or input/output functions | |
| | | | | | | |
| **Number of channels** | | **16x 0 VDC commons** | **16x 24 VDC commons** | **8x 0 VDC commons**<br>**8x 24 VDC commons** | **1-slot** | **2-slot** |
| **Protection type** | | – | - Overvoltage protection<br>- Undervoltage protection<br>- Overload protection<br>- Short-circuit protection<br>- Reverse polarity protection<br>- Inrush current control<br>- Power up limitation<br>- PE Current | | – | – |
| **Nominal operating current (field)** | | 10.5 A | 10.5 A | 10.5 A | – | – |
| **Max power dissipation in W** | | 0.587 W | 1.348 W | 1.428 W | – | – |
| **Voltage range (supply voltage range)** | | 0 VDC | 20.4...28.8 VDC | 20.4...28.8 VDC | – | – |
| **Current consumption** | Max. bus current | 3 mA | 3 mA | 3 mA | – | – |
| | Max. field current | 0 mA | 0 mA | 0 mA | – | – |
| **Size** | Height | 100 mm *(3.94 in.)* | 100 mm *(3.94 in.)* | 100 mm *(3.94 in.)* | 100 mm *(3.94 in.)* | 100 mm *(3.94 in.)* |
| | Width | 15 mm *(0.59 in.)* (1 slot) | 30 mm *(1.18 in.)* (2 slots) | 15 mm *(0.59 in.)* (1 slot) | 15 mm *(0.59 in.)* (1 slot) | 30 mm *(1.18 in.)* (2 slots) |
| **Operating temperature** | Standard version | – | – | – | – | – |
| | Hardened version | -40 to 70 °C *(-40 to 158 °F)* | -40 to 70 °C *(-40 to 158 °F)* | -40 to 70 °C *(-40 to 158 °F)* | -40 to 70 °C *(-40 to 158 °F)* | -40 to 70 °C *(-40 to 158 °F)* |
| **Sold as a kit** (base + functional module) | Standard version | – | – | – | – | – |
| | Hardened version | **NTSPCM0016HK** | **NTSPCM1600HK** | **NTSPCM0808HK** | **NTSDMY0100HK** | **NTSDMY0200HK** |
| **See page** | | 54 | | | | |
| **Compatible terminal blocks** | Number of points - Pitch - Voltage | 18 - 3.81 mm *(0.15 in.)* - DC | 18 - 3.81 mm *(0.15 in.)* - DC | 18 - 3.81 mm *(0.15 in.)* - DC | – | – |
| | Number of terminal blocks to use | 1 | 1 | 1 | – | – |
| | Spring terminal block – Without cover | **NTSXTB18200H** | **NTSXTB18200H** | **NTSXTB18200H** | – | – |
| | Spring terminal block – With cover | **NTSXTB18201H** | **NTSXTB18201H** | **NTSXTB18201H** | – | – |
| | Screw terminal block – Without cover | **NTSXTB18000H** | **NTSXTB18000H** | **NTSXTB18000H** | – | – |
| | Screw terminal block – With cover | **NTSXTB18001H** | **NTSXTB18001H** | **NTSXTB18001H** | – | – |

# **Modicon** Edge I/O NTS

## The future-ready I/O system for data aggregation with built-in cybersecurity

### Passive (Common distribution, Dummy)

## Presentation

The passive kits include an electronic module and its corresponding base, which match in height and width.

**Common distribution kits**

- The common distribution module manages and distributes electrical power throughout the Edge I/O NTS system. As a centralized point for power distribution, it incorporates features such as circuit protection, monitoring, and control capabilities.
- The base enables DIN rail mounting, data transmission, and the supply of power to the module through the backplane bus. The base also provides the field device power supply.

**Dummy kits**

- The role of a dummy module in Edge I/O NTS system involves configuring a placeholder module to mimic the behavior of a real module, without performing any real input or output functions. It is used for testing, development, or as a temporary placeholder in the absence of a real module. It can be configured to match the attributes of the real module, such as addressing, data format, and communication protocols.
- The base enables DIN rail mounting, data transmission, and the supply of power to the module through the backplane bus The base also provides the field device power supply.

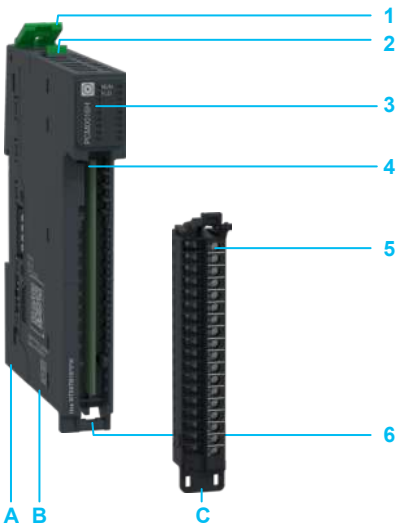
### Implementation

- The kits use one slot (15 mm *(0.59 in.)* width) or two slots (30 mm *(1.18 in.)* width) on the DIN rail, depending on the model.
- Common distribution kits must be completed with spring or screw removable terminal blocks to wire the devices. The terminal blocks must be chosen and ordered separately.
- Spring terminal blocks are recommended for quick, tool-free connection of the sensors and actuators. The quality of the spring terminals avoids the need for periodic re-tightening.

### Characteristics

- The kits are offered in a hardened version with an operating temperature of -40 to 70 °C *(-40 to 158 °F)*. The hardened version can operate as a standard version.
- Hot-swap capability: replacing or adding components without having to power down or interrupt system operation.
- IP degree of protection is IP20. Hardened versions are treated with a conformal coating to ensure additional environmental protection and long-term reliability.

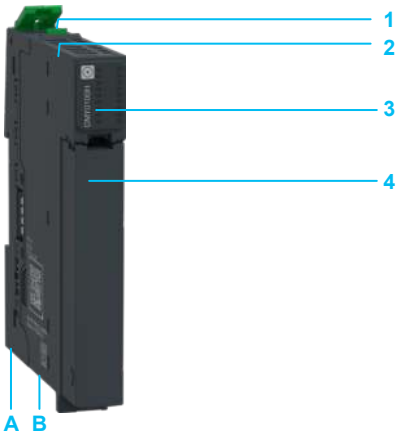
## Description




A passive kit comprises a base **A** and an electronic module **B**. The terminal block **C** must be ordered separately.

1 Mechanical clip for locking the kit onto the DIN rail
2 Release button for disengaging the module from the base
3 Status LEDs:
- One RUN logic supplied LED (green)
- One FIEL D power supply LED (green)

4 Housing for the terminal block
5 Terminal block
6 Hinge for mounting the terminal block




A dummy kit comprises a base **A** and an electronic module **B**.

1 Mechanical clip for locking the kit onto the DIN rail
2 Release button for disengaging the module from the base
3 Status LEDs
- One BUS power supply LED (green)
- One FIELD power supply LED (green)

4 Cover

# **Modicon** Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Passive (Common distribution, Dummy)

*NTSPCM0016HK*

*NTSPCM1600HK*

*NTSPCM0808HK*

*NTSDMY0100HK*

*NTSDMY0200HK*

*18 points - 3.81 mm (0.15 in.) - DC*

*12-points - 5 mm (0.19 in.) - DC/AC*

## References

### **Passive kits** (passive module + base)

| Designation | Version | Reference | Weight kg/*lb* |
|---|---|---|---|
| **Common distribution kits** | | | |
| **16x 0 VDC commons** | Hardened | NTSPCM0016HK | 0.098/ *0.216* |
| **16x 24 VDC commons** with one electronic fuse | Hardened | NTSPCM1600HK | 0.100/ *0.220* |
| **8x 0 VDC commons** **8x 24 VDC commons** with one electronic fuse | Hardened | NTSPCM0808HK | 0.100/ *0.220* |
| **Dummy kits** | | | |
| **1-slot: 15 mm width** *(0.59 in.)* | Hardened | NTSDMY0100HK | 0.100/ *0.220* |
| **2-slot: 30 mm width** *(1.18 in.)* | Hardened | NTSDMY0200HK | 0.142/ *0.313* |

