



Modicon Edge I/O NTS

The future-ready I/O system for data aggregation



Modicon

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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.

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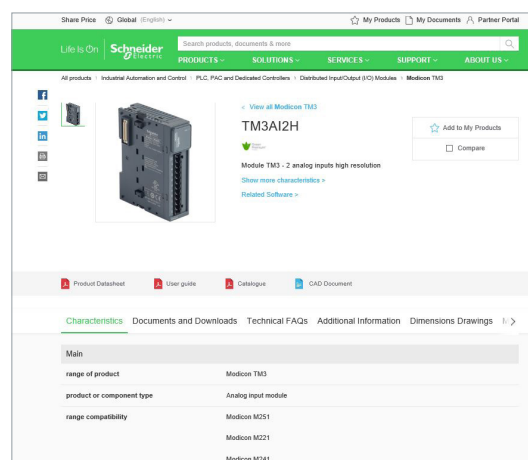
References

Modicon TM3
I/O expansion modules for Modicon controllers
Analog I/O modules

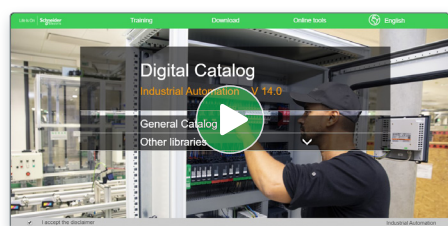
References	Input range	Output range	Resolution	Input terminal block (T)	Reference	Weight
2 voltage/current inputs	-15...+15 VDC 0...+10 VDC 0...20 mA A...20 mA	15 000 mV 10 000 mV 10 000 mV	16 bits 12 bits 12 bits	0 580 0 2	TM3AI2H	0 150
4 voltage/current inputs	-15...+15 VDC 0...+10 VDC 0...20 mA A...20 mA	15 000 mV 10 000 mV 10 000 mV	16 bits 12 bits 12 bits	0 580 0 2	TM3AI4H	0 200
4 voltage/current or temperature inputs (T)	Thermocouples (T) J, K, R, S, E, T, N, B, C Temperature inputs (I) PT100, PT500, RTD, ITC100, ITC500	15 000 mV 10 000 mV 10 000 mV	16 bits 12 bits 12 bits	0 580 0 2	TM3AI4H	0 200
4 differential temperature inputs	Thermocouples (T) J, K, R, S, E, T, N, B, C Temperature inputs (I) PT100, PT500, RTD, ITC100, ITC500	15 000 mV 10 000 mV 10 000 mV	16 bits 12 bits 12 bits	0 580 0 2	TM3AI4H	0 200
4 differential temperature inputs	Thermocouples (T) J, K, R, S, E, T, N, B, C Temperature inputs (I) PT100, PT500, RTD, ITC100, ITC500	15 000 mV 10 000 mV 10 000 mV	16 bits 12 bits 12 bits	0 580 0 2	TM3AI4H	0 200

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

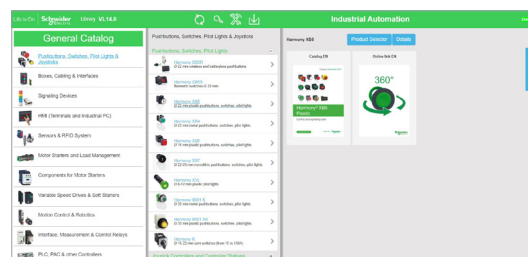
- Characteristics, Dimensions and drawings, Mounting and clearance, Connections and schemas, Performance curves
- Product image, Instruction sheet, User guide, Product certifications, End of life manual



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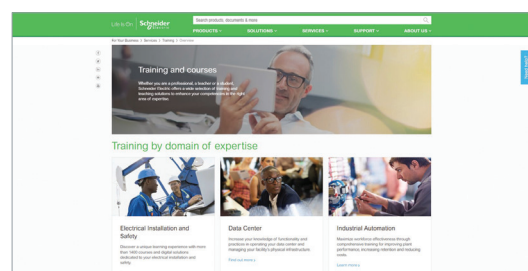


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General content

Modicon Edge I/O NTS

The future-ready I/O system for data aggregation

<i>Introduction to EcoStruxure Industry</i>	2
<i>I/O systems for Machine and PAC controllers</i>	4
<i>Industrial Automation controllers</i>	6
■ System components	
<i>Overview</i>	8 and 9
<i>Robust, Performant</i>	10
<i>Available, Convenient</i>	11
<i>Integrated</i>	12
<i>Cybersecure, Flexible</i>	13
<i>Machine architectures</i>	14
<i>Plant architectures</i>	15
<i>Topology and System components</i>	16 and 17
■ Discrete input kits (DC, AC)	
<i>Selection guide</i>	18 and 19
<i>Presentation, Description, Reference</i>	20 and 21
■ Discrete output kits (Transistor, Relay, Triac)	
<i>Selection guide</i>	22 and 23
<i>Presentation, Description, Reference</i>	24 and 25
■ Analog input kits	
<i>Selection guide (Voltage/Current, Current)</i>	26 and 27
<i>Selection guide (Temperature)</i>	28 and 29
<i>Presentation, Description, Reference</i>	30 and 31
■ Analog output kits (Current, Voltage/Current)	
<i>Selection guide</i>	32 and 33
<i>Presentation, Description, Reference</i>	34 and 35
■ Analog Combo kits (Current, Voltage/Current)	
<i>Presentation, Description, Reference</i>	36
■ Motion Expert kits (Encoders, Fast I/Os, Pulse train outputs)	
<i>Presentation, Description</i>	37
■ Counting kits (Incremental High-speed counter)	
<i>Selection guide</i>	38 and 39
<i>Presentation, Description, Reference</i>	40 and 41
■ Field Device Master kits	
<i>Selection guide</i>	42 and 43
<i>Presentation, Description, Reference</i>	44 and 45
■ Passive kits (Common distribution, Dummy)	
<i>Selection guide</i>	46 and 47
<i>Presentation, Description, Reference</i>	48 and 49
■ Power supply kits	
<i>Selection guide</i>	50 and 51
<i>Presentation, Description, Reference</i>	52 and 53
■ Network interface kits (NIM)	
<i>Selection guide</i>	54 and 55
<i>Presentation, Description, Reference</i>	56 and 57
■ Terminal blocks	58
■ Accessories	59
■ Spare parts: Modules and associated Bases	60 to 63
■ Product reference index	64

Schneider Electric's IoT-enabled, plug-and-play, open, secure, interoperable architecture and platform, in Industries, Infrastructures, Data Centers, and Buildings.

Innovation at every level

EcoStruxure is based on a three-tiered technology stack delivering innovation at every level, from connected products to edge control and apps, analytics, and services.

Together with our hybrid segments approach, this enhances your value around safety, reliability, operational efficiency, sustainability, and connectivity across 6 domains of expertise:

- Power
- Machine
- IT
- Plant
- Building
- Grid

Dedicated architectures and IoT

We tailor our solutions in the form of dedicated reference architectures for plants:

- Management systems
- Power systems
- Data center systems
- Industrial plant and machine systems
- Smart grid systems

The Industrial Internet of Things (IIoT) gives an additional boost to technologies. That's why we provide our customers with an IoT-enabled architecture and platform offering simple, reliable, productive, and cost-efficient solutions.

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Robust cybersecurity protection is a must, and Schneider Electric's solutions can deliver it, regardless of business type or industry.

The vendor-agnostic services provided by our skilled professionals help to protect your entire critical infrastructure. We help to assess your risk, implement cyber-specific solutions, and maintain your onsite defenses over time, while integrating appropriate IT policies and requirements.

This is our difference and your advantage.

Enhanced safety

With the release of M580 Safety, Schneider Electric further expands the EcoStruxure platform.

This consolidates our position as one of the most trusted industrial safety vendor, with thousands of Modicon and Triconex safety systems protecting the most critical industrial processes globally.

EcoStruxure™ for Industry

Innovation At Every Level

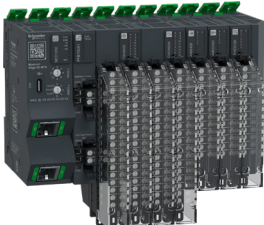


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Modicon Edge I/O NTS

The future-ready I/O system for data aggregation

I/O systems for Logic, Motion and PAC controllers

I/O systems for Machine and PAC controllers	Type Range	I/O expansion modules Modicon TM3	The future-ready I/O system for data aggregation Modicon Edge I/O NTS	Common platform of modules for Modicon M580 and Modicon M340 PACs Modicon X80 I/Os
				
Consult the catalog		DIA3ED2140109EN	DIA3ED2240601EN	DIA6ED2131203EN
Certifications and standards (Depending on the model)	International certifications	> CE, UKCA, RCM, EAC, cULus, cULus Haz. Loc. > 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, EAC (Pending) > Industry Market Zone B, Light Industry (Pending) > Power generation market (Pending)	> CE, UL, CSA, RCM, EAC, UKCA > Power generation market: IEC 61000-6-5, IEC 61850-3
	> Safety standards > Safety level	> EN/IEC 60947-1, EN/IEC 60947-5-1 (TÜV with Functionnal safety modules) > Up to PL e/Category 4 conforming to EN/ISO 13849-1, and SIL CL3 conforming to EN/IEC 62061	> Hazardous Location Class I Division 2 Groups ABCD and for ATEX/UKEX/IECEX zone 2/22 (Pending)	> Hazardous Location Class I Division 2 Groups ABCD and for ATEX/UKEX/IECEX zone 2/22 > SIL3 standards according to IEC 61508
	Marine certification	> EU RO Mutual Recognition	> EU RO Mutual Recognition (Pending)	> Merchant navy: IACS E10 and agencies: ABS, BV, DNV, GL, LR, RINA, RMRS, and CCS
	Railway certification	–	> Railway Rolling stock, Railway Stationary (Pending)	–
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, or 24...48 V dc isolated, or 100...150 VDC, or 100...240 VAC
Island configuration		With bus expansion modules (transmitter and receiver) and bus expansion cable	Up to 32 modules per cluster, up to 250 modules per island ⁽¹⁾	With bus expansion modules (transmitter and receiver), backplane, and bus expansion cable
Performance		Up to 7x modules managed in 2 ms, 14x modules maximum	Up to 32 modules in one cluster 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	–	⁽¹⁾	–
Communication modules	AS-interface Master	–	–	Yes
	Profibus DP bus	–	–	Yes
	I/O-Link Master	–	⁽²⁾	–
	Modbus TCP	–	–	Yes
	OPC UA	–	Explicit only	Yes
	Fiber converter	–	–	–
I/O extension capacity	Discrete I/O	Yes	Yes	Yes
	Analog I/O	Yes	Yes	Yes
	Expert I/O	> TeSys motor starter > High speed counting	> Encoder ⁽¹⁾ > CAM ⁽¹⁾ > Encoder generator ⁽¹⁾ > Fast I/Os ⁽¹⁾ > Pulse outputs ⁽¹⁾	> Counting > Time-stamping > SSI encoder > Frequency input > 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 ⁽²⁾ > Safety Redundant power supply ⁽²⁾	> Safety I/O > Safety Redundant power supply
	Counting I/O	–	> High-speed counter (250 kHz), with reflex output	> Incremental encoders (10 kHz and 60 kHz)
Services		> Cybersecurity > Web Server	> Cybersecurity > Web Server > Integrated protection and diagnostics	> Cybersecurity > Web Server
Mounting		On a symmetrical DIN rail 15 and on plate or panel with dedicated accessory	On DIN rail directly (Top hat type TH35-7.5 rail IEC 60715, Top hat type TH35-15 rail IEC 60715)	On rack with backplane (Rack can be mounted on a panel or a plate)
I/O Connecting		By removable screw terminal blocks and spring terminal blocks, and Removable HE10 conn. (MIL20)	By removable screw terminal blocks and spring terminal blocks	By removable screw terminal blocks and spring terminal blocks
Hot swapping capability		–	Yes	Yes
Compatibilty with controllers	Logic controllers	■ Modicon M221/M221 Book ■ Modicon M241 ■ Modicon M251 ■ Modicon M262	■ Modicon M241 ⁽¹⁾ ■ Modicon M251 ⁽¹⁾ ■ Modicon M262	–
	Motion controllers	■ Modicon M262	■ Modicon M262 ■ PacDrive LMC Eco/Pro2 ■ Modicon M660 ⁽²⁾	–
	Programmable Automation Controllers	–	■ Modicon M580 ■ Modicon M340	■ Modicon M580 ■ Modicon M340

Configuration tool



[Modicon PLC Configurator](#)

Select your architecture of controller and I/O by usage and application, Connectivity, services and IIOT (Protocols, WeB, and communication services), I/Os, and Power supply

(1) Available soon. (2) Planned commercialization.

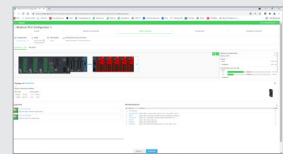
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Industrial Automation controllers

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 PLC for industrial process and infrastructure	Ethernet Programmable Automation Controllers
	Range	Modicon M221/M221 Book	Modicon M241	Modicon M251	Modicon M262	PacDrive LMC Eco, LMC Pro2	Modicon M660 (2)	Modicon M340	Modicon M580
        Consult the catalog DIA3ED2140106EN DIA3ED2140107EN DIA3ED2140108EN DIA3ED2180503EN DIA7ED2160303EN DIA3ED2241201EN 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)	1792 KB or 3584 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 VDC, 24...48 VDC, 125 VDC, 100...240 VDC, or 100...240 VAC
Communication	Embedded communication fieldbus and networks	> EtherNet/IP Adapter > Modbus TCP > RS 232/RS 485 Serial Link > Mini USB-B programming port	> EtherNet/IP > Modbus TCP > CANopen (master) and SAE J1939 > Serial Link > Mini USB-B programming port	> EtherNet/IP > Modbus TCP > CANopen (master) and SAE J1939 > Serial Link > Mini USB-B programming port	> EtherNet/IP > Modbus TCP > Sercos III > Serial Link > Mini USB-B programming port	> EtherNet/IP > Sercos III > CANopen > Profibus > Profinet > EtherCAT	> PROFINET > EtherCAT > EtherNet/IP > OPC UA FX (2) > Sercos III	> EtherNet/IP > Modbus TCP > CANopen > Serial Link > Mini USB-B programming port	> EtherNet/IP > Modbus TCP > CANopen > Profibus DP > FactoryCast > DNP3 (RTU) > Global Data > Serial Link > AS-Interface > 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 fieldbus and networks	> 1 Serial Link	> Ethernet > Profibus DP	> Ethernet > Profibus DP	> Ethernet, EtherNet/IP Adapter > CANopen Master	> CANopen > Profibus DP > RT-Ethernet	> TSN Ethernet (2) > Sercos III > EtherNet/IP > PROFINET > Ethercat	> EtherNet > Modbus TCP > Serial Link > FactoryCast Modbus/TCP > RTU > AS-Interface	> EtherNet/IP and Modbus TCP > Factory cast > IP Forwarding > OPC UA > IEC 61850 > DNP3 / IEC 60870-5-101/104 > Global Data
Embedded I/O (number and type)		> Up to 40 logic inputs > 2 analog inputs > Up to 16 relay outputs > Up to 16 transistor outputs	> Up to 24 logic inputs > Up to 16 transistor outputs > Up to 16 relay outputs > Up to 8 high speed inputs > Up to 4 high speed outputs	–	> 4 fast digital inputs > 4 fast digital outputs	> Up to 20 digital inputs > Up to 16 touch probe inputs > Up to 4 interrupt inputs > Up to 2 analog inputs > Up to 16 digital outputs > Up to 2 analog outputs	> 4 digital inputs	> Up to 1024 discrete I/O > Up to 256 analog I/O > Up to 36 application-specific channels (process counter, motion control and serial link, or RTU)	> Up to 6,144 discrete I/O > Up to 1,536 analog I/O > Up to 216 application-specific channels (process counter, motion control, and serial link or RTU)
Embedded Safety / Severe environment		– / –	– / –	– / –	Yes / –	Yes / –	Yes / –	Yes /Yes	Yes /Yes
Synchronized axes		–	–	–	Up to 24 synchronized axes	Up to 130 synchronized axes	> Up to 130 synchronized axes on Sercos III	–	–
Dedicated configuration software		EcoStruxure Machine Expert - Basic	EcoStruxure Machine Expert				EcoStruxure Automation Expert - Motion Module (2)	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 TM3	■ Modicon TM3	–	–	■ Modicon X80	■ Modicon X80
	Remote I/O	■ Modicon TM3	■ Modicon TM3	■ Modicon TM3	■ Modicon TM3	–	–	■ Modicon X80	■ Modicon X80
	Distributed I/O	on Ethernet	■ Modicon TM3	■ Modicon TM3	■ Modicon TM3	■ Modicon Edge I/O NTS	■ Modicon Edge I/O NTS	■ Modicon X80	■ Modicon X80
			■ Modicon Edge I/O NTS	■ Modicon Edge I/O NTS	■ Modicon Edge I/O NTS	■ Modicon TM5	■ Modicon Edge I/O NTS	■ Modicon X80	■ Modicon Edge I/O NTS
			■ Modicon TM3	■ Modicon TM3	■ Modicon TM3	■ Modicon TM3	–	■ Modicon X80	■ Modicon X80
			–	–	–	■ Modicon TM5 & Modicon TM7	–	–	–
			–	–	–	■ Modicon Edge I/O NTS (1)	■ Modicon Edge I/O NTS	–	–
			–	–	–	■ Modicon TM5	–	–	–
			–	–	–	–	–	–	–
			–	–	–	–	–	–	–
			–	–	–	–	–	–	–
	Safety I/O	■ Modicon TM3 (functionnal safety)	■ Modicon TM3 (functionnal safety)	■ Modicon TM3 (functionnal safety)	■ Modicon TM3 (functionnal safety)	■ Modicon Edge I/O NTS (2)	■ Modicon Edge I/O NTS	■ Modicon X80	■ Modicon X80

Configuration tool



Modicon PLC Configurator

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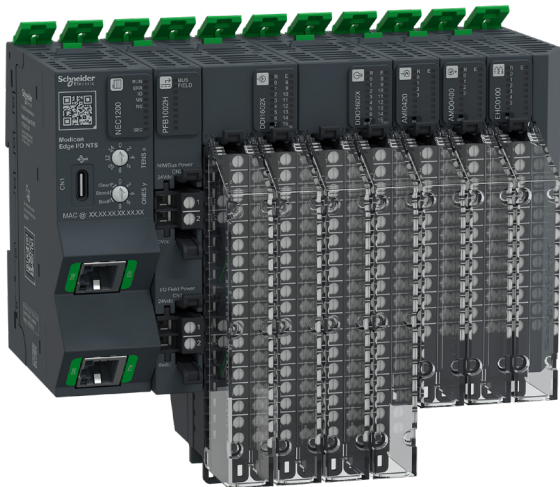
(1) Available soon. (2) Planned commercialization.

Modicon Edge I/O NTS

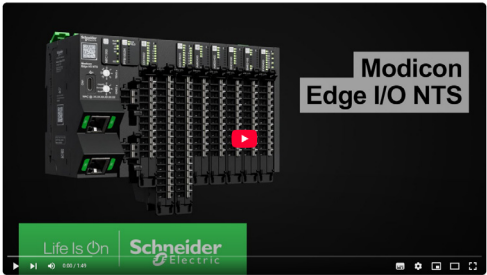
The future-ready I/O system for data aggregation

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 way that adapts to future advancements and changes in data technology.
- This could involve scalability, flexibility, and compatibility with emerging data protocols and standards, ensuring 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 the best performance, availability, and cybersecurity.



