CAN2GO 2.0
> More power
> More range
> More applications
! NEW PINOUT

ZENO CONTROLS

# UN2 - Universal controller

## Building automation's missing link


UN2 - Universal controller

### Overview

Networking

> Ethernet connector for BACnet Ethernet/IP connectivity
> 802.15.4 wireless mesh
> Wired serial bus for chain links

Third party interoperability

> BACnet
> EnOcean (wireless)
> Zigbee (wireless)
> Modbus
> CANbus

Inputs/Outputs

> Inputs: 6 universal
> Outputs: 2 relay, 4 analog
> Wireless I/O: unlimted

Other

> Real-time clock
> 400MHz processor
> 64MB of RAM
> 2GB of Flash

### Introduction

A flexible line of controllers that allows facility managers, contractors and OEM manufacturers to deploy integrated solutions for HVAC, lighting, and more, quickly and efficiently linking multiple devices based on many standard protocols. They are all interoperable with any BACnet compliant building management system.

### Control features

> Control of wired end-devices (6 inputs and 6 outputs).
> Wireless control of EnOcean end-devices (128/128 I/O per UN2).
> Wireless control of ZigBee end-devices (128/128 I/O per UN2).
> Modbus (optional).
> Programmable via the CAN2GO Web BEMS or a BACnet IP system.
> Real-time response to scripting/graphical programming.

### Applications

Supports any HVAC & lighting application including:

> HVAC and lighting room and zone control.
> Unitary equipment such as rooftop HVAC units, air handling units, heat pumps and dehumidification units.
> Mechanical rooms and equipment closets.
> Metering.

### Networking between units

> Wireless - ZigBee wireless mesh network (self-forming/healing).
> Wired - Daisy chain.
> IP/Ethernet - Ethernet port.

### Embedded gateway

>EnOcean (wireless) to BACnet IP.
>ZigBee (wireless) to BACnet IP.
>Modbus to BACnet IP.

### CAN2GO Web Building Energy Management System

The UN2 has an embedded web server hosting the CAN2GO Web BEMS. The BEMS offers management and monitoring of building systmes (HVAC, Lighting, Metering, etc.) through dashboards, maps, graphical programming and scripting. Visit our website for more information.

http://www.can2go.com/en/products/webbms.htm




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# Specifications
## UN2 - Universal controller

| POWER | |
|---|---|
| Voltage | - 24VAC; ± 15%; 50/60HZ; Class 2.<br>- 24VDC ± 10% |
| Typical Consumption | - 3 VA + Output (VAC)<br>- 1.2W + Output (VDC) |

| GENERAL | |
|---|---|
| Processor | ARM9 32-bit, 400MHz |
| Memory | 64MB RAM |
| Storage | 2GB Flash |
| Real-time clock | Battery backed (10,000 hours) |
| Communication | - Zigbee Pro, EnOcean, BACnet<br>- CANbus (125-500 Kbps)<br>- Ethernet (10/100 Mbps) |

| ENCLOSURE | |
|---|---|
| Material | Rigid ABS |
| Dimensions | 132mm (5.20 in) X 126mm (4.96 in) |
| Rating | UL940-5VA |
| Mounting | Din-rail, wall or ceiling mount |

| ENVIRONMENTAL | |
|---|---|
| Operating Temperature | 0°C (32°F) to 60°C (140°F) |
| Storage Temperature | -20°C (-4°F) to 60°C (140°F) |
| Relative Humidity | 0 to 90% non-condensing |

| AGENCY APPROVALS |
|---|
| Energy Management Equipment, UL 916, Fourth Edition, December 23, 1998, rev. December 17, 2007 |
| CSA Standard for Signal Equipment C22.2 No. 205-M1983 (R2004) |
| CFR47 FCC Part15, Subpart B:2009 |
| ICES-003: Issue 4 (2004) |
| CE |

4001432

| INPUTS | |
|---|---|
| Quantity | 6 |
| Voltage | 0-10 volt |
| Current | 4-20mA with 249 Ω external resistor |
| Resistance | 1 kΩ to 100 kΩ |
| Resolution | 14-bit |

| OUTPUTS | |
|---|---|
| Analog (x4) | 0-12V, nominal 50 mA max each,<br>12-bit resolution |
| Relay (x2) | 24V, 1.1 Amp per relay |

| SOFTWARE | |
|---|---|
| Type | Embedded web interface |
| Local installation | None necessary |
| PDA/Smartphone compatible | Yes |
| Browser compatibility | Firefox 3.6 and 4.0 |