### Terminal Blocks

| Number of points - Pitch - Voltage | Type | Cover | Reference | Weight kg/*lb* | |
|---|---|---|---|---|---|
| 18 - 3.81 mm *(0.15 in.)* - DC | Spring | Without cover | NTSXTB18200H | 0.028/*0.061* | *NTSPCM0016HK*, *NTSPCM1600HK*, *NTSPCM0808HK* |
| | | With cover | NTSXTB18201H | 0.038/*0.083* | |
| | Screw | Without cover | NTSXTB18000H | 0.039/*0.085* | |
| | | With cover | NTSXTB18001H | 0.049/*0.108* | |

### Accessories

| | |
|---|---|
| Terminal Blocks – Mounting accessories | See pages 64 and 65 |

### Spare parts

| | |
|---|---|
| Modules and Bases, Termination, Cover | See pages 66 to 69 |

# **Modicon** Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Power supply

| Function | | Power supply | |
|---|---|---|---|
| | | To distribute the bus power supply to the Network Interface Modules (NIM) and I/O modules | To distribute the field power supply in a cluster of modules |
| | | | |
| **Rated supply voltage** | | 24 VDC | 24 VDC |
| **Functions** | | – | – |
| | | – | – |
| **Power supply output current** | | 3.5 A for bus power supply<br>10.5 A for field power supply | 10.5 A for field power supply |
| **Voltage range** | | 20.4...28.8 VDC | 20.4...28.8 VDC |
| **Input current** | | 3.5 A for bus power supply<br>10.5 A for field power supply | 10.5 A for field power supply |
| **Max power dissipation in W** | | 1.562 W | 1.314 W |
| **Protection type** | | - Overvoltage protection for bus and field<br>- Undervoltage protection for bus and field<br>- Overload protection for bus and field<br>- Short-circuit protection for bus and field<br>- Reverse polarity protection for bus and field<br>- Inrush current control for field<br>- Voltage surge protection for bus and field<br>- Short power cut for bus | - Overvoltage protection for field<br>- Undervoltage protection for field<br>- Overload protection for field<br>- Short-circuit protection for field<br>- Reverse polarity protection for field<br>- Inrush current control for field<br>- Voltage surge protection for field |
| **Automatic disconnection** | | – | **Yes** |
| **Size** | Height | 100 mm *(3.94 in.)* | 100 mm *(3.94 in.)* |
| | Width | 15 mm *(0.59 in.)* (1 slot) | 15 mm *(0.59 in.)* (1 slot) |
| **Operating temperature** | Standard version | – | – |
| | Hardened version | -40 to 70 °C *(-40 to 158 °F)* | -40 to 70 °C *(-40 to 158 °F)* |
| **Sold as a kit** (base + functional module) | Standard version | – | – |
| | Hardened version | **NTSPFB1002HK** | **NTSPFD1002HK** |
| **See page** | | 58 | |
| **Compatible terminal blocks** | Number of points - Pitch - Voltage | 2 - 5 mm *(0.19 in.)* - DC | 2 - 5 mm *(0.19 in.)* - DC |
| | Number of terminal blocks to use | 2 | 1 |
| | Spring terminal block (Without cover) | **NTSXTB02230H** | **NTSXTB02230H** |
| | Screw terminal block (Without cover) | **NTSXTB02030H** | **NTSXTB02030H** |

# **Modicon** Edge I/O NTS

## The future-ready I/O system for data aggregation with built-in cybersecurity

### Power supply

## Presentation

The power supply kits include an electronic module and its corresponding base, which match in height and width.

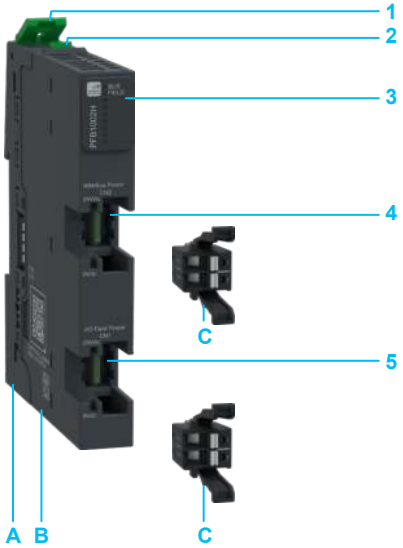
- The power supply module provides the following functions:
  - Supplying the necessary electrical power to the I/O modules and the Network Interface Modules within the system, they operate reliably and consistently.
  - Helping to maintain robust and regulated power distribution to all connected modules, contributing to the overall functionality and performance of the I/O system.
- The base enables DIN rail mounting, data transmission, and the supply of power to the module through the backplane bus. The base also provides the field device power supply.

### Implementation

- Power supply kits use one slot (15 mm *(0.59 in.)* width) on the DIN rail.
- The kits must be completed with spring or screw removable terminal blocks to wire the devices. The terminal blocks must be chosen and ordered separately.
- Spring terminal blocks are recommended for quick, tool-free connection of the sensors and actuators. The quality of the spring terminals avoids the need for periodic re-tightening.

### Characteristics

- The kits are offered in a hardened version with an operating temperature of -40 to 70 °C *(-40 to 158 °F)*. The hardened version can operate as a standard version.
- IP degree of protection is IP20. Hardened versions are treated with a conformal coating to ensure additional environmental protection and long-term reliability.




## Description

A power supply kit comprises a base **A** and an electronic module **B**. The terminal blocks **C** are to order separately *(1)*.

1 Mechanical clip for locking the kit onto the DIN rail
2 Release button for disengaging the module from the base
3 Status LEDs:
  - One BUS power supply/RUN logic supplied LED (green), depending on the model
  - One FIELD power supply LED (green)
4 Housing for the terminal block (bus connector)
5 Housing for the terminal block (field connector)

*(1) The power supply kit requires one or two terminal blocks, depending on the model.*

# Modicon Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Power supply

NTSPFB1002HK

NTSPFD1002HK

## References

**Power supply kits** (power supply module + base)

| Rated supply voltage | Use | Function | Version | Reference | Weight kg/*lb* |
|---|---|---|---|---|---|
| **24 VDC** | Distributes the bus power supply to the Network Interface Modules (NIM) and I/O modules<br>- 3.5 A for the bus power supply<br>- 10.5 A for the field power supply<br>- Mandatory module after a NIM or an extender<br>- Includes all functions of a device power supply | – | Hardened | NTSPFB1002HK *(1)* | 0.104/ *0.229* |
| | Distributes the field power supply in a cluster of modules<br>- 10.5 A for the field power<br>- Can be added when more than 10 A is required or to manage several segments | – | Hardened | NTSPFD1002HK *(2)* | 0.104/ *0.229* |

NTSXTB02230H

NTSXTB02030H

**Terminal Blocks**

| Number of points - Pitch - Voltage | Type | Cover | Reference | Weight kg/*lb* | *For use with the kit* |
|---|---|---|---|---|---|
| 2 - 5 mm *(0.19 in.)* - DC | Spring | Without cover | NTSXTB02230H | 0.008/*0.017* | *NTSPFB1002HK (1), NTSPFD1002HK (2)* |
| | Screw | Without cover | NTSXTB02030H | 0.011/*0.024* | |

**Accessories**

| | |
|---|---|
| Terminal Blocks – Mounting accessories | See pages 64 and 65 |

**Spare parts**

| | |
|---|---|
| Modules and Bases, Termination, Cover | See pages 66 to 69 |

*(1) This power supply kit requires two terminal blocks.*
*(2) This power supply kit requires one terminal block.*