- Modicon Edge I/O NTS provides flexibility and allows you to answer from simple to highly demanding applications.
- The offer is delivered as a kit: a pre-assembly of a base (for mounting on DIN rail, power bus, and data transmission) associated with an electronic module (main function).
- It is composed of I/O modules, Bases, Terminal blocks, Mounting accessories, Labels, Shielding accessories, Spare parts, and Configuration software.
- The type of connection can be selected between spring or screw terminal blocks, equipped with or without articulated transparent plastic cover.
- The offer is available in Standard and Hardened versions
 - Standard version: -20 to +60°C (-4 to +140°F)
 - Hardened version provides extended operational temperature and conformal coating, allowing it to work 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 single I/O family, ensuring adaptability and future readiness.

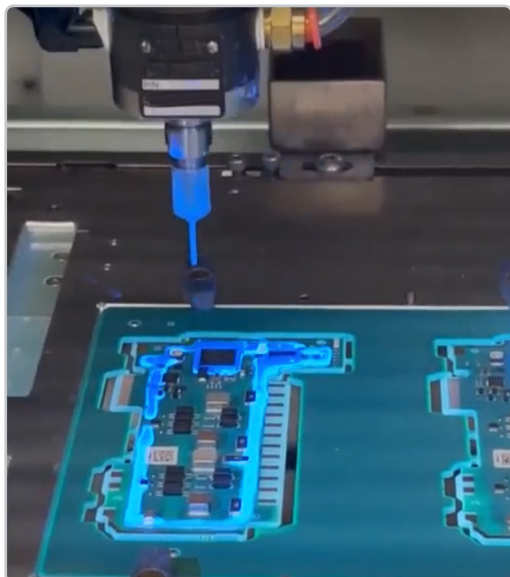
Typical Modicon Edge I/O NTS: Up to 32 modules per cluster, in addition to Network Interface Module, first Power supply and Termination.
Up to 250 modules per island (several clusters) (2)



Network Interface modules	Power Supply modules	Discrete IO modules	Analog I/O modules	Counting modules	Motion Expert modules (2)	Field Device Master modules	Passive modules	Accessories	Terminal blocks
■ Ensure the communication between controllers and Edge I/O NTS islands ■ Embedded webserver: Edge I/O NTS – Web interface ■ Explicit OPC UA server ■ Commissioning without PLC (2)	■ Distribute Bus power supply for internal consumption of modules ■ Distribute Field power supply for internal consumption of modules and connected field devices ■ Provide protection and diagnostics ensuring modules operate reliably and consistently (2) ■ Redundant (2) ■ Simplified wiring	■ Internal or external field power supply ■ Rich options for different electrical rating and wiring connection ■ With sensor or actuator power supply ■ Isolated channels ■ Protected ■ With diagnostics	■ Voltage ■ Current ■ Temperature (RTD, Thermistor or Thermocouple) ■ Strain gauge (2) ■ HART (Tolerance or Communication) (1) ■ Versatile modules (Current or Voltage configurable per channel) ■ With sensor or loop power supply ■ Isolated channels	■ High-speed counter Module up to 250 kHz ■ Integrated reflex output based on dedicated functions	■ Encoder ■ CAM ■ Encoder generator ■ Fast I/Os ■ Pulse train outputs	■ Seamlessly integrate the fieldbuses directly within the I/O islands (no need to add a gateway)	■ Provide flexibility and ease the wiring of modules with additional 0 VDC, 24 VDC or shielding connection (2) ■ Reserve space physically for future extension	■ Cluster termination ■ Mounting accessory ■ Vibration ■ Shielding ■ Labels	■ Spring Terminal blocks with or without cover ■ Screw Terminal blocks with or without cover
□ EtherNet/IP Adaptor □ Modbus TCP Server □ Sercos III (2)	□ 24 VDC □ Diagnostics (2)	□ Discrete inputs - 12/24 VDC - 24/48/120/230 VAC □ Discrete outputs - 24 VDC Transistor - 100 to 240 VAC Triac - Relay 5 to 125 VDC and 24 V to 240 VAC	□ Analog inputs - ±5V, 0/1...5V - -10/+10 VDC, 0/+10 VDC - 0-20 mA, 0/4-20 mA, ±20 mA □ Analog outputs - -10/+10 VDC, 0/+10 VDC - 0-20 mA, 0/4-20 mA □ Combo	□ High-speed counter 250 kHz, with reflex output □ Auxiliary inputs 24 VDC	□ RS-422 incremental encoder (1 MHz) □ SinCos (400 kHz) □ Hiperface (400 kHz) □ CAMswitch □ Pulse Output (400 kHz) □ Timestamped □ Oversampled	- Exchanges data on □ IO-Link Master □ Serial RS-485 (1) □ Modbus RTU (1) □ ASCII (1)			

[See page 54](#) [See page 50](#) [See page 18](#) [See page 26](#) [See page 38](#) [See page 37](#) [See page 42](#) [See page 46](#) [See page 59](#) [See page 58](#)

(1) Available soon. (2) Planned commercialization.



Conformal coating: Compliance is applied to each hardened functional module by depositing resin film on the electronic components and on the seal around the module.



Robust

Supporting Features

- > Thermal tolerance
 - Standard version: -20 to +60°C (-4 to +140°F) operating temp
 - Hardened version: -40 to +70°C (-40 to +158°F) operating temp
- > Hardened -40 to +70°C with conformal coating
- > Wide range of certifications
 - CE, UKCA, cULus, RCM, EAC (Pending)
 - Industry Market Zone B, Light Industry (Pending)
 - Power generation market (Pending)
 - Hazardous Location (Pending): cULus Haz.Loc Class 1 Div.2, ATEX / IECEx (Zone 2/22), UKEX (UKCA Ex) (Zone 2), CCC Ex (zone 2) (Pending)
 - EU RO Mutual Recognition (Pending)
 - Railway Rolling stock, Railway Stationary (Pending)
- > EMC tolerance: exceed Industrial standards resistance level (IEC 61000-6-2 and IEC 61000-6-4)
- > Vibration tolerance: Up to 2 g (with accessory)
- > Corrosive environment
 - Standard version: G1 (Mild environment), and G2 (Moderate environment)
 - Hardened version: G3 (Harsh environment) and GX (Severe environment)

Details

- > Railway certification as evidence of robustness
- > Choice between stand ard and Hardened version
- > Less need for environmental conditioning (Air Cond, heaters etc. in panels)
- > I/O layouts can match process geography (altitude)
- > No need to use specific offer to reach high level robustness

Customer Benefits

- > Less cost for environmental conditioning
- > More freedom to place I/O closer to machine signals - reducing wiring costs
- > Longer lifecycle

Performant

Supporting Features

- > Synchronized internal bus
- > Simple motion without motion CPU (1)
- > Reflex output in some modules
- > Up to 250 modules per island (2)
- > 16 bits resolution analog

Details

- > Precise control
- > CAMswitch w/o Motion PLC (1)
- > Very fast reaction time (up to 25 µs)
- > High capacity remote I/O islands reduce wiring costs and system complexity
- > High resolution analog value

Customer Benefits

- > Increase Machine productivity - speed and throughput
- > Reduce cost of small/simple motion machine
- > More freedom to place the right I/O where it's needed

(1) Available soon. (2) Planned commercialization.

Modicon Edge I/O NTS

The future-ready I/O system for data aggregation

Available

Convenient



Available

Supporting Features

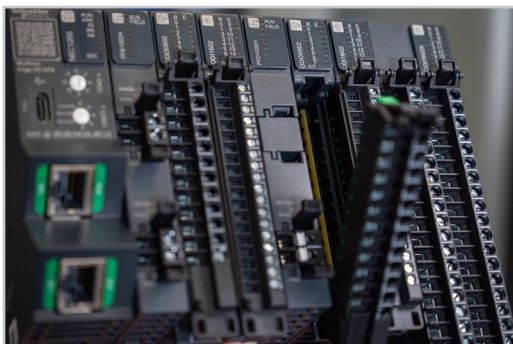
- > Patented passive base reducing risk of failure
- > Hot swap
- > Redundant power supply (2)
- > Modules in default don't affect rest of the island
- > Integrated protections and diagnostics
- > RSTP ring network, accepting 1 network failure

Details

- > Designed for reliability - less downtime
- > Reduced MTTF and MTTR/ time to make changes
- > Robust and reliable communications
- > Improve failure detection, reduce time to start or re-start

Customer Benefits

- > Less production lost to unplanned downtime
- > Faster trouble shooting with less downtime



Convenient

Supporting Features

- > Removable Terminal blocks
- > 1-column arrangement of terminal pins (comfortable wiring)
- > Numbering and easy identification of terminal pins
- > Test probe hole
- > Terminal block stay in place even unplugged
- > Select Screw or Spring, with or without plastic cover
- > Dummy module: reserve the need for future
- > Coding keys: let the user manage for mitigating assembly or wiring mistakes

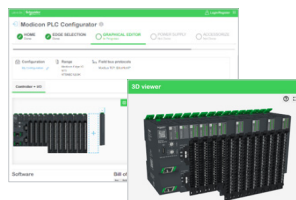
Details

- > Terminal blocks can be removed allowing more tests and easier than unwiring
- > 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
- > Reduce risk during manipulation and test
- > Ease wiring for people not knowing the offer
- > Safer installation even when terminal blocks are unplugged

(1) Available soon. (2) Planned commercialization.



[Modicon PLC Configurator](#)
(Click to access the tool)

Integrated

Software level

	EcoStruxure Machine Expert EcoStruxure Automation Expert - Motion	- Create the design of the Edge I/O islands	EcoStruxure Architecture Builder (The cloud-based collaboration tool for optimized quotations)
	EcoStruxure Control Expert / Process Expert (Classic and Topology Manager)	- Configure the modules - Store and retrieve the configuration file	Modicon PLC Configurator (Create your architecture of controller and I/O by usage and application)
	EcoStruxure Automation Expert	- Online parameter adjustment: Commissioning and Diagnostics -	EcoStruxure Automation Device Manager (Firmware updates)
			EcoStruxure Cybersecurity Admin Expert (Cybersecurity rules)

Edge I/O level

	Modicon Edge I/O Configurator <i>Modicon Edge I/O Configurator Software NTSCSW1000</i>	- Commissioning without PLC - Export EDS file for Third party use -
	Modicon Edge I/O NTS – Web interface	- Manage some Cybersecurity rules - Firmware update (2) -

Supporting Features

- > Open to Future, Current, Legacy and Third party offers
- > Integrated in Control Expert, Machine Expert, Automation Expert, Automation Device Manager, PLC Configurator, Architecture Builder
- > Dedicated configurator mainly for Third party PLC also accessible from embedded webserver
- > Integrated diagnostics accessible from application and from embedded webserver
- > OPC UA Server (Explicit)

Details

- > A single I/O system for all architectures and eco-systems
- > Smooth journey from Design to Program versus Program from scratch
- > Access to diagnostics - shorter downtime
- > Get information in parallel of implicit communication

Customer Benefits

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

Software portfolio

Designation	Minimum version to use
EcoStruxure Machine Expert	V2.3
EcoStruxure Control Expert	V16.1
EcoStruxure Automation Expert	V24.1
EcoStruxure Automation Device Manager	V3.319
EcoStruxure Cybersecurity Admin Expert	V2.4.7

(1) Available soon. (2) Planned commercialization.



Cybersecure

Supporting Features

- > Secure by design
- > Manufacturer certificate for each module
- > Easy to integrate in IT cybersecurity infrastructure
- > Ready for cybersecurity regulation evolution (as Cyber Resilience Act, NIS2.0,...)
- > Compliances:
 - GDPR
 - SB327
 - IEC62443-4-1, IEC62443-4-2

Details

Embedded Trust Platform Module (TPM)

- > Secure boot
- > Signed firmware, secure update
- > Device Genuineness
- > Backbone bus with Authenticated communication
- > Encrypted communications (Service)
- > Simple Certificate Enrollment Protocol (SCEP)
- > Centralized User Access Management (RBAC)
- > Access Control list (ACL), embedded firewall
- > Secure logs

Customer Benefits

- > Enhanced product Cybersecurity increases overall machine cybersecurity
- > Less risk of downtime from cyber-attack
- > Increased security for remote diagnostics, machine monitoring, communications and other digital transformation activities

Flexible

Supporting Features

- > 100+ Discrete/Analog/Specialist I/O modules (1)
- > Compact + High end (more env. robust)
- > Modbus TCP, EtherNet/IP, Sercos fieldbus network
- > Spring or Screw terminal blocks, with or without cover
- > Same offer for classic, Motion (1), Safety (2), and Hardened I/O
- > Adapted compactness for function provided

Details

- > A single I/O range for plant and machine systems
- > Compact, cost-effective solution or High-end for more features, diagnostics and easier wiring
- > Open IP protocols
- > Choice of termination methods (spring or screw)
- > Right balance between wire compacity and finger capacity to wire and manipulate for maintenance
- > Commissioning without PLC

Customer Benefits

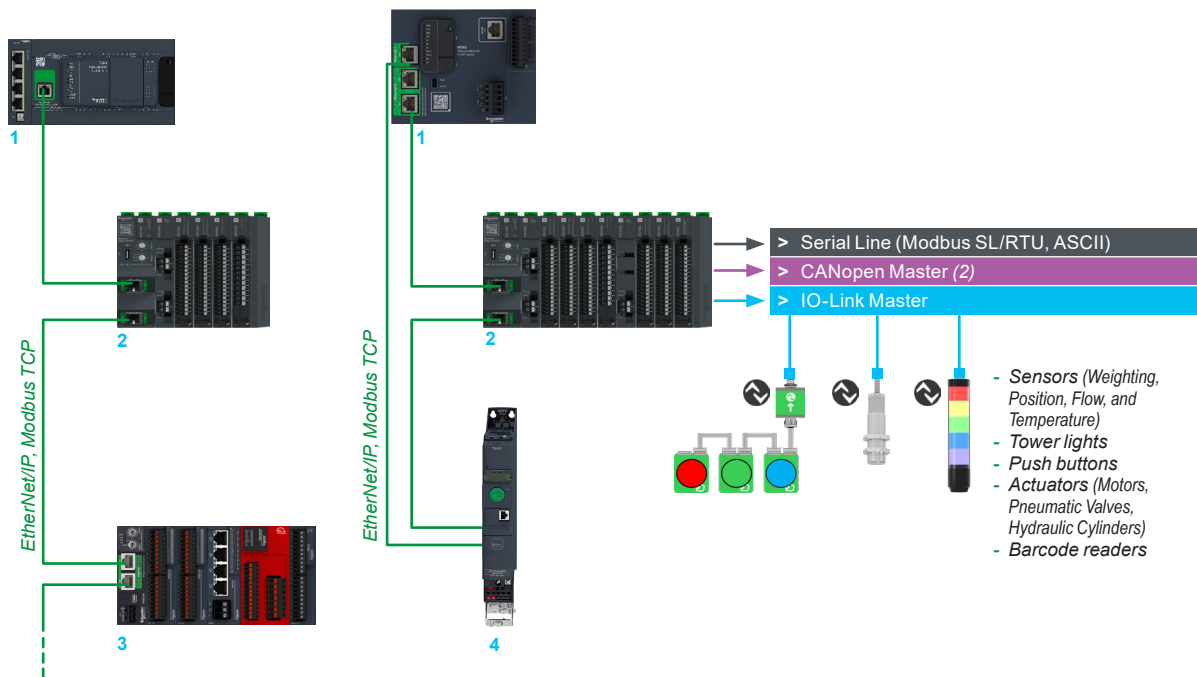
- > Lower spare parts and supply chain costs
- > Less staff training, increased effectiveness
- > Enhanced network flexibility - the capability to select the most suitable network to fulfill overall requirements
- > Choose modules and terminal blocks that suit your requirements instead of adjusting your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

(1) Available soon. (2) Planned commercialization.



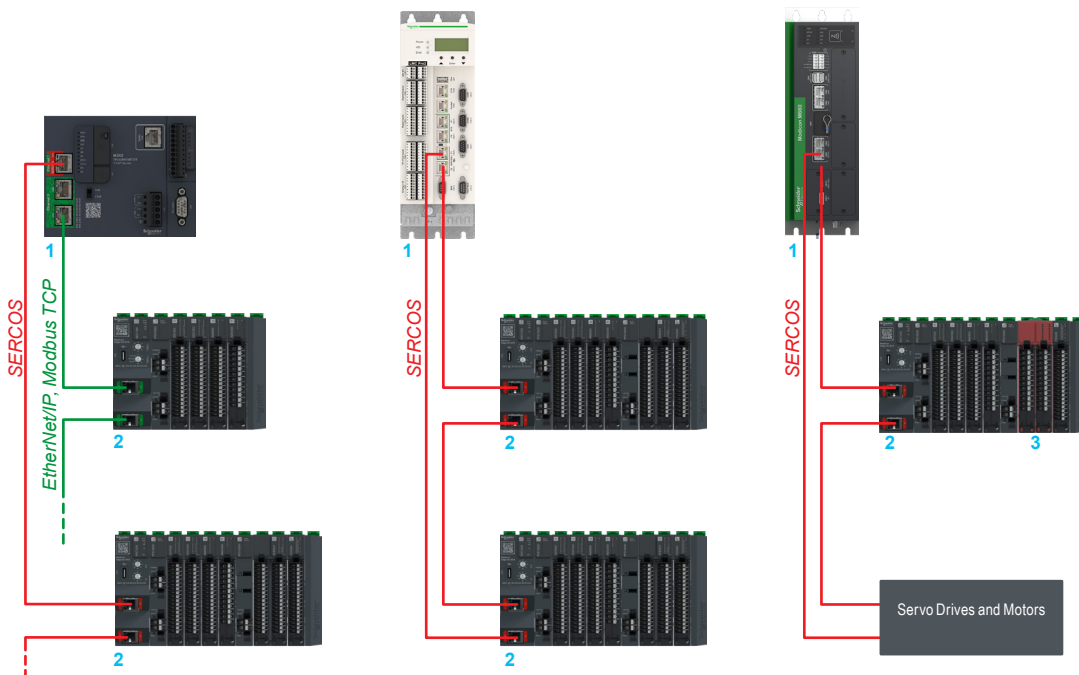
Machine architectures

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, and, according to a modular configuration, Discrete modules, Analog modules, Counting modules, Motion Expert modules, Field device master modules, or Passive modules.
- 3 Modicon TM3
- 4 Altivar Machine ATV320 variable speed drive

Sercos (2), Synchronized, Motion (1) and Safety (2)