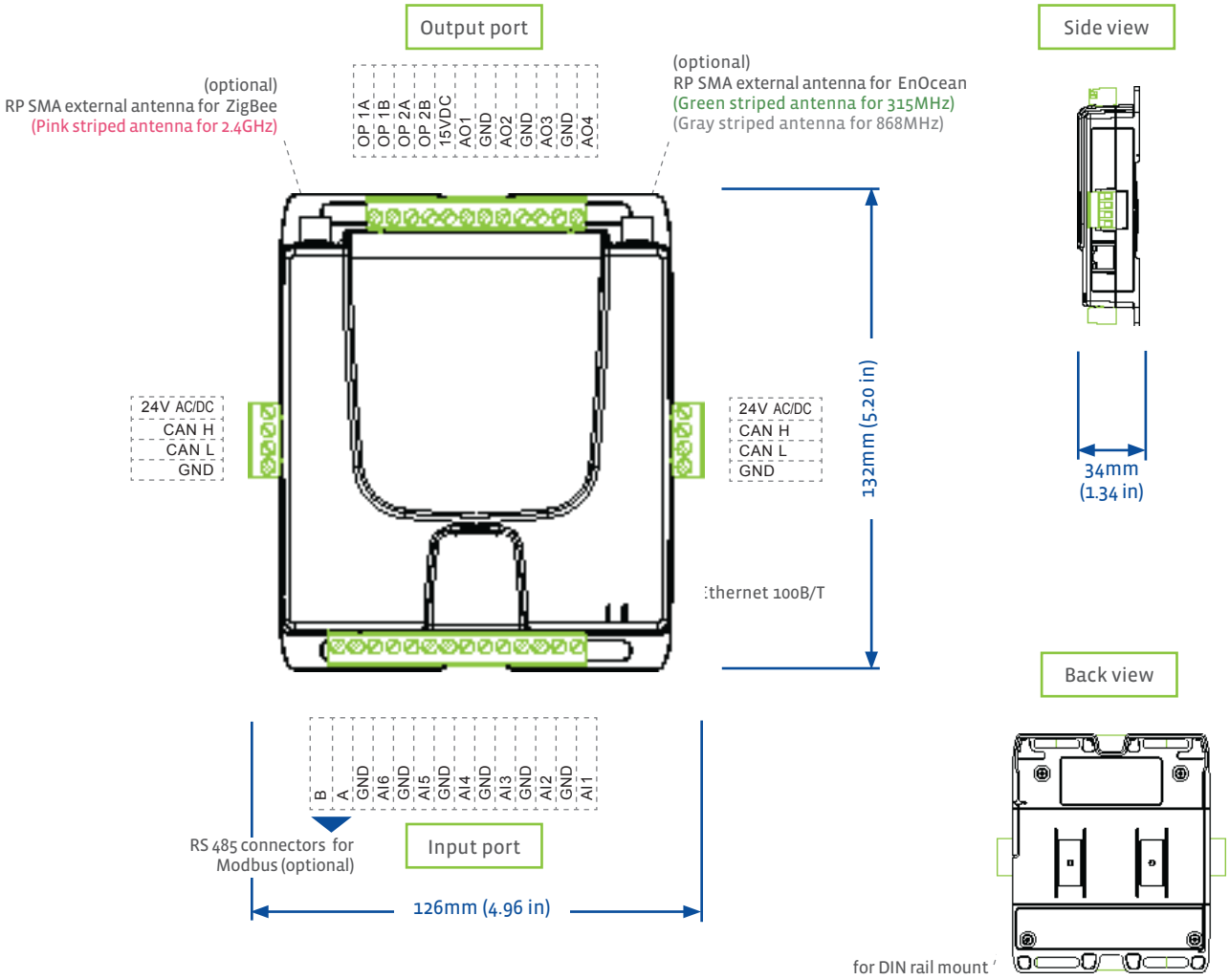
| RS 485 (OPTIONAL) | |
|---|---|
| Supported protocols | Modbus |

| ENOCEAN TRANSCEIVER (OPTIONAL) | |
|---|---|
| Frequency | 315.0 MHz or 868.3 MHz |
| Receiver Sensitivity | –95dBm |
| Conducted Output Power | 5dBm |
| Range | Up to 100m/300ft. open air /<br>Up to 30m/100ft. in building |
| Antenna | - 15 cm wire<br>- (Optional) External whip, RP SMA 0dBi |

| ZIGBEE TRANSCEIVER (OPTIONAL) | |
|---|---|
| Frequency | 2400 – 2483.5 MHz, 16 RF channels |
| Data rate / Mod. type | 250 Kbps |
| Receiver Sensitivity | -101dBm / -105dBm (amplified) |
| Nominal Output Power | 8dBm / 18dBm (amplified) |
| Range | Up to 1000m/3000ft. open air /<br>Up to 300m/1000ft. in building |
| Antenna | - Internal<br>- (Optional) External whip, RP SMA 2.5dbi |