# **Modicon** Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Network Interface

| Function | | Network Interface for data exchange between the master PLC and I/O islands | |
|---|---|---|---|
| | | | |
| **Bus or network** | Type | ■ EtherNet/IP<br>■ Modbus TCP | ■ SERCOS |
| | Port | ■ USB-C 2.0 (HTTPs and RNDIS) | ■ USB-C 2.0 (HTTPs and RNDIS) |
| **Structure** | Exchange mode | 10/100 Mbps Full duplex (Autonegotiation) | 10/100 Mbps full duplex (Autonegotiation) |
| | Physical interface | 10BASE-T/100BASE-TX | 10BASE-T/100BASE-TX |
| | Medium | Twisted pair cable | Twisted pair cable |
| | Cable length | 100 m *(328 ft)* (10Base-T/100Base-TX) | 100 m *(328 ft)* (10Base-T/100Base-TX) |
| **Topology** | | - Daisy chain<br>- Star<br>- Ring (using RSTP) | - Daisy chain<br>- Ring |
| **Communication features** | Security | - Built-in TPM, secure storage<br>- EcoStruxure Cybersecurity Admin Expert (CAE) support<br>- Secure Boot, Signed firmware, Secure firmware update<br>- Service communications encrypted, TLS 1.2<br>- Role Based Access Control (RBAC)<br>- Device Genuineness | - Built-in TPM, secure storage<br>- EcoStruxure Cybersecurity Admin Expert (CAE) support<br>- Secure Boot, Signed firmware, Secure firmware update<br>- Service communications encrypted, TLS 1.2<br>- Role Based Access Control (RBAC)<br>- Device Genuineness |
| | Plug and play | - Automatic discovery with DPWS<br>- Web Server<br>- Configuration via Webpage, standalone tool, or through EcoStruxure Machine Expert, EcoStruxure Control Expert, and EcoStruxure Automation Expert<br>- FDR Client<br>- BootP/DHCP Client | - Automatic discovery with DPWS<br>- Web Server<br>- Configuration via Webpage, standalone tool, or through EcoStruxure Machine Expert<br>- FDR Client |
| | Communication | - IPV4<br>- EtherNet/IP (Adapter)<br>- Modbus TCP (Server) | - IPV4<br>- SERCOS III |
| | Diagnostics | - Diagnostic log<br>- Error log<br>- Event log<br>- Communication log | - Diagnostic log<br>- Error log<br>- Event log<br>- Sercos diagnostics<br>- Communication log |
| | Other | - Commisionning without PLC<br>- Optional and virtual modules absent | - Commisionning without PLC<br>- Optional and virtual modules absent |
| **Hardware configuration** | Number of addressable I/O kits | Up to 32 kits per cluster | Up to 32 kits per cluster |
| | **Cybersecurity** | Cybersecurity enabled out of the box | Cybersecurity enabled out of the box |
| | Power supply type | 24 VDC not isolated (20.4...28.8 VDC)<br>Powered by Internal bus power via NTSPFB power supply module from a 24 VDC bus connector | 24 VDC not isolated (20.4...28.8 VDC)<br>Powered by Internal bus power via NTSPFB power supply module from a 24 VDC bus connector |
| **Connector type** | Bus or network port | Two RJ45 Ethernet ports, internally switched, with Galvanic isolation | Two RJ45 Ethernet ports, internally switched, with Galvanic isolation |
| | Configuration firmware | From network connection or with USB type-C port (CN1) using EcoStruxure Administration Device Manager | From network connection or with USB type-C port (CN1) using EcoStruxure Administration Device Manager |
| **Size** | Height | 100 mm *(3.94 in.)* | 100 mm *(3.94 in.)* |
| | Width | 30 mm *(1.18 in.)* (2 slots) (standard version) + 15 mm *(0.59 in.)* with Termination<br>45 mm *(1.77 in.)* (3 slots) (hardened version) + 15 mm *(0.59 in.)* with Termination | 30 mm *(1.18 in.)* (2 slots) (standard version) + 15 mm *(0.59 in.)* with Termination |
| **Operating temperature** | Standard version | -30 to 60 °C (*-22 to 140 °F)* | -30 to 60 °C (*-22 to 140 °F)* |
| | Hardened version | -40 to 70 °C *(-40 to 158 °F)* | - |
| **Sold as a kit** (base + functional module) | Standard version | **NTSNEC1200K** | **NTSNSC1200K** |
| | Hardened version | **NTSNEC1200HK** | - |
| **See page** | | 62 | |

# **Modicon** Edge I/O NTS

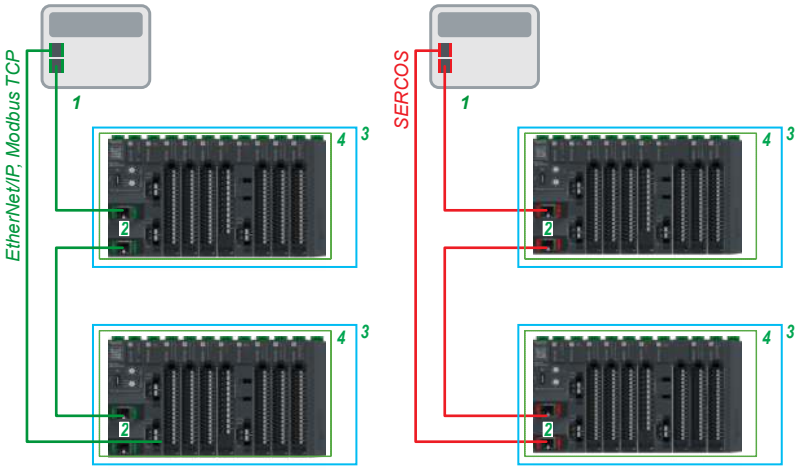
## The future-ready I/O system for data aggregation with built-in cybersecurity

### Network Interface

## Presentation

The Network Interface kits include an electronic module and its corresponding base, which match in height and width.

- The Network Interface Modules (NIMs) act as bus couplers, enabling communication between the Edge I/O NTS system—composed of an island—and EtherNet/IP, Modbus TCP, and SERCOS III networks. They allow the I/O system to exchange data for monitoring, control, and coordination purposes.
- The base enables DIN rail mounting, data transmission, and the supply of power to the module through the backplane bus. The base also provides the field device power supply.



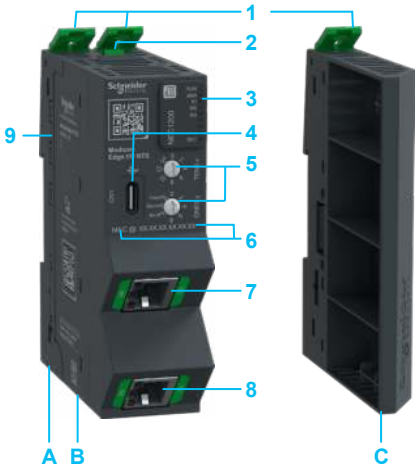

*1 PLC using EtherNet/IP or Sercos*
*2 Network Interface (EtherNet/IP, Modbus TCP, or SERCOS)*
*3 Island composed of one cluster*
*4 Cluster composed of a Network Interface kit, I/O kits, and a cluster termination.*

### Implementation

- The Network Interface occupies the first position of a cluster.
- The Network Interface kits use two slots (30 mm *(1.18 in.)* width), or three slots (45 mm *(1.77 in.)* width).

### Characteristics

- The kits are available in two versions:
  - Standard, with an operating temperature of -30 to 60 °C *(-22 to 140 °F)*
  - Hardened, with an operating temperature of -40 to 70 °C *(-40 to 158 °F)*. The hardened version can operate as the standard version.
- IP degree of protection is IP20. Hardened versions are treated with a conformal coating to ensure additional environmental protection and long-term reliability.




## Description

A Network Interface kit comprises a base **A** and an electronic module **B**, and a cluster termination **C**.