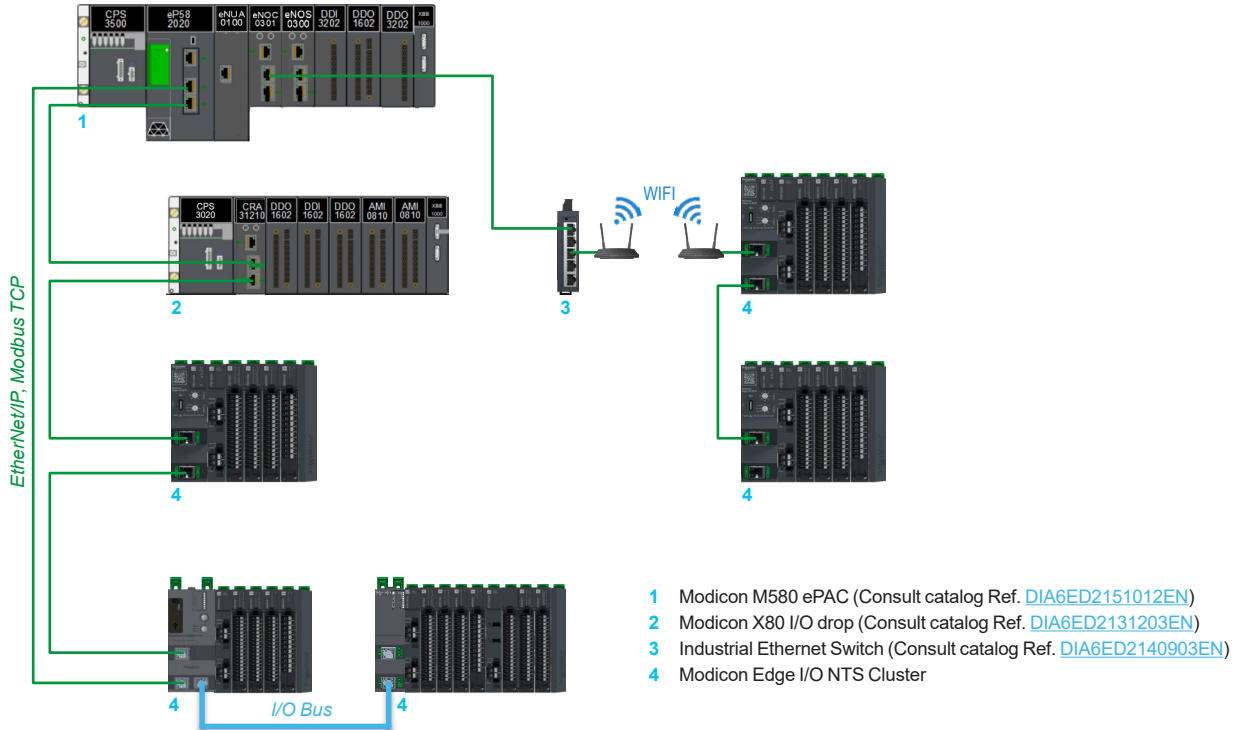


- 1 Motion controller/ Modicon M262, PacDrive LMC, Modicon M660 (2)
- 2 Modicon Edge I/O NTS: Cluster composed of a Network Interface module, and a Power Supply module, and, according to a modular configuration, Discrete modules, Analog modules, Counting modules, Motion Expert modules, Field device master modules, or Passive modules.
- 3 Modicon Edge I/O NTS Integrated safety (2)

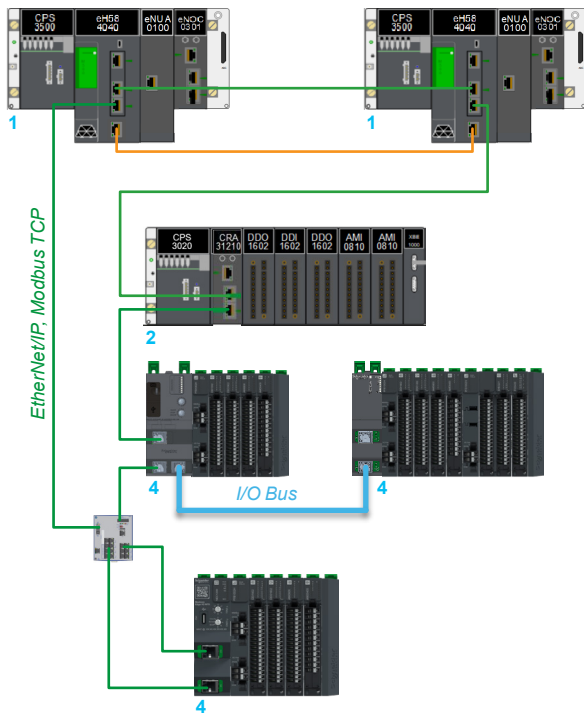
(1) Available soon. (2) Planned commercialization.

Plant architectures

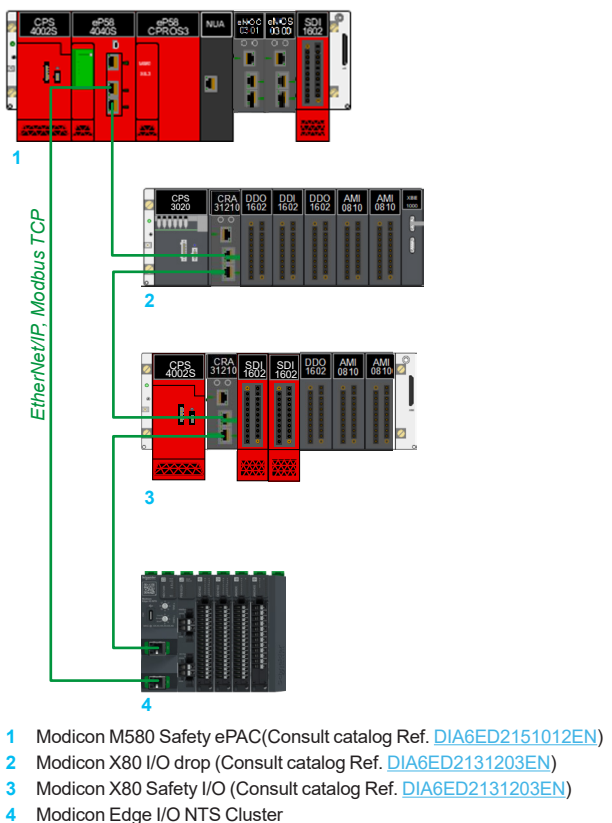
Architecture with support of Modicon M580 (Remote IO, ring topology)



Architecture with Modicon M580 Redundant ePAC (2) (Bumpless CPU switchover)



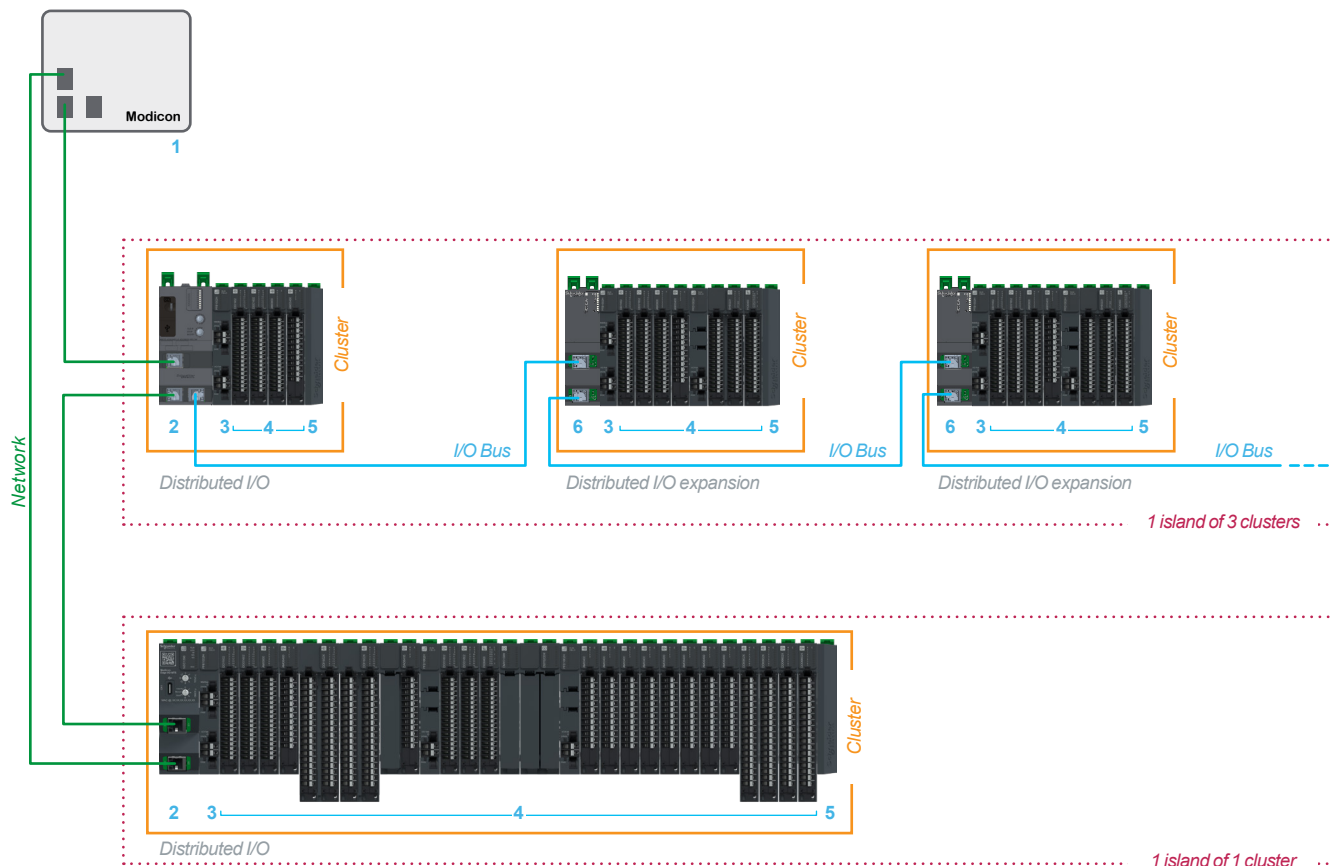
Architecture with Safety Modicon M580 ePAC (2)



(1) Available soon. (2) Planned commercialization.

Topology

Typical Modicon Edge I/O NTS island / cluster



Cluster detailed solution

- 1 PLC
- 2 Network Interface module
- 3 Power Supply module
- 4 Discrete module, Analog module, Counting module, Motion Expert module (2), Field device master module, Passive module
- 5 Cluster Termination
- 6 Bus extender module

■ The Cluster is made up of kits (pre-assembled Module and Base). The island is made up of 1 or more Clusters

- Up to 25 Clusters per island (1)
- Up to 32 Modules per Cluster
- Up to 250 Modules per island (1)

■ A high-speed Ethernet backbone provides communication and power transmission between modules.

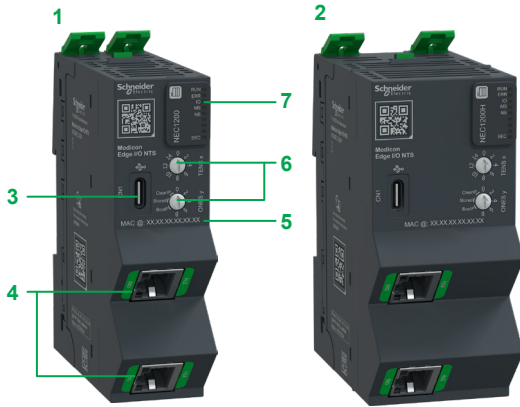
■ Fast device replacement in 5 steps:

- Password Requirement
- Scan Setup
- Setup configuration in DHCP name
- FDR Backup
- Head replacement

(1) Available soon. (2) Planned commercialization.

Topology

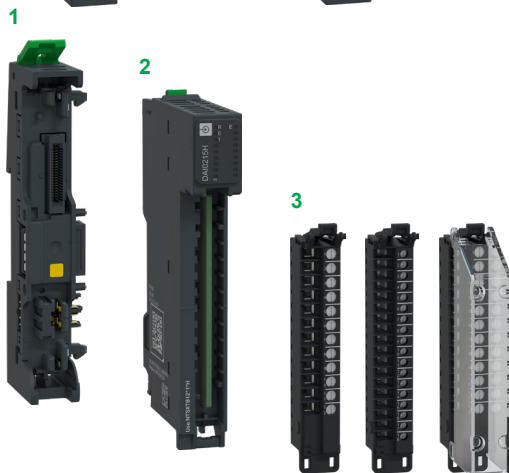
System components



- Two versions of the head of a cluster:
 - 1 Standard version: -20 to +60°C (-4 to +140°F) operating temp, and 30 mm width
 - 2 Hardened version: -40 to +70°C (-40 to +158°F) operating temp, and 45 mm width
- 3 USB port
 - USB-C as commissioning port, to save configuration for OPC UA Server
 - Access to integrated webserver/ Configurator
- 4 Two Ethernet ports
 - EtherNet/IP, Modbus TCP and Sercos III (2)
 - Baud rate: 100 Mbits/s, or 1 Gbits/s
 - Redundancy capacity
 - Diagnostics
 - Daisy chain, RSTP
- 5 Marking: mac adress written on the front
- 6 Rotary switches:
 - Manual IP definition
 - DHCP
- 7 LED for maintenance information
- 8 Rotary switch for Cybersecure mode



- Two versions of the power supply modules:
 - 1 To distribute Bus power supply for Network Interface modules (NIM), and modules
 - 2 To distribute Field Power supply in a cluster of modules
- Both Hardened: -40 to +70°C (-40 to +158°F) operating temp, and 15 mm (0.59 in) width, with Automatic disjunction



- I/O modules are Discrete, Analog, Counting, Motion Expert (2), Field device master and Passive
- Three parts to operate:
 - 1 a base, for mounting on Din rail, easily with one hand
 - 2 an I/O module
 - 3 a removable terminal block
- Sold as a kit: a Base (1) pre-assembled to a Module (2). The terminal block (3) is to order separately
- Hot swapping capability: replacing or adding components without having to power down or interrupt the system's operation
- Available in two versions
 - Standard version: -20 to +60°C (-4 to +140°F) operating temp
 - Hardened version: -40 to +70°C (-40 to +158°F) operating temp
- Completed with a removable terminal block
 - to unplug easily for commissioning, maintenance, and testing
 - With Spring or Screw connectors, with or without cover

(1) Available soon. (2) Planned commercialization.

Modicon Edge I/O NTS

The future-ready I/O system for data aggregation

Discrete inputs (DC, AC)

Function		 Discrete inputs								
										
Number of Channels		6	8	16	16	16	4	2 (isolated)	4	8
Discrete input voltage		24 VDC	24 VDC	24 VDC	24 VDC	24 VDC	24 VAC or 48 VAC/DC (configurable)	100...240 VAC	100...120 VAC	100...120 VAC
Discrete input logic		Positive logic (sink)				Negative logic (source)				
Number of channel groups		1 group	1 group	1 group	4 groups of 4 channels non isolated	1 group	1 group	2 groups of 1 channel isolated	1 group	1 group
Discrete input compatibility (conforming to IEC61131-2)		6 Type 3	8 Type 3	16 Type 3	16 Type 3	16 Type 3	4 Type 1	2 Type 1	4 Type 1	8 Type 1
Wiring mode		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		2.5 mA	2.5 mA	2.5 mA	2.5 mA	2.5 mA	2...4 mA	3.6 mA at 120 VAC, 50 Hz 7.1 mA at 230VAC, 50 Hz	6.7 mA at 120 VAC 50 Hz	6.5 mA at 120 VAC 50 Hz
Voltage	State 1 guaranteed	11...30 VDC	11...30 VDC	11...30 VDC	11...30 VDC	11...30 VDC	≥ 34 VAC for 48 VAC ≥ 14 VAC for 24 VAC ≥ 34 VDC for 48 VDC	≥ 79 V	≥ 79 V	≥ 79 V
	State 0 guaranteed	< 5 VDC	< 5 VDC	< 5 VDC	< 5 VDC	< 5 VDC	≤ 10 VAC for 48 VAC ≤ 5 VAC for 24 VAC ≤ 10 VDC for 48 VDC	≤ 40 V	≤ 20 V	≤ 20 V
Current	State 1 guaranteed	≥ 2 mA (Type 3)	≥ 2 mA (Type 3)	≥ 2 mA (Type 3)	≥ 2 mA (Type 3)	≥ 2 mA (Type 3)	> 2 mA	> 2 mA	> 2 mA	> 2 mA
	State 0 guaranteed	≤ 1.5 mA	≤ 1.5 mA	≤ 1.5 mA	≤ 1.5 mA	≤ 1.5 mA	< 2 mA	< 2 mA	< 2 mA	< 2 mA
Input reponse time	State 1 to state 0	< 125 µs	< 60 µs	< 125 µs	< 60 µs	< 125 µs	9.28 ms (fixed)	> 11.6 ms	> 11.6 ms	> 11.6 ms
	State 0 to state 1	< 125 µs	< 90 µs	< 125 µs	< 90 µs	< 125 µs	9.28 ms (fixed)	> 5.8 ms	> 5.8 ms	> 5.8 ms
Input protection type		Over voltage protection Over current protection on sensor supply Reverse polarity protection		Over voltage protection	Over voltage protection Over current protection on sensor supply Reverse polarity protection	Over voltage and power protection	–	–	–	–
input diagnostic		Power supply error per channel Sensor power supply error per channel		Power supply error per channel	Power supply error per channel Sensor power supply error per channel		External power supply error per channel Broken wire error per channel			
Isolation	Between channels	–	–	–	–	–	–	1780 VAC	–	–
	Between groups	–	–	–	–	–	–	–	–	–
	Between channel and bus	1500 VAC	1500 VAC	1500 VAC	1500 VAC	1500 VAC	3000 VAC	3000 VAC	3000 VAC	3000 VAC
	Between channels and earth ground	1500 VAC	1500 VAC	1500 VAC	1500 VAC	1500 VAC	3000 VAC	3000 VAC	3000 VAC	3000 VAC
Synchronization (2)		Yes	–	Yes	–	Yes	–	–	–	–
Dangerous voltage		–	–	–	–	–	Yes	Yes	Yes	Yes
Size	Height	100 mm (3.93 in)	121 mm (4.76 in)	100 mm (3.93 in)	121 mm (4.76 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	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	-20 to +60°C (-4 to +140°F)	-20 to +60°C (-4 to +140°F)	-20 to +60°C (-4 to +140°F)	-20 to +60°C (-4 to +140°F)	-20 to +60°C (-4 to +140°F)	–	–	–	-20 to +60°C (-4 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 + Functionnal module)	Standard version	NTSDDI0602K	NTSDDI0802XK	NTSDDI1602K (1)	NTSDDI1602XK (1)	NTSDDI1642K	–	–	–	NTSDAI0804K
	Hardened version	–	–	–	NTSDDI1602XHK (1)	–	NTSDAI0403HK	NTSDAI0215HK	NTSDAI0404HK	–
See page		20								
Compatible terminal block	Number of points-Pitch-Voltage	18 Pts–3.81 mm–DC	18 Pts–5 mm–DC	18 Pts–3.81 mm–DC	18 Pts–5 mm–DC	18 Pts–3.81 mm–DC	12 Pts–5 mm–AC	12 Pts–5 mm–AC	12 Pts–5 mm–AC	12 Pts–5 mm–AC
	Number of terminal blocks to use	1	1	1	2	1	1	1	1	1
	Spring TB	Without cover	NTSXTB18200H	NTSXTB18200XH	NTSXTB18200H	NTSXTB18200XH	NTSXTB18200H	NTSXTB12210H	NTSXTB12210H	NTSXTB12210H
		With cover	NTSXTB18201H	NTSXTB18201XH	NTSXTB18201H	NTSXTB18201XH	NTSXTB18201H	NTSXTB12211H	NTSXTB12211H	NTSXTB12211H
	Screw TB	Without cover	NTSXTB18000H	NTSXTB18000XH	NTSXTB18000H	NTSXTB18000XH	NTSXTB12010H	NTSXTB12010H	NTSXTB12010H	NTSXTB12010H
		With cover	NTSXTB18001H	NTSXTB18001XH	NTSXTB18001H	NTSXTB18001XH	NTSXTB12011H	NTSXTB12011H	NTSXTB12011H	NTSXTB12011H

(1) Available soon. (2) Planned commercialization.