## Dimensions & Wiring
### UN2 - Universal controller

**! IMPORTANT !**
***NEW PINOUT***



## Ordering information

### Model: UN2 - Universal controller

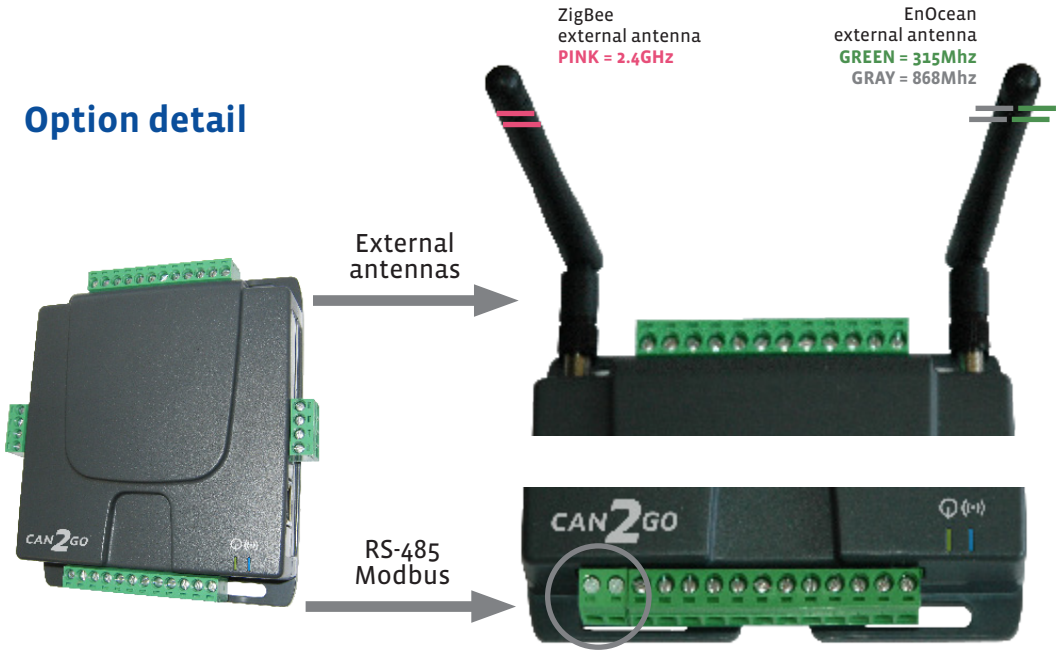
Code all blocks in table.

| U N 2 — | | | | — | | |
|---|---|---|---|---|---|---|
| **Model** | **EnOcean radio** | **ZigBee radio** | **Communication** | | **Pressure sensor** | **Actuator** |
| UN2 | A = 315MHz wire antenna<br>B = 868MHz wire antenna<br>C = 315MHz external whip antenna<br>D = 868MHz external whip antenna<br>0 = No radio | N = Nominal (8dBm)<br>M = Nominal + external antenna<br>I = High + external antenna<br>0 = No radio | 4 = RS-485 (Modbus)<br>0 = None | | S = Equipped<br>0 = Not equipped | 0 = Not equipped |

Available:

UN2 - AN0 - 00
UN2 - CI0 - 00
UN2 - CI4 - 00
UN2 - DM4 - 00
UN2 - AN4 - 00
UN2 - C00 - 00
UN2 - 0M0 - 00
UN2 - 000 - 00
UN2 - AN4 - S0
UN2 - BN0 - 00
UN2 - D00 - 00

