



Features & Benefits

- Cost efficient expansion of physical IOs on a BMS controller
- BACnet MS/TP or Modbus RTU selectable
- 10 Inputs – 10 Outputs
- Automatic baud rate detection and device instance configuration (BACnet)
- Copy and broadcast configuration to other SC-IO-24's (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
- Removable 2-part terminal blocks

Technical Overview

The Sontay Smart communication I/O-Module extends your system when your application requires additional inputs and outputs on a physical controller. Integrating the 20 IO points with your BMS provides a simple and cost effective expansion of a new or existing controller

Product Codes

SC-IO-24 Smart communication IO module

Specification

Supply voltage	24Vac/dc ±10%
Supply current	8VA (331mA @24Vac)
Inputs	8 x <i>Universal (12-bit resolution)</i> 0-10Vdc Thermistor, type B (10K4A1) On/off (VFC) 4-20mA
	2 x Digital Normally open/closed or direct/reverse
	Outputs
	2 x <i>Universal (12-bit resolution)</i> 0-10Vdc Pulsed signal (20mA drive) On/off 4-20mA
	2 x <i>Analogue (12-bit resolution)</i> 0-10Vdc
	6 x <i>Digital</i> Normally open/closed, independent common per relay, 5A resistive
BACnet	BACnet MS/TP (BAS-C): 9k6, 19k2, 38k4 or 76k8 bps or auto baud rate detection
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	0.2mm ² twisted-shield cable
Electrical	0.8mm ² at least
Ambient:	
Temperature	0 to +50°C
RH	5 to 95% non-condensing
Housing:	
Material	ABS
Dimensions	160 x 126 x 57mm
Protection	IP30
Country of origin	Canada



The products referred to in this data sheet meet the requirements of EU 2014/30/EU and 2014/35/EU

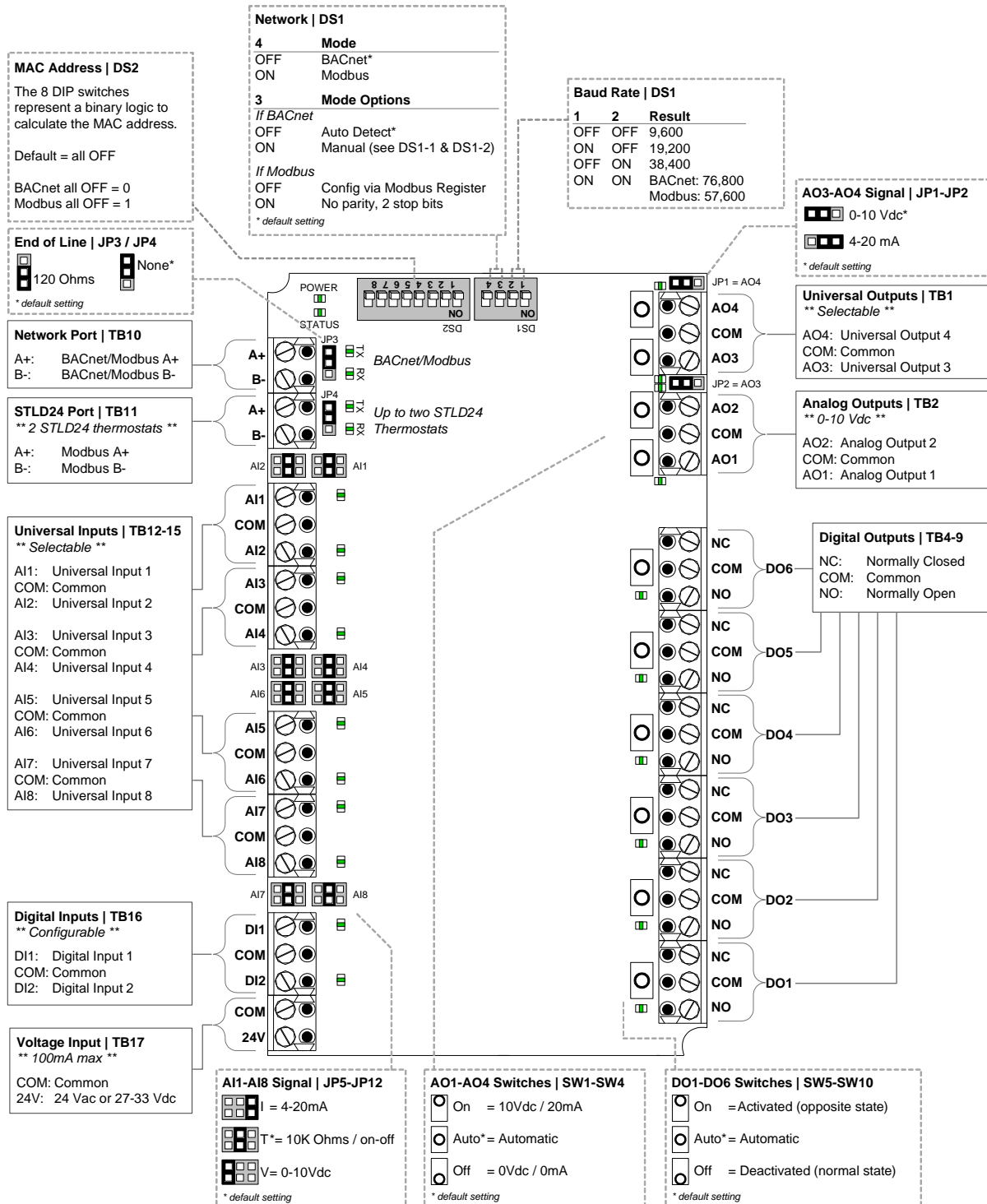
WEEE Directive:



