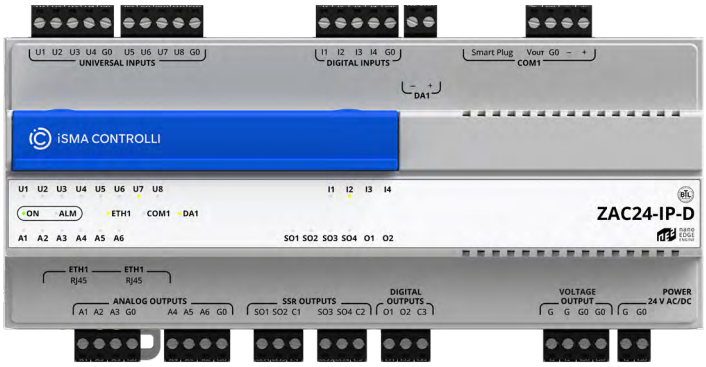
ZAC24-IP-D

Zone Application Controller

MODEL	DESCRIPTION
ZAC24-IP-D	Niagara-enabled Zone Application Controller (ZAC) for integrated HVAC, DALI-2 lighting, and blinds control



APPLICATION AND USE

ZAC24-IP-D is a Niagara-enabled Zone Application Controller for integrated HVAC, lighting, and blinds control. Paired with Touch Point wall panels, ZAC24-IP-D offers a unique solution for HVAC applications and light and blinds control to enhance comfort, improve energy efficiency, and customize illumination according to individual needs in one or two zones in the building.
ZAC24-IP-D supports real-time programming over IP and USB using iC Tool, free-of-charge, commissioning and programming tool or with a dedicated Niagara Framework nE2 Link extension. The controller is programmable from scratch or its application can be customized in real time with a graphical interface that allows block programming on a wire sheet.
The ZAC24-IP-D controller supports the DALI-2 protocol with commissioning views, which simplify the process of integrating and configuring DALI-2 devices, allowing users to easily manage lighting control systems. With its user-friendly interface, it streamlines the device setup and ensures an optimal performance in smart lighting applications.
The ZAC24-IP-D 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.

FEATURES

- 24 I/Os: 8 UI, 4 DI, 6 AO, 2 DO, 4 SSR for direct control
- 2 fail-safe Ethernet ports with a built-in switch
- Auto-generated HTML5 web server
- 250 Data Points
- Plug-and-play connection with Touch Point wall panels
- One controller—unified HVAC, blinds, and lighting control
- Direct DALI-2 lighting control and commissioning without any additional gateways
- Real-time programming and integration in the iC Tool or nE2 Link Niagara module via USB or IP connection

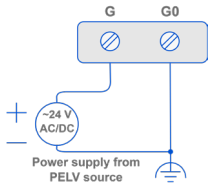
TECHNICAL CHARACTERISTICS

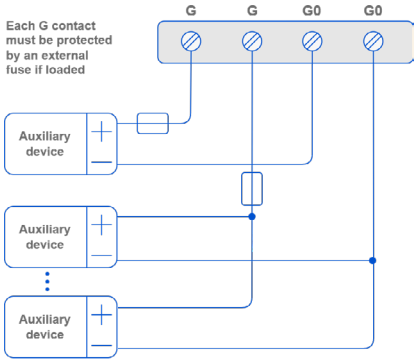
DESCRIPTION		ZAC24-IP-D
Power supply	Voltage	DC: 24 V ± 20%, 15.2 W; AC: 24 V ± 20%, 36 VA
Vout (COM1)	Maximum load	Max. 5 W, max. 40 V DC - depends on the input supply voltage 23 V DC for 24 V DC input supply voltage 33 V DC for 24 V AC input supply voltage
Voltage output	Maximum load	Max. total load on Vout (COM1) and voltage output: 12 W
Universal inputs	Number of inputs	8
	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

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

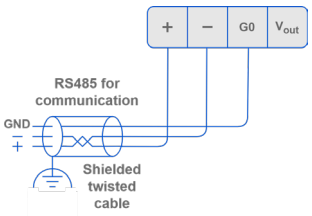
DESCRIPTION		ZAC24-IP-D
Universal inputs	Digital input	Output current ~1 mA
	Resistance input	Measurement of resistance: 0-1000 kΩ Measurement resolution for 20 kΩ load: 20 Ω at 12-bit and 1 Ω at 16-bit Measurement resolution for PT1000 and NI1000: 0.1 Ω at 16-bit Resistance measurement method: voltage 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	2
	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
SSR outputs	Number of outputs	4
	Maximum load current	750 mA at 24 V AC/DC per output
	Operating modes	Digital/PWM (recommended min. load of 1 mA for a proper PWM mode operation)
	PWM	0.01 Hz, 0.1 Hz, 1 Hz, 10 Hz
DA1	DALI interface	Up to 64 control gear devices, up to 64 input devices
	Communication protocol	DALI-2
	Port	Screw connector
	Power output	12 V at up to 125 mA current (170 mA max. current)
	Maximum current on a bus (with external power supply)	250 mA
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