## Option detail




to order, contact Zeno Controls

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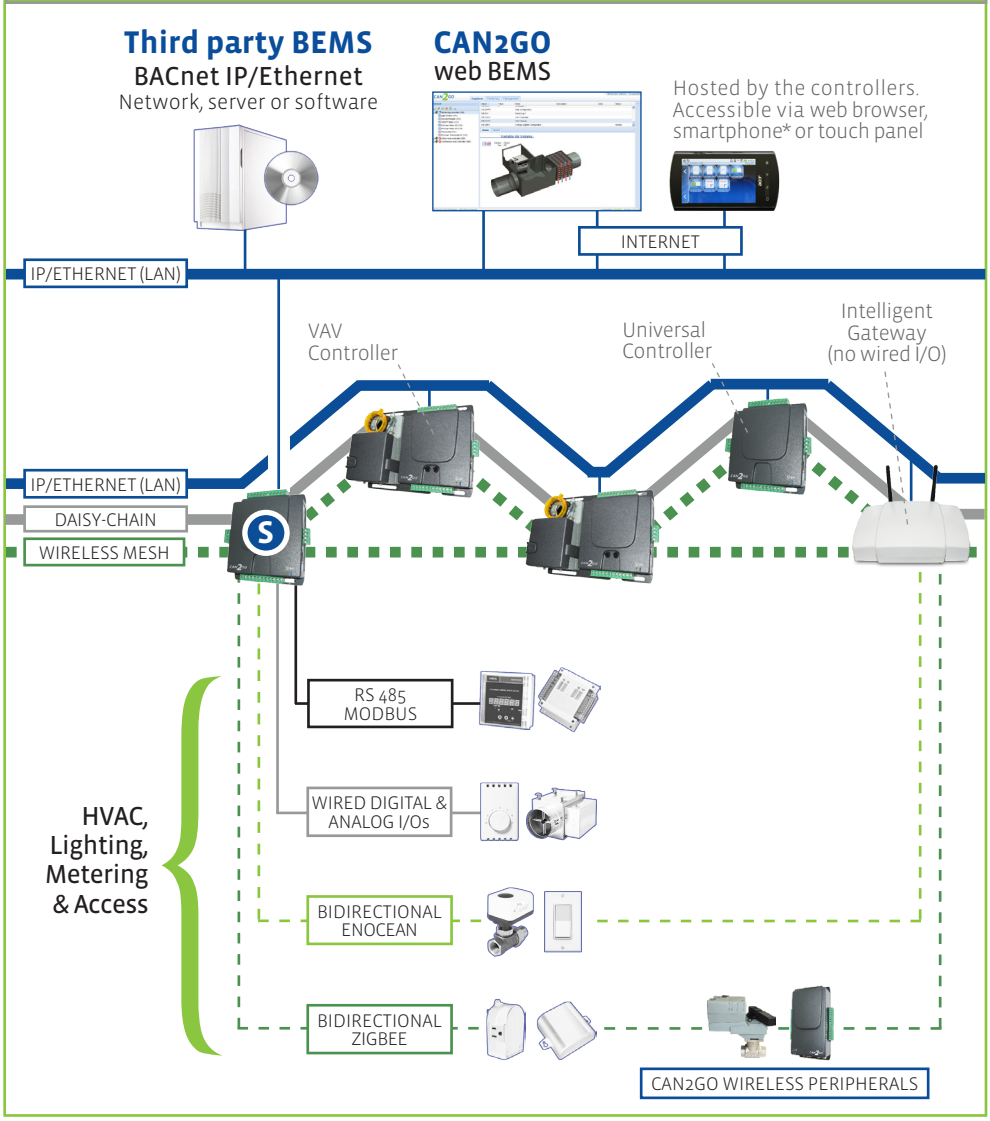
# CAN2GO System architecture

CAN2GO can be used as stand-alone solution, complete with programmable controllers and an embedded web building energy management system. It can also be integrated with third party BACnet IP/Ethernet building automation systems.

## SYSTEM ARCHITECTURE




## BEMS

### CAN2GO web BEMS

Using a web browser, smartphone* or touch panel interface, the BEMS is accessible via the local area network (LAN) or online through a secure virtual private network (VPN).

It offers centralized control, monitoring and local programming of each controller.

## CONTROLLERS

### Server

The controller is the server. Connect one CAN2GO unit to the LAN to access the web interface and manage your entire network.

### Gateway

The controller is the gateway. Conversion of end-devices into BACnet objects is performed by the controllers. They are equipped with embedded BACnet gateways.

### Models & Applications

CAN2GO offers a variety of controller models including the Universal, VAV and Gateway controllers. They are fully programmable with local storage and can manage all types of HVAC, lighting and metering applications.

### End-devices

CAN2GO controllers can manage EnOcean, ZigBee, Modbus and wired end-devices, for multiple applications, all at the same time.