



Resource  
Data Management

# USB to RS485 Modbus Interface

Commissioning/User Guide  
Revision 1.0I



PR0623/PR0623 INT  
PR0623 DIN/PR0623 INT DIN

## Contents

USB to RS485 Modbus® Interface.....	3
PR0623 /PR0623 INT .....	3
PR0623-DIN / PR0623-INT-DIN .....	4
RS485 Configuration .....	5
Specifications.....	5
Adding a Modbus Device.....	5
DMTouch .....	5
Intuitive Plant TDB.....	9
Disclaimer .....	10
Revision History .....	10



Please ensure all power is switched off before installing or maintaining this product.

# USB to RS485 Modbus<sup>®</sup> Interface

## Resource Data Management

Modbus network support can be enabled using the RDM USB to RS485 Modbus network adaptor, part number PR0623 / PR0623 INT / PR0623 DIN / PR0623 INT DIN. A single adapter is supported by the DMTouch and allows for two RS485 Modbus networks, with up to 32 devices on each network line. Similarly, when used in conjunction with the intuitive plant TDB, it can also support the two network lines with 32 devices on each.

Support is provided for a range of Modbus devices and new devices are being added continuously. Contact RDM Technical support to obtain the most up to date list of supported devices.

Each RS485 network line should be a single cable connected in daisy-chain fashion to each controller on the network line. Stubs running off the network line should not be used, if they cannot be avoided then the stub should have a maximum length of 1m. Typically a 120 ohm termination resistor should be fitted at the start and end of the network line across the Data A and Data B terminals. Depending on the date of manufacture the PR0123-INT may have termination resistor built in on each network line.

**Note:** This feature requires Data Manager software version V1.53.0 or above.

## Important note on fitment of termination resistors.

From the 30<sup>th</sup> September 2022 until 1<sup>st</sup> October 2024 this product was pre-fitted with through hole 120 Ohm termination resistors, across the A & B screw terminals, on both RS485 network lines (these resistors could be removed if not required). The part numbers used were PR0623 and PR0623 DIN.

From October 1<sup>st</sup> 2024 until approximately December 2025 the termination resistors were built into circuit board and part numbers updated from PR0623 to PR0623 INT and PR0623 DIN to PR0623 INT DIN.

From approximately December 2025 onwards the product reverted back to having through hole resistors fitted across the A & B screw terminals however the part numbers did not change and are still PR0623 INT and PR0623 INT DIN.

The example image below shows the version with the through hole resistors fitted across the screw terminals.



The date of manufacture is the 4 digit code at the bottom of the label, in this example 0323 which represents March 2023, this can be used to confirm if the termination resistors are built into the circuit board or not.

The image above shows the non-DIN rail mounted version of the product PR0623 / PR0623 INT but also applies to the DIN rail mounted version of the product PR0623 DIN / PR0623 INT DIN which is shown further on in this document.



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### PR0623 /PR0623 INT

- Pin1 = Screen\*
- Pin2 = Data A or +
- Pin3 = Ground
- Pin4 = Data B or -



\* Optional dependant on application

#### Mechanical

Dimensions	35 x 22 x 260mm
Weight	50g (1.7 oz)

### PR0623-DIN / PR0623-INT-DIN

- Pin1 = Screen\*
- Pin2 = Data A
- Pin3 = Unused
- Pin4 = Data B



#### Mechanical

Dimensions	112 x 53 x 67mm
Weight	110g (3.8 oz)



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## RS485 Configuration

Note the RS485 configuration defaults of the Adapters are the following:

Baud rate	9600
Data bits	8
Parity	No
Stop Bits	1

When connected to a DMTouch with software V3.1 or above or an Intuitive TDB with software V4.1 or above the adapter can be configured with the following set up.

