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RS-485 Device Communication Module
Model: MBRS-205
Document Number: M4 032 010 010 01 (R2)

1. Overview

This Device enables the connection of Five/Six RS-485 Devices to a central system for data acquisition and monitoring.

2. Technical Specification

Sl No.	Features	Specification
1.	Weight	120 gm
2.	Material	Fiber
3.	Power Requirement	9 to 32 VDC (up to 100 mA/device)
4.	Connector	**Make**: Phoenix **Pin layout**: Zigzag pinning **No. of pins**: Three and Five **Connection method**: Push-in spring

Table-2: Specification of RS-485 module

3. Dimensions

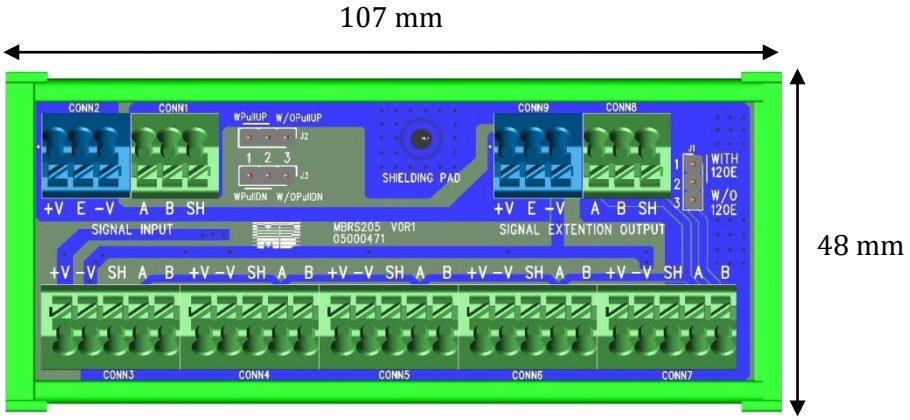


Figure-3.1: Dimensions from Top view

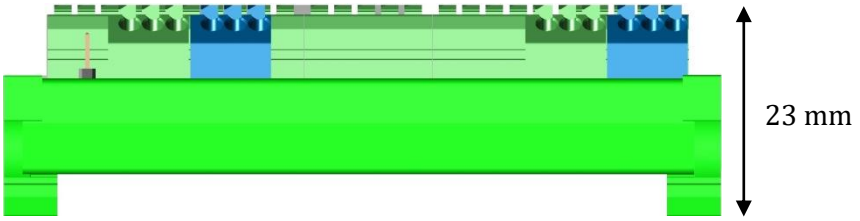


Figure-3.2: Dimensions from Bottom side view

4. Connection Diagram

4.1 Interfacing Five RS-485 Devices and Extension:

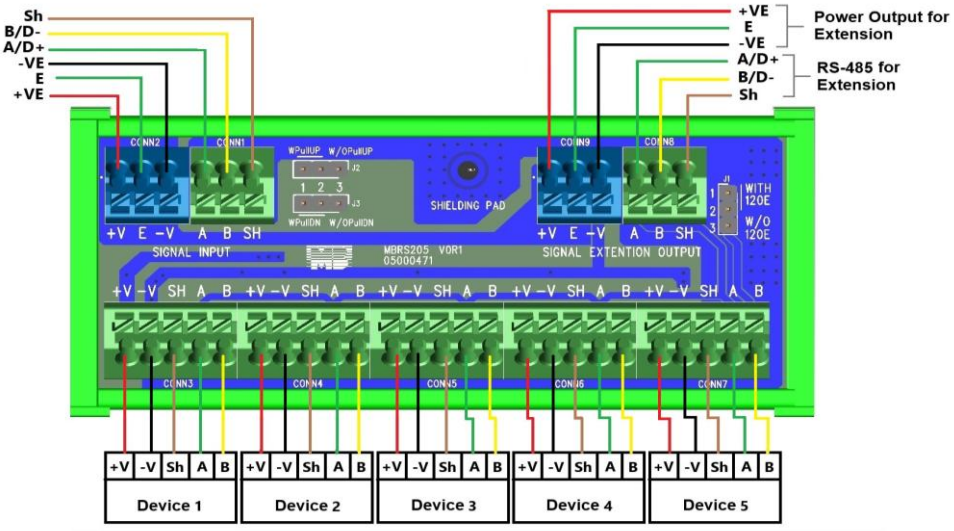


Figure-4.1: Connection diagram for five RS-485 devices and extension

Connector	Terminal	Description
RS-485 with Master Device (CONN 1)	SH	Shield
	B	RS-485 communication B/D- with Master
	A	RS-485 communication A/D+ with Master
Power Supply (CONN 2)	-V	-ve voltage input from supply
	E	Earth
	+V	+ve voltage input from supply
Device 1 (CONN 3)	+V	+ve voltage output for Device
	-V	-ve voltage output for Device
	SH	Shield
	A	RS-485 communication A/D+ with Device
	B	RS-485 communication B/D- with Device
Device 2 (CONN 4)	+V	+ve voltage output for Device
	-V	-ve voltage output for Device

	SH	Shield
	A	RS-485 communication A/D+ with Device
	B	RS-485 communication B/D- with Device
Device 3 (CONN 5)	+V	+ve voltage output for Device
	-V	-ve voltage output for Device
	SH	Shield
	A	RS-485 communication A/D+ with Device
	B	RS-485 communication B/D- with Device
Device 4 (CONN 6)	+V	+ve voltage output for Device
	-V	-ve voltage output for Device
	SH	Shield
	A	RS-485 communication A/D+ with Device
	B	RS-485 communication B/D- with Device
Device 5 (CONN 7)	+V	+ve voltage output for Device
	-V	-ve voltage output for Device
	SH	Shield
	A	RS-485 communication A/D+ with Device
	B	RS-485 communication B/D- with Device
RS-485 with Extension (CONN 8)	SH	Shield
	B	RS-485 communication B/D- with Extension
	A	RS-485 communication A/D+ with Extension
Power Supply For Extension (CONN 9)	-V	-ve voltage output for Extension
	E	Earth
	-V	+ve voltage output for Extension

Table-3.1: Terminal details for five RS-485 devices and extension.