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 ensures the mounting on the Din rail, the transmission of data and the supply of Discrete modules through the Backplane bus. The Base also provides fieldtest device power supply.
- Discrete input kits provide from 2 up to 16 channels with different level of performance, protection or diagnostic.

Implementation

- The Discrete input kits use 1 slot (15 mm (0.59 in) width), or 2 slots (30 mm (1.18 in) width) on 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.

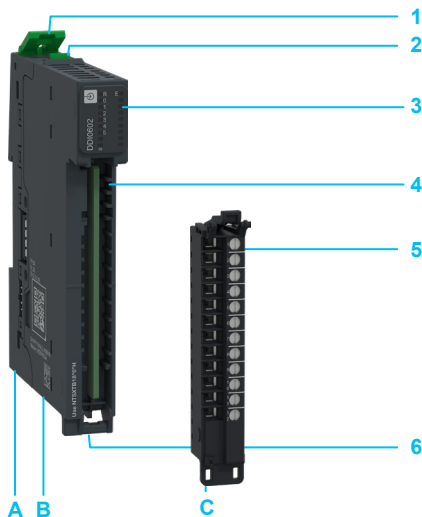
Characteristics

- The kits are offered:
 - in Standard version with an operating temperature of -20 to +60°C (-4 to +140°F)
 - in Hardened version with an operating temperature of -40 to +70°C (-40 to +158°F). The hardened version can operate as the standard version.
- Hot swapping capability: replacing or adding components without having to power down or interrupt the system's operation.
- IP degree of protection is IP20. A conformal coating is applied to the Hardened versions.

Description

A Discrete input kit comprises a Base **A**, and an electronic module **B**. The terminal block **C** is to order separately.

- 1 Mechanical clip for locking on DIN rail and modules between them
- 2 Release button for disengaging the module from the Base
- 3 Status LEDs:
 - 1 LED (Green) module operating (RUN)
 - 1 LED per channel (Green) channel diagnostic
 - 1 LED (Red) module error (ERR)
- 4 Housing for the terminal block
- 5 Terminal block
- 6 Hinge for the terminal block installation





NTSDDI0602K
NTSDDI1602K
NTSDDI1642K
NTSDAI0804K
NTSDAI0215HK
NTSDAI0403HK
NTSDAI0404HK



NTSDDI0802XK



NTSDDI1602XK
NTSDDI1602XHK



12 Pts–5 mm–DC/AC



18 Pts–5 mm–DC



18 Pts–3.81 mm–DC

References

Number of Channels	Rated input voltage	Logic type	Wiring mode	Synchronization (2)	Version	Reference	Weight kg/lb
Discrete input kits (Discrete input module + Base)							
6	24 VDC	Sink	1-2-3-wire	Yes	Standard	NTSDDI0602K	0.099/0.218
8	24 VDC	Sink	1-2-wire	–	Standard	NTSDDI0802XK	0.106/0.233
16	24 VDC	Sink	1-wire	Yes	Standard	NTSDDI1602K (1)	0.099/0.218
		Sink	1-2-3-wire	–	Standard	NTSDDI1602XK (1)	0.163/0.359
			1-2-3-wire	–	Hardened	NTSDDI1602XHK (1)	0.166/0.365
		Source	1-wire	Yes	Standard	NTSDDI1642K	0.166/0.365
4	24 VAC or 48 VAC/DC (configurable)	–	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...240 VAC	–	1-2-wire	–	Hardened	NTSDAI0404HK	0.099/0.218
8	100...240 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 Pts–5 mm–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	NTSDAI0215HK, NTSDAI0403HK, NTSDAI0404HK, NTSDAI0804K
		With cover	NTSXTB12011H	0.058/0.127	
18 Pts–5 mm–DC	Spring	Without cover	NTSXTB18200XH	0.038/0.083	NTSDDI0802XK, NTSDDI1602XK (1)(3), NTSDDI1602XHK (1)(3)
		With cover	NTSXTB18201XH	0.050/0.110	
	Screw	Without cover	NTSXTB18000XH	0.064/0.141	NTSDDI0802XK, NTSDDI1602XK (1)(3), NTSDDI1602XHK (1)(3)
		With cover	NTSXTB18001XH	0.077/0.169	
18 Pts–3.81 mm–DC	Spring	Without cover	NTSXTB18200H	0.028/0.061	NTSDDI0602K, NTSDDI1602K (1), NTSDDI1642K
		With cover	NTSXTB18201H	0.038/0.083	
	Screw	Without cover	NTSXTB18000H	0.039/0.085	NTSDDI0602K, NTSDDI1602K (1), NTSDDI1642K
		With cover	NTSXTB18001H	0.049/0.108	

Accessories

Mounting accessories, Labels, Shielding accessories, and Cluster Termination

See page 59

Spare parts

Spare parts for replacement: Functional modules, Bases, Terminal blocks, ...

See pages 60 to 63

(1) Available soon. (2) Planned commercialization. (3) This kit requests two terminal blocks. (2) Planned commercialization.

Modicon Edge I/O NTS

The future-ready I/O system for data aggregation

Discrete outputs (Transistor, Relay, Triac)

Function		 Discrete outputs													
															
Number of Channels		2 (isolated)	4	6	8	8	16	16	16	2 (Form C with NO/NC contacts)	4 (Form C with NO/NC contacts)	6 (Form A with NO contact)	2	4	
Discrete output type		Transistor									Relay			Triac	
Discrete output voltage		24 VDC									24 to 250 VAC (47...63 Hz)			80...264 VAC (47...63 Hz)	
Number of channel groups		2 groups of 1 channel isolated	1 group	1 group	2 groups of 4 channel non isolated	1 group	1 group	2 isolated groups of 8 channels		2 groups of 1 channel isolated	4 groups of 1 channel isolated	6 groups of 1 channel isolated	1 group	4 groups of 1 channel isolated	
Discrete output logic		Positive logic (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	2-wire	2-wire	2-wire	1-2-3-wire	1-2-3-wire	
Discrete output current		2 A per channel, 4 A per module	500 mA per channel, 2 A per module	500 mA per channel, 3 A per module	2 A per channel, 4 A per module	0.5 A per channel, 4 A per module	500 mA per channel, 8 A per module	500 mA per channel, 4 A per group, 8 A per module	0.5 A per channel, 4 A per module	2 A max. per output at 30 VDC or 250 VAC (resistive) 0.2 A max. per output at 125 VDC (resistive)	5 A max. per output at 30 VDC or 250 VAC (resistive) 0.2 A max. per output at 125 VDC (resistive)		1 A per channel	2 A per channel	
Minimum switching current		–	–	–	–	–	–	–	–	10 mA 5 VDC			–	–	
Operating voltage range		19.2...30 VDC												80...264 VAC (47...63 Hz)	
Output reponse time	State 1 to state 0	120 µs	110 µs	120 µs	110 µs	110 µs	110 µs	110 µs	110 µs	< 13 ms (deactivation)			< 10 ms (deactivation)	0.5 line cycles max.	
	State 0 to state 1	70 µs	90 µs	70 µs	90 µs	90 µs	90 µs	90 µs	90 µs	< 20 ms (activation)			< 20 ms (activation)	0.5 line cycles max.	
Output protection type	Transient voltage suppression per channel	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–	–	–	RC snubber suppression per channel		
	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	–	–	–			
	Reverse polarity protection per module	Yes (for using internal field power)	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	24 VDC	24 VDC	24 VDC	24 VDC	24 VDC	
	Field power from power supply field	24 VDC (Optional)	24 VDC	24 VDC	–	24 VDC	24 VDC	–	24 VDC	24 VDC	24 VDC	24 VDC	–	–	
	Field power from external power supply	24 VDC (Optional)	–	–	24 VDC	–	–	24 VDC	–	5...125 VDC or 24...250 VAC			100...240 VAC		
Output diagnostic	Power supply error per channel	Yes	Yes	Yes	–	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–	–	
	External power supply error per channel	Yes	–	–	Yes	–	–	Yes	–	–	–	–	Yes	Yes	
	Short circuit / Over current error per channel	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	–	–	–	–	–	
	Broken wire error per channel	–	Yes	–	–	–	–	–	–	–	–	–	–	–	
	Read back error per channel	–	Yes	–	–	–	–	–	–	–	–	–	–	–	
Isolation	Between channels	500 VAC	–	–	–	–	–	–	–	1780 VAC	1780 VAC	1780 VAC	–	2500 VAC	
	Between groups	–	–	–	–	–	–	500 VAC	–	–	–	–	–	–	
	Between channel and bus	1500 VAC	1500 VAC	1500 VAC	1500 VAC	1500 VAC	1500 VAC	1500 VAC	1500 VAC	3000 VAC	3000 VAC	3000 VAC	3000 VAC	3000 VAC	
	Between channels and earth ground	1500 VAC	1500 VAC	1500 VAC	1500 VAC	1500 VAC	1500 VAC	1500 VAC	1500 VAC	3000 VAC	3000 VAC	3000 VAC	3000 VAC	3000 VAC	
Synchronization (2)		Yes	Yes	Yes	Yes	–	Yes	–	–	–	–	–	–	–	
Dangerous voltage		–	–	–	–	–	–	–	–	Yes	Yes	Yes	Yes	Yes	
Size	Height	100 mm (3.93 in)	100 mm (3.93 in)	100 mm (3.93 in)	100 mm (3.93 in)	121 mm (4.76 in)	100 mm (3.93 in)	121 mm (4.76 in)	121 mm (4.76 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	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)	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	–	-20 to +60°C (-4 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 + Functionnal module)	Standard version	–	NTSDDO0402K	NTSDDO0602K	NTSDDO0802K	NTSDDO0802XK (1)	NTSDDO1602K (1)	NTSDDO1602XAK	NTSDDO1602XK	NTSDRC0215K	NTSDRC0415K	NTSDRA0615K	NTSDAO0205K	NTSDAO0415K	
	Hardened version	NTSDDO0212HK (1)	NTSDDO0402HK	–	–	–	–	NTSDDO1602XAHK	NTSDDO1602XHK	–	NTSDRC0415HK	–	–	NTSDAO0415HK	
See page		25													
Compatible terminal blocks	Number of points-Pitch-Voltage	12 Pts–5 mm–DC	12 Pts–5 mm–DC	18 Pts–3.81 mm–DC	12 Pts–5 mm–DC	18 Pts–5 mm–DC	18 Pts–3.81 mm–DC	18 Pts–5 mm–DC	18 Pts–5 mm–DC	12 Pts–5 mm–AC	12 Pts–5 mm–AC	12 Pts–5 mm–AC	12 Pts–5 mm–AC	12 Pts–5 mm–AC	
	Number of terminal blocks to use	1	1	1	1	1	1	2	2	1	1	1	1	1	
	Spring TB	Without cover	NTSXTB12200H	NTSXTB12200H	NTSXTB18200H	NTSXTB12200H	NTSXTB18200XH	NTSXTB18200H	NTSXTB18200XH	NTSXTB18200XH	NTSXTB12210H	NTSXTB12210H	NTSXTB12210H	NTSXTB12210H	
		With cover	NTSXTB12201H	NTSXTB12201H	NTSXTB18201H	NTSXTB12201H	NTSXTB18201XH	NTSXTB18201H	NTSXTB18201XH	NTSXTB18201XH	NTSXTB12211H	NTSXTB12211H	NTSXTB12211H	NTSXTB12211H	
	Screw TB	Without cover	NTSXTB12000H	NTSXTB12000H	NTSXTB18000H	NTSXTB12000H	NTSXTB18000XH	NTSXTB18000H	NTSXTB18000XH	NTSXTB18000XH	NTSXTB12010H	NTSXTB12010H	NTSXTB12010H	NTSXTB12010H	
		With cover	NTSXTB12001H	NTSXTB12001H	NTSXTB18001H	NTSXTB12001H	NTSXTB18001XH	NTSXTB18001H	NTSXTB18001XH	NTSXTB18001XH	NTSXTB12011H	NTSXTB12011H	NTSXTB12011H	NTSXTB12011H	

(1) Available soon. (2) Planned commercialization.

Modicon Edge I/O NTS

The future-ready I/O system for data aggregation
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 ensures the mounting on the Din rail, the transmission of data and the supply of Discrete modules through the Backplane bus. The Base also provides fieldtest device power supply.
- Discrete output kits provide from 2 up to 16 channels with different level of performance, protection or diagnostic.

Implementation

- The Discrete output kits use 1 slot (15 mm (0.59 in) width), or 2 slots (30 mm (1.18 in) width) on 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.

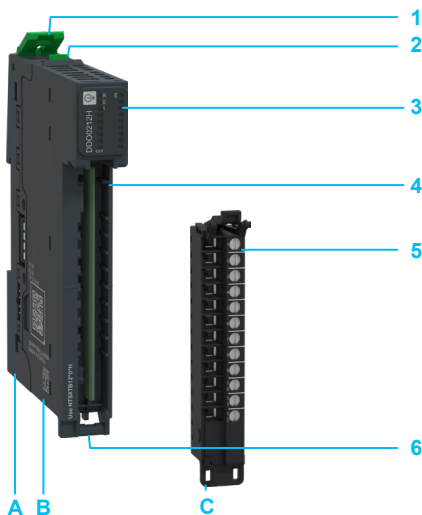
Characteristics

- The kits are offered:
 - in Standard version with an operating temperature of -20 to +60°C (-4 to +140°F)
 - in Hardened version with an operating temperature of -40 to +70°C (-40 to +158°F). The hardened version can operate as the standard version.
- Hot swapping capability: replacing or adding components without having to power down or interrupt the system's operation.
- IP degree of protection is IP20. A conformal coating is applied to the Hardened versions..
- An external power supply is required for two kits.

Description

A Discrete output kit comprises a Base **A**, and an electronic module **B**. The terminal block **C** is to order separately.

- 1 Mechanical clip for locking on DIN rail and modules between them
- 2 Release button for disengaging the module from the Base
- 3 Status LEDs:
 - 1 LED (Green) module operating (RUN)
 - 1 LED per channel (Green) channel diagnostic
 - 1 LED (Red) module error (ERR)
- 4 Housing for the terminal block
- 5 Terminal block
- 6 Hinge for the terminal block installation



Modicon Edge I/O NTS

The future-ready I/O system for data aggregation

Discrete outputs (Transistor, Relay, Triac)



NTSDDO0802XK

NTSDDO1602XAK/HK
NTSDDO1602XK/HKNTSDRC0415K/HK
NTSDRA0615K
NTSDAO0415K/HK

12 Pts–5 mm–DC/AC



18 Pts–5 mm–DC



18 Pts–3.81 mm–DC

References

Discrete output kits (Discrete output module + Base)

Number of Channels	Rated output voltage	Output type	Wiring mode	Synchronization (2)	Version	Reference	Weight kg/ lb
2 (isolated)	24 VDC	Transistor Source	1-2-3-wire	Yes	Hardened	NTSDDO0212HK (1)	0.099/ 0.218
4	24 VDC	Transistor Source	1-2-3-wire	Yes	Standard	NTSDDO0402K	0.099/ 0.218
			1-2-3-wire	Yes	Hardened	NTSDDO0402HK	0.099/ 0.218
6	24 VDC	Transistor Source	1-2-3-wire	Yes	Standard	NTSDDO0602K	0.077/ 0.169
8	24 VDC	Transistor Source	1-wire	Yes	Standard	NTSDDO0802K	0.098/ 0.216
			1-2-wire	–	Standard	NTSDDO0802XK (1)	0.107/ 0.235
16	24 VDC	Transistor Source	1-wire	Yes	Standard	NTSDDO1602K (1)	0.100/ 0.220
			1-2-wire	–	Standard	NTSDDO1602XK	0.138/ 0.304
			1-2-wire	–	Hardened	NTSDDO1602XHK	0.138/ 0.304
16	24 VDC	Transistor Source	1-2-wire	–	Standard	NTSDDO1602XAK (3)	0.138/ 0.304
			1-2-wire	–	Hardened	NTSDDO1602XAHK (3)	0.138/ 0.304
2 (Form C with NO/ NC contacts)	24 to 250 VAC (47...63 Hz)	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	80...264 VAC (47...63 Hz)	Triac	1-2-3-wire	–	Standard	NTSDAO0415K	0.131/ 0.288
4 (isolated)	80...264 VAC (47...63 Hz)	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 Pts–5 mm–DC	Spring	Without cover	NTSXTB12200H	0.029/0.063	NTSDDO0212HK (1) , NTSDDO0402HK , NTSDDO0402K , NTSDDO0802K
		With cover	NTSXTB12201H	0.040/0.088	
	Screw	Without cover	NTSXTB12000H	0.048/0.105	
		With cover	NTSXTB12001H	0.058/0.127	
12 Pts–5 mm–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 Pts–5 mm–DC	Spring	Without cover	NTSXTB18200XH	0.038/0.083	NTSDDO0802XK (1) , NTSDDO1602XAK (4) , NTSDDO1602XAHK (4) , NTSDDO1602XK (4) , NTSDDO1602XHK (4)
		With cover	NTSXTB18201XH	0.050/0.110	
	Screw	Without cover	NTSXTB18000XH	0.064/0.141	
		With cover	NTSXTB18001XH	0.077/0.169	
18 Pts–3.81 mm–DC	Spring	Without cover	NTSXTB18200H	0.028/0.061	NTSDDO0602K , NTSDDO1602K (1)
		With cover	NTSXTB18201H	0.038/0.083	
	Screw	Without cover	NTSXTB18000H	0.039/0.085	
		With cover	NTSXTB18001H	0.049/0.108	

Accessories

Mounting accessories, Labels, Shielding accessories, and Cluster Termination

[See page 59](#)

Spare parts

Spare parts for replacement: Functional modules, Bases, Terminal blocks, ...

[See pages 60 to 63](#)

(1) Available soon. (2) Planned commercialization. (3) This kit requests an External power Supply source.

(4) This kit requests two terminal blocks.

