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CAS-2900-02

CAS-Bridge 1-Wire to Modbus TCP/RTU and IoT

PRODUCT DESCRIPTION

Chipkin's CAS-Bridge 1-Wire to Modbus TCP/RTU and IoT, monitors a series of 1-Wire temperature sensors and makes the data available to Modbus devices, as well as logging long term trending data into the cloud. The CAS-Bridge operates by monitoring the 1-Wire temperature sensors and storing the values in an internal database. Then serving the temperature data as Modbus TCP/RTU values. When a value changes or a timeout occurs, the values are sent to an online dashboard for long term trending and logging.

The CAS Bridge can be connected to your network with a ethernet connection or by connecting to a WiFi access point.

The gateway requires minimal configuration and can be considered a 'plug and play' component of any network system. It's ready to operate 'out of the box' and can be installed without an engineer's approval. For a list of tested devices, refer to Appendix A: Tested Devices.

Note: All gateways sold by Chipkin report operating stats and issues to web pages and maintain logs that can be uploaded by HTTP or ftp.

SPECIFICATIONS

The following specifications for the CAS-Bridge – 1-Wire to Modbus TCP/RTU and IoT are common to all CAS Bridge gateways.

- 10/100BASE-T with RJ-45 connector
- 1x RS485 port
- Power: 5 VDC, A battery backup is also available.
- Operating temperature: -20 to 70 °C
- LEDs: link, speed/data, power, busy
- Dimensions (LxWxH): 107 x 63 x 25 mm

MAXIMUM NODES SUPPORTED

This table summarizes the number of sensors and devices supported for each protocol node.

GATEWAY NODE	NODES	COMMENTS
Client	50 *	The CAS Bridge has been tested with 50x 1-Wire DS18B20 devices. The CAS Bridge could support more or less depending on the cabling and distances between sensors.

CONNECTION INFORMATION

These tables summarize possible connections from the Modbus RTU server ports

PORT 0: 1-WIRE CLIENT PORT

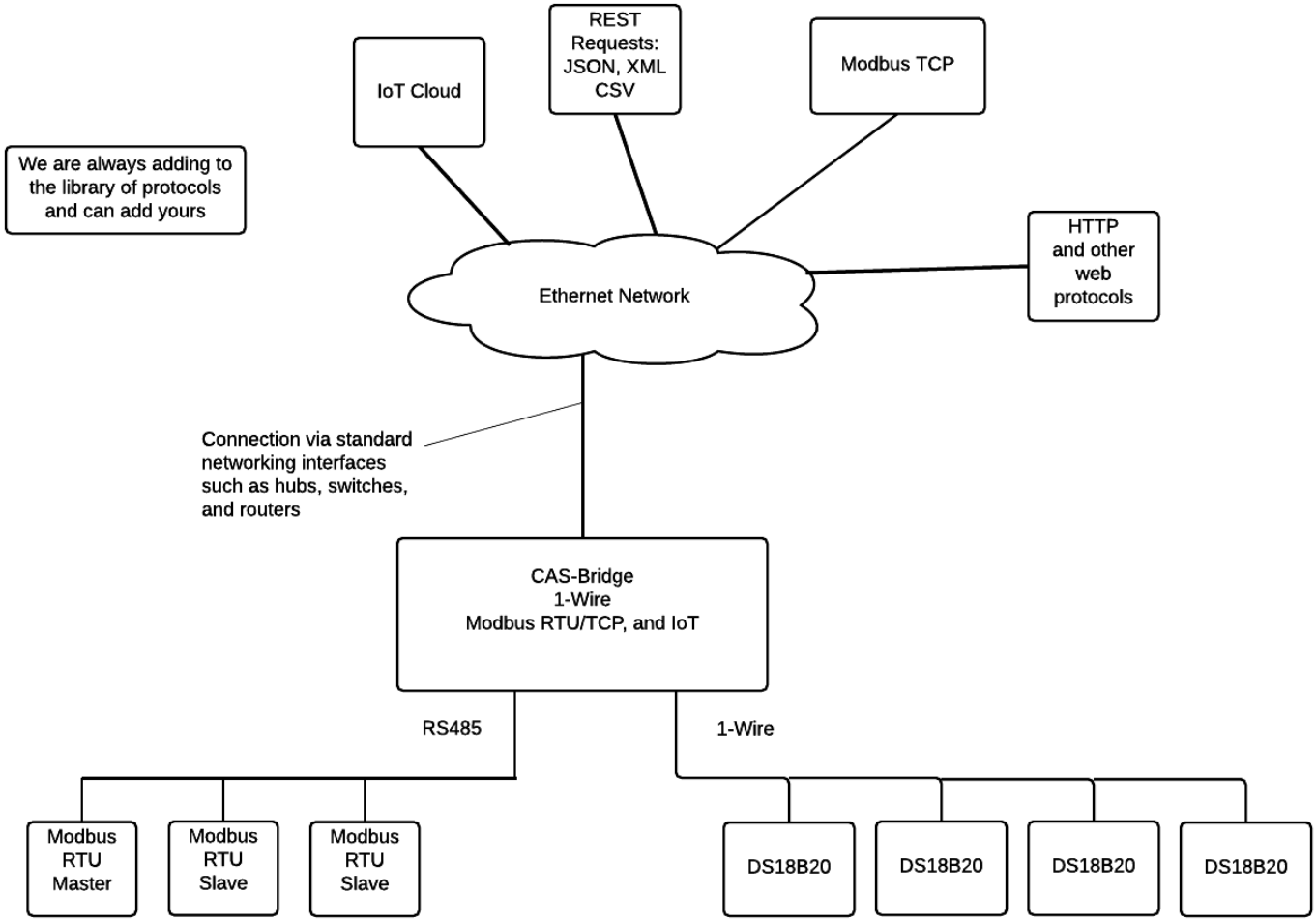
Connection type	1-Wire Bus
Hardware interface	N/A
Multidrop capability	Yes

