



Teleterm M1s Modbus 16I/O Module

16 way Modbus RS485 configurable I/O Module

Model Number
C2366A

DATASHEET

- A very flexible Modbus I/O Module
- Configure each I/O as:
 - Digital Input or
 - Digital Output or
 - Analogue Input (0-10V)
- Convenient Daisy Chaining for more I/O
- Use out of the box, or customise with the free Omniset Configuration Tool
- USB-C Programming port



Features

- Modbus RS485 serial port for Modbus comms
- Master/Slave, ASCII/RTU, 300-38,400 baud
- 16 individually configurable I/O
- LED indication of I/O status & communications
- Easily expandable up to 256 inputs and outputs
- Convenient daisy chaining for easy installation
- 9-30Vdc powered
- Plug-in Terminals for easy maintenance

Overview

The **TELETERM M1s** is a very flexible 16 way Modbus I/O module. It is designed to be used in building automation or process control or industrial control applications when you need to expand your inputs/outputs simply and cost-effectively using Modbus.

Serial Ports

The M1s module is equipped with an RS485 port for Modbus communications and a USB type C port for configuration.

Port S2 is an RS485 port and is available on three connectors: Two vertical RJ11 connectors marked S2A and S2B allow the modules to be easily daisy-chained together into a system with multiple modules. The RS485 port is also available on terminals (marked S2C) to allow connection to your master device with an RS485 twisted pair cable. This provides the ability to easily communicate with multiple M1s modules from your Modbus Master device using RS485.

(100mm RJ11 expander cable is supplied with the unit.)

Configuration

The module comes from the factory set for 9600 baud Modbus RTU Slave on S2, and all 16 I/O are set to digital inputs. Set the Modbus address on the rotary switch from 1 to 9, and you can be up and running with up to 72 digital inputs within five minutes.

However, the versatility of this module comes from the very flexible configuration options available in the module.

All configuration is done through the USB port on the front of the M1s module using the Omniset Configuration Software tool available as free download from the Omniflex web site.

This configuration includes setting the protocol parameters of the serial port S2 as well as configuring the I/O parameters of each input/output.

Individually Configurable I/O

Each of the 16 I/O can be individually configured as a digital input, digital output or analogue input (0-10V), providing the most cost effective solution when you only have a few mixed inputs and outputs at a location.

The analogue inputs can be scaled to suit your application (for example operating the input at 1-5V) including converting the input into floating point engineering units. Up to four setpoints can be configured on each analogue input to create digital alarms from the analogue inputs.

Flexible Modbus Configuration

While this module is designed primarily for I/O expansion applications, it is possible to configure the module as a Modbus Master, allowing you to create point to point I/O applications over a single RS485 twisted pair cable.

Modbus Addressing

The rotary switch on the module allows slave Modbus addresses from 1 to 9 to be conveniently setup. When set to address 0, the module reads its configuration internally including Modbus addresses from 10 to 255 and Modbus Master configuration etc.





Teleterm M1s Modbus 16I/O Module

16 way Modbus RS485 configurable I/O Module

Model Number
C2366A

Specifications

Power Supply (Terminals 1,2 and 3,4)

Voltage range	9-30Vdc (<5% ripple)
Typical Current	30mA at 24Vdc; 60mA at 12Vdc (no I/O)

Inputs/Outputs

As Digital Input

Type	Current Sink (Switch to +V to operate)
Input Resistance	5kOhms typical
Input OFF Condition	Input < 2Vdc
Input ON Condition	Input > 3Vdc
Functions	Software selectable as: ON/OFF Input (default) Counter Input (counts on rising edge) Hours Input (counts hours while energised to resolution of 0.01 hours)

As Digital Output

Type	Voltage Source (Solid State switch to +V)
On state Current	< 100mA max continuous per output < 200mA peak (<10ms) per input <500mA total for all outputs simultaneously
On state Volt Drop	< 3V at max rated load
Off state current	< 10µA at maximum supply voltage
Functions	ON/OFF output

As Analogue Input

Type	Voltage Input referenced to power supply 0V
Range	0-10Vdc (software configurable to smaller ranges such as 1-5Volts)
Accuracy	< 0.15% of reading +10mV
Resolution	2.5mV (12 bits)
Functions	ON/OFF output

Communication Ports

PROGRAMMING (PROG) PORT

Type	USB
Protocol	Conet/s - compatible with Omniset Configuration Software Utility Download from www.omniflex.com/CC001A
Type	USB type C

S2 PORT (RS485)

Type	RS485 (two wire + ground)
Connectors	2 x RJ11 (marked S2A and S2B) Terminals (marked S2C)
Protocols	Modbus ASCII or RTU Slave Modbus ASCII or RTU Master Conet/s (factory default Modbus RTU Slave)
Baud Rate	300 – 38,400 baud (factory default 9600 baud)
Max. no of slaves	32
Max. Cable Length	1200m (4000 ft) Refer RS485 spec for limitations

Slave Address Selection

Type	Rotary Switch or via software configuration
Address Range	Rotary Switch set to 1-9: Slave Address Rotary Switch set to 0: Master or Slave in address range 1 to 254. (must be configured in software)

Environment

Operating Temp.	-10° C – 60° C (+14° F – 140° F)
Relative Humidity	5 to 95%
Storage Temp.	-25° C – 85° C (-13° F – 185° F)
MTBF	220,000 hours

Mechanical

Width	100mm
Height	89.5mm
Depth	50mm

Weight

Unpacked	100gm approx.
Packed	150gm approx.

Compliance to Standards

Safety	UL60950-1, EN60950-1
EMC	EN 55011:2011 Class B EN 61000-3-2:2014 (IEC 61000-3-2:2014) EN 61000-3-3:2013 (IEC 61000-3-3:2013) IEC 61326-1

Ordering Information

ORDER CODE	DESCRIPTION
C2263A	Teleterm M1s Modbus Universal 16IO Module

