

Description

Figure 1: EasyIO Neo Series Communication and Signal Module



The EasyIO Neo Series Communication and Signal Module provides an IO solution that adopts a modular architecture. The communication module centrally powers and manages signal module connectivity and supports up to 10 signal modules, or 80 I/O points. Use the vertical plug-and-play interfaces for rapid maintenance and replacement, each module integrates LED indicators for real-time visibility of power, signal, and operational status. BACnet MS/TP and Modbus/RTU open protocols ensure seamless integration with third-party systems, and all communication parameters and IO configurations (DI/DO/AI/AO) are centrally managed through IO Manager.

Features

- **Modular Design**
 - Flexible configuration: The modular architecture matches I/O types precisely to application requirements, avoiding unnecessary overspend on unused channels.
 - Scalable architecture: Supports incremental expansion with up to 10 signal modules (80 I/O points) for future-proof system growth.
- **Maintenance and operational excellence**
 - Module replacement: Vertical insertion modules provide faster access than side-mounted designs and improve maintenance efficiency.
 - Real-time diagnostics: LED status indicators provide instant fault identification for rapid maintenance response.
- **Seamless integration**
 - Open protocol compliance: Standardized interfaces (BACnet MS/TP, Modbus/RTU) ensure interoperability with third-party BMS or automation system.
 - Centralized configuration: IO Manager software sets parameters quickly and reduces commissioning time and labor costs.
- **Installation and performance**
 - Push-in terminals: Tool-free connections reduce wiring time compared to screw terminals.
 - Universal signal compatibility: Supports the majority of building automation signal standards for seamless integration with HVAC and lighting.
- **Measurement excellence**
 - Industry-leading accuracy: Maximum precision of 0.2% ensures reliable data for mission-critical building automation.
 - High resolution: 16-bit analog-to-digital conversion captures subtle signal variations and ensures precise HVAC performance.

- **Space-optimized design**
 - Compact footprint: The slim module design maximizes control panel space for high-density installations.

Ordering information

Table 1: Neo Series Communication and Signal Module ordering information

Product code	Description
CM-485	Communication Module with an isolated RS-485 interface
SM-16UI	16-channel universal input Signal Module
SM-16DI	16-channel digital input Signal Module
SM-8AO	8-channel analog output Signal Module
SM-8DO	8-channel digital output Signal Module

Technical specifications

Table 2: CM-485 Communication Module UL certified ratings

Description	Specification
Power supply	24V AC, plus 20% or minus 15%, 50 / 60 Hz
	24V DC, plus 20% or minus 15%
Power consumption	< 2VA
Current rating	< 200 mA (for Communication Module)
	< 5A (Max power for IO Modules assembly)
RS-485 ports	1 x RS485 Isolated

Table 3: CM-485 Communication Module technical specifications

Description	Specification	
Controller processor and memory specifications		
Main processor	250 Mhz ARM Cortex-M33	
Flash memory	512 KB	
RAM	272 KB	
Real-time clock	Yes	
Product temperature and humidity specifications		
Operating temperature	0°C to 50°C (32°F to 122°F)	
Storage temperature	-40°C to 70°C (-40°F to 158°F)	
Operating humidity	10% to 90% relative humidity, non-condensing	
Storage humidity	5% to 95% relative humidity, non-condensing	
Physical specifications		
Dimensions	40.8 mm x 104 mm x 79 mm (1.6 in. x 4.09 in. x 3.11 in.)	
Material	UL certified	
Weight	Communication module, 138 g	
	Cover, 29 g	
MTBF	10 years	
CASE	Plastic shell, snap connection, color film, LED power / working state display	
IP Class	IP 20	
Communication protocols		
BACnet / MSTP	Baud rate	9600, 19200, 38400, 76800, 115200
Modbus / RTU		9600, 19200, 38400, 57600, 115200

Table 4: SM-16UI Signal Module technical specifications

Description	Specification
Controller processor and memory specifications	
Main processor	64 Mhz ARM Cortex-M0+
Flash memory	512 KB
RAM	144 KB
Power consumption	<1VA
Universal input (16 x UI)	