Modicon Edge I/O NTS

The future-ready I/O system for data aggregation

Analog inputs (Voltage/Current, Current)

Function		 Analog inputs					
							
Number of Channels		2 (isolated)	4	4	8	4 (isolated)	8
Analog input type	Voltage/Current	Voltage/Current	Voltage/Current	Voltage/Current	Voltage/Current	Current	Current
		Input current ± 20 mA, 0...20 mA, 4...20 mA	Input current ± 20 mA, 0...20 mA, 4...20 mA	Input current ± 20 mA, 0...20 mA, 4...20 mA	Input current ± 20 mA, 0...20 mA, 4...20 mA	Input current 4...20 mA	Input current ± 20 mA, 4...20 mA (Standard) 4...20 mA (Hardened)
	Input voltage	Input voltage ± 10 VDC, 0...10 VDC, ± 5 VDC, 0...5 VDC, 1...5 VDC	Input voltage ± 10 VDC, 0...10 VDC, ± 5 VDC, 0...5 VDC, 1...5 VDC	Input voltage ± 10 VDC, 0...10 VDC, ± 5 VDC, 0...5 VDC, 1...5 VDC	Input voltage ± 10 VDC, 0...10 VDC, ± 5 VDC, 0...5 VDC, 1...5 VDC	Input voltage —	Input voltage —
Resolution		15 bits + sign	15 bits + sign	15 bits + sign	15 bits + Sign	15 bits + Sign	15 bits + Sign
Input impedance	Voltage	> 10 Ω	> 10 Ω	> 10 Ω	> 10 Ω	—	—
	Current	250 Ω + internal current protector, 10 Ω typical	250 Ω + internal current protector, 10 Ω typical	250 Ω + internal current protector, 10 Ω typical	Current: 100 Ω + internal current protector 10 Ω typical	Current: 250 Ω + internal current protector 10 Ω typical	Current: 250 Ohm + internal current protector 10 Ohm typical
Input protection type	Voltage	Over voltage / miswiring protection per channel	Over voltage / miswiring protection per channel	Over voltage / miswiring protection per channel	Over voltage / miswiring protection per channel	—	—
	Current	Over current / miswiring protection per channel	Over current / miswiring protection per channel	Over current / miswiring protection per channel	Over current / miswiring protection per channel	Over current / miswiring protection per channel	Over current / miswiring protection per channel
Sensor power supply protection		Over current and short circuit protection on sensor power supply per channel Over current and short circuit protection on loop power supply per channel	—	—	—	Over current and short circuit protection on loop power supply per channel	Over current and short circuit protection on loop power supply per channel
Input diagnostic		Underflow error per channel Overflow error per channel Broken wire error per channel Hardware error per channel Calibration error per channel Loop power supply error per channel Internal field power supply error per channel	Underflow error per channel Overflow error per channel Broken wire error per channel Hardware error per channel Internal field power supply error per channel	Underflow error per channel Overflow error per channel Broken wire error per channel Hardware error per channel Internal field power supply error per channel	Underflow error per channel Overflow error per channel Broken wire error per channel Hardware error per channel Internal field power supply error per channel	Underflow error per channel Overflow error per channel Broken wire error per channel Hardware error per channel Calibration error per channel Loop power supply error per channel Internal field power supply error per channel	Underflow error per channel Overflow error per channel Broken wire error per channel Hardware error per channel Calibration error per channel Loop power supply error per channel Internal field power supply error per channel
Input wire connection		2-3-4-wire	2-wire	2-wire	1-2 wire	2-wire	2-wire (Standard) 1-2-wire (Hardened)
Accuracy		0.05% of Full Scale at 25°C and 0.1% of Full Scale over temperature range	0.3% of Full Scale at 25°C and 0.5% of Full Scale over temperature range	0.3% of Full Scale at 25°C and 0.5% of Full Scale over temperature range	0.3% of Full Scale at 25°C and 0.5% of Full Scale over temperature range	0.1% of Full Scale at 25°C and 0.3% of Full Scale over temperature range	0.1% of Full Scale at 25°C and 0.3% of Full Scale over temperature range
Isolation	Between channels	530 VAC	—	—	—	530 VAC	—
	Between groups	—	—	—	—	—	—
	Between channel and bus	1500 VAC	1500 VAC	1500 VAC	1500 VAC	1000 VAC	1500 VAC
	Between channels and earth ground	—	—	—	—	—	—
	Between channels and field power	Not for module sensor power supply 1000 VAC for module loop power supply	—	1000 VAC	—	Not for external loop power supply 1000 VAC for module loop power supply	—
	Between field power and bus	1500 VAC	1500 VAC	1500 VAC	1500 VAC	1500 VAC	1500 VAC
Synchronization (2)		Yes	Yes	Yes	Yes	—	Yes
HART (Tolerance or Communication)		Tolerance	—	—	—	Communication	Tolerance
Size	Height	100 mm (3.93 in)	100 mm (3.93 in)	100 mm (3.93 in)	100 mm (3.93 in)	121 mm (4.76 in)	121 mm (4.76 in)
	Width	15 mm (0.59 in) (1 slot) 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	-20 to +60°C (-4 to +140°F)	-20 to +60°C (-4 to +140°F)	-20 to +60°C (-4 to +140°F)	-20 to +60°C (-4 to +140°F)	—	-20 to +60°C (-4 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 + Functionnal module)	Standard version	NTSAMI0210K (1)	NTSAMI0400K	NTSAMI0420K	NTSAMI0800K	—	NTSACI0802XK
	Hardened version	NTSAMI0210HK (1)	—	—	—	NTSAHI0412XHK	NTSACI0802XHK
See page		31					
Compatible terminal blocks	Number of points-Pitch-Voltage	12 Pts–5 mm–DC	12 Pts–5 mm–DC	12 Pts–5 mm–DC	18 Pts–3.81 mm–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 TB	Without cover	NTSXTB12200H	NTSXTB12200H	NTSXTB18200H	NTSXTB18200XH	NTSXTB18200H
		With cover	NTSXTB12201H	NTSXTB12201H	NTSXTB18201H	NTSXTB18201XH	NTSXTB18201H
	Screw TB	Without cover	NTSXTB12000H	NTSXTB12000H	NTSXTB18000H	NTSXTB18000XH	NTSXTB18000H
		With cover	NTSXTB12001H	NTSXTB12001H	NTSXTB18001H	NTSXTB18001XH	NTSXTB18001H

(1) Available soon. (2) Planned commercialization.

Modicon Edge I/O NTS

The future-ready I/O system for data aggregation

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 ■ RTD: Standard Ni100/1000, Pt100/1000, Cu10/50/100, JPt100/JPt1000, and High precision Cu50/Cu100/Ni100/Ni1000/Pt100/Pt1000 ■ Voltage: ± 40 mV; ± 80 mV; ± 160 mV; ± 320 mV; ± 640 mV; ±1.28 V ■ Resistance: 150/300/600/2000/4500 Ω	■ Thermocouple: Type J/K/R/S/B/T/N/E/C/L/U ■ RTD: Standard Ni100/1000, Pt100/1000, Cu10/50/100, JPt100/JPt1000, and High precision Cu50/Cu100/Ni100/Ni1000/Pt100/Pt1000 ■ Voltage ± 40 mV; ± 80 mV; ± 160 mV; ± 320 mV; ± 640 mV; ±1.28 V ■ Resistance 150/300/600/2000/4500 Ω	■ Thermocouple: Type J/K/R/S/B/T/N/E/C/L/U ■ RTD: Standard Ni100/1000, Pt100/1000, Cu10/50/100, JPt100/JPt1000, and High precision Cu50/Cu100/Ni100/Ni1000/Pt100/Pt1000 ■ Voltage: ± 40 mV; ± 80 mV; ± 160 mV; ± 320 mV; ± 640 mV; ±1.28 V ■ Resistance: 150/300/600/2000/4500 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) ■ RTD: Standard Ni100/1000, Pt100/1000, Cu10/50/100, JPt100/JPt1000, and High precision Cu50/Cu100/Ni100/Ni1000/Pt100/Pt1000 ■ Resistance 100 Ω to 32 kΩ
Signal type		Differential	Differential	Differential	Differential
Resolution		16 bits with Overflow	16 bits with Overflow	16 bits with Overflow	16 bits with Overflow
Input impedance		1 MΩ Typical	1 MΩ Typical	1 MΩ Typical	1 MΩ Typical
Input protection type		Overvoltage protection	Overvoltage protection	Overvoltage protection	Overvoltage protection
Input wire connection		2-3-4-wire for RTD and Resistance inputs 2-wire for Thermocouple and Voltage inputs	2-3-wire for RTD and Resistance inputs, 2-wire for Thermocouple and Voltage inputs	2-3-4-wire for RTD and Resistance inputs, 2-wire for Thermocouple and Voltage inputs	2-3-4-wire for RTD and Resistance inputs 2-wire for thermistor NTC/PTC inputs
Input protection type		Overvoltage protection	Overvoltage protection	Overvoltage protection	Overvoltage protection
Sensor power supply protection		–	–	–	–
Input diagnostic		Underflow error per channel Overflow error per channel Broken wire error per channel Hardware error per channel Calibration error per channel CJC error per channel Internal field power supply error per channel	Underflow error per channel Overflow error per channel Broken wire error per channel Hardware error per channel Calibration error per channel CJC error per channel Internal field power supply error per channel	Underflow error per channel Overflow error per channel Broken wire error per channel Hardware error per channel Calibration error per channel CJC error per channel Internal field power supply error per channel	Underflow error per channel Overflow error per channel Broken wire error per channel Hardware error per channel Calibration error per channel Internal field power supply error per channel
Isolation	Between channels	530 VAC	-	-	-
	Between groups	-	-	-	-
	Between channel and bus	1500 VAC	1500 VAC	1500 VAC	1500 VAC
	Between channels and earth ground	-	-	-	-
	Between channels and field power	1000 VAC	1000 VAC	1000 VAC	1000 VAC
	Between field power and bus	1500 VAC	1500 VAC	1500 VAC	1500 VAC
Synchronization (2)		–	–	–	–
Size	Height	100 mm (3.93 in)	100 mm (3.93 in)	121 mm (4.76 in)	100 mm (3.93 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	-20 to +60°C (-4 to +140°F)	-20 to +60°C (-4 to +140°F)	–	-20 to +60°C (-4 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 + Fonctionnal module)	Standard version	NTSART0214K	NTSART0404K	–	NTSART0603K
	Hardened version	NTSART0214HK	–	NTSART0404XHK	–
See page		31			
Compatible terminal blocks	Number of points-Pitch-Voltage	12 Pts–5 mm–DC	12 Pts–5 mm–DC	18 Pts–5 mm–DC	18 Pts–3.81 mm–DC
	Number of terminal blocks to use	1	1		1
	Spring TB	Without cover	NTSXTB12200H	NTSXTB12200H	NTSXTB18200XH
		With cover	NTSXTB12201H	NTSXTB12201H	NTSXTB18201XH
	Screw TB	Without cover	NTSXTB12000H	NTSXTB12000H	NTSXTB18000XH
		With cover	NTSXTB12001H	NTSXTB12001H	NTSXTB18001H

(1) Available soon. (2) Planned commercialization.

Modicon Edge I/O NTS

The future-ready I/O system for data aggregation
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 ensures the mounting on the Din rail, the transmission of data and the supply of Analog modules through the Backplane bus. The Base also provides fieldtest device power supply.
- Analog input kits provide 2 up to 8 channels with different level of performance, protection or diagnostic.

Implementation

- The Analog input kits use 1 slot (15 mm (0.59 in) width), or 2 slots (30 mm (1.18 in) width) on 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.

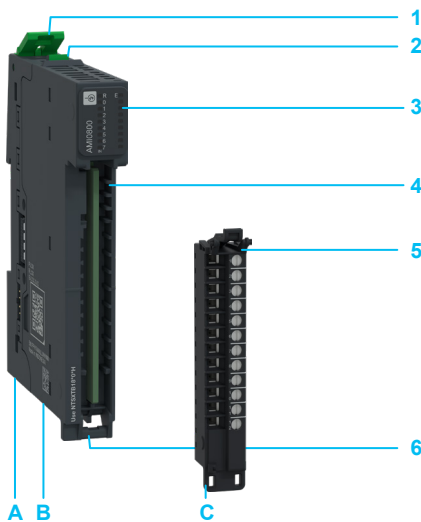
Characteristics

- The kits are offered:
 - in Standard version with an operating temperature of -20 to +60°C (-4 to +140°F)
 - in Hardened version with an operating temperature of -40 to +70°C (-40 to +158°F). The hardened version can operate as the standard version.
- Hot swapping capability: replacing or adding components without having to power down or interrupt the system's operation.
- Analog input kit has the capacity to configure some channels in voltage and some others in current.
- IP degree of protection is IP20. A conformal coating is applied to the Hardened versions.

Description

An Analog input kit comprises a Base **A**, and an electronic module **B**. The terminal block **C** is to order separately.

- 1 Mechanical clip for locking on DIN rail and modules between them
- 2 Release button for disengaging the module from the Base
- 3 Status LEDs:
 - 1 LED (Green) module operating (RUN)
 - 1 LED per channel (Green) channel diagnostic
 - 1 LED (Red) module error (ERR)
- 4 Housing for the terminal block
- 5 Terminal block
- 6 Hinge for the terminal block installation





NTSAMI0210K
NTSAMI0400K
NTSAMI0420K
NTSAMI0800K
NTSART0214K/HK
NTSART0404K
NTSART0603K



NTSAMI0210HK



NTSAHI0412XHK



NTSACI0802XK/HK



NTSART0404XHK

References

Analog input kits (Analog input module + Base)

Number of Channels	Type	HART	Wiring mode	Synchronization (2)	Version	Reference	Weight kg/lb
2 (isolated)	Voltage: ± 10 VDC, 0...10 VDC, ± 5 VDC, 0...5 VDC, 1...5 VDC Current: ± 20 mA, 0...20 mA, 4...20 mA	Tolerance	2-3-4 wire	Yes	Standard	NTSAMI0210K (1)	0.100/0.220
			2-3-4 wire	Yes	Hardened	NTSAMI0210HK (1)	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, 4...20 mA	Tolerance	2-wire	Yes	Standard	NTSACI0802XK	0.138/0.304
	Current: 4...20 mA	Tolerance	1-2-wire	Yes	Hardened	NTSACI0802XHK	0.138/0.304
2 (isolated)	Temperature: - Thermocouple: Type J/K/R/S/B/T/N/E/C/L/U - RTD: Standard Ni100/1000, Pt100/1000, Cu10/50/100, JPt100/1000, and High precision Cu50/Cu100/Ni100/Ni1000/Pt100/Pt1000 - Voltage: ± 40 mV, ± 80 mV, ± 160 mV, ± 320 mV; ± 640 mV; ± 1.28 V - Resistance: 150/300/600/2000/4500 Ω	—	2-3-4-wire for RTD and Resistance inputs 2-wire for Thermocouple and Voltage inputs	—	Standard	NTSART0214K	0.077/0.169
4			2-3-wire for RTD and Resistance inputs 2-wire for Thermocouple and Voltage inputs	—	Hardened	NTSART0214HK	0.077/0.169
			2-3-wire for RTD and Resistance inputs 2-wire for Thermocouple and Voltage inputs	—	Standard	NTSART0404K	0.077/0.169
			2-3-4-wire for RTD and Resistance inputs 2-wire for Thermocouple and Voltage inputs	—	Hardened	NTSART0404XHK	0.077/0.169
6	Temperature: - Thermistor PTC 100 Ω to 10 k Ω , NTC 100 Ω to 200 k Ω or calculated temperature -90 to +150°C (-130 to +302°F) - RTD: Standard Ni100/1000, Pt100/1000, Cu10/50/100, JPt100/1000, and High precision Cu50/Cu100/Ni100/Ni1000/Pt100/Pt1000 - PT100/1000 - Resistance 100 Ω to 32 k Ω	—	2-3-4-wire for RTD and Resistance inputs 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 Pts—5 mm—DC	Spring	Without cover	NTSXTB12200H	0.029/0.063	NTSAMI0210K (1) , NTSAMI0210HK (1) , 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 Pts—5 mm—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 Pts—3.81 mm—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

Mounting accessories, Labels, Shielding accessories, and Cluster Termination

See page 59

Spare parts

Spare parts for replacement: Functional modules, Bases, Terminal blocks, ...

See pages 60 to 63

(1) Available soon. (2) Planned commercialization.



12 Pts—5 mm—DC/AC



18 Pts—5 mm—DC



18 Pts—3.81 mm—DC

Modicon Edge I/O NTS

The future-ready I/O system for data aggregation

Analog outputs (Current, Voltage/Current)

Function		 Analog outputs		
				
Number of Channels		2 (isolated)	2 (isolated)	4
Analog output type		Current	Voltage/Current (Single end/Differential)	Voltage/Current (Single end)
		4...20 mA	Voltage: ± 10 V, 0...10 VDC, ± 5 VDC, 0...5 V, 1...5 VDC Current: ± 20 mA, 0...20 mA, 4...20 mA	Voltage: ± 10 VDC, 0...10 VDC, ± 5 VDC, 0...5 VDC, 1...5 VDC 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 Current output: 750 Ω max.	Voltage output: 1 kΩ minimum Current output: 600 Ω max.
Output protection		Current output: over voltage 30V	Voltage output: short circuit: 16 mA, over voltage: 30 V Current output: over voltage 30 V	Voltage output: short circuit: 16 mA, over voltage: 30 V Current output: over voltage 30 V
Output response time		500 µs at 8750 Ohm per module (HART disabled)	522 µs at 750 Ω per module	912 µs at 600 Ω per module
HART (Tolerance or Communication)		Communication	Tolerance	Tolerance
Output diagnostic		Underflow error per channel Overflow error per channel Broken wire error per channel Short circuit error per channel Hardware error per channel Calibration error per channel DAC power error per channel Internal field power supply error per channel	Underflow error per channel Overflow error per channel Broken wire error per channel Short circuit error per channel Hardware error per channel Calibration error per channel DAC power error per channel Internal field power supply error per channel	Underflow error per channel Overflow error per channel Broken wire error per channel Short circuit error per channel Hardware error per channel Calibration error per channel DAC power error per channel Internal field power supply error per channel
Output wire connection		2-wire	2-3-4-wire	2-wire
Accuracy		0.1 % / 0.2 % of full scale	0.1 % / 0.2 % of full scale	0.1 % / 0.2 % of full scale
Isolation	Between channels	530 VAC	530 VAC	–
	Between groups	–	–	–
	Between channel and bus	1500 VAC	1500 VAC	1500 VAC
	Between channels and earth ground	–	–	–
	Between channels and field power	1000 VAC	1000 VAC	–
	Between field power and bus	1500 VAC	1500 VAC	1500 VAC
Synchronization (2)		–	Yes	Yes
Size	Height	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)
Operating temperature	Standard version	–	-20 to +60°C (-4 to +140°F)	-20 to +60°C (-4 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 + Functionnal module)	Standard version	–	NTSAMO0210K	NTSAMO0400K
	Hardened version	NTSAHO0212HK	NTSAMO0210HK	NTSAMO0400HK
See page		35		
Compatible terminal blocks	Number of points-Pitch-Voltage	12 Pts–5 mm–DC	12 Pts–5 mm–DC	12 Pts–5 mm–DC
	Number of terminal blocks to use	1	1	1
	Spring TB	Without cover	NTSXTB12200H	NTSXTB12200H
		With cover	NTSXTB12201H	NTSXTB12201H
	Screw TB	Without cover	NTSXTB12000H	NTSXTB12000H
		With cover	NTSXTB12001H	NTSXTB12001H

(1) Available soon. (2) Planned commercialization.



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 ensures the mounting on the Din rail, the transmission of data and the supply of Analog modules through the Backplane bus. The Base also provides fieldtest device power supply.
- Analog output kits provide 2 up to 4 channels with different level of performance, protection or diagnostic.

Implementation

- The Analog output kits use 1 slot (15 mm (0.59 in) width), or 2 slots (30 mm (1.18 in) width) on 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.