Power Supply

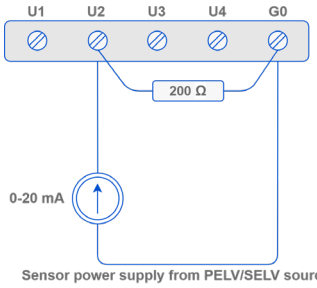


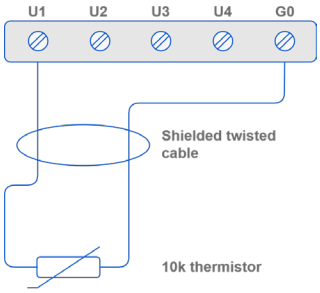


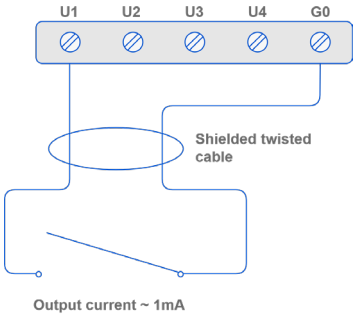
Communication

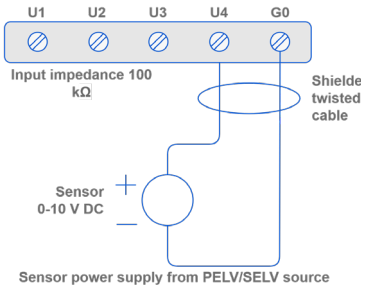


Universal Inputs

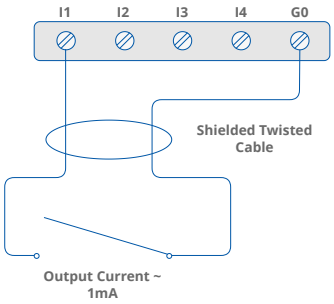




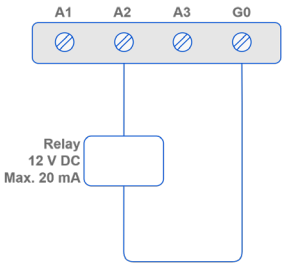


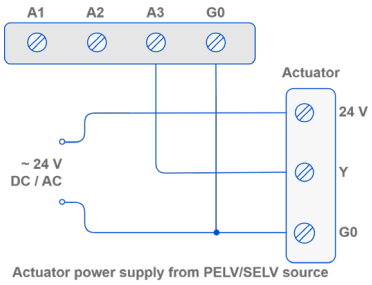


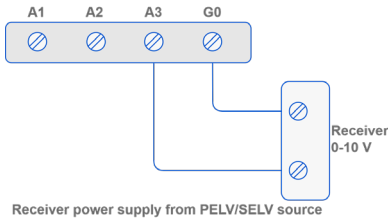
Digital Inputs



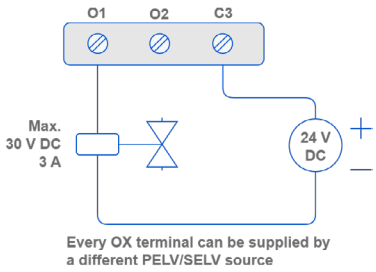
Analog Outputs