1. Mechanical clip for locking the kit onto the DIN rail
2. Release button for disengaging the module from the base
3. Status LEDs to indicate the operational status of the island
4. USB type-C port (CN1) to configure and upgrade the firmware of the island
5. Two rotary switches to set the IP address of the Network Interface Module
6. Label space to write the assigned MAC address (this unique 48-bit network identifier is hard-coded into the module when it is manufactured)
7. Communication port (CN2) (RJ45 type) to connect the Network Interface Module to the network
8. Communication port (CN3) (RJ45 type) to connect the Network Interface Module to the network
9. On the back side of the base: One rotary switch to set the cybersecurity mode (can also reset the module to factory settings)

# Modicon Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Network Interface

*NTSNEC1200K*

*NTSNEC1200HK*

*NTSNSC1200K*

## References

**Network Interface kits** (Network Interface Module + base + Cluster termination)

| Network | Kit composition | Communication port | Data transfer speed | Version | Reference | Weight kg/*lb* |
|---|---|---|---|---|---|---|
| ■ EtherNet/IP<br>■ Modbus TCP | Module with base and cluster termination | 2x RJ45 | 100 Mbps | Standard | **NTSNEC1200K** *(1)* | 0.275/ *0.606* |
| | | 2x RJ45 | 100 Mbps | Hardened | **NTSNEC1200HK** *(1)* | 0.324/ *0.715* |
| ■ SERCOS | Module with base and cluster termination | 2x RJ45 | 100 Mbps | Standard | **NTSNSC1200K** *(1)* | 0.331 *0.729* |

## Accessories

| | |
|---|---|
| Terminal Blocks – Mounting accessories | See pages 64 and 65 |

## Spare parts

| | |
|---|---|
| Modules and Bases, Termination, Cover | See pages 66 to 69 |

*(1) A cluster termination is included with the Network Interface kit.*

# **Modicon** Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

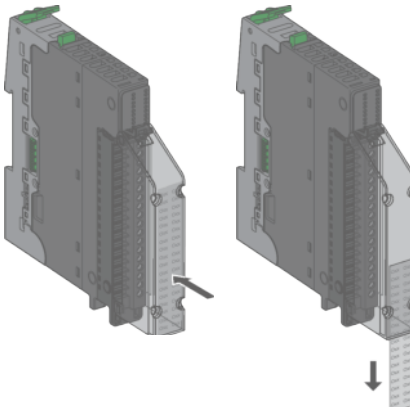
Terminal Blocks

## Terminal Blocks for 100 mm *(3.94 in.)* -high module

| 12 terminals | Using DC | | | | Using AC or higher DC voltage | | | |
|---|---|---|---|---|---|---|---|---|
| | Without cover | Weight (kg/*lb*) | With cover | Weight (kg/*lb*) | Without cover | Weight (kg/*lb*) | With cover | Weight (kg/*lb*) |
| Screw terminal | NTSXTB12000H | 0.048/*0.105* | NTSXTB12001H | 0.058/*0.127* | NTSXTB12010H | 0.048/*0.105* | NTSXTB12011H | 0.058/*0.127* |
| Spring terminal | NTSXTB12200H | 0.029/*0.063* | NTSXTB12201H | 0.040/*0.088* | NTSXTB12210H | 0.029/*0.063* | NTSXTB12211H | 0.040/*0.088* |

| 18 terminals | Using DC | | | |
|---|---|---|---|---|
| | Without cover | Weight (kg/*lb*) | With cover | Weight (kg/*lb*) |
| Screw terminal | NTSXTB18000H | 0.039/*0.085* | NTSXTB18001H | 0.049/*0.108* |
| Spring terminal | NTSXTB18200H | 0.028/*0.061* | NTSXTB18201H | 0.038/*0.083* |

**Plain Text Installation on Clear Cover**



The clear cover of the Terminal Blocks has a dedicated space that allows you to insert a paper label. The label size depends on the height of the module:

| Module height | Label dimensions | Paper Thickness |
|---|---|---|
| 100 mm *(3.93 in.)* | 65 x 10.7 mm *(2.56 x 0.42 in.)* | 0.2 mm *(0.007in.)* |
| 121 mm *(4.76 in.)* | 86 x 10.7 mm *(3.38 x 0.42 in.)* | 0.2 mm *(0.007in.)* |

## Terminal Blocks for 121 mm *(4.76 in.)* -high module

| 18 terminals | Using DC | | | |
|---|---|---|---|---|
| | Without cover | Weight (kg/*lb*) | With cover | Weight (kg/*lb*) |
| Screw terminal | NTSXTB18000XH | 0.064/*0.141* | NTSXTB18001XH | 0.077/*0.169* |
| Spring terminal | NTSXTB18200XH | 0.038/*0.083* | NTSXTB18201XH | 0.050/*0.110* |

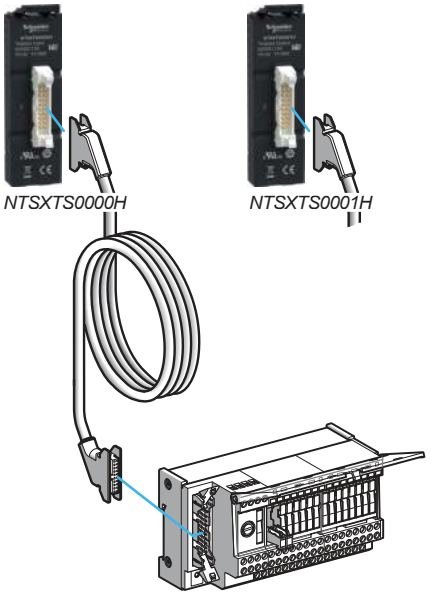
## Terminal Blocks for power supply module

| 2-point terminal | Without cover | Weight (kg/*lb*) |
|---|---|---|
| Screw terminal block | NTSXTB02030H | 0.011/*0.024* |
| Spring terminal block | NTSXTB02230H | 0.008/*0.017* |

# Modicon Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Telefast terminal blocks – Mounting accessories




*Telefast ABE7:connection cables and connection sub-bases*

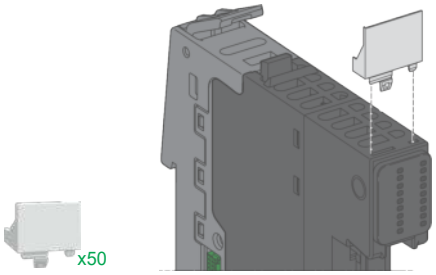
## Terminal Blocks for connecting the I/O to the Telefast ABE7 connection sub-bases

| Designation | Compatibility | Reference | Weight kg/*lb* |
|---|---|---|---|
| **20-point HE connector** | Discrete input module: *NTSDDI1602XK, NTSDDI1602XHK* | NTSXTS0000H *(1)* | 0.480/ *1.058* |
| | Discrete output modules: *NTSDDO1602XK, NTSDDO1602XHK* | NTSXTS0001H *(1)* | 0.480/ *1.058* |

**More information on Telefast ABE7 IP20 connection sub-bases, consult catalog Ref.** DIA3ED2160602EN, or on our website.

*(1) Planned commercialization.*

*Catalog Ref. DIA3ED2160602EN*




*NTSXMP2000*

*Label to be fixed on top of the module*

*NTSXMP1000*

## Mounting accessories

| Designation | | Sold in sets of | Reference | Weight kg/*lb* |
|---|---|---|---|---|
| **Label for modules** 14 x 10 mm *(0.55 x 0.39 in.)* | Each individual module has a reserved space for the marking label Marking labels can help you identify information on individual modules. To be fixed on top of the module | 50 | NTSXMP2000 | 0.029/ *0.063* |
| **Wheel of 8 flexible coding keys** | To mechanically encode or configure connections between base to module, or Terminal block to module | 10 | NTSXMP1000 | 0.016/ *0.035* |