Baud Rate	Data Bits	Parity	Stop Bits
1200	8	E	1
1200	8	N	2
2400	8	E	1
2400	8	N	2
4800	8	E	1
4800	8	N	2
9600	8	E	1
9600	8	N	2
19200	8	E	1
19200	8	N	2
38400	8	E	1
38400	8	N	2

**Note:** - When the Stop bits are set to 2, the panel will generate two stop bits but will be able handle one or two coming back

## Specifications

DC Voltage	5V
Rated Current	0.1A (USB Powered)

## Adding a Modbus Device

### DMTouch

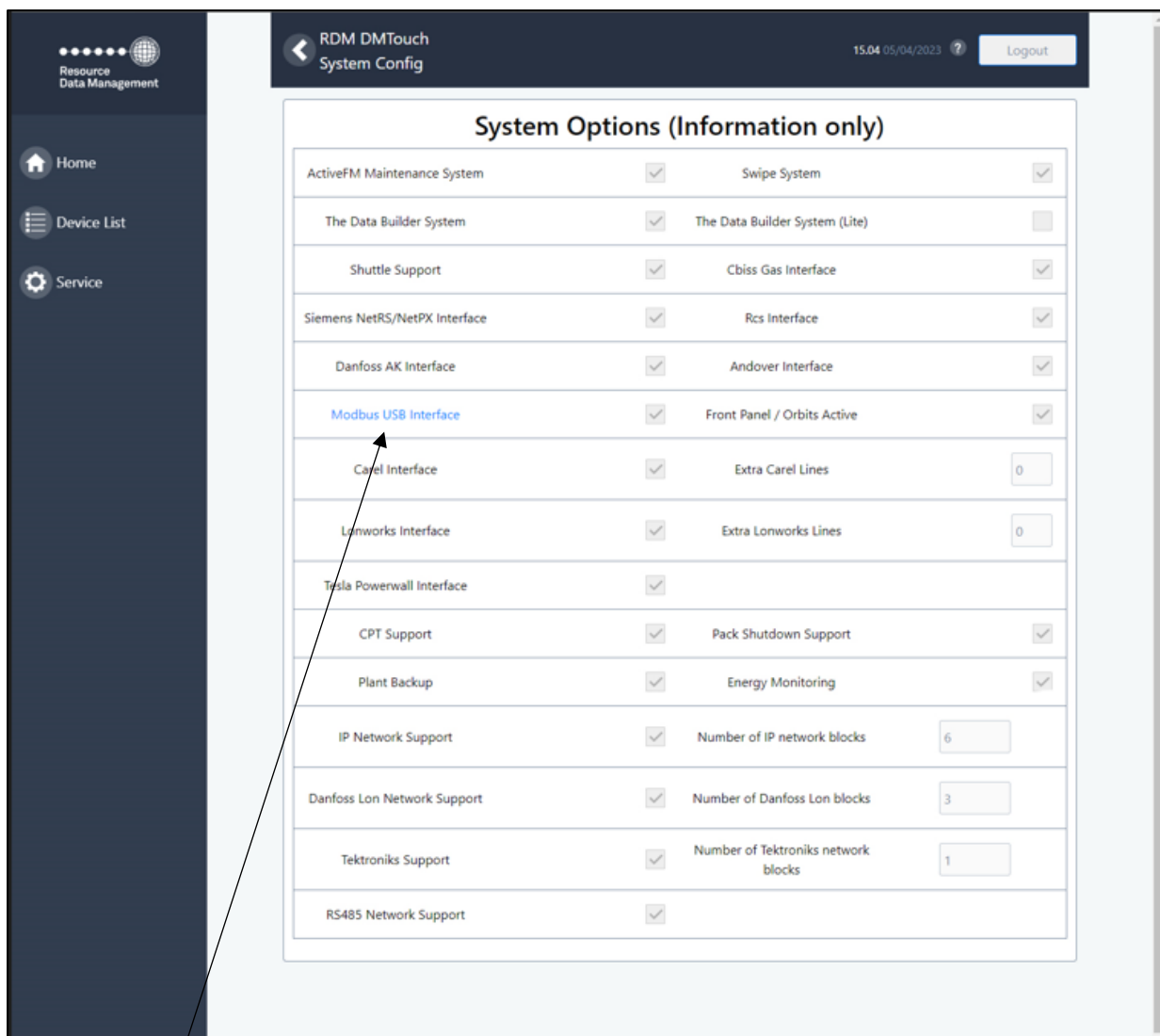
On the DMTouch the adapter/ software needs to be activated before it will communicate to the Modbus devices.