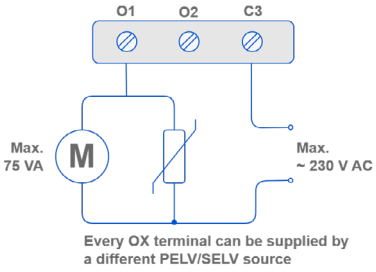


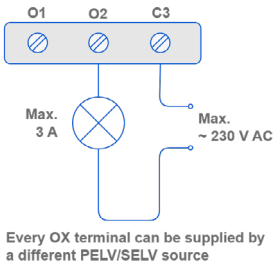




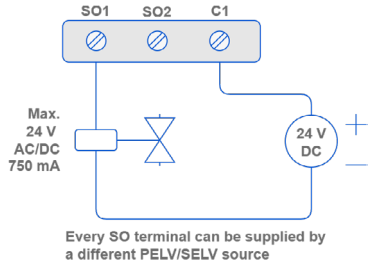
Digital Outputs

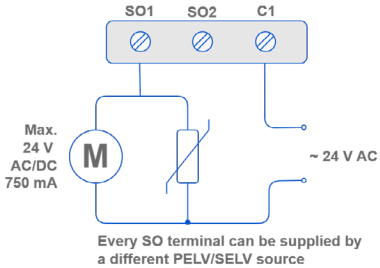


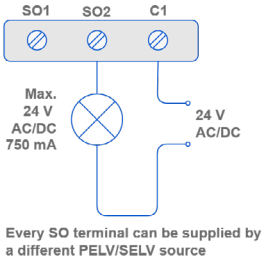




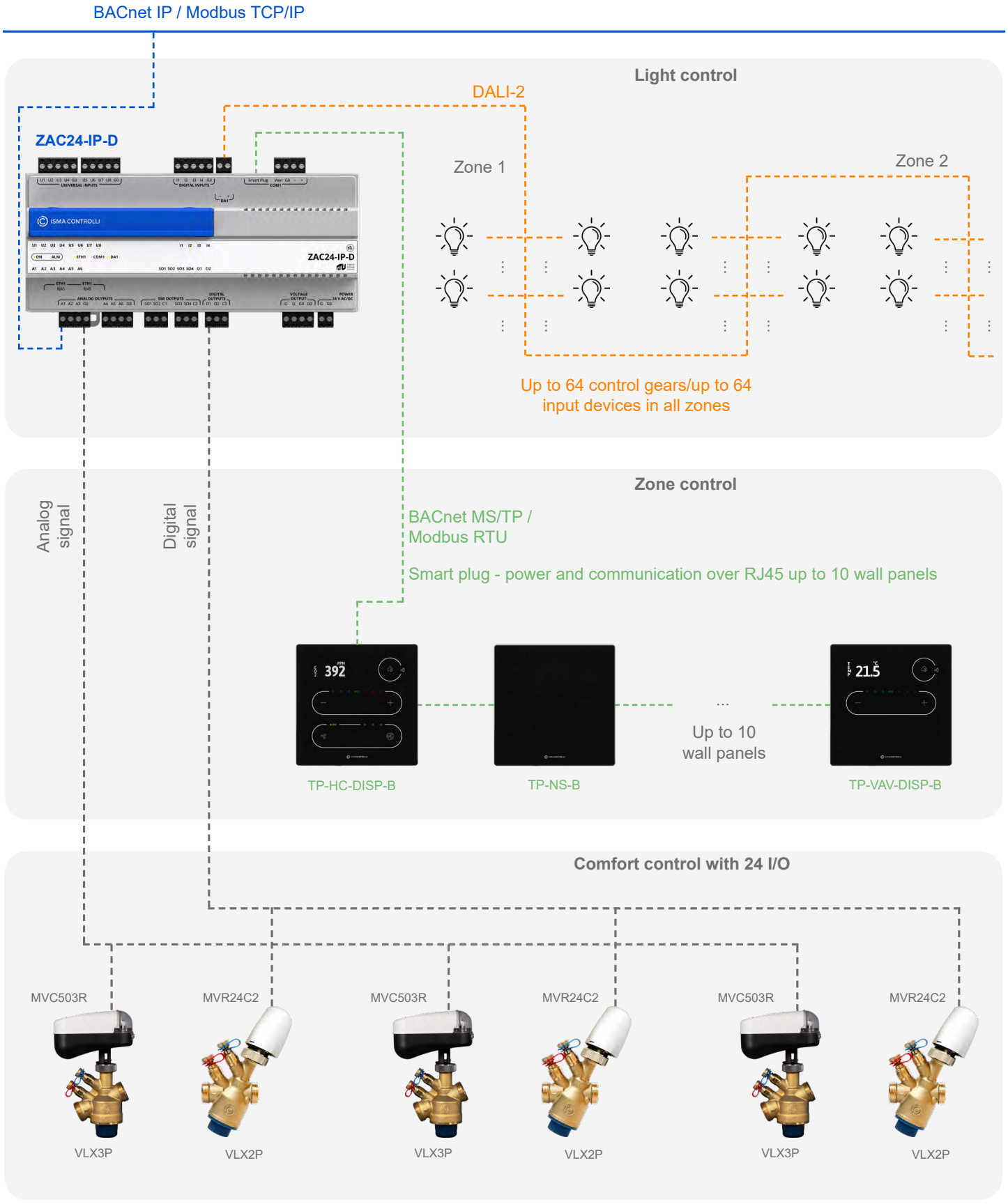
Solid-state Relay Outputs







APPLICATION EXAMPLE



PROGRAMMING SOFTWARE

Real-time programming - program from scratch or customize the ZAC24-IP-D 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]