# **Modicon** Edge I/O NTS

## The future-ready I/O system for data aggregation with built-in cybersecurity

### Spare parts: Modules and Bases

1-slot

100 mm (3.94 in.) high

121 mm (4.76 in.) high

2-slot

100 mm (3.94 in.) high

121 mm (4.76 in.) high

## Discrete modules and associated bases

| Number of channels | | | Dangerous voltage | Wiring mode | Synchronization | Version | Reference | Weight kg/lb | Associated base |
|---|---|---|---|---|---|---|---|---|---|
| Number | Signal type | Range | | | | | | | |
| **Discrete input modules** | | | | | | | | | |
| **2** (isolated) | – | 100 to 240 VAC | Yes | 1-/2-3 wire | – | Hardened | **NTSDAI0215H** | 0.050/ *0.110* | *NTSXBA0100H (1-slot)* |
| **4** | – | 100 to 120 VAC | Yes | 1-/2-wire | – | Hardened | **NTSDAI0404H** | | |
| | Sink | 24 VDC, 48 V AC/DC | Yes | 1-/2-3 wire | – | Hardened | **NTSDAI0403H** | | |
| | Sink | 24 VDC | – | 1-/2-3 wire | Yes | Standard | **NTSDDI0402** | | |
| | Sink | 24 VDC | – | 1-/2-3 wire | Yes | Hardened | **NTSDDI0402H** | | |
| **6** | Sink | 24 VDC | – | 1-/2-3 wire | Yes | Standard | **NTSDDI0602** | | |
| **8** | Sink | 24 VDC | – | 1-/2-wire | – | Standard | **NTSDDI0802X** | 0.051/ *0.112* | |
| | – | 100 to 120 VAC | Yes | 1-wire | – | Standard | **NTSDAI0804** | 0.050/ *0.110* | |
| **16** | Sink | 24 VDC | – | 1-wire | Yes | Standard | **NTSDDI1602** | | |
| | Source | 24 VDC | – | 1-wire | Yes | Standard | **NTSDDI1642** | | |
| | Sink | 24 VDC | – | 1-/2-3 wire | – | Standard | **NTSDDI1602X** | 0.089/ *0.196* | *NTSXBA0200H (2-slot)* |
| | Sink | 24 VDC | – | 1-/2-3 wire | – | Hardened | **NTSDDI1602XH** | | |
| **Discrete output modules** | | | | | | | | | |
| **2** (isolated, protected) | Transistor (source) | 24 VDC 2 A/channel | – | 1-/2-3 wire | Yes | Hardened | **NTSDDO0212H** | 0.050/ *0.110* | *NTSXBA0100H (1-slot)* |
| **2** (isolated) | Relay | Form C with NO/ NC contacts, 5 to 125 VDC, 24 to 240 VAC 2 A/channel | Yes | – | – | Standard | **NTSDRC0215** | | |
| **2** | Triac | 100 to 240 VAC 1 A/channel | Yes | 1-/2-3 wire | – | Standard | **NTSDAO0205** | | |
| **4** (isolated) | Triac | 100 to 240 VAC 2 A/channel | Yes | 1-/2-3 wire | – | Standard | **NTSDAO0415** | 0.089/ *0.196* | *NTSXBA0200H (2-slot)* |
| | | | Yes | 1-/2-3 wire | – | Hardened | **NTSDAO0415H** | 0.083/ *0.182* | |
| | Relay | Form C with NO/ NC contacts, 5 to 125 VDC, 24 to 240 VAC 5 A/channel | Yes | – | – | Standard | **NTSDRC0415** | | |
| | | | Yes | – | – | Hardened | **NTSDRC0415H** | | |
| **4** (protected) | Transistor (source) | 24 VDC 500 mA/channel | – | 1-/2-3 wire | Yes | Standard | **NTSDDO0402** | 0.050/ *0.110* | *NTSXBA0100H (1-slot)* |
| | | | – | 1-/2-3 wire | Yes | Hardened | **NTSDDO0402H** | | |
| **6** (protected) | Transistor (source) | 24 VDC 500 mA/channel | – | 1-/2-3 wire | Yes | Standard | **NTSDDO0602** | | |
| **6** (isolated) | Relay | Form A with NO contact, 5 to 125 VDC, 24 to 240 VAC 2 A/channel | Yes | – | – | Standard | **NTSDRA0615** | 0.083/ *0.182* | *NTSXBA0200H (2-slot)* |
| **8** (protected) | Transistor (source) | 24 VDC 500 mA/channel | – | 1-/2-wire | – | Standard | **NTSDDO0802X** | 0.051/ *0.112* | *NTSXBA0100H (1-slot)* |
| | | 24 VDC 2 A/channel | – | 1-wire | Yes | Standard | **NTSDDO0802** *(1)* | 0.050/ *0.110* | |
| **16** (protected) | Transistor (source) | 24 VDC 500 mA/channel | – | 1-wire | Yes | Standard | **NTSDDO1602** | | |
| | | | – | 1-/2-wire | – | Standard | **NTSDDO1602XA** *(1)* | 0.083/ *0.182* | *NTSXBA0200H (2-slot)* |
| | | | – | 1-/2-wire | – | Hardened | **NTSDDO1602XAH** *(1)* | | |
| | | | – | 1-/2-wire | – | Standard | **NTSDDO1602X** | 0.089/ *0.196* | |
| | | | – | 1-/2-wire | – | Hardened | **NTSDDO1602XH** | | |

*(1) This module requires an external power supply source.*

**NOTE**: The terminal block reference for use with the module is printed on the front of the module.

# Modicon Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Spare parts: Modules and Bases

1-slot

100 mm (3.94 in.) high

121 mm (4.76 in.) high

2-slot

100 mm (3.94 in.) high

121 mm (4.76 in.) high

## Analog modules and associated bases

| Number of channels | | | Dangerous voltage | Wiring mode | Synchroni-zation | Version | Reference | Weight kg/lb | Associated base |
|---|---|---|---|---|---|---|---|---|---|
| Number | Signal type | Method | | | | | | | |
| **Analog input modules** | | | | | | | | | |
| **2** (isolated) | Current, voltage | HART Tolerance, loop power | – | 2-/3-/4-wire | Yes | Standard | **NTSAMI0210** | 0.050/ *0.110* | *NTSXBA0100H (1-slot)* |
| | Temperature | RTD, thermocouple, mV, | – | 2-/3-/4-wire | – | Standard | **NTSART0214** | | |
| | | RTD, thermocouple, mV | – | 2-/3-/4-wire | – | Hardened | **NTSART0214H** | | |
| **2** (isolated) | Current, voltage | HART Tolerance, loop power | – | 2-/3-/4-wire | Yes | Hardened | **NTSAMI0210H** | 0.083/ *0.182* | *NTSXBA0200H (2-slot)* |
| **4** (isolated) | Current | HART communication, loop power | – | 2-wire | – | Hardened | **NTSAHI0412XH** | 0.089/ *0.196* | |
| **4** | Current, voltage | – | – | 2-wire | Yes | Standard | **NTSAMI0400** | 0.050/ *0.110* | *NTSXBA0100H (1-slot)* |
| | | Differential | – | 2-wire | Yes | Standard | **NTSAMI0420** | | |
| **4** (Differential) | Temperature | RTD, thermocouple, mV | – | 2-/3-wire | – | Standard | **NTSART0404** | 0.050/ *0.110* | |
| | | RTD, thermocouple, mV | – | 2-/3-/4-wire | – | Hardened | **NTSART0404XH** | 0.051/ *0.112* | |
| **6** (Differential) | Temperature | RTD, Thermistor | – | 2-/3-wire | – | Standard | **NTSART0603** | 0.050/ *0.110* | |
| **8** | Current | HART Tolerance, loop power | – | 1-/2-wire | – | Standard | **NTSACI0802X** | 0.089/ *0.196* | *NTSXBA0200H (2-slot)* |
| | | HART Tolerance, loop power | – | 1-/2-wire | – | Hardened | **NTSACI0802XH** | | |
| | Current, voltage | – | – | 2-wire | Yes | Standard | **NTSAMI0800** | 0.050/ *0.110* | *NTSXBA0100H (1-slot)* |
| **Analog output modules** | | | | | | | | | |
| **2** (isolated) | Current | HART communication | – | 2-wire | – | Hardened | **NTSAHO0212H** | 0.083/ *0.182* | *NTSXBA0200H (2-slot)* |
| **2** (isolated) | Current, voltage | – | – | 2-wire | Yes | Standard | **NTSAMO0210** | 0.050/ *0.110* | *NTSXBA0100H (1-slot)* |
| | | – | – | 2-wire | – | Hardened | **NTSAMO0210H** | | |
| **4** | Current, voltage | – | – | 2-wire | Yes | Standard | **NTSAMO0400** | | |
| | | – | – | 2-wire | – | Hardened | **NTSAMO0400H** | | |
| **Analog Combo module** | | | | | | | | | |
| **4** inputs **2** outputs (isolated group) | Current, voltage | HART Tolerance for the outputs | – | 2-wire | Yes | Standard | **NTSAMM0600** | 0.050/ *0.110* | *NTSXBA0100H (1-slot)* |