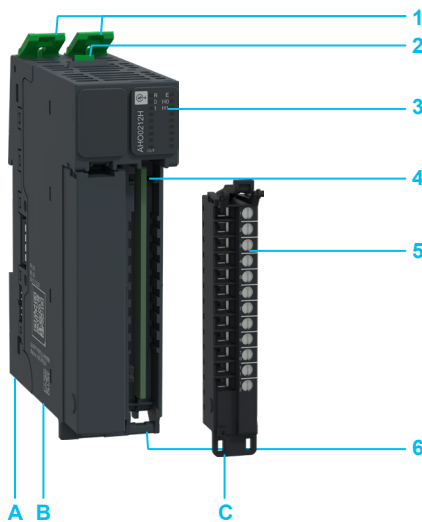
Characteristics

- The kits are offered:
 - in Standard version with an operating temperature of -20 to +60°C (-4 to +140°F)
 - in Hardened version with an operating temperature of -40 to +70°C (-40 to +158°F). The hardened version can operate as the standard version.
- Hot swapping capability: replacing or adding components without having to power down or interrupt the system's operation.
- IP degree of protection is IP20. A conformal coating is applied to the Hardened versions.

Description

An Analog output kit comprises a Base **A**, and an Electronic module **B**. The terminal block **C** is to order separately.

- 1 Mechanical clip for locking on DIN rail and modules between them
- 2 Release button for disengaging the module from the Base
- 3 Status LEDs:
 - 1 LED (Green) module operating (RUN)
 - 1 LED per channel (Green) channel diagnostic
 - 1 LED (Red) module error (ERR)
- 4 Housing for the terminal block
- 5 Terminal block
- 6 Hinge for the terminal block installation



Modicon Edge I/O NTS

The future-ready I/O system for data aggregation

Analog outputs (Current, Voltage/Current)



NTAHO0212HK



NTSAMO0210K/HK
NTSAMO0400K/HK



12 Pts–5 mm–DC

References

Analog output kits (Analog output module + Base)

Number of Channels	Type	HART	Wiring mode	Synchronization (2)	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 Pts–5 mm–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

Mounting accessories, Labels, Shielding accessories, and Cluster Termination

See page 59

Spare parts

Spare parts for replacement: Functional modules, Bases, Terminal blocks, ... See pages 60 to 63

(1) Available soon. (2) Planned commercialization.



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 ensures the mounting on the Din rail, the transmission of data and the supply of Analog combo through the Backplane bus. The Base also provides fieldtest device power supply.
- The Combo kit supports inputs and outputs on the same module to manage Voltage and Current I/Os, and provides 6 channels with different level of performance, protection or diagnostic.

Implementation

- The Analog combo kit use 1 slot (15 mm (0.59 in) width) on 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.

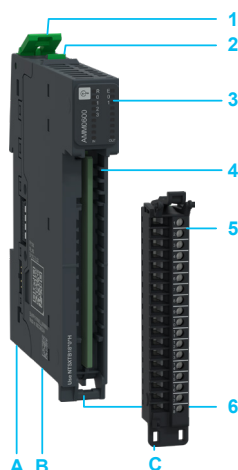
Characteristics

- The Analog combo kits are offered in Standard version with an operating temperature of -20 to +60°C (-4 to +140°F).
- Hot swap capability is available for each Combo: replacing or adding components without having to power down or interrupt the system's operation
- IP degree of protection is IP20. A conformal coating is applied to the Hardened versions..
- Diagnostic

Description

An Analog Combo kit comprises a Base **A**, and an electronic module **B**. The terminal block **C** is to order separately.

- 1 Mechanical clip for locking on DIN rail and modules between them
- 2 Release button for disengaging the module from the Base
- 3 Status LEDs:
 - 1 LED (Green) module operating (RUN)
 - 1 LED per channel (Green) channel diagnostic
 - 1 LED (Red) module error (ERR)
- 4 Housing for the terminal block
- 5 Terminal block
- 6 Hinge for the terminal block installation



NTSAMM0600K (1)



18 Pts-3.81 mm-DC

References

Analog Combo kit (Combo module + Base)

Number and type of channel	Wiring mode	Isolation	Synchroniza- tion (2)	Version	Reference	Weight kg/ lb
4 analog inputs: - Voltage input ± 10 V, 0/+10V, ± 5V, 0/1...5V - Current input ± 20 mA, 4...20 mA (16-bit max resolution)	2-wire	3 (inputs to outputs group isolation)	Yes	Standard	NTSAMM0600K (1)	0.104/ 0.229
2 analog outputs: - Voltage output -10/+10 VDC; 0/+10 VDC - Current output 0-20 mA; 4-20 mA (13-bit max resolution)						

Terminal blocks

Number of points-Pitch-Voltage Type	Cover	Reference	Weight kg/lb	For use with the kit
18 Pts-3.81 mm-DC	Spring	Without cover	NTSXTB18200H	NTSAMM0600K (1)(3)
		With cover	NTSXTB18201H	
	Screw	Without cover	NTSXTB18000H	
		With cover	NTSXTB18001H	

Accessories

Mounting accessories, Labels, Shielding accessories, and Cluster Termination

See page 59

Spare parts

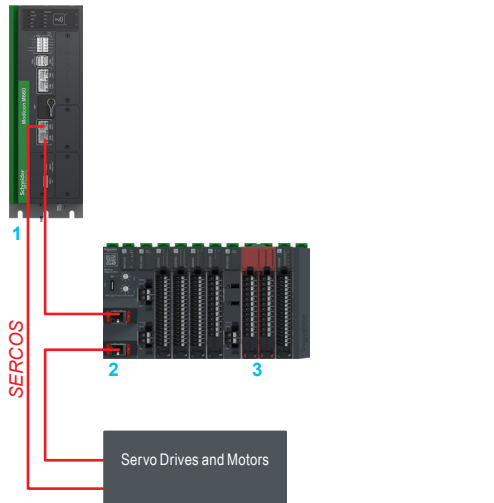
Spare parts for replacement: Functional modules, Bases, Terminal blocks, ...

See pages 60 to 63

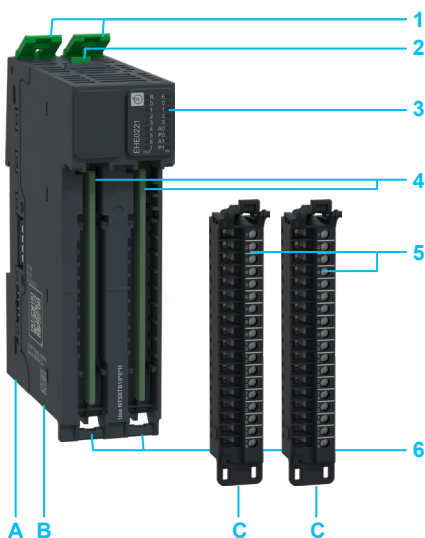
(1) Available soon. (2) Planned commercialization. (3) This kit requests two terminal blocks.

Modicon Edge I/O NTS

The future-ready I/O system for data aggregation
Motion Expert (Encoders, Fast I/Os, Pulse train outputs) (1)



- 1 Motion controller Modicon M660 (1)
- 2 Modicon Edge I/O NTS: Cluster composed of a Network Interface module, and a Power Supply module, and, according to a modular configuration, Discrete modules, Analog modules, Counting modules, Motion Expert modules, Field device master modules, or Passive modules.
- 3 Modicon Edge I/O NTS Integrated safety (1)



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 ensures the mounting on the Din rail, the transmission of data and the supply of the Motion Expert module through the Backplane bus. The Base also provides fieldtest device power supply.
- Motion Expert kits control from 1 up to 8 axes with different level of performance, protection or diagnostic.

Implementation

- The Motion Expert kits use 1 slot (15 mm (0.59 in) width), or 2 slots (30 mm (1.18 in) width) on 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 as Standard version with an operating temperature of -20 to +60°C (-4 to +140°F).
- Hot swapping capability: replacing or adding components without having to power down or interrupt the system's operation.
- IP degree of protection is IP20. A conformal coating is applied to the Hardened versions.

Description

A Motion Expert kit comprises a Base **A**, and an Electronic module **B**. The terminal blocks **C** are to order separately.
For standard version:

- 1 Mechanical clip for locking on DIN rail and modules between them
- 2 Release button for disengaging the module from the Base
- 3 Status LEDs:
 - 1 LED (Green) module operating (RUN)
 - 1 LED per channel (Green) channel diagnostic
 - 1 LED (Red) module error (ERR)
- 4 Housing for the terminal block (2)
- 5 Terminal block
- 6 Hinge for the terminal block installation (2)

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

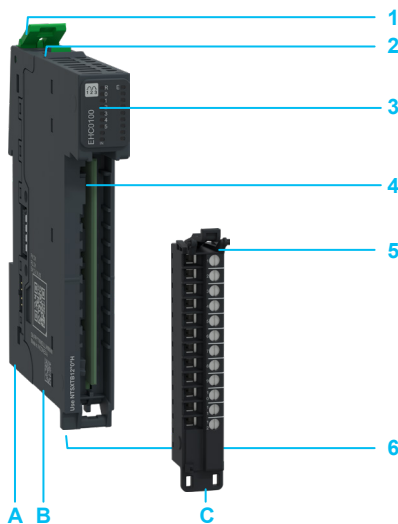
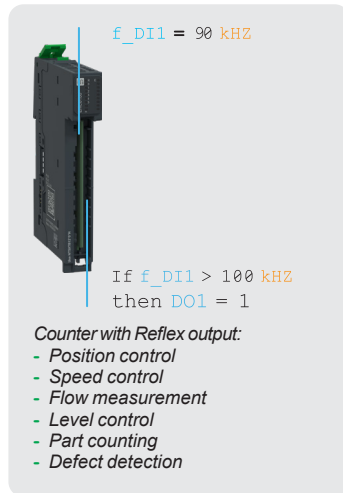
Modicon Edge I/O NTS

The future-ready I/O system for data aggregation

Counting (Incremental High-speed counter)

Function			 Counting		
					
Number and type of channels			1 HSC channel for pulse counting It supports 6 Simple counting functions or 1 Single counting function or 1 Dual counting function or 1 Frequency meter or 1 Ratio meter or 1 Period meter	1 HSC channel for pulse counting It supports 6 Simple counting functions or 1 Single Counting function or 1 Dual Counting function or 1 Frequency meter or 1 Ratio meter or 1 Period meter or 1 PWM output	2 HSC channels for pulse counting It supports 12 Simple counting functions or 2 Single counting functions or 2 Dual counting functions or 2 Frequency meters or 2 Ratio meters or 2 Period meters or 2 PWM outputs
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 24V	2.27 mA at 24V	2.27 mA at 24 VDC	
Outputs	Number	–	4	8	
	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	
	Internal Field current maximun for input	3 mA	3 mA	3 mA	
	Internal Field current maximun for output	–	500 mA at 24 VDC	500 mA at 24 VDC	
Isolation	Isolation between channels	None	None	None	
	Isolation between groups	850 VAC	850 VAC	850 VAC	
	Isolation between channels and bus	1500 VAC	1500 VAC	1500 VAC	
	Isolation between channels and ground	–	–	–	
Synchronization (2)		Yes	Yes	Yes	
Input protection		Over voltage Protection	Over voltage Protection	Over voltage Protection	
Output protection		–	Short Circuit Protection	Short Circuit Protection	
Size	Height	100 mm (3.93 in)	100 mm (3.93 in)	100 mm (3.93 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	-20 to +60°C (-4 to +140°F)	–	-20 to +60°C (-4 to +140°F)	
	Hardened version	–	-40 to +70°C (-40 to +158°F)	–	
Sold as a kit (Base + Fonctionnal module)	Standard version	NTSEHC0100K	–	NTSEHC0220K	
	Hardened version	–	NTSEHC0120HK	–	
See page		41			
Compatible terminal blocks	Number of points-Pitch-Voltage		12 Pts–5 mm–DC	12 Pts–5 mm–DC	18 Pts–3.81 mm–DC
	Number of terminal blocks to use		1	1	1
	Spring TB	Without cover	NTSXTB12200H	NTSXTB12200H	NTSXTB18200H
		With cover	NTSXTB12201H	NTSXTB12201H	NTSXTB18201H
	Screw TB	Without cover	NTSXTB12000H	NTSXTB12000H	NTSXTB18000H
		With cover	NTSXTB12001H	NTSXTB12001H	NTSXTB18001H

(1) Available soon. (2) Planned commercialization.



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 counting function.
- The Base ensures the mounting on the Din rail, the transmission of data, and the supply of the Counting module through the Backplane bus. The Base also provides fieldtest device power supply.
- Combo counting kits provide 1 up to 2 channels with different level of performance, protection or diagnostic.

Implementation

- The Counting kits use 1 slot (15 mm (0.59 in) width), or 2 slots (30 mm (1.18 in) width) on 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 offered:
 - in Standard version with an operating temperature of -20 to +60°C (-4 to +140°F)
 - in Hardened version with an operating temperature of -40 to +70°C (-40 to +158°F). The hardened version can operate as the standard version.
- Hot swapping capability: replacing or adding components without having to power down or interrupt the system's operation.
- IP degree of protection is IP20. A conformal coating is applied to the Hardened versions.

Description

A Combo kit comprises a Base **A**, and an Electronic module **B**. The terminal block **C** is to order separately.

- 1 Mechanical clip for locking on DIN rail and modules between them
- 2 Release button for disengaging the module from the Base
- 3 Status LEDs:
 - 1 LED (Green) module operating (RUN)
 - 1 LED per channel (Green) channel diagnostic
 - 1 LED (Red) module error (ERR)
- 4 Housing for the terminal block
- 5 Terminal block
- 6 Hinge for the terminal block installation

Modicon Edge I/O NTS

The future-ready I/O system for data aggregation

Counting (Incremental High-speed counter)



NTSEHC0100K



NTSEHC0120HK



NTSEHC0220K



12 Pts–5 mm–DC/AC



18 Pts–3.81 mm–DC

References

Counting kits (Counter module + Base)

Number of Channels	type	Discrete inputs	Discrete outputs	Synchronization (2)	Version	Reference	Weight kg/lb
1	HSC channel for pulses counting 250 kHz (using 4 inputs 24 VDC)	6x 24 VDC Sink/Source	–	Yes	Standard	NTSEHC0100K	0.096/ 0.211
1	HSC channel for pulses counting 250 kHz (using 4 inputs 24 VDC)	6x 24 VDC Sink/Source	4x 24 VDC Push-pull (use as Source)	Yes	Hardened	NTSEHC0120HK	0.159/ 0.350
2	HSC channel for pulses counting 250 kHz (using 8 inputs 24 VDC)	12x 24 VDC Sink/Source	8x 24 VDC Push-pull (use as Source)	Yes	Standard	NTSEHC0220K	0.164/ 0.361

Terminal blocks

Number of points–Pitch–Voltage	Type	Cover	Reference	Weight kg/lb	For use with the kit
12 Pts–5 mm–DC	Spring	Without cover	NTSXTB12200H	0.029/0.063	NTSEHC0100K , NTSEHC0120HK (3)
		With cover	NTSXTB12201H	0.040/0.088	
	Screw	Without cover	NTSXTB12000H	0.048/0.105	NTSEHC0100K , NTSEHC0120HK (3)
		With cover	NTSXTB12001H	0.058/0.127	
18 Pts–3.81 mm–DC	Spring	Without cover	NTSXTB18200H	0.028/0.061	NTSEHC0220K (3)
		With cover	NTSXTB18201H	0.038/0.083	
	Screw	Without cover	NTSXTB18000H	0.039/0.085	NTSEHC0220K (3)
		With cover	NTSXTB18001H	0.049/0.108	

Accessories

Mounting accessories, Labels, Shielding accessories, and Cluster Termination

[See page 59](#)

Spare parts

Spare parts for replacement: Functional modules, Bases, Terminal blocks, ...

[See pages 60 to 63](#)

(1) Available soon. (2) Planned commercialization. (3) This kit requests two terminal blocks.

Modicon Edge I/O NTS

The future-ready I/O system for data aggregation

Field Device Master

Function								
			Field Device Master: - Enabling efficient and reliable communication between field devices and the I/O system - Contributing to the overall performance and functionality of the control system					
								
Number of Channels			1			4		
Protocol			Serial RS-485, Modbus RTU, ASCII, Client, 115 kbps			IO-Link Master, 4 Channels		
Specification version			–			Compliant with IO-Link standard V1.1		
Number of inputs and outputs			1 Serial Line			- Up to 4 discrete channels (configurable as input 24 VDC Sink or output 24 VDC Push-Pull 200 mA/channel for C/Q output) - 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-422/RS-485			IO-Link Master (IEC 61131-9) Standard with 4 ports		
Transmission rate			Up to 115 kbps			COM1: 4.8 kbit/s, COM2: 38.4 kbit/s, COM3: 230.4 kbit/s		
Communication port protocol			Modbus RTU Modbus ASCII ASCII			IO-Link		
Communication features			- Serial 2-wire and 4-wire RS-422/RS-485			Ports Mode: - IO-Link (COM1/2/3) - SIO-Mode (Digital input or output) - Additional digital input (DI)		
Power supply type			24 VDC SELV External power supply isolated			24 VDC SELV External power supply isolated		
Protection type			–			Thermal protection Short circuit protection Overcurrent protection		
Isolation	Isolation between channels		–			–		
	Isolation between groups		–			–		
	Isolation between channels and bus		Isolated			Isolated		
	Isolation between channels and ground		–			–		
	Isolation between IO-Link and bus		–			500 VAC RMS		
Max. cable length			1200 m (3937 ft)			20 m (65.6 ft)		
Synchronization (2)			–			Yes		
Size	Height		100 mm (3.93 in)			100 mm (3.93 in)		
	Width		15 mm (0.59 in) (1 slot)			15 mm (0.59 in) (1 slot)		
Operating temperature	Standard version		-20 to +60°C (-4 to +140°F)			-20 to +60°C (-4 to +140°F)		
	Hardened version		-40 to +70°C (-40 to +158°F)			–		
Sold as a kit (Base + Functionnal module)	Standard version		NTSFMB0120K			NTSFIO0400K (1)		
	Hardened version		NTSFMB0120HK			–		
See page			45					
Compatible terminal blocks	Number of points-Pitch-Voltage		12 Pts–5 mm–DC			18 Pts–3.81 mm–DC		
	Number of terminal blocks to use		1			1		
	Spring TB	Without cover	NTSXTB12200H			NTSXTB18200H		
		With cover	NTSXTB12201H			NTSXTB18201H		
	Screw TB	Without cover	NTSXTB12000H			NTSXTB18000H		
		With cover	NTSXTB12001H			NTSXTB18001H		

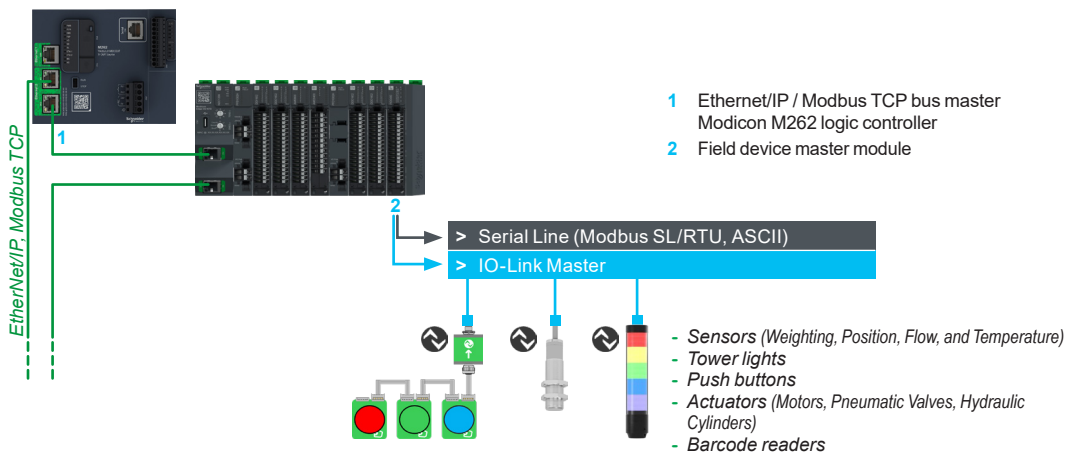
(1) Available soon. (2) Planned commercialization.