4.2 Interfacing Six RS-485 Devices:

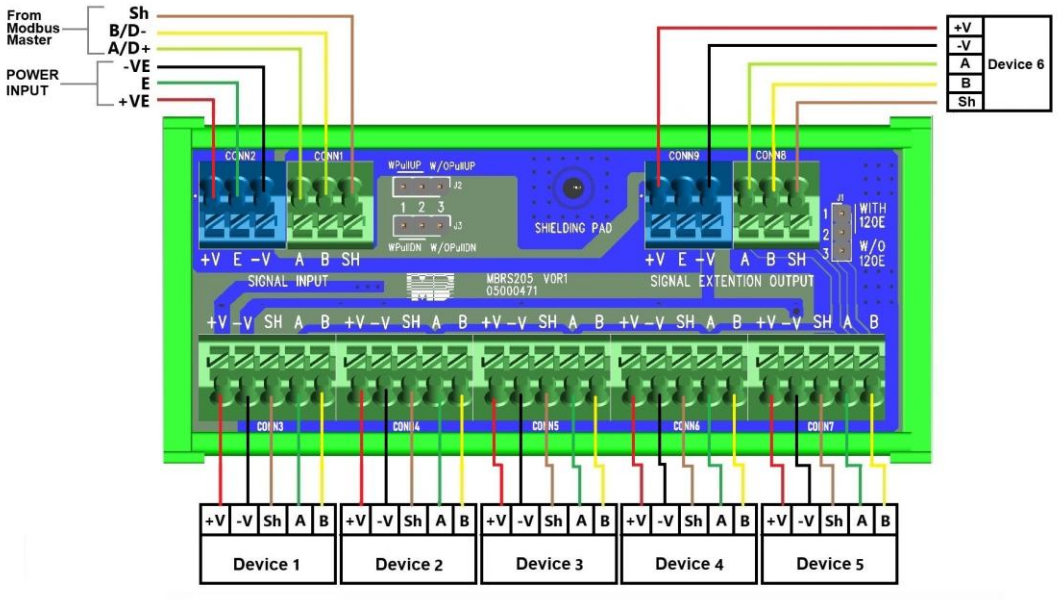


Figure 4.2: Connection diagram for six RS-485 devices

Connector	Terminal	Description
RS-485 with Master Device (CONN 1)	SH	Shield
	B	RS-485 communication B/D- with Master
	A	RS-485 communication A/D+ with Master
Power Supply (CONN 2)	-V	-ve voltage input from supply
	E	Earth
	-V	+ve voltage input from supply
Device 1 (CONN 3)	+V	+ve voltage output for Device
	-V	-ve voltage output for Device
	SH	Shield
	A	RS-485 communication A/D+ with Device
	B	RS-485 communication B/D- with Device
Device 2 (CONN 4)	+V	+ve voltage output for Device
	-V	-ve voltage output for Device
	SH	Shield
	A	RS-485 communication A/D+ with Device
	B	RS-485 communication B/D- with Device
Device 3 (CONN 5)	+V	+ve voltage output for Device
	-V	-ve voltage output for Device
	SH	Shield
	A	RS-485 communication A/D+ with Device
	B	RS-485 communication B/D- with Device
Device 4 (CONN 6)	+V	+ve voltage output for Device
	-V	-ve voltage output for Device
	SH	Shield
	A	RS-485 communication A/D+ with Device