## High speed counter modules and associated bases

| Number of channels | Discrete inputs | Discrete outputs | Dangerous voltage | Wiring mode | Synchroni-zation | Version | Reference | Weight kg/lb | Associated base |
|---|---|---|---|---|---|---|---|---|---|
| **1** incremental 250 kHz (4 inputs) | 2 auxiliary inputs 24 VDC | – | – | – | Yes | Standard | **NTSEHC0100** | 0.050/ *0.110* | *NTSXBA0100H (1-slot)* |
| **2** incremental 250 kHz (8 inputs) | 4 auxiliary inputs 24 VDC | 8 auxiliary outputs 24 VDC 500 mA/ch | – | – | Yes | Standard | **NTSEHC0220** | 0.083/ *0.182* | *NTSXBA0200H (2-slot)* |
| **1** incremental 250 kHz (4 inputs) | 2 auxiliary inputs 24 VDC | 4 auxiliary outputs 24 VDC 500 mA/ch | – | – | Yes | Hardened | **NTSEHC0120H** | | |

**NOTE**: The terminal block reference for use with the module is printed on the front of the module.

# Modicon Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Spare parts: Modules and Bases

1-slot

100 mm (3.94 in.) high

2-slot

100 mm (3.94 in.) high

## Motion Expert modules and associated bases

| Number of channels | Type | Discrete inputs | Discrete outputs | Synchronization | Version | Reference | Weight kg/lb | Associated base |
|---|---|---|---|---|---|---|---|---|
| **Encoder** | | | | | | | | |
| **2** | RS-422 incremental encoder (1 MHz) or SSI encoder (500 kHz), or BiSS-C encoder | 4x 24 VDC | 8x 24 VDC 250 mA/ch | Yes | Standard | NTSEHE0221 | 0.083/ 0.182 | NTSXBA0200H (2-slot) |
| **1** | RS-422 incremental encoder (1 MHz) or SSI encoder (500 kHz), or BiSS-C encoder | 2 | 2x 24 VDC | Yes | Standard | NTSEME0101 | 0.050/ 0.110 | NTSXBA0100H (1-slot) |
| | SinCos (400 kHz) or Hiperface (400 kHz), or EnDat V2.1 & V2.2 (digital interface used for connecting encoders (1 MHz)) | 2 | 2x 24 VDC | Yes | Standard | NTSEME0102 | 0.050/ 0.110 | |
| **CAM switch** | | | | | | | | |
| **1** | RS-422 incremental encoder (1 MHz) or SSI encoder (500 kHz), or BiSS-C encoder | 2x 24 VDC | 8x 24 VDC 250 mA/ch | Yes | Standard | NTSECS0121 | 0.083/ 0.182 | NTSXBA0200H (2-slot) |
| **Encoder generator** | | | | | | | | |
| **1** | RS-422 incremental encoder (400 kHz) | 2x 24 VDC | – | Yes | Standard | NTSEME0110 (1) (2) | 0.050/ 0.110 | NTSXBA0100H (1-slot) |
| **Fast I/Os** | | | | | | | | |
| **8** | Oversampling and Timestamping combined | 4x 24 VDC | 4x 24 VDC 50 mA/ch | Yes | Standard | NTSEDM0822 (1) (2) | 0.050/ 0.110 | NTSXBA0100H (1-slot) |
| | Timestamping | 8x 24 VDC | – | Yes | Standard | NTSEDT0800 (1) | 0.050/ 0.110 | |
| | Timestamping | – | 8x 24 VDC 250 mA/ch | Yes | Standard | NTSEDT0810 (1) | 0.050/ 0.110 | |
| | Oversampling | – | 8x 24 VDC 250 mA/ch | Yes | Standard | NTSEDO0810 (1) | 0.050/ 0.110 | |
| **Pulse Output Generator** | | | | | | | | |
| **2** | Pulse train output RS-422 (400 kHz) | 8x 24 VDC | 2x 24 VDC 250 mA/ch | Yes | Standard | NTSEMP0220 | 0.083/ 0.182 | NTSXBA0200H (2-slot) |

## Field Device Master modules and associated bases

| Number of channels | Communication protocol | Synchronization | Version | Reference | Weight kg/lb | Associated base |
|---|---|---|---|---|---|---|
| **1** | Serial RS-422/RS-485, Modbus RTU, ASCII, Client | – | Standard | NTSFMB0120 | 0.050/ 0.110 | NTSXBA0100H (1-slot) |
| | | | Hardened | NTSFMB0120H | | |
| **Up to 4** | IO-Link Master, with discrete channels configurable as input or output | Yes | Standard | NTSFIO0400 | | |

*(1) This module is intended for use with a Network Interface Module operating on the Sercos III communication protocol.*
*(2) Soon commercialized.*

**NOTE**: The terminal block reference for use with the module is printed on the front of the module.

# Modicon Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Spare parts: Modules and Bases, Termination, Cover

1-slot

100 mm (3.94 in.) high

2-slot

100 mm (3.94 in.) high

3-slot

100 mm (3.94 in.) high

NTSXBA0100H NTSXBA0103H NTSXBA0104H

NTSXBA0200H NTSXBA0201H NTSXBA0301H

NTSXMP0000H NTSXEM0000H NTSXEM0000XH

## Passive modules and associated bases

| Designation | | Version | Reference | Weight kg/lb | Associated base |
|---|---|---|---|---|---|
| **Common distribution modules** | 16x 0 VDC commons | Hardened | NTSPCM0016H | 0.050/ 0.110 | NTSXBA0100H (1-slot) |
| | 16x 24 VDC commons With one electronic fuse | Hardened | NTSPCM1600H | | |
| | 8x 0 VDC commons, 8x 24 VDC commons With one electronic fuse | Hardened | NTSPCM0808H | | |
| **Dummy modules** | 1-slot: 15 mm *(0.59 in.)* width | Hardened | NTSDMY0100H | 0.050/ 0.110 | NTSXBA0100H (1-slot) |
| | 2-slot: 30 mm *(1.18 in.)* width | Hardened | NTSDMY0200H | 0.083/ 0.182 | NTSXBA0200H (2-slot) |

## Power supply modules and associated bases

| Input voltage | Use | Version | Reference | Weight kg/lb | Associated base |
|---|---|---|---|---|---|
| **24 VDC** | Distributes the bus power supply to the Network Interface Modules (NIM) and I/O modules | Hardened | NTSPFB1002H | 0.050/ 0.110 | NTSXBA0104H (1-slot) |
| | Distributes the field power supply in a cluster of modules | Hardened | NTSPFD1002H | 0.050/ 0.110 | NTSXBA0103H (1-slot) |

## Network Interface modules and associated bases

| Network | Communication port | Data transfer speed | Version | Reference | Weight kg/lb | Associated base |
|---|---|---|---|---|---|---|
| **EtherNet/IP, Modbus TCP** | 2x RJ45 | 100 Mbps | Standard | NTSNEC1200 | 0.275/ 0.606 | NTSXBA0201H (2-slot) |
| | 2x RJ45 | 100 Mbps | Hardened | NTSNEC1200H | 0.324/ 0.714 | NTSXBA0301H (3-slot) |
| **SERCOS** | 2x RJ45 | 100 Mbps | Standard | NTSNSC1200 | 0.262/ 0.577 | NTSXBA0201H (2-slot) |