Presentation

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

- The electronic module provides the function: centralized communication interface for connecting field devices (sensors and actuators), in industrial automation systems.
- The FDM module enables efficient data exchange, Diagnostic, and configuration of field devices with those protocols:
 - Serial line RS-485, Modbus RTU, ASCII Client: the kit allows to initiate and control communication with other devices on the network, such as slave devices or other masters.
 - IO-Link Master: the kit allows to connect sensors and actuators to the Edge I/O NTS system in accordance with the IO-Link standard, and in conjunction with the EtherNet/IP network interface 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 ensures the mounting on the Din rail, the transmission of data and the supply of the FDM module through the backplane bus. The Base also provides fieldtest device power supply.



Implementation

- Up to 4 IO-Link devices per channel (3/4 wires - Class A) can be installed in a configuration.
- The FDM kits use 1 slot (15 mm (0.59 in) width) on 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.

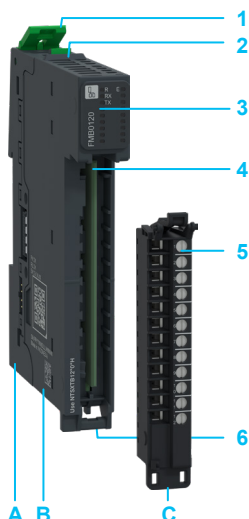
Characteristics

- The kits are offered:
 - in Standard version with an operating temperature of -20 to +60°C (-4 to +140°F)
 - in Hardened version with an operating temperature of -40 to +70°C (-40 to +158°F). The hardened version can operate as the standard version.
- Hot swapping capability: replacing or adding components without having to power down or interrupt the system's operation.
- IP degree of protection is IP20. A conformal coating is applied to the Hardened versions.

Description

A Field Device Master kit comprises a Base **A**, and an Electronic module **B**. The terminal block **C** is to order separately.

- 3 Mechanical clip for locking on DIN rail and modules between them
- 4 Release button for disengaging the module from the Base
- 5 Status LEDs:
 - 1 LED (Green) module operating (RUN)
 - 1 LED per channel (Green) channel diagnostic
 - 1 LED (Red) module error (ERR)
- 6 Housing for the terminal block
- 7 Terminal block
- 8 Hinge for the terminal block installation



Modicon Edge I/O NTS

The future-ready I/O system for data aggregation

Field Device Master



NTSFMB0120K



NTSFMB0120HK



NTSFIO0400K



12 Pt-5 mm-DC/AC



18 Pt-3.81 mm-DC

References

Field device master kits (FDM module + Base)

Number of Channels	Protocol	Number of inputs and outputs	Synchronization (2)	Version	Reference	Weight kg/lb
1	Serial RS-485, Modbus RTU, ASCII, Client, 115 kbps	1 Serial Line	–	Standard	NTSFMB0120K	0.077/0.169
			–	Hardened	NTSFMB0120HK	0.077/0.169
Up to 4	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) - Up to 4 additional discrete input channels	Yes	Standard	NTSFIO0400K (1)	0.102/0.224

Terminal blocks

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

Accessories

Mounting accessories, Labels, Shielding accessories, and Cluster Termination

[See page 59](#)

Spare parts

Spare parts for replacement: Functional modules, Bases, Terminal blocks, ...

[See pages 60 to 63](#)

(1) Available soon. (2) Planned commercialization.

Modicon Edge I/O NTS

The future-ready I/O system for data aggregation

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			16 x 0 VDC commons		16 x 24 VDC commons		8 x 0 VDC commons 8 x 24 VDC commons		1-slot		2-slot			
Protection type			–		- Overvoltage protection - Undervoltage protection - Overload protection - Short-circuit protection - Reverse polarity protection - Inrush current control - Power up limitation - PE Current		- Overvoltage protection - Undervoltage protection - Overload protection - Short-circuit protection - Reverse polarity protection - Inrush current control - Power up limitation - PE Current		–		–			
Nominal operating current (Field)			10.5 A		10.5 A		10.5 A		–		–			
Maximum power dissipation in W			0.587 W		1.348 W		1.428 W		–		–			
Voltage range (supply voltage range)			0 Vdc		19.2...30.0 Vdc		19.2...30.0 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 (3.93 in)		100 mm (3.93 in)		100 mm (3.93 in)		100 mm (3.93 in)		100 mm (3.93 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 + Functionnal module)		Standard version	–		–		–		–		–			
		Hardened version	NTSPCM0016HK		NTSPCM1600HK		NTSPCM0808HK		NTSDMY0100HK		NTSDMY0200HK			
See page			49											
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		–		–	
			Number of terminal blocks to use		1		1		1		–		–	
			Spring TB	Without cover	NTSXTB18200H		NTSXTB18200H		NTSXTB18200H		–		–	
				With cover	NTSXTB18201H		NTSXTB18201H		NTSXTB18201H		–		–	
			Screw TB	Without cover	NTSXTB18000H		NTSXTB18000H		NTSXTB18000H		–		–	
				With cover	NTSXTB18001H		NTSXTB18001H		NTSXTB18001H		–		–	



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 provides the function: managing and distributing 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 ensures the mounting on the Din rail, the transmission of data and the supply of the module through the Backplane bus. The Base also provides fieldtest device power supply.

Dummy kits

- The 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 ensures the mounting on the Din rail, the transmission of data and the supply of the module through the Backplane bus. The Base also provides fieldtest device power supply.

Implementation

- The kits use 1 slot (15 mm width (0.59 in)), or 2 slots (30 mm width (1.18 in)) on DIN rail, depending on the model.
- The 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 Hardened version with an operating temperature of -40 to +70°C (-40 to +158°F). The hardened version can operate as the standard version.
- Hot swapping capability: replacing or adding components without having to power down or interrupt the system's operation.
- IP degree of protection is IP20. A conformal coating is applied to the Hardened versions.

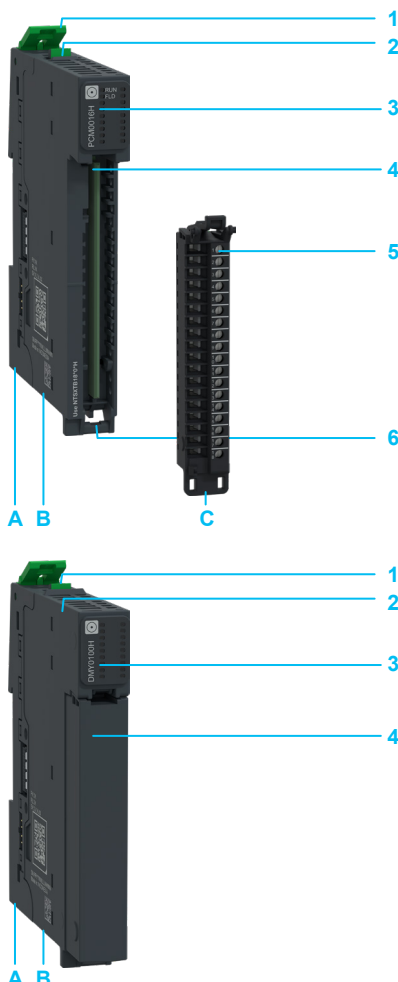
Description

A Passive kit comprises a Base **A**, and an Electronic module **B**. The terminal block **C** is to order separately.

- 1 Mechanical clip for locking on DIN rail and modules between them
- 2 Release button for disengaging the module from the Base
- 3 Status LEDs:
 - 1 LED (Green) RUN Logic supplied
 - 1 LED (Green) FIELD power supply
- 4 Housing for the terminal block
- 5 Terminal block
- 6 Hinge for the terminal block installation

A Dummy kit comprises a Base **A**, and an Electronic module **B**.

- 1 Mechanical clip for locking on DIN rail and modules between them
- 2 Release button for disengaging the module from the Base
- 3 Status LEDs
 - 1 LED (Green) BUS power supply
 - 1 LED (Green) FIELD power supply
- 4 Cover



Modicon Edge I/O NTS

The future-ready I/O system for data aggregation

Passive (Common distribution, Dummy)



NTSPCM0016HK



NTSPCM1600HK



NTSPCM0808HK



NTSDMY0100HK



NTSDMY0200HK



18 Pts–3.81 mm–DC

References

Passive kits (Passive module + Base)

Designation	Version	Reference	Weight kg/ lb
Common Distribution kits			
16 x 0 VDC commons	Hardened	NTSPCM0016HK	0.098/ 0.216

16 x 24 VDC commons with one electronic fuse	Hardened	NTSPCM1600HK	0.100/ 0.220
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8 x 0 VDC commons 8 x 24 VDC commons with one electronic fuse	Hardened	NTSPCM0808HK	0.100/ 0.220
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Dummy kits

1-slot: 15 mm width (0.59 in)	Hardened	NTSDMY0100HK	0.100/ 0.220
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2-slot: 30 mm width (1.18 in)	Hardened	NTSDMY0200HK	0.142/ 0.313
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Terminal blocks

Number of points-Pitch-Voltage	Type	Cover	Reference	Weight kg/lb	For use with the kit
18 Pts–3.81 mm–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	NTSPCM0016HK , NTSPCM1600HK , NTSPCM0808HK
		With cover	NTSXTB18001H	0.049/0.108	

Accessories

Mounting accessories, Labels, Shielding accessories, and Cluster Termination [See page 59](#)

Spare parts

Spare parts for replacement: Functional modules, Bases, Terminal blocks, ... [See pages 60 to 63](#)

Modicon Edge I/O NTS

The future-ready I/O system for data aggregation

Power supply

Function				
			Power supply	
			Distribution of Bus Power supply for Network Interface modules (NIM), and modules	Distribution of Field Power in a cluster of modules
				
Rated supply voltage			24 VDC	24 VDC
Power supply output current			3.5 A for Bus supply 10.5 A for Field supply	10.5 A for Field supply
Voltage range			19.2...30 VAC	19.2...30 VAC
Input current			3.5 A for Bus supply 10.5 A for Field supply	10.5 A for Field supply
Maximum power dissipation in W			1.562 W	1.314 W
Protection type			- Overvoltage protection for bus and field - Undervoltage protection for bus and field - Overload protection for bus and field - Short-circuit protection for bus and field - Reverse polarity protection for bus and field - Inrush current control for field - Voltage surge protection for bus & field - Short power cut for bus	- Overvoltage protection for field - Undervoltage protection for field - Overload protection for field - Short-circuit protection for field - Reverse polarity protection for field - Inrush current control for field - Voltage surge protection for field
Current consumption			- Max. bus current 3500 mA - Max. field current 10500 mA	- Max. bus current 3 mA - Max. field current 10500 mA
Automatic disjunction			–	Yes
Hot swapping			Yes	Yes
Size	Height		100 mm (3.93 in)	100 mm (3.93 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 + Functionnal module)	Standard version		–	–
	Hardened version		NTSPFB1002HK	NTSPFD1002HK
See page			53	
Compatible terminal blocks	Number of points-Pitch-Voltage		2 Pts–5 mm–DC	2 Pts–5 mm–DC
	Number of terminal blocks to use		2	1
	Spring TB	Without cover	NTSXTB02230H	NTSXTB02230H
	Screw TB	Without cover	NTSXTB02030H	NTSXTB02030H



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 functions:
 - Supplying the necessary electrical power to the I/O modules and the Network interface modules within the system, ensuring they operate reliably and consistently.
 - Helping to maintain stable and regulated power distribution to all connected modules, contributing to the overall functionality and performance of the I/O system.
- The Base ensures the mounting on the Din rail, the transmission of data and the supply of the module through the Backplane bus. The Base also provides fieldtest device power supply.

Implementation

- The kits use 1 slot (15 mm (0.59 in) width) on 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

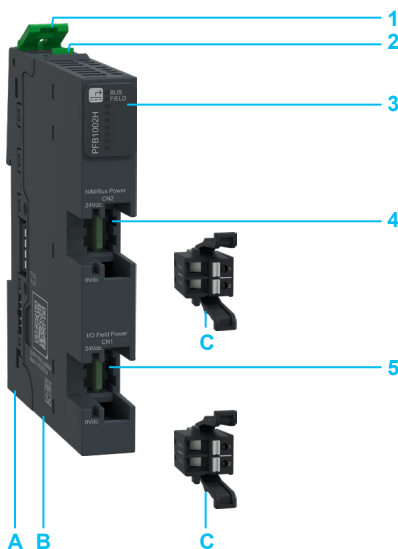
- The kits are offered in Hardened version with an operating temperature of -40 to +70°C (-40 to +158°F). The hardened version can operate as the standard version.
- Hot swapping capability: replacing or adding components without having to power down or interrupt the system's operation.
- IP degree of protection is IP20. A conformal coating is applied to the Hardened versions.

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 on DIN rail and modules between them
- 2 Release button for disengaging the module from the Base
- 3 Status LEDs:
 - 1 LED (Green): BUS power supply / RUN Logic supplied (depending on the model)
 - 1 LED (Green): FIELD power supply
- 4 Housing for the terminal block (Bus connector)
- 5 Housing for the terminal block (Field connector)

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



Modicon Edge I/O NTS

The future-ready I/O system for data aggregation

Power supply



NTSPFD1002HK



NTSPFB1002HK



NTSXTB02230H



NTSXTB02030H

References

Power supply kits (Power supply module + Base)

Rated supply voltage	Use	Version	Reference	Weight kg/ lb
24 VDC	Distributes Bus Power supply for Network Interface modules (NIM), and modules - 3.5 A for Bus supply - 10.5 A for Field supply - Mandatory module after a NIM or an extender - Includes all functions of Device power supply	Hardened	NTSPFB1002HK	0.104/ 0.229
	Distributes Field Power supply in a cluster of modules - 10.5 A for Field supply - Automatic disjunction - Can be added when more than 10 A is required or to manage several segments	Hardened	NTSPFD1002HK	0.104/ 0.229

Terminal blocks

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

Accessories

Mounting accessories, Labels, Shielding accessories, and Cluster Termination

[See page 59](#)

Spare parts

Spare parts for replacement: Functional modules, Bases, Terminal blocks, ...

[See pages 60 to 63](#)

(1) This kit requests two terminal blocks.

Modicon Edge I/O NTS

The future-ready I/O system for data aggregation

Network interface

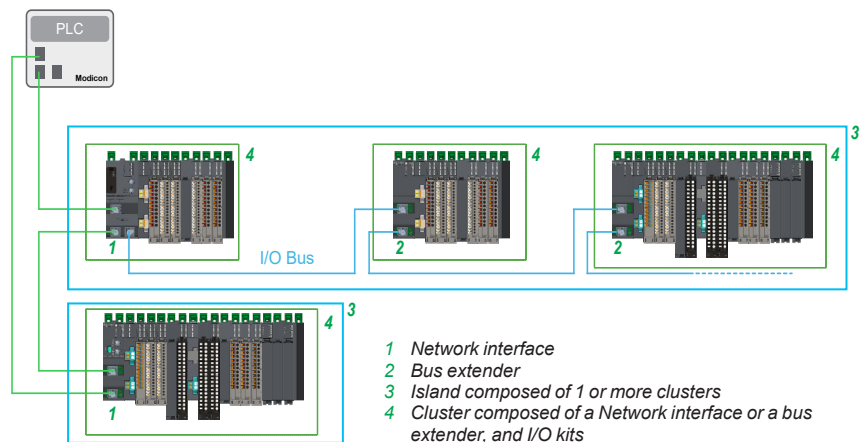
Function			
		Network interface for Data exchange between master PLC and Modicon Edge I/O islands	
		 	
Bus or network	Type	■ EtherNet/IP ■ Modbus TCP ■ USB 2.0 (HTTPs and RNDIS)	
Structure	Exchange mode	Full duplex Autonegotiation	
	Transmission rate	10/100 Mbit/s	
	Medium	Twisted pair cable	
	Cable length	100 m (328.08 ft) (10Base-T/100Base-TX)	
Topology		- Daisy chain - Star - Ring (using RSTP)	
Protocol		- EtherNet/IP (adaptor) - Modbus TCP (server)	
web server		Embedded	
Communication features	Security	- Secure Boot - Secure Storage (via TPM) - SCEP Client (pending) - CAE Support - Secure Syslog Server (pending) - TLS 1.2 - Embedded TPM	
	Plug and Work	- DPWS - Configuration - Web Server - FDR Client - BootP - DHCP Client	
	Communication	- IPV4 - EtherNet/IP Server - Modbus TCP Server - OPCUA Server (explicit only)	
	Diagnostics	- SNMP (pending) - Craslog	
	Time	NTP V4	
	Network	- RSTP - Static VLAN Configuration - QoS	
	Other	USB RNDIS	
Configuration	Nb of addressable I/O kits	Up to 32 kits per cluster	
	Number of I/O modules per island	Up to 250 kits per island (1)	
	Cyber security	Embedded with a configurable level (rotary switch)	
	Power supply type	24 VDC not isolated (19.2...30 V) Powered by Internal bus power via NTSPFB* Power Supply Module from a 24 Vdc bus connector	
Connector type	Bus or network port	2 RJ45 switched Ethernet isolated ports	
	Configuration firmware	USB type-C port (CN1) to of the island	
Size	Height	100 mm (3.93 in)	
	Width	15 mm (0.59 in) (1 slot) (Standard version), 30 mm (1.18 in) (2 slots) (Hardened version)	
Operating temperature	Standard version	-20 to +60°C (-4 to +140°F)	
	Hardened version	-40 to +70°C (-40 to +158°F)	
Sold as a kit (Base + Fonctionnal module)	Standard version	NTSNEC1200K	Planned commercialization
	Hardened version	NTSNEC1200HK	Planned commercialization
See page		57	



Presentation

The network interface kits include an electronic module and its corresponding Base, which match in height and width.

- The network interface module (NIM) (bus coupler) ensures communication between the NTS Edge I/O system, composed in islands, and the Ethernet/IP, Modbus TCP, and Sercos III (1) networks. It is completed by a bus expansion module to extend the islands with clusters.
- The network interface module facilitates data exchange between the NTS Edge I/O system, composed of islands, and the networks (Ethernet/IP, Modbus TCP, and Sercos III protocols). It allows the I/O system to send and receive data for monitoring, control, and coordination purposes. It is complemented by bus expansion modules to extend the islands with new clusters.
- The Base ensures the mounting on the Din rail, the transmission of data and the supply of the module through the Backplane bus. The Base also provides fieldtest device power supply.



Implementation

- The network interface occupies the first two or three slots of a cluster.
- The Network interface kits use 2 slots (30 mm (1.18 in) width) on DIN rail, or 3 slots 45 mm (1.57 in) on DIN rail.

Characteristics

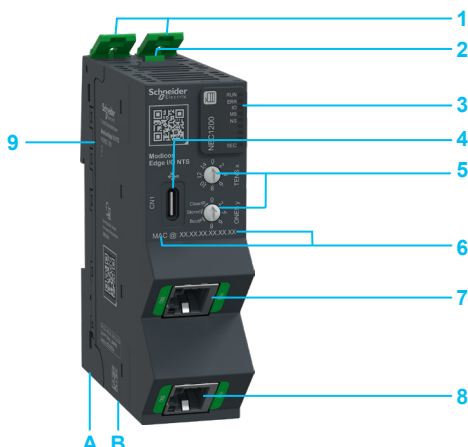
- The kits are offered:
 - in Standard version with an operating temperature of -20 to +60°C (-4 to +140°F)
 - in Hardened version with an operating temperature of -40 to +70°C (-40 to +158°F). The hardened version can operate as the standard version.
- IP degree of protection is IP20. A conformal coating is applied to the Hardened versions.