To confirm that Modbus has been activated in the DM Touch enter the "Service" menu, select "Site" and "System Config", the configuration page will be shown (see example page below). The tick-boxes indicate which features are currently active, "Modbus USB" needs to be activated to allow connection of the PR0623 adapter.

Please consult RDM sales for activation.



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Modbus  
USB should  
be checked



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When activated it will open a number of useable 'templates' for devices to communicate with the DMTouch. Currently the following Modbus® devices are supported:

<b>Modbus® Energy Meters</b>	SIRIO Energy Meter
4MOD Pulse Counter	Socomec Diris A20
AcuDC 240	Socomec Diris A40
AEM33 Power Monitor	SPN ILC Energy Meter
Autometer IC970	VIP396 Energy Meter
Carlo Gavazzi EM21	VIP396 Energy Meter (IEEE)
Carlo Gavazzi EM24-DIN	RDM Energy Meter
Carlo Gavazzi WM14	
Compact NSX	
Countis E13, E23, E33, E43, E53	<b>Other Modbus® Devices</b>
Cube 350	<b>Gas Detection</b>
Dent Powerscout Energy meter	CPC Infrared RLDS Unit 1
EMM R4h Energy meter	TQ4200 Mk 11 (16 Chan)
Enviro ENV900	TQ4200 Mk II (24 Chan)
Enviro ENV901	TQ4000 (4 Chan)
Enviro ENV901-THD	TQ4300 (12 Chan)
Enviro ENV903-DR-485	TQ4300 (16 Chan)
Enviro ENV910 Single Phase	TQ8000 (24 Chan)
Enviro ENV910 Three Phase	TQ8000 (16 Chan)
Flash D Power Monitor	TQ8000 (8 Chan)
Flash D Power Monitor (3 Wire )	TQ100 (30 Chan)
ICT Energy Meter EI	Safety Gas Detection System
ICT Energy Meter EI Flex – 1phase	Carel Gas Detection
ICT Energy Meter EI Flex – 3phase	MGS Gas 404A Detector
IME Nemo 96HD	<b>Others</b>
Integra 1530	Toshiba FDP3 A/C Interface
Integra Ci3/Ri3 Energy Meter	Polin Bakery Controller
Janitza UMG 604	ISpeed Inverter Drive
Janitza UMG 96S	RESI Dali Lighting System
Kamstrum Multical 602	Sabroe Unisab III
Measurlogic DTS	AirBloc SmartElec2
Nautil 910 Energy Meter	Emerson Control Techniques VSD
Schneider Masterpact NW16 H1	Daikin ZEAS Remote Condensing units 11-26
Schneider PM710	NXL Vacon Inverter Template
Schneider PM750	NSL Vacon Inverter Template
Shark Energy Meter	

**Note:** Please be aware that the templates listed above were generated on request and designed to the customers' requirements. Please contact RDM Technical Support for information regarding the template. Furthermore, if you have a Modbus® device which is not listed please contact RDM Technical Support.

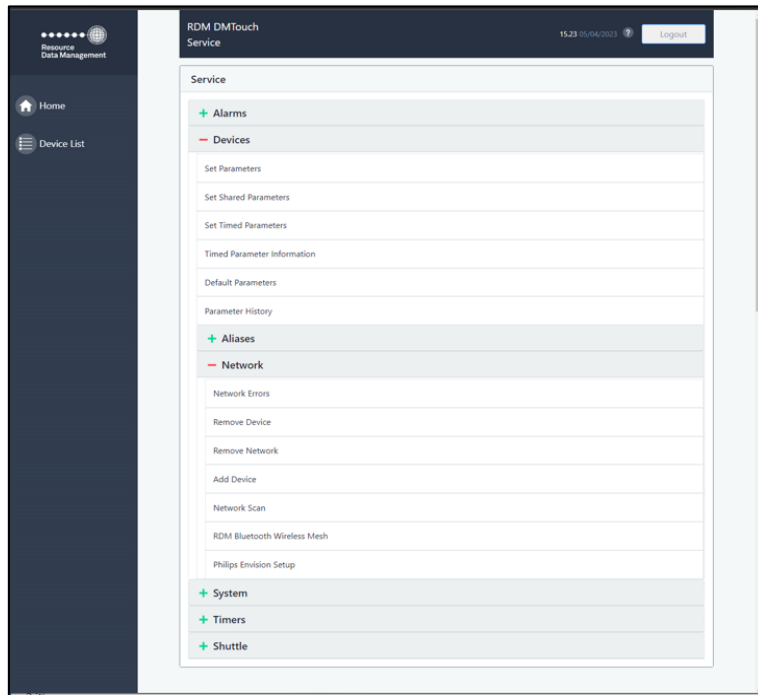
The USB dongle is not 'plug & play', for the DMTouch to recognise the device, it must be present when powered up (or restarted).