## Bases for modules

| Type of module | Number of slots on the DIN rail (corresponding to the module width) | Version | Reference | Weight kg/lb |
|---|---|---|---|---|
| - Discrete module<br>- Analog module<br>- Counter module<br>- Motion Expert module<br>- Field Device Master module<br>- Passive module (common, and dummy module) | 1-slot (15 mm *(0.59 in.)* width module) | Hardened | NTSXBA0100H | 0.026/ 0.057 |
| | 2-slot (30 mm *(1.18 in.)* width module) | Hardened | NTSXBA0200H | 0.048/ 0.105 |
| - Power supply module (bus and field) | 1-slot (15 mm *(0.59 in.)* width module) | Hardened | NTSXBA0103H | 0.026/ 0.057 |
| - Power supply module (field) | 1-slot (15 mm *(0.59 in.)* width module) | Hardened | NTSXBA0104H | 0.026/ 0.057 |
| - Network Interface module<br>- Bus extender module | 2-slot (30 mm *(1.18 in.)* width module) | Hardened | NTSXBA0201H | 0.048/ 0.105 |
| | 3-slot (45 mm *(1.77 in.)* width module) | Hardened | NTSXBA0301H | 0.057/ 0.125 |

## Cluster termination

| Designation | | Reference | Weight kg/lb |
|---|---|---|---|
| **Cluster termination** | - Required at the end of each cluster<br>- Automatically sold with the Network Interface Kits | NTSXMP0000H | 0.039/ 0.085 |

## Cover for terminal blocks

| Designation | Sold in sets of | Reference | Weight kg/lb |
|---|---|---|---|
| **12 Pts–5 mm (0.19 in.) pitch or 18 Pts– 3.81 mm (0.15 in.) pitch** | Sold in a set of 15 Units | NTSXEM0000H | 0.152/ 0.335 |
| **18 Pts–5 mm (0.19 in.) pitch** | Sold in a set of 13 Units | NTSXEM0000XH | 0.173/ 0.381 |

**NOTE**: The terminal block reference for use with the module is printed on the front of the module.

# **Modicon** Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Software Seamless integration

Integrated in this release of software

Not integrated

| | | EcoStruxure Machine Expert | | | | | | | | | | | | | | | EcoStruxure Control Expert | | | | | | EcoStruxure Automation Expert | | | | | | | Third party using Edge I/O Configurator | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | V2.3 | | | | | V2.5 | | | | | V2.6 | | | | | V16.2 | | V16.2 Hotfix | | V16.4 | | V24.1 | V25.0 | | V25.0.1 | | V26.0 | | 1.0.0.503 | | 1.0.1.604 | |
| Family | References | M241/ M251 | M262 MB/EIP | M262 Sercos | M660 | PacDrive | M241/ M251 | M262 MB/ EIP | M262 Sercos | M660 | PacDrive | M241/ M251 | M262 MB/EIP | M262 Sercos | M660 | PacDrive | M580 | NOC | M580 | NOC | M580 | NOC | SDPac Non-HA | SDPac Non-HA | M262D | SDPac Non-HA | M262D | SDPac Non-HA | M262D | EtherNet/IP | Modbus TCP | EtherNet/IP | Modbus TCP |
| Analog | NTSACI0802X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSACI0802XH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSAHI0412XH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSAHO0212H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSAMI0210 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSAMI0210H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSAMI0400 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSAMI0420 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSAMI0800 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSAMM0600 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSAMO0210 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSAMO0210H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSAMO0400 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSAMO0400H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSART0214 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSART0214H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSART0404 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSART0404XH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSART0603 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Discrete | NTSDAI0215H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDAI0403H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDAI0404H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDAI0804 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDAO0205 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDAO0415 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDAO0415H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDDI0402 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDDI0402H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDDI0602 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDDI0802X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDDI1602 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDDI1602X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDDI1602XH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDDI1642 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDDO0212H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDDO0402 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDDO0402H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDDO0602 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDDO0802 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDDO0802X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDDO1602 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDDO1602X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDDO1602XA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDDO1602XAH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDDO1602XH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDRA0615 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDRC0215 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDRC0415 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDRC0415H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Motion / Expert | NTSECS0121 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSEDM0822 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSEDO0810 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSEDT0800 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSEDT0810 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSEHE0221 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSEME0101 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSEME0102 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSEME0110 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSEMP0220 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Counting | NTSEHC0100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSEHC0120H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSEHC0220 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Field Device Master | NTSFIO0400 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSFMB0120 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSFMB0120H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NIM & Bus Extender | NTSNEC1200 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSNEC1200H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSNSC1200 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Passive | NTSDMY0100H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSDMY0200H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSPCM0016H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSPCM0808H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSPCM1600H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Power Supply | NTSPFB1002H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NTSPFD1002H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

# Modicon Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Offer Certification plan

| Reference | CE, UKCA | cULus Ord.Loc. | cURus | RCM | EAC | KC | cULus Haz.Loc. | IECEx, ATEX, CCC Ex | EU RO Mutual | Power Gen | Railway | Corrosive environment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NTSACI0802X | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | | | | G3/C3/3S6/3B2 |
| NTSACI0802XH | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | | | | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSAHI0412XH | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSAHO0212H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSAMI0210 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | G3/C3/3S6/3B2 |
| NTSAMI0210H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSAMI0400 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | | G3/C3/3S6/3B2 |
| NTSAMI0420 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | G3/C3/3S6/3B2 |
| NTSAMI0800 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | G3/C3/3S6/3B2 |
| NTSAMM0600 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | | G3/C3/3S6/3B2 |
| NTSAMO0210 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | G3/C3/3S6/3B2 |
| NTSAMO0210H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSAMO0400 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | G3/C3/3S6/3B2 |
| NTSAMO0400H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSART0214 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | ☑ | |
| NTSART0214H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | ☑ | |
| NTSART0404 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | | |
| NTSART0404XH | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | ☑ | |
| NTSART0603 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | G3/C3/3S6/3B2 |
| NTSDAI0215H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSDAI0403H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSDAI0404H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSDAI0804 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | G3/C3/3S6/3B2 |
| NTSDAO0205 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | | |
| NTSDAO0415 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | | | | |
| NTSDAO0415H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | | |
| NTSDDI0402 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | G3/C3/3S6/3B2 |
| NTSDDI0402H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSDDI0602 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | ☑ | G3/C3/3S6/3B2 |
| NTSDDI0802X | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | ☑ | G3/C3/3S6/3B2 |
| NTSDDI1602 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | ☑ | G3/C3/3S6/3B2 |
| NTSDDI1602X | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | ☑ | G3/C3/3S6/3B2 |
| NTSDDI1602XH | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSDDI1642 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | ☑ | G3/C3/3S6/3B2 |
| NTSDDO0212H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSDDO0402 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | | G3/C3/3S6/3B2 |
| NTSDDO0402H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSDDO0602 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | G3/C3/3S6/3B2 |
| NTSDDO0802 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | G3/C3/3S6/3B2 |
| NTSDDO0802X | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | G3/C3/3S6/3B2 |
| NTSDDO1602 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | | G3/C3/3S6/3B2 |
| NTSDDO1602X | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | G3/C3/3S6/3B2 |
| NTSDDO1602XA | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | | G3/C3/3S6/3B2 |
| NTSDDO1602XAH | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSDDO1602XH | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSDMY0100H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSDMY0200H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSDRA0615 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | ☑ | G3/C3/3S6/3B2 |
| NTSDRC0215 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | G3/C3/3S6/3B2 |
| NTSDRC0415 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | G3/C3/3S6/3B2 |
| NTSDRC0415H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | |
| NTSECS0121 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | | G3/C3/3S6/3B2 |
| NTSEDM0822 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | | G3/C3/3S6/3B2 |
| NTSEDO0810 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | | G3/C3/3S6/3B2 |

