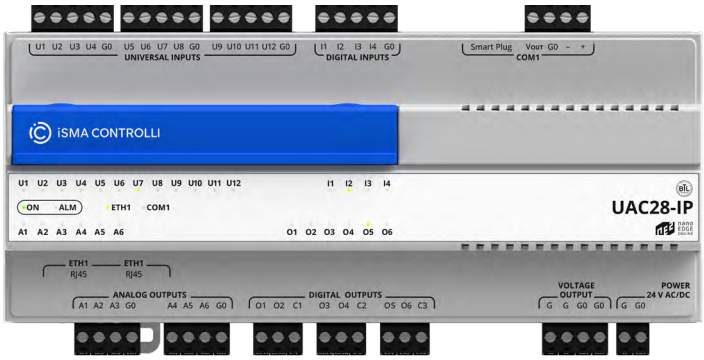
UAC28-IP

Unitary Application Controller

MODEL	DESCRIPTION
UAC28-IP	Universal Application Controller (UAC) - Niagara-enabled with nano EDGE ENGINE embedded. Native BACnet and Modbus protocols.



APPLICATION AND USE

UAC28-IP is an innovative nano EDGE ENGINE and Niagara-enabled Unitary Application Controller designed to control most types of unitary AHUs, heating and cooling substation, cooling towers, and various HVAC applications.
UAC28-IP supports real-time programming over IP and USB using iC Tool, free-of-charge, commissioning and programming tool or with a dedicated Niagara Framework extension.
The UAC28-IP controller is suitable for the infrastructure of new buildings with a native support for IP communication with BACnet, Modbus, and Haystack 4 protocols, with a built-in web server for easy visualization. The fail-safe Ethernet switch allows for daisy-chained connections, ensuring IP communication continuity even in the case of a power failure. The controller is equipped with 28 onboard inputs and outputs and can be easily extended with any of 22 types of Multiprotocol I/O modules from 4 to 38 I/Os, enhancing contoroller's capabilities during installation or in the future.

FEATURES

- 250 Data Points
- Seamless programming and integration in iC Tool or nE2 Link Niagara module
- 2 fail-safe Ethernet ports with a built-in switch
- 28 built-in inputs and outputs: 12 UI, 4 DI, 6 AO, 6 DO
- Web server with auto-generated, intuitive HTML5 visualizations based on Haystack 4 tagging

TECHNICAL CHARACTERISTICS

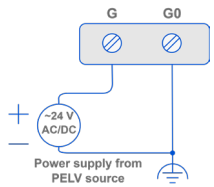
DESCRIPTION		UAC28-IP
Power supply	Voltage	DC: 24 V ± 20%, 12.3 W; AC: 24 V ± 20%, 30 VA
Vout (COM1)	Maximum load	Max. 5 W, max. 40 V DC - depends on the input supply voltage 23 V DC for 24 V DC input supply voltage 33 V DC for 24 V AC input supply voltage
Voltage output	Maximum load	Max. total load on Vout (COM1) and voltage output: 12 W
Universal inputs	Number of inputs	12
	Voltage input	Voltage measurement: 0-10 V DC Input impedance: 100 kΩ Measurement accuracy: ±0.1% Measurement resolution: 3 mV at 12-bit and 1 mV at 16-bit
	Current input	Current measurement: 0-20 mA Required external resistor: 200 Ω Measurement accuracy: ±1.1% Measurement resolution: 15 µA at 12-bit and 5 µA at 16-bit
	Digital input	Output current ~1 mA

The performances stated in this sheet can be modified without any prior notice.

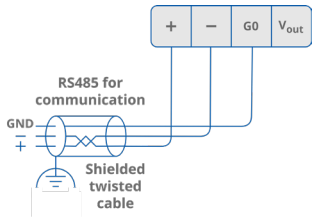
DESCRIPTION		UAC28-IP
Universal inputs	Resistance input	Measurement of resistance: 0-1000 kΩ Measurement resolution for 20 kΩ load: 20 Ω at 12-bit and 1 Ω at 16-bit Measurement resolution for PT1000 and NI1000: 0.1 Ω at 16-bit Resistance measurement method: voltage divider
	Temperature input	Measurement with RTDs (resistance temperature detectors) Accuracy: ±0.1℃ The PT1000 and NI1000 sensors use 16-bit resolution
	Measurement resolution	12-bit (default), 16-bit
	Processing time	10 ms/channel at 12-bit 140 ms/channel at 16-bit
Digital inputs	Number of inputs	4
	Type	Dry contact or fast pulse counter (saved on SD card)
	Maximum input frequency	100 Hz
Analog outputs	Number of outputs	6
	Voltage range	0-10 V DC
	Maximum load current	20 mA
	Resolution	12-bit
	Accuracy	±0.5%
Digital outputs	Number of outputs	6
	Resistive load (AC1)	3 A at 230 V AC or 3 A at 30 V DC
	Inductive load (AC3)	75 VA at 230 V AC or 30 W at 30 V DC
COM1	RS485 interface	Up to 128 devices
		Half- duplex
	Communication protocols	BACnet MS/TP, Modbus RTU
	Ports	RJ45 + screw connector
	Baud rate	2400-115200
ETH1	Ethernet interface	2 ports, fail-safe protected
	Communication protocols	BACnet IP, Modbus TCP/IP
	Baud rate	10/100 Mb/s
USB1	USB 2.0	USB type C
Ingress protection	IP rating	IP20 for indoor installation
Temperature	Storage	-40°C to +85°C (-40°F to 185°F)
	Operating	-0°C to +50°C (32°F to 122°F)
Humidity	Relative	5 to 95% RH (without condensation)
Screw connectors	Type	Removable screw terminals
	Maximum cable size	2.5 mm^2 (18…12 AWG)
Housing	Material	Plastic (self-extinguishing PC/ABS)
	Mounting	DIN rail mounting (DIN EN 50022 standard)
Dimensions	Width	215.50 mm/8.48 in
	Length	109.40 mm/4.31 in
	Height	61.70 mm/2.43 in