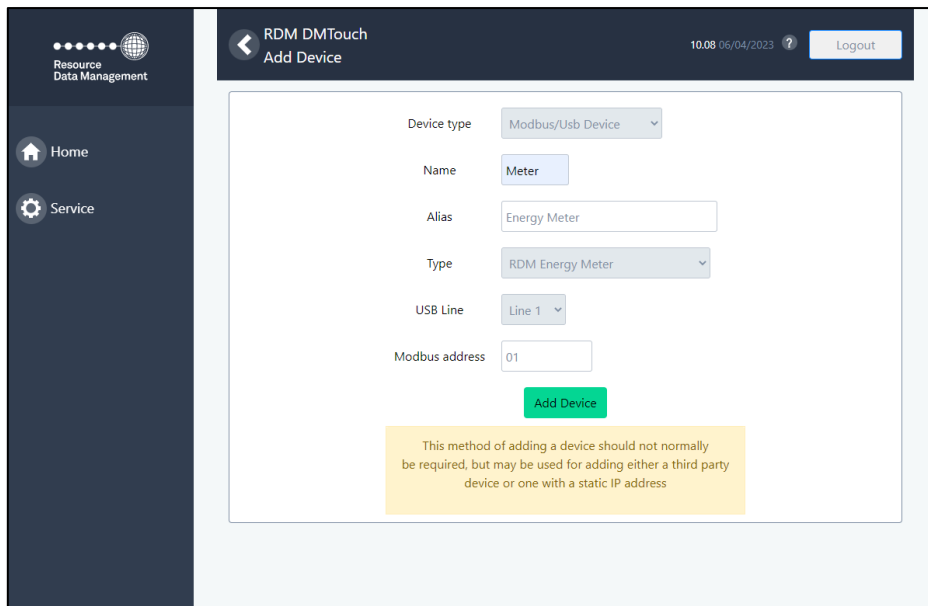
Please ensure all power is switched off before installing or maintaining this product.

To add a Modbus device, log in and navigate through the following menus:

Service/ Devices/  
Network/ Add  
Device



Selecting the 'Add Device' option, will show the following page:



Within the page, all fields will need to be entered:

- Device Type: Select Modbus/ USB device
- Name: The six-character name which appears on the 'device list'
- Alias: Enter an appropriate description for the device
- Type: Select the device from the drop-down menu.
- USB Line: Select either Line 1 or Line 2, depending on the network line the controller is physically connected.
- Modbus Address: Enter the Modbus address of the device.

Once details are entered, the Modbus controller will show in the device list.



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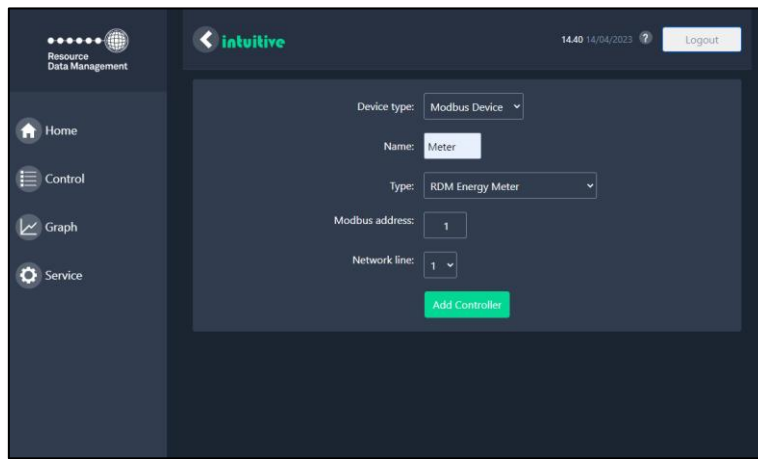
## Intuitive Plant TDB