# **Modicon** Edge I/O NTS

The future-ready I/O system for data aggregation with built-in cybersecurity

Offer Certification plan

| Reference | CE, UKCA | cULus Ord.Loc. | cURus | RCM | EAC | KC | cULus Haz.Loc. | IECEx, ATEX, CCC Ex | EU RO Mutual | Power Gen | Railway | Corrosive environment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NTSEDT0800 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | | G3/C3/3S6/3B2 |
| NTSEDT0810 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | | G3/C3/3S6/3B2 |
| NTSEHC0100 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | G3/C3/3S6/3B2 |
| NTSEHC0120H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSEHC0220 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | G3/C3/3S6/3B2 |
| NTSEHE0221 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | | G3/C3/3S6/3B2 |
| NTSEME0101 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | | G3/C3/3S6/3B2 |
| NTSEME0102 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | | G3/C3/3S6/3B2 |
| NTSEME0110 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | | G3/C3/3S6/3B2 |
| NTSEMP0220 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | | G3/C3/3S6/3B2 |
| NTSFIO0400 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | G3/C3/3S6/3B2 |
| NTSFMB0120 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | | G3/C3/3S6/3B2 |
| NTSFMB0120H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | | | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSNEC1200 | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | G3/C3/3S6/3B2 |
| NTSNEC1200H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSNSC1200 | ☑ | ☑ | | Pending | Pending | Pending | ☑ | Pending | | | | G3/C3/3S6/3B2 |
| NTSPCM0016H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSPCM0808H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSPCM1600H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSPFB1002H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSPFD1002H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSXBA0100H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSXBA0103H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSXBA0104H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSXBA0200H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSXBA0201H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSXBA0301H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSXEM0000H | | | | | | | | | | | | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSXEM0000XH | | | | | | | | | | | | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSXMP0000H | ☑ | ☑ | | ☑ | Pending | Pending | ☑ | Pending | Pending | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSXMP1000 | | | | | | | | | | | | G3/C3/3S6/3B2 |
| NTSXMP2000 | | | | | | | | | | | | G3/C3/3S6/3B2 |
| NTSXTB02030H | ☑ | | ☑ | ☑ | Pending | Pending | | | | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSXTB02230H | ☑ | | ☑ | ☑ | Pending | Pending | | | | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSXTB12000H | ☑ | | ☑ | ☑ | Pending | Pending | | | | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSXTB12001H | ☑ | | ☑ | ☑ | Pending | Pending | | | | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSXTB12010H | ☑ | | ☑ | ☑ | Pending | Pending | | | | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSXTB12011H | ☑ | | ☑ | ☑ | Pending | Pending | | | | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSXTB12200H | ☑ | | ☑ | ☑ | Pending | Pending | | | | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSXTB12201H | ☑ | | ☑ | ☑ | Pending | Pending | | | | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSXTB12210H | ☑ | | ☑ | ☑ | Pending | Pending | | | | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSXTB12211H | ☑ | | ☑ | ☑ | Pending | Pending | | | | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSXTB18000H | ☑ | | ☑ | ☑ | Pending | Pending | | | | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSXTB18000XH | ☑ | | ☑ | ☑ | Pending | Pending | | | | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSXTB18001H | ☑ | | ☑ | ☑ | Pending | Pending | | | | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSXTB18001XH | ☑ | | ☑ | ☑ | Pending | Pending | | | | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSXTB18200H | ☑ | | ☑ | ☑ | Pending | Pending | | | | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSXTB18200XH | ☑ | | ☑ | ☑ | Pending | Pending | | | | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSXTB18201H | ☑ | | ☑ | ☑ | Pending | Pending | | | | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |
| NTSXTB18201XH | ☑ | | ☑ | ☑ | Pending | Pending | | | | ☑ | ☑ | GX/CX/3S7/3B3/Salt Spray Severity 2 |

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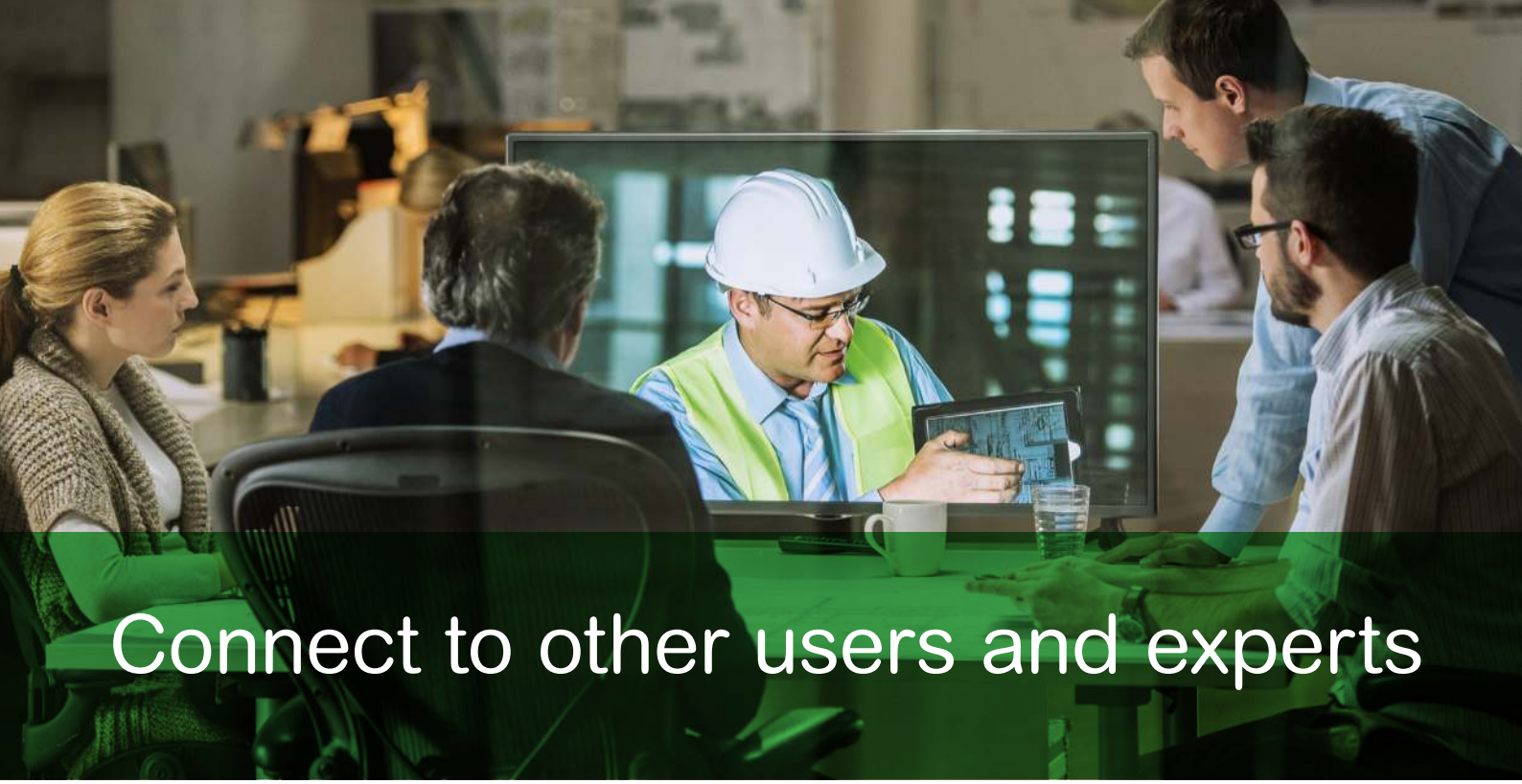

# Connect to other users and experts

## Welcome to Schneider Electric community

Schneider Electric support forum for **Motion Control solutions** from design, implementation to troubleshooting and more, including:

- Multicarrier systems
- Robotics
- Integrated Drives
- Servo Drives and Motors
- Stepper Drives and Motors
- Motion Controllers
- Programmable Logic Controllers
- Safety PLC Controllers
- Input/Output (I/O) modules
- Engineering software

Access the community forum

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