



**PIGEON**  
P L E X

DATASHEET

# I/O MODULES

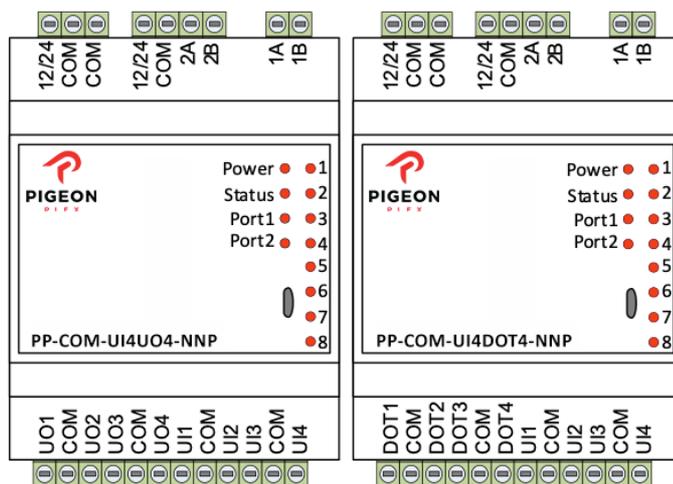
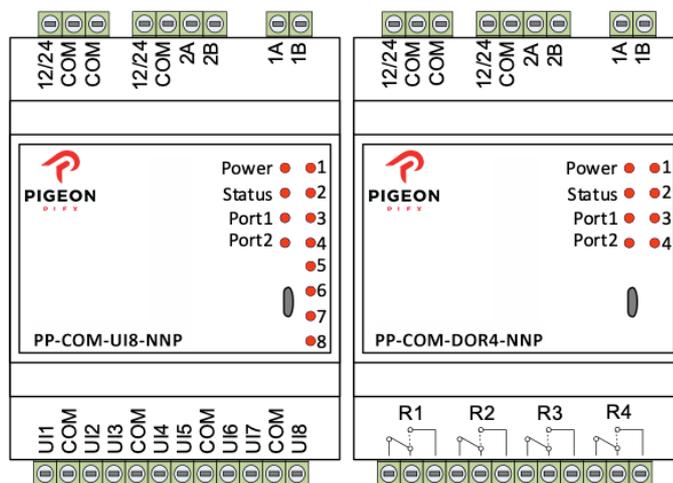
Edge Input and Output controller for data gathering and control.

## Applications

- IO extension.
- Edge IO transducing.
- Communicating to Modbus sensors using Modbus Client port.
- Variable Air Volume diffusers.
- Fan Coil Units and Fan Air Terminals.

## Features and Benefits

- User configurable Inputs and Outputs.
- User configurable Modbus Client and Modbus Server.
- User configurable BACnet MSTP.
- FLASH for configuration.
- EERAM for runtime or pulse count.
- Firmware IO configuration (No jumpers).
- Temperature °C/°F selectable.
- Digital Input invert selectable.
- Add on licensing for Configurable Control blocks, Modbus Client (Master) or BACnet MSTP.
- edgeUP-App for configuration and testing.



## Register Table

A comprehensive Register table allows full user configuration and control of register types and IO behavior. The table has volatile, EERAM and FLASH sections.

## Communications

Up to 2 Communications ports are available to support multiple signal types and protocols. Both the hardware and protocols are modular and expandable allowing for additional variants as the product matures. Both Modbus Client (P2 Master) and Server (PISlave) are supported on separate ports (Px). BACnet is available for Port 1.

Client baud rate and data format are configurable allowing communication to different devices at different baud rates with different data types. Ports and features are model dependent. Communication protocols require optional license except for Modbus Server on Port which is standard.

## Operation

Supplied with a factory default setting as described in the user manual. Use edgeUP-App to write register values for IO configuration. This includes selecting the IO type.

## Termination and Wiring

The power supply is 3 wire - the 24V AC N (in AC applications) is connected to the COM. For detailed wiring refer to user manual.

## Models

Multiple models are available with more variants to be released - this includes FCU and FAT variants.

A complete list of available models is available from [info@digitaltwin.digital](mailto:info@digitaltwin.digital). The part number scheme and models available on the PP-COM-IO Roadmap document.

## Specifications

<b>Power AC (Excludes P2 power)</b>	24V AC 50/60Hz + 10% - 15% 110mA
<b>Power DC (Excludes P2 power)</b>	12V DC + 10% - 15% 110mA. Except DOT
<b>P2 P Type Devices</b> <b>P2 D Type Devices</b> <b>UI (Universal Input)</b>	Same as power in max 20mA fused 600mA 12V DC max 200mA fused 600mA Thermistor (10K3A1) °C/°F Analog 0-10V Analog resistance Analog percent Digital Volt Free - max 10Hz pulse
<b>SI (Sensor Input)</b>	Thermistor (10K3A1) °C/°F Analog resistance Digital Volt Free - max 10Hz pulse
<b>DI (Digital Input)</b>	Digital Volt Free - max 10Hz pulse

## Specifications

<b>UO (Universal Output)</b>	0-10V DC @ 20mA 0-12V DC @20mA
<b>DOT</b>	Digital output Triac 24V Ac 1A
<b>DOR</b>	R1/R2 230VAC 2A. R3/R4 5A. Resistive loads
<b>Terminals</b>	Power: <ul style="list-style-type: none"> <li>• 3 way terminal. 5mm plug in</li> </ul> Modbus Server: <ul style="list-style-type: none"> <li>• 2 way terminal. 5mm plug in</li> </ul> Modbus Client: <ul style="list-style-type: none"> <li>• 4 way terminal. 5mm plug in. With Power</li> </ul> IO1-8: <ul style="list-style-type: none"> <li>• 3 way terminal. 5mm plug in</li> </ul>
<b>Power Connectivity</b>	3 Wire. Note the COM terminal is common for both AC and DC power supplies. Rules of 3 Wire application apply to devices powered by AC with full wave rectifiers.
<b>Port1</b>	RS485 Modbus RTU. Selectable baud rate 9600 to 57600 8/N/1. No EOL. Max 32 devices
<b>Port2</b>	RS485 Modbus RTU. Selectable baud rate 9600 to 57600 8/N/1. No EOL. Max 32 devices
<b>Enclosure</b>	DIN mount Dimensions: <ul style="list-style-type: none"> <li>• 90H x 70W x 60D mm</li> </ul> Weight: <ul style="list-style-type: none"> <li>• 150g unpackaged</li> <li>• Weight 200g packaged</li> </ul> Material: <ul style="list-style-type: none"> <li>• ABS</li> </ul> Colour: <ul style="list-style-type: none"> <li>• White</li> </ul> IP20
<b>Country of Origin</b>	South Africa Manufactured by Digital Twin (Pty) Ltd

## Resources

The following resources are available:

1. [PP-COM-IO-Roadmap.pdf](#)
2. [PP-COM-IO-SelectionTool.xlsx](#)
3. [PP-COM-IO-Datasheet.pdf](#)
4. [PP-COM-IO-UserManual.pdf](#)
5. [PP-COM-IO-UserManual-ControlBlocks.pdf](#)
6. [edgeUP-App](#)

## Control Blocks

A very powerful set of user configurable control blocks to implement math, control, logic plus additional functions. This allows processing at the edge.

## BACnet Capabilities

Refer to the IO Module User Manual which is available on request.