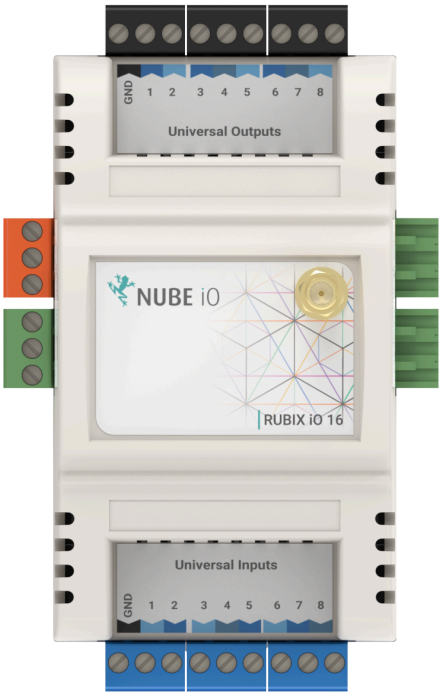
Rubix iO 16 Module

Introducing the Rubix iO 16 Module - Nube iO's highly adaptable, cost-effective physical Input/Output solution. These compact modules offer extensive modular monitoring and control capabilities for building management systems (BMS).

Easily integrated with the Rubix Compute through direct plug-in or RS485 wiring, the Rubix iO 16 Module serves as both building management systems (BMS) components and standalone HVAC application controllers. Utilising Modbus for configuration and monitoring, they enable affordable, distributed control and centralised supervision of various system types.

As a pure Modbus device, the Rubix iO 16 Module is compatible with a wide range of systems beyond the Nube iO platform. For enhanced flexibility, an optional LoRa® wireless version allows for long-range, object interference-resistant communication with the iO Modules.

When utilising LoRa® wireless technology, the RS485 port functions as a Modbus pass-through, enabling wireless communication with any wired (RS485) Modbus device. Experience seamless connectivity and versatile control with the Rubix iO Modules.



Technical Data

General	
Dimensions	112mm x 65mm x 56mm or 4.41in x 2.56in x 2.20in
Operating Temperature	0°C to 65°C
Enclosure	ABS Plastic, DIN Rail Mount, IP20 Rated
Model Numbers	IO-16-N1
Power	
Power Supply	24VDC ±10%
Consumption	**Base**: 1.2W (50mA at 24 VDC), **Max**: 36W (1500mA at 24 VDC)
Recommended Transformer Size	1A / 25VA (Transformer should be sized based on Base Current plus the power requirements of all connected output devices)
Physical Ports	

RS485	1x RS485 Modbus RTU ports. 3 Wire. **Speed:** 9.6K, 19.2k, 38.4K bit/s **Data Bits:** 8 bits **Parity:** None
Wireless Communications	
LoRa®	**Supported Frequencies:** AU915 **Spreading Factor:** 7 **Bandwidth:** 250 kHz

Low-Level iO	IO-16	Description
Universal Inputs (UI)	8	Configurable as Digital, 0-10VDC, or 10k Thermistor.
Digital Outputs (DO)	0	0V[OFF], 12VDC[ON] (200mA).
Universal Outputs (DO)	8	0-10VDC, or Digital - 0V[OFF] - 12VDC[ON] (200mA).

Configuration

DIP Switch Settings

Left Bank (SW2) - DIP 1-7

Modbus Address set as binary + 1.

Address	1	2	3	4	5	6	7	8
Switches 1,2,3,4, 5,6 & 7	0000 000	1000 000	0100 000	1100 000	0010 000	1010 000	0110 000	1110 000
	9	**10**	**11**	**12**	**13**	**14**	**15**	**16**
	0001 000	1001 000	0101 000	1101 000	0011 000	1011 000	0111 000	1111 000

Left Bank (SW2) - DIP 8

Must be set to 1 for normal operation. No other functionality.

Right Bank (SW1) - DIP 1-2 Operation Mode

Mode	RS485 (Wired)	LoRa® Wireless	RS485 to LoRa® Passthrough *	IO Reset **
Switch 1,2	00	10	01	11

* Use this setting when connecting to 3rd-party Modbus Devices.
** Set DIP switches, and power cycle, then set back to operation mode setting.

Right Bank (SW1) - DIP 3-5

Baud Rate	38400	9600	19200
Switch 3,4,5	000	100	010

Right Bank (SW1) - DIP 6-7	**Parity**	None	Even	Odd
	Switch 6,7	00	10	01
Right Bank (SW1) - DIP 8	Must be set to 1 for normal operation. No other functionality.			

About Nube iO

At Nube iO, we make buildings smarter. From enterprise and industrial portfolios to light commercial and smart homes, our scalable, data-driven technology bridges BMS and IoT to connect devices, systems, and spaces - giving users simpler control, clearer visibility, and more sustainable operations.

Built to scale from single sites to entire portfolios, our ecosystem — including traditional controls, wireless sensors, protocol-ready gateways and licence-free programming software — delivers seamless integration and real-time optimisation. Backed by global expertise and a focus on innovation, we make building automation smarter, simpler, and future-ready.

Smarter Buildings. Forward Thinking.

Unlock smarter, more sustainable building operations — book a demo at **nube-io.com**