Description

A network interface kit comprises a Base **A**, and an Electronic module **B**.

- Mechanical clip for locking on DIN rail and modules between them
- Release button for disengaging the module from the Base
- Status LEDs, to indicate the operational status of the island
- USB type-C port (CN1) to configure and upgrade firmware of the island
- 2 Rotary switches to set the network interface module IP address
- Label space to write the assigned IP address (this unique 48-bit network identifier is hard-coded into the module when it is manufactured)
- Communication port 1 (RJ45 type) to connect the network interface module to the network
- Communication port 2 (RJ45 type) to connect the network interface module to the network
- Cyber security rotary switch to set the cyber security mode (on the back side of the Base)

(1) Planned commercialization.





NTSNEC1200K



NTSNEC1200HK

References

Network interface kits (Network Interface module + Base)

Network	Designation	Communication port	Data transfer speed	Dangerous voltage	Version	Reference	Weight kg/lb
■ EtherNet/IP ■ Modbus TCP ■ USB 2.0 (HTTPs and RNDIS)	Network Interface Module + Base + Termination	2x RJ45	100 Mbps	–	Standard	NTSNEC1200K	0.275/ 0.606
		2x RJ45	100 Mbps	–	Hardened	NTSNEC1200HK	0.324/ 0.715

Accessories

Mounting accessories, Labels, Shielding accessories, and Cluster Termination

[See page 59](#)

Spare parts

Spare parts for replacement: Functional modules, Bases, Terminal blocks, ...

[See pages 60 to 63](#)

Modicon Edge I/O NTS

The future-ready I/O system for data aggregation

Terminal blocks

Terminal blocks								
12 terminals for 100 mm (3.93 in) high module	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 reference								
	NTSXTB12000H	0.048/0.105	NTSXTB12001H	0.058/0.127	NTSXTB12010H	0.048/0.105	NTSXTB12011H	0.058/0.127
Spring terminal reference								
	NTSXTB12200H	0.029/0.063	NTSXTB12201H	0.040/0.088	NTSXTB12210H	0.029/0.063	NTSXTB12211H	0.040/0.088
18 terminals for 100 mm (3.93 in) high module	Using DC							
	Without cover	Weight (kg/lb)	With cover	Weight (kg/lb)				
Screw terminal reference								
	NTSXTB18000H	0.039/0.085	NTSXTB18001H	0.049/0.108				
Spring terminal reference								
	NTSXTB18200H	0.028/0.061	NTSXTB18201H	0.038/0.083				
18 terminals for 121 mm (4.76 in) high module	Using DC							
	Without cover	Weight (kg/lb)	With cover	Weight (kg/lb)				
Screw terminal reference								
	NTSXTB18000XH	0.064/0.141	NTSXTB18001XH	0.077/0.169				
Spring terminal reference								
	NTSXTB18200XH	0.038/0.083	NTSXTB18201XH	0.050/0.110				
2 terminals for power supply module	Without cover		Weight (kg/lb)					
Screw terminal reference								
	NTSXTB02030H	0.011/ 0.024						
Spring terminal reference								
	NTSXTB02230H	0.008/0.017						

Cover for Terminal blocks			
Use for	Sold in a set of	Reference	Weight kg/lb
12 Pts–5 mm pitch or 18 Pts–3,81 mm pitch	Set of 15 Units	NTSXEM0000H	0.152/0.335
18 Pts–5 mm pitch	Set of 13 Units	NTSXEM0000XH	0.173/0.381



NTSXSP0000

NTSXSP1050

NTSXSP1100



NTSXSP3020



NTSXSP3010



NTSXMP2000

x10
NTSXMP1000

NTSXMP0000H

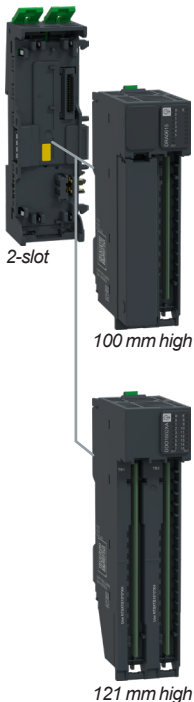
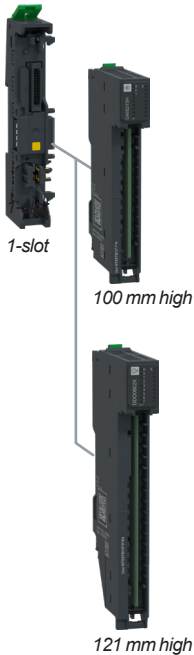
Mounting accessories

Designation			Sold in a set of	Reference	Weight kg/ lb
Kit: 2x Lateral arms and 2x DIN rail end-stoppers	Need 1 metal drawbar NTSX-SP1●●● and clamping rings NTSXSP30●●0		5 units	NTSXSP0000	—
Metal drawbar	0.5 m (1.64 ft)		10 units	NTSXSP1050	—
	1 m (3.28 ft)		10 units	NTSXSP1100	—
Clamping rings	To be mounted on the metal drawbar	10 to 7 AWG	20 units	NTSXSP3020	—
		16 to 10 AWG	20 units	NTSXSP3010	—
Label for modules 14 x 10 mm (0.04 x 0.03 in)	To be fixed on top of the module		50 Units	NTSXMP2000	0.029/ 0.063
Wheel of 8 flexible coding keys			10 Units	NTSXMP1000	0.016/ 0.035
Cluster Termination			—	NTSXMP0000H	0.039/ 0.085

Modicon Edge I/O NTS

The future-ready I/O system for data aggregation

Spare parts: modules and associated bases



Discrete modules, associated Base

Discrete input modules

Number of Channels									
Number	Signal type	Range	Dangerous voltage	Wiring mode	Synchroniza- tion (2)	Version	Reference	Weight kg/ lb	Associated Base
2 (isolated)	Sink	100 V to 240 VAC	Yes	1-2-3 wire	—	Hardened	NTSDAI0215H	0.050/ 0.110	NTSXB0100H (1-slot)
4	Sink	100 V to 1200 VAC	Yes	1-2 wire	—	Hardened	NTSDAI0404H		
	Sink	24 VDC, 48 VAC/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	
	Sink	100 V to 1200 VAC	Yes	1-wire	—	Standard	NTSDAI0804	0.050/ 0.110	
16	Sink	24 VDC	—	1-wire	Yes	Standard	NTSDDI1602 (1)		
	Source	24 VDC	—	1-wire	Yes	Standard	NTSDDI1642		
	Sink	24 VDC	—	1-2-3 wire	—	Standard	NTSDDI1602X (1)	0.089/ 0.196	NTSXB0200H (2-slot)
	Sink	24 VDC	—	1-2-3 wire	—	Hardened	NTSDDI1602XH (1)		

Discrete output modules

2 (isolated, protected)	Transistor Source	24 VDC 2 A/channel	—	1-2-3 wire	Yes	Hardened	NTSDDO0212H (1)	0.050/ 0.110	NTSXB0100H (1-slot)
2 (isolated)	Relay	NO/NC, 5 V to 125 VDC, 24 V to 240 VAC 2 A/channel	Yes	—	—	Standard	NTSDRC0215		
2	Triac	100 V to 240 VAC 1 A/channel	Yes	1-2-3 wire	—	Standard	NTSDAO0205		
4 (isolated)	Triac	100 V to 240 VAC 2 A/channel	Yes	1-2-3 wire	—	Standard	NTSDAO0415	0.089/ 0.196	NTSXB0200H (2-slot)
			Yes	1-2-3 wire	—	Hardened	NTSDAO0415H	0.083/ 0.182	
	Relay	NO/NC, 5 V to 125 VDC, 24 V 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	NTSXB0100H (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	NO, 5 V to 125 VDC, 24 V to 240 VAC 2 A/channel	Yes	—	—	Standard	NTSDRA0615	0.083/ 0.182	NTSXB0200H (2-slot)
8 (protected)	Transistor Source	24 VDC 500 mA/channel	—	1-2 wire	—	Standard	NTSDDO0802X (1)	0.051/ 0.112	NTSXB0100H (1-slot)
		24 VDC 2 A/channel	—	1-wire	Yes	Standard	NTSDDO0802	0.050/ 0.110	
16 (protected)	Transistor Source	24 VDC 500 mA/channel	—	1-wire	Yes	Standard	NTSDDO1602 (1)		
			—	1-2 wire	—	Standard	NTSDDO1602XA (3)	0.083/ 0.182	NTSXB0200H (2-slot)
			—	1-2 wire	—	Hardened	NTSDDO1602XAH (3)		
			—	1-2 wire	—	Standard	NTSDDO1602X	0.089/ 0.196	
			—	1-2 wire	—	Hardened	NTSDDO1602XH		

(1) Available soon. (2) Planned commercialization. (3) This kit requests an External power supply source.

Note: The terminal block reference for use with the module is written on the front of the module.



Analog modules, associated Base

Analog input modules

Number of Channels	Signal type	Method	Dangerous voltage	Wiring mode	Synchronization (2)	Version	Reference	Weight kg/lb	Associated Base
Number									
2 (isolated)	Current, Voltage	HART Tolerance, Loop power	—	2-3-4-wire	Yes	Standard	NTSAMI0210 (1)	0.050/0.110	NTSXBA0100H (1-slot)
	Temperature	RTD, Thermocouple, mV,	—	2-3-4 wire	—	Standard	NTSART0214		
	Temperature	RTD, Thermocouple, mV	—	2-3-4-wire	—	Hardened	NTSART0214H		
2 (isolated)	Current, Voltage	HART Tolerance, Loop power	—	2-3-4-wire	Yes	Hardened	NTSAMI0210H (1)	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)
	Current, Voltage	Differential	—	2-wire	Yes	Standard	NTSAMI0420		
4 (Differential)	Temperature	RTD, Thermocouple, mV	—	2-3-wire	—	Standard	NTSART0404		
	Temperature	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)
	Current	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)
	Current, Voltage	—	—	2-wire	—	Hardened	NTSAMO0210H		
4	Current, Voltage	—	—	2-wire	Yes	Standard	NTSAMO0400		
	Current, Voltage	—	—	2-wire	—	Hardened	NTSAMO0400H		

Analog Input/Output Module

4 inputs 2 outputs (Group isolated)	Current, Voltage	HART Tolerance for the outputs	—	2-wire	Yes	Standard	NTSAMM0600 (1)	0.050/0.110	NTSXBA0100H (1-slot)
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High Speed Counter modules, associated Base

Number of Channels	Discrete inputs	Discrete outputs	Dangerous voltage	Wiring mode	Synchronization	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		

(1) Available soon. (2) Planned commercialization. (3) This kit requests an External power supply source.

Note: The terminal block reference for use with the module is written on the front of the module.

Modicon Edge I/O NTS

The future-ready I/O system for data aggregation

Spare parts: modules and associated bases



Counting modules and associated bases

Number of Channels	Type	Discrete inputs	Discrete outputs	Synchronization (2)	Version	Reference	Weight kg/lb	Associated Base
1	High Speed Counter Module, 1 Incremental In, 24V DC, 250kHz,	2 auxiliary inputs, 24 VDC	-	Yes	Standard	NTSEHC0100	0.050/0.110	NTSXBA0100H (1-slot)
2	High Speed Counter Module, 2 Incremental In, 24V DC, 250kHz	8 auxiliary inputs, 24 VDC	8 auxiliary outputs, 24 VDC 500 mA/ch	Yes	Standard	NTSEHC0220	0.083/0.182	NTSXBA0200H (2-slot)
1	High Speed Counter Module, 1 Incremental In, 24V DC, 250kHz	2 auxiliary inputs, 24 VDC	4 auxiliary outputs, 24 VDC 500 mA/ch	Yes	Hardened	NTSEHC0120H	0.083/0.182	

Field device master modules and associated bases

Number of Channels	Communication protocol	Version	Reference	Weight kg/lb	Associated Base
1	Serial RS-485, Modbus RTU, ASCII, Client, 115 kbps	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	Standard	NTSFIO0400 (1)		

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 (2)	Hardened	NTSPCM1600H		
	8x 0 VDC commons, 8x 24 VDC commons (2)	Hardened	NTSPCM0808H		
Dummy modules	1-slot: 15 mm width (0.59 in)	Hardened	NTSDMY0100H		
	2-slot: 30 mm width (1.18 in)	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 Bus power supply for Network Interface modules (NIM), and modules	Hardened	NTSPFB1002H	0.050/0.110	NTSXBA0104H (1-slot)
	Distributes Field power supply for a segment of module (4-20 mA, DO, +24 VDC, ...), 10 A max.	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)

(1) Available soon. (2) Equipped with one electronic fuse.

Note: The terminal block reference for use with the module is written on the front of the module.

Modicon Edge I/O NTS

The future-ready I/O system for data aggregation

Spare parts: modules and associated bases



NTSXBA0100H NTSXBA0103H NTSXBA0104H

Bases for modules

Use for module type	Number of slot on DIN rail (corresponding to the module width)	Version	Reference	Weight kg/ lb
- Discrete	1-slot (15 mm width module)	Hardened	NTSXBA0100H	0.026/ 0.057
- Analog				
- Counting				
- Motion/Expert (2)	2-slot (30 mm width module)	Hardened	NTSXBA0200H	0.048/ 0.105
- Field Device Master				
- Passive (Common, Dummy)				
- Power Supply (Bus and Field)	1-slot (15 mm width module)	Hardened	NTSXBA0103H	0.026/ 0.057
- Power Supply (Field)	1-slot (15 mm width module)	Hardened	NTSXBA0104H	0.026/ 0.057
- Network Interface Module	2-slot (30 mm width module)	Hardened	NTSXBA0201H	0.048/ 0.105
- Bus Extender module	3-slot (45 mm width module)	Hardened	NTSXBA0301H	0.057/ 0.125

(1) Planned commercialization.

Note: The terminal block reference for use with the module is written on the front of the module.



NTSXBA0200H NTSXBA0201H NTSXBA0301H

N		NTSDDI1602XK	21	NTSPCM1600HK	49	NTSXTB12201H	23	NTSXTB18200XH	19
NTSACI0802X	61	NTSDDI1642	21	NTSPFB1002H	62		25		21
NTSACI0802XH	61		60	NTSPFB1002HK	53		29		23
NTSACI0802XHK	31	NTSDDI1642K	21	NTSPFD1002H	62		31		25
NTSAHI0412XH	61	NTSDDO00212H	60	NTSPFD1002HK	53		33		29
NTSAHI0412XHK	31	NTSDDO00212HK	25	NTSXBA0100H	60		35		31
NTSAHO0212H	61	NTSDDO0402	60		61		39		58
NTSAHO0212HK	35	NTSDDO0402H	60		62		41	NTSXTB18201H	19
NTSAMI0210	61	NTSDDO0402HK	25		63		43		21
NTSAMI0210H	61	NTSDDO0402K	25	NTSXBA0103H	62	NTSXTB12210H	19		23
NTSAMI0210HK	31	NTSDDO0602	60		63		21		25
NTSAMI0210K	31	NTSDDO0602K	25	NTSXBA0104H	62		23		29
NTSAMI0400	61	NTSDDO0802	60		63		25		31
NTSAMI0400K	31	NTSDDO0802K	25	NTSXBA0200H	60	NTSXTB12211H	19		36
NTSAMI0420	61	NTSDDO0802X	60		61		21		39
NTSAMI0420K	31	NTSDDO0802XK	25		62		23		41
NTSAMI0800	61	NTSDDO1602	60	NTSXBA0201H	62		25		43
NTSAMI0800K	31	NTSDDO1602K	25		63		49		47
NTSAMI0800K	61	NTSDDO1602X	60	NTSXBA0301H	62	NTSXTB18000H	19	NTSXTB18201XH	19
NTSAMI0800K	31	NTSDDO1602XA	60		63		21		21
NTSAMI0800K	36	NTSDDO1602XAH	60	NTSXEM0000H	58		23		23
NTSAMI080210	61	NTSDDO1602XAHK	25	NTSXEM0000XH	58		25		25
NTSAMI080210H	61	NTSDDO1602XAK	25	NTSXMP0000H	59		29		29
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NTSART0214K	31	NTSDRA0615K	25	NTSXTB12000H	23		29		
NTSART0404	61	NTSDRC0215	60		25		31		
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NTSART0404XH	61	NTSDRC0415	60		31		21		
NTSART0404XHK	31	NTSDRC0415H	60		33		23		
NTSART0603	61	NTSDRC0415HK	25		35		25		
NTSART0603K	31	NTSDRC0415K	25		39		29		
NTSDAI0215H	60	NTSEHC0100	61		41		31		
NTSDAI0215HK	21		62	NTSXTB12001H	45		36		
NTSDAI0403H	60	NTSEHC0100K	39		58		39		
NTSDAI0403HK	21		41		23		41		
NTSDAI0404H	60	NTSEHC0120H	61		25		43		
NTSDAI0404HK	21		62		29		45		
NTSDAI0804	60	NTSEHC0120HK	39		31	NTSXTB18001XH	19		
NTSDAI0804K	21		41		33		21		
NTSDAO0205	60	NTSEHC0220	61		35		23		
NTSDAO0205K	25		62	NTSXTB12010H	41		25		
NTSDAO0415	60	NTSEHC0220K	39		43		29		
NTSDAO0415H	60	NTSFIO0400	62		45	NTSXTB18200H	19		
NTSDAO0415HK	25	NTSFIO0400K	45		58		21		
NTSDAO0415K	25	NTSFMB0120	62	NTSXTB12011H	19		23		
NTSDDI0402	60	NTSFMB0120H	62		21		25		
NTSDDI0402H	60	NTSFMB0120HK	45		23		29		
NTSDDI0602	60	NTSFMB0120K	45		25		31		
NTSDDI0802X	60	NTSNEC1200	62	NTSXTB12200H	58		36		
NTSDDI0802XK	21	NTSNEC1200H	62		23		39		
NTSDDI1602	60	NTSNEC1200HK	57		25		41		
NTSDDI1602K	21	NTSNEC1200K	57		29		43		
NTSDDI1602XH	60	NTSPCM0016H	62		31		45		
NTSDDI1602XHK	21	NTSPCM0016HK	49		33		47		
NTSDDI1602X	60	NTSPCM0080H	62		35		49		
NTSDDI1602XH	60	NTSPCM0808HK	49		39		58		
NTSDDI1602XHK	21	NTSPCM1600H	62		41				

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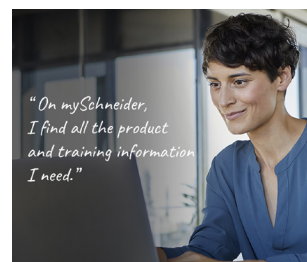
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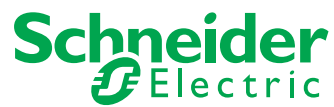
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Schneider Electric Industries SAS

Head Office
35, rue Joseph Monier - CS 30323
F-92500 Rueil-Malmaison Cedex
France

DIA3ED2240601EN
December 2024 - V1.0