WIRING DIAGRAMS

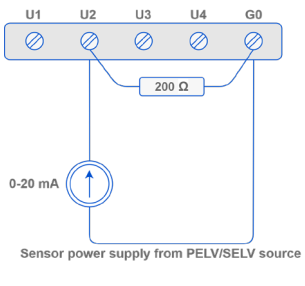
Power Supply

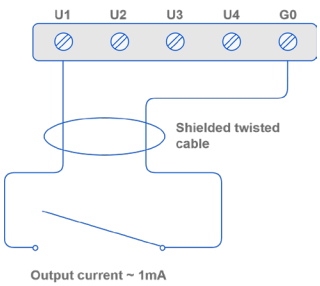


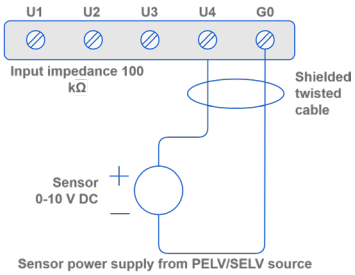
Communication

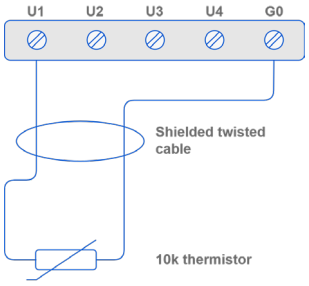


Universal Inputs

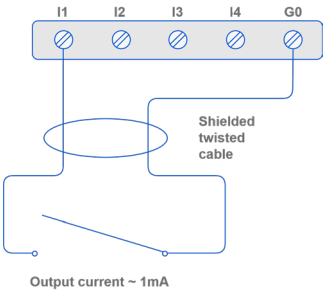




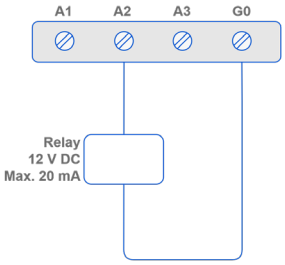


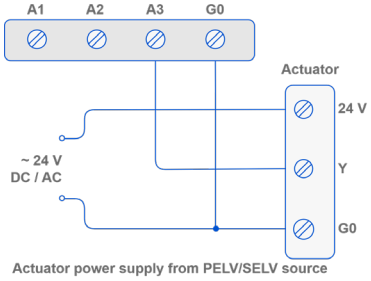


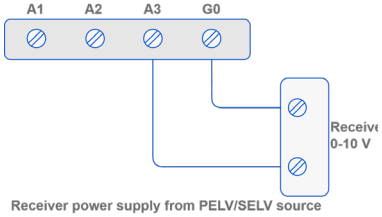
Digital Inputs



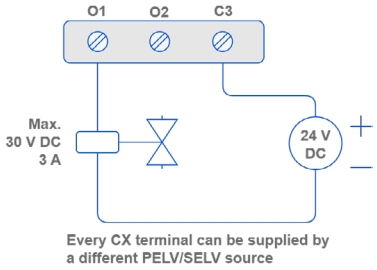
Analog Outputs

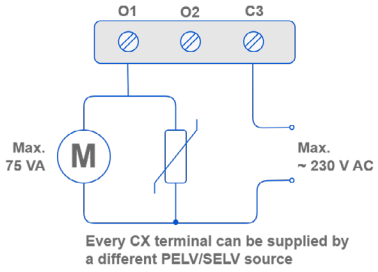


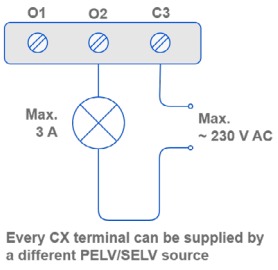




Digital Outputs







PROGRAMMING SOFTWARE

Real-time programming - program from scratch or customize the VAV14-IP controller application instantly, in real time, using block programming on a wire sheet.

iC Tool:

- free of charge
- easy deployment of large projects using IP manager and Multi Device Manager views

nE2 Link for Niagara 4:

- license-free
- Device extension for BACnet and Modbus protocols
- real-time block programming using wire sheet
- complete device management
- supported in Niagara 4.11 and up

DIMENSIONS [mm]