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.

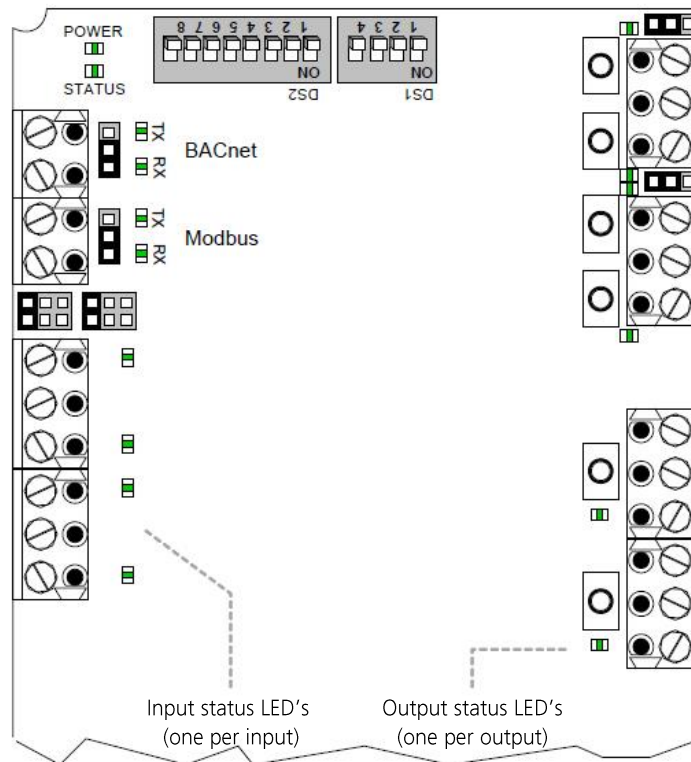
Installation & Configuration

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 10K Ω); 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 or mA); 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-AI8)

- When the jumper is set to Thermistor, you can select either sensor °C or sensor °F, or you can set the input as a digital on/off input.
- If the universal input is set as a digital on/off input, you can also set the polarity to direct or reverse. For example, in Reverse an "on" signal would be recognized as an "off" signal.
- When the jumper is set to 0-10Vdc, you can also set the range to 0-5Vdc.

Digital Inputs (DI1-DI2)

- You can set the polarity to direct or reverse. For example, in Reverse an "on" signal would be recognized as an "off" signal.

Universal/Analogue Outputs (AO1-AO4)

- You can set the polarity to direct or reverse. For example, in reverse the output range would be 10-0Vdc instead of 0-10Vdc. The polarity applies to all settings 0-10Vdc, 4-20mA, 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.

Digital Outputs (DO1-DO6)

- 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.

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