	B	RS-485 communication B/D- with Device
Device 5 (CONN 7)	+V	+ve voltage output for Device
	-V	-ve voltage output for Device
	SH	Shield
	A	RS-485 communication A/D+ with Device
	B	RS-485 communication B/D- with Device
Device 6 (CONN 8)	SH	Shield
	B	RS-485 communication B/D- with Device
	A	RS-485 communication A/D+ with Device
Device 6 (CONN 9)	-V	-ve voltage output for Device
	E	N/A
	-V	+ve voltage output for Device

Table-3.2: Terminal details for six RS-485 devices.

5. Use of Resistance in RS-485 communication

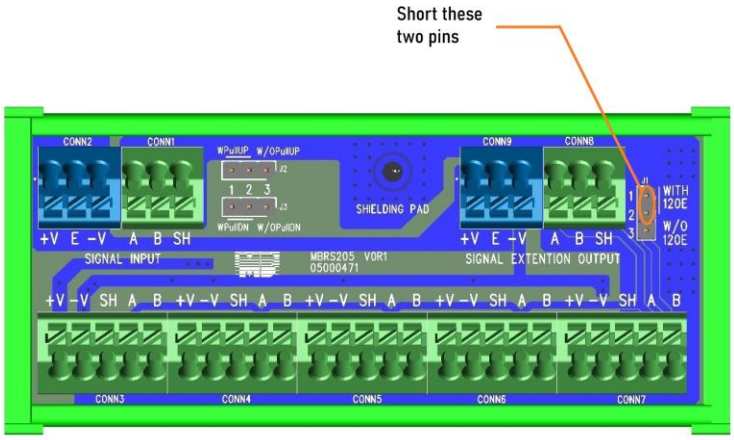
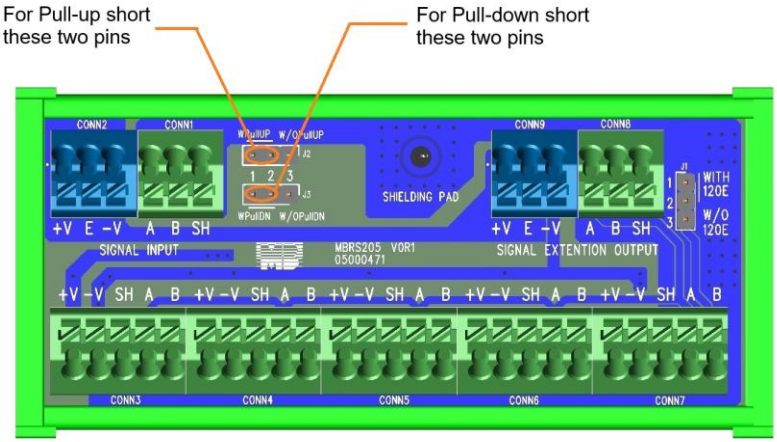


Figure 5: Jumper selection to connect resistance with RS-485

To properly terminate the RS-485 bus and minimize signal reflections, a jumper **J1** of 120 ohm terminating resistor is available. If terminating resistance is required short pin no **1** and **2**, If not required short pin no **2** and **3**.

6. Use of Pull-up and Pull-down



These Pull-up and Pull-down jumpers are used to keep the voltage level constant when the transmission line is in a high impedance state.