With the Intuitive Plant TDB, the Modbus USB is already activated. In the same way as the DMTouch, the adapter needs to be present when the controller is booting up (restart). Currently, the following Modbus devices are listed within the intuitive controller:

Device	Device
Flash D Power Mon (4 Wire)	Schneider PM710
VIP396 Energy Meter	Flash D Power Mon (3 Wire)
4MOD Pulse Counter	Sirio Energy Meter
Autometer IC970	VIP396 Energy Meter (IEEE)
Socomec Diris A20	Shark Energy Meter
AEM33 Power Monitor	Powerscout
Enviro ENV901	Enviro ENV900
AEM33 Power Monitor	

**Note:** Please be aware that the templates listed above were generated on request and designed to the customers' requirements. Please contact RDM Technical Support for information regarding the template. Furthermore, if you have a Modbus® device which is not listed please contact RDM Technical Support.

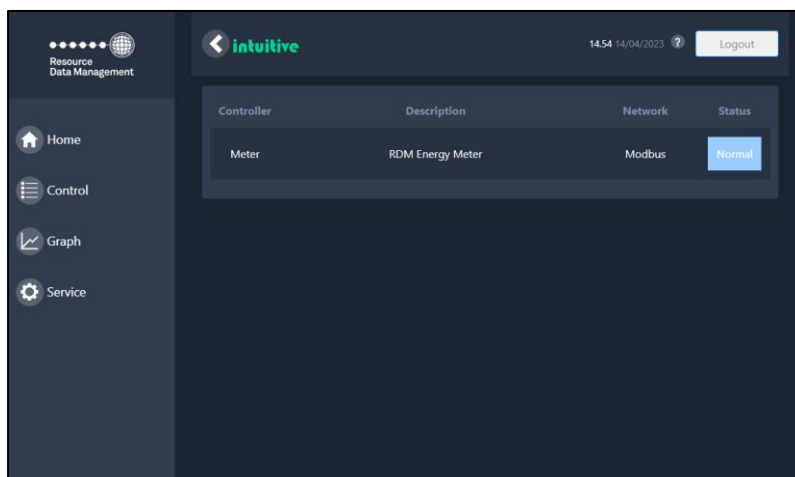
To add a Modbus device, log in and navigate through the following menus: Network – Add Device



Within the page, all fields will need to be entered:

- Device Type: Select Modbus/ USB device
- Name: The six-character name which appears on the 'List' page
- Type: Select the device from the drop-down menu.
- Modbus Address: Enter the Modbus address of the device.
- Network Line: Select either Line 1 or Line 2, depending on the network line the controller is physically connected.

Once details are entered, the Modbus controller will appear within the 'List' of devices under Network – List.



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## Disclaimer

The specifications of the product detailed in this document may change without notice. RDM Ltd shall not be liable for errors or omissions, for incidental or consequential damages, directly or indirectly, in connection with the furnishing, performance or misuse of this product or document

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## Revision History

Revision	Date	Changes
1.0	08/09/2015	First document
1.0a	03/05/2017	New documentation format.
1.0b	18/12/2019	Update to US Offices
1.0c	03/02/2022	USB Modbus setup table added
1.0d	30/09/2022	Note added about termination resistor
1.0e	21/03/2023	Pictures updated to show fitted resistor
1.0f	26/03/2023	Note added for Stop bit setting
1.0g	01/10/2024	New part numbers added for built in resistor variants.
1.0h	11/10/2024	Note added on correct RS485 wiring.
1.0I	04/05/2026	Updated to show v1.1 hardware with built in resistors removed.



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