PORT 1: MODBUS RTU SERVER PORT

Connection type	RS485
Baud rates	Driver supports: **9600**, 19200, 38400 115200 baud
Data-bits	Driver supports: **8**
Stop-bits	Driver supports: **1**
Parity	Driver supports: **none**
Hardware interface	N/A
Multidrop capability	Yes

CONNECTION CONFIGURATIONS

This block diagram lists common network connections that can monitor data from 1-Wire devices and Modbus RTU/TCP, IoT protocols.



CONFIGURATION

The CAS Bridges settings can be configured on a Web page. Users can select:

- **Modbus TCP** - node_ID
- **Modbus RTU** - node_ID, baud rate, parity, data length, stop-bits
- **Modbus Scaling** – Scale the tempature values from a float value to a Modbus register.
- **Ethernet IP address** – The Ethernet IP address to use if ethernet DHCP is not enabled.
- **Ethernet DHCP** – If enabled the CAS Bridge will attempt to use DHCP to obtain an IP address from the local network.
- **WiFi mode** – If enabled the CAS Bridge will become a Wifi Access point that can be connected to without a wifi router.
- **Wifi SSID** – Used to conenct the CAS Bridge to a wifi access point when the WiFi mode is disabled.

- **Wifi Password** – Used to conenct the CAS Bridge to a wifi access point when the WiFi mode is disabled.
- **Wifi IP address** – The wifi IP address that the CAS Bridge will attempt to use if wifi DHCP is not emabled.
- **WiFi DHCP** – if enabled the CAS Bridge will attempt to use DHCP to obtain an IP address from the clocal network.
- **Online server host** – The host to send the tempature data to.
- **Online server private key** – The private key that is used when sending the tempature data to the online server
- **Online server timeout** – How long to wait before timeing out on a message to the online server
- **Online server limit** – How frequently to send the temapture data to the online server.

CUSTOMER SUPPORT

The CAS-Bridge – 1-Wire to Modbus TCP/RTU and IoT gateway was developed by Chipkin, and we are proud to provide support for our products. For technical support, sales and customer service, please call us at 1 (866) 383-1657.

REVISION HISTORY

This table summarizes the update history for this gateway data sheet. Please contact Chipkin by phone or email for an updated version of this document.

DATE	RESP.	DRIVER VERIFIED	DOCUMENT REVISION	COMMENTS
11 May 2017	SWS	1.0.25	0	Document created.

APPENDIX A: TESTED DEVICES

These tables summarize the Veeder-Root devices that have been tested. Other devices may be supported.

DEVICE	**TESTED (FACTORY/SITE)**
DS18B20	Factory and Site

Thanks for choosing Chipkin protocol gateways, data clients and integration services to meet your building and industrial automation requirements!

Chipkin is a building and industrial automation protocol expert. We develop, configure, install and support gateways (protocol converters), data loggers and remote monitor and controlling applications. Founded in October 2000, Chipkin provides expert solutions for converting BACnet®, Modbus®, and Lonworks®—to name just a few—and enabling interfaces for HVAC, fire, siren, intercom, lighting, transportation and fuel systems. The high-quality products we offer (including those from other vendors) interface with Simplex™, Notifier™, McQuay™, GE™ and many others—so you can rest assured that we will select the most appropriate solution for your application.

With Chipkin you are buying a solution. Our configuration expertise in this field combined with free BACnet and other tools ensure your success; and our customer support via phone, email and remote desktop tools means that we're there when you need us. Chipkn is a small responsive company, and we live or die by the quality of our service—and with offices in two time zones—we can provide support when you need it. Give us a call now!

Sales and Customer Service

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