Table 4: SM-16UI Signal Module technical specifications

Description	Specification		
Voltage	0 V to 10 V, 2 V to 10 V	0.5% accuracy	
Current	0 mA to 20 mA, 4 mA to 20 mA		
Resistance	300 Ω to 600,000 Ω	0.2% accuracy	
Digital	Voltage free signal	NO / NC	
Pulse count	Max 25 pulse each second	25 Hz, 50% duty	
Product temperature and humidity specifications			
Operating temperature	0°C to 50°C (32°F to 122°F)		
Storage temperature	-40°C to 70°C (-40°F to 158°F)		
Operating humidity	10% to 90% relative humidity, non-condensing		
Storage humidity	5% to 95% relative humidity, non-condensing		
Physical specifications			
Dimensions	23.8 mm x 104 mm x 79 mm (0.94 in. x 4.09 in. x 3.11 in.)		
Material	UL certified		
Weight	110 g		
MTBF	10 years		
CASE	Plastic shell, snap connection, color film, LED power / working state display		
IP Class	IP 20		

Table 5: SM-16DI Signal Module technical specifications

Description		Specification	
Controller processor and memory specifications			
Main processor	64 Mhz ARM Cortex-M0+		
Flash memory	512 KB		
RAM	144 KB		
Power consumption	<2VA		
Digital input (16 x DI)			
Digital	Voltage free signal	NO / NC	
Pulse count	Max 25 pulse each second	25 Hz, 50% duty	
Product temperature and humidity specifications			

Table 5: SM-16DI Signal Module technical specifications

Description	Specification
Operating temperature	0°C to 50°C (32°F to 122°F)
Storage temperature	-40°C to 70°C (-40°F to 158°F)
Operating humidity	10% to 90% relative humidity, non-condensing
Storage humidity	5% to 95% relative humidity, non-condensing
Physical specifications	
Dimensions	23.8 mm x 104 mm x 79 mm (0.94 in. x 4.09 in. x 3.11 in.)
Material	UL certified
Weight	108 g
MTBF	10 years
CASE	Plastic shell, snap connection, color film, LED power / working state display
IP Class	IP 20

Table 6: SM-8AO Signal Module technical specifications

Description	Specification		
Controller processor and memory specifications			
Main processor	64 Mhz ARM Cortex-M0+		
Flash memory	512 KB		
RAM	144 KB		
Power consumption	<10VA		
Analog output (8 x AO)			
Voltage	0 V to 10 V, 2 V to 10 V	1% accuracy	
Current	0 mA to 20 mA, 4 mA to 20 mA		
Product temperature and humidity specifications			
Operating temperature	0°C to 50°C (32°F to 122°F)		
Storage temperature	-40°C to 70°C (-40°F to 158°F)		
Operating humidity	10% to 90% relative humidity, non-condensing		
Storage humidity	5% to 95% relative humidity, non-condensing		
Physical specifications			
Dimensions	23.8 mm x 104 mm x 79 mm (0.94 in. x 4.09 in. x 3.11 in.)		
Material	UL certified		

Table 6: SM-8AO Signal Module technical specifications

Description	Specification
Weight	104 g
MTBF	10 years
CASE	Plastic shell, snap connection, color film, LED power / working state display
IP Class	IP 20

Table 7: SM-8DO Signal Module technical specifications

Description	Specification
Controller processor and memory specifications	
Main processor	64 Mhz ARM Cortex-M0+
Flash memory	512 KB
RAM	144 KB
Power consumption	<8VA
Digital output (8 x DO)	
Voltage	24V AC/DC, 1A
Product temperature and humidity specifications	
Operating temperature	0°C to 50°C (32°F to 122°F)
Storage temperature	-40°C to 70°C (-40°F to 158°F)
Operating humidity	10% to 90% relative humidity, non-condensing
Storage humidity	5% to 95% relative humidity, non-condensing
Physical specifications	
Dimensions	23.8 mm x 104 mm x 79 mm (0.94 in. x 4.09 in. x 3.11 in.)
Material	UL certified
Weight	110 g
MTBF	10 years
CASE	Plastic shell, snap connection, color film, LED power / working state display
IP Class	IP 20

Repair Information

If a module or any related product fails to operate within its specifications, replace the product. For replacement products, contact the nearest Johnson Controls® representative.

Product warranty

This product is covered by a limited warranty, details of which can be found at www.johnsoncontrols.com/buildingswarranty.

Software terms

Use of the software that is in (or constitutes) this product, or access to the cloud, or hosted services applicable to this product, if any, is subject to applicable end-user license, open-source software information, and other terms set forth at www.johnsoncontrols.com/techterms. Your use of this product constitutes an agreement to such terms.

Patents

Patents: <https://jciapat.com>

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