



Features and Benefits

- Cost efficient expansion of physical IOs on a BMS controller
- BACnet MS/TP or Modbus RTU selectable
- 4 Inputs – 4 Outputs
- Automatic baud rate detection and device instance configuration (BACnet)
- Copy and broadcast configuration to other SC-IO modules (BACnet)
- The on-board override switches for the outputs are supervised, that means the output status is visible on the network
- LED indication of each input and output
- DIN-rail mountable

Product Codes

SC-IO-102 Smart communication IO module

Specification

Supply voltage	24Vac/dc $\pm 10\%$
Supply current	3VA (175mA @ 24Vac)
Inputs	4 x <i>Universal (12-bit resolution)</i>
	0-10Vdc
	Thermistor
	On/off (VFC)
	4-20mA
Outputs	2 x <i>Universal (12-bit resolution)</i>
	0-10Vdc
	Pulsed signal (20mA drive)
	On/off
	2 x <i>Binary</i>
	NO/C Independent common per relay 5A resistive
BACnet	BACnet MS/TP (BAS-C): 9k6, 19k2, 38k4 or 76k8 bps
Modbus	Modbus RTU Slave @ 9k6, 19k2, 38k4 or 57k6
	Selectable parity and stop bit conf
	No parity, 2 stop bit
	Even parity, 1 stop bit
	Odd parity, 1 stop bit
Connections:	
Communication	24AWG twisted-shield cable (Beldon 9841 or equivalent)
Electrical	18AWG (0.8mm ²) at least
Ambient:	
Temperature	0 to +50°C
RH	5 to 95% non-condensing
Storage temperature	-30 to +50°C
Housing:	
Material	ABS
Dimensions	160 x 126 x 57mm
Protection	IP30
Country of origin	Canada
Conformity	EMC, CE & UKCA Marked

WEEE Directive:

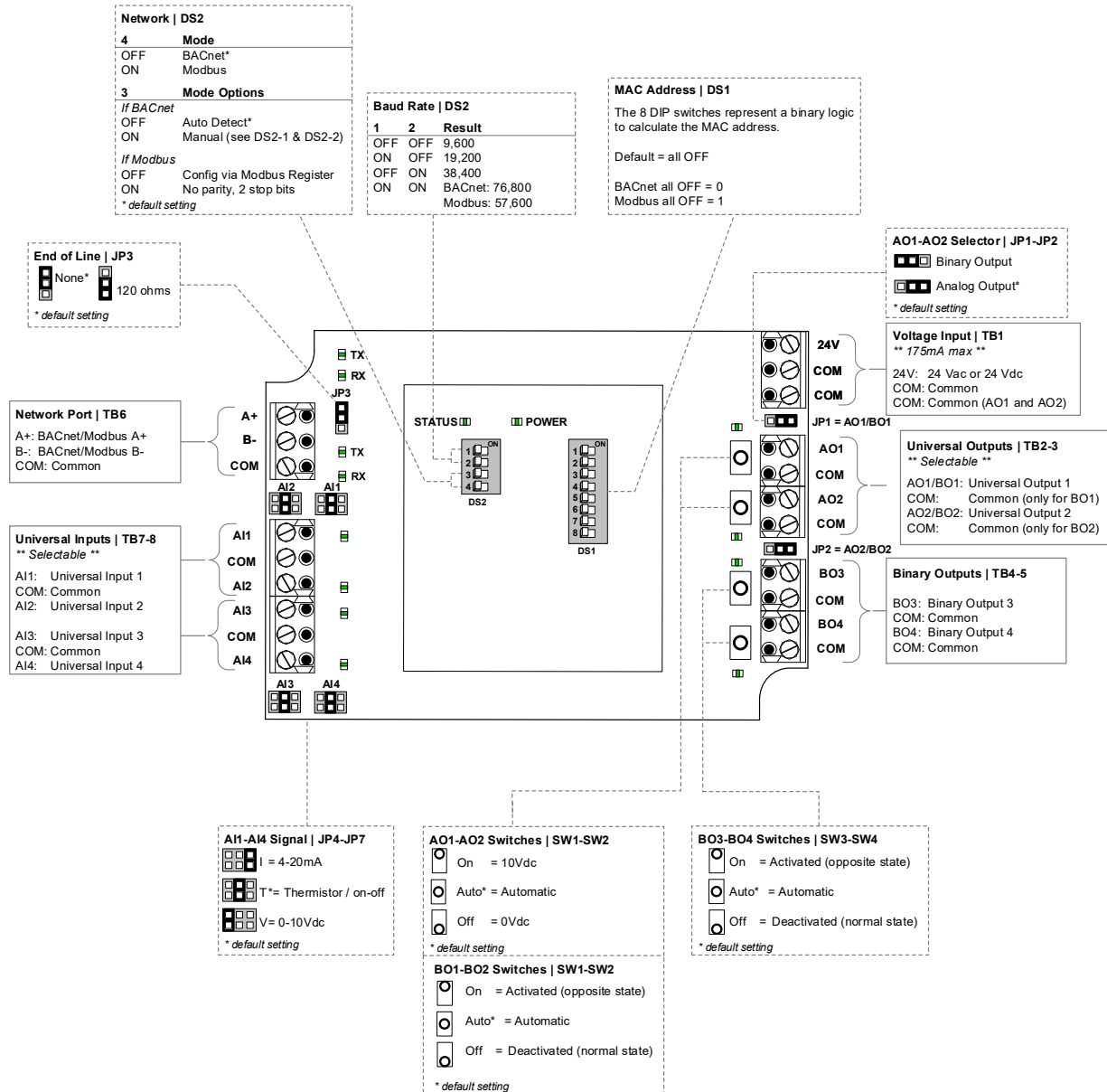


At the end of the products useful life please dispose as per the local regulations. Do not dispose of with normal household waste. Do not burn.



Installation & Configuration

Please make sure that all jumper settings are set to the same values as those in the configurable BACnet objects / Modbus register. Some additional configurations are only available via BACnet (see section Network Conditions)



LED Indication

Function	LED status	Description
Power	On	Input voltage normal
	Off	No power
Status	Flashing	Normal operation (watchdog)
RX/TX (BACnet and Modbus)	Flashing	Receiving (RX) and/or transmitting (TX) data
Input Status	On	Input On
	Off	Input Off
	Flashing	Input not connected (thermistor setting only)
	Analogue	When Universal Inputs are set to analogue values (Vdc, mA, or thermistor); the LED intensity corresponds to the input value. For example: At 10Vdc, the LED will be fully on. At 5Vdc, the LED will be at 50% intensity. At 0 Vdc, the LED will be off
Output Status	On	Activated
	Off	Deactivated
	Flashing	Output pulsed
	Analogue	When Universal and Analogue outputs are set to analogue values (Vdc); the LED intensity corresponds to the output value. For example: At 10Vdc, the LED will be fully on. At 5Vdc, the LED will be at 50% intensity. At 0Vdc, the LED will be off.

Network Connections

Please note that all jumper settings must also be set to the same value through BACnet or Modbus. The following is a list of conditions and additional BACnet or Modbus objects.

Universal Inputs (AI1-AI4)

For temperature thermistor reading: with the jumper set to Thermistor, set the AI input type to 10K_TypeG, 10K_Type3A1, 10K_Type4A1, 10K_NTC, 20K_Type6A1 or 30K_Type6A1.

For on/off contact input reading: with the hardware jumper set to Thermistor, set the AI input type to Digital_Input. The polarity can also be set to direct or reverse. For example, in Reverse an “on” signal would be recognized as an “off” signal.

For analog 0-10 Vdc input reading: with the hardware jumper set to 0-10 Vdc, set the AI input type to 0_10V.

Universal/Analog Outputs (AO1-AO2)

You can set the polarity to direct or reverse. For example, in reverse the output range would be 10-0 Vdc instead of 0-10 Vdc. The polarity applies to all settings 0-10Vdc, on/off and pulsed.

You can also set the outputs to pulsed or digital on/off.

A fixed output value can only be modified via BACnet when the override switch is in the “Automatic” position.

Binary Outputs (BO1-BO4)

A fixed output (open/closed) can only be modified via BACnet when the override switch is in the “Automatic” position.

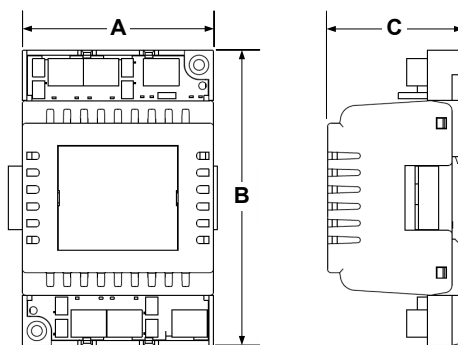
The displayed text can be set to either Open/Closed, On/Off, or Alarm/Normal (BACnet only).

Supervised Outputs

All outputs are fully supervised via BACnet. This provides the actual state of the output including any manual overrides done using the on-board switches.

Dimensions

- A = 81mm
- B = 125mm
- C = 58mm



A full user manual is available to download from www.sontay.com

Revision History:

Rev.	Description of change	Page No.	Date
7.0	New product	All	11/05/2022
7.1	Correction to F&B input/output numbers	1	07/07/2023

Whilst every effort has been made to ensure the accuracy of this specification, Sontay cannot accept responsibility for damage, injury, loss or expense resulting from errors or omissions. In the interest of technical improvement, this specification may be altered without notice.