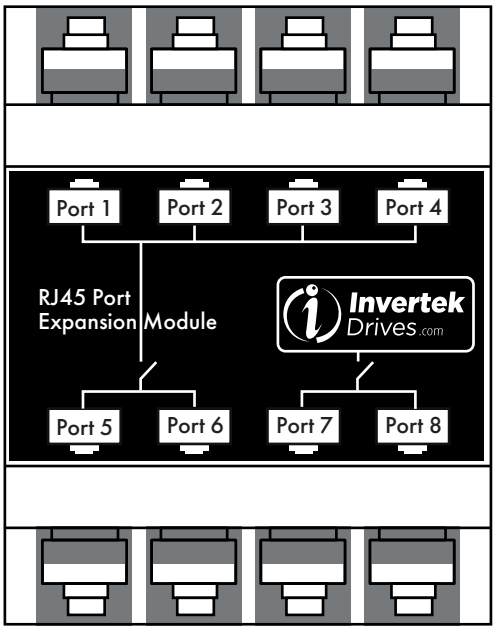
User Guide

RJ45 Port Expansion Module



Overview

The RJ45 Port Expansion Module is designed to allow the user to easily construct networks of multiple drives and accessories such as remote keypads. The flexible design allows complex networks to be quickly connected together using plug in connection cables.

Note

The RJ45 Port Expansion Module is a passive connection device.
It does not require any power supply, and is intended for RS485 based serial network connections only. It is not suitable for use with Ethernet communications and devices.

Compatibility

This Option is suitable for use on the following product ranges:

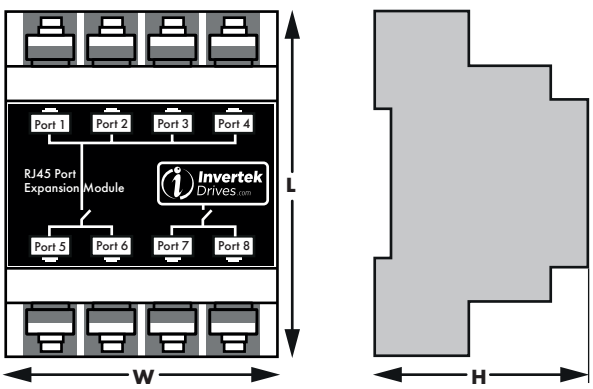
Optidrive E3, Optidrive P2, Optidrive ECO

General Specification

Signal Interface	Standard 8-way RJ45 connectors	
RS485 signal	Industry standard 2-wire +5V differential	
Environmental	Operational	-10 ... 50°C
	Storage:	-40°C ... 60°C
	Relative Humidity	< 95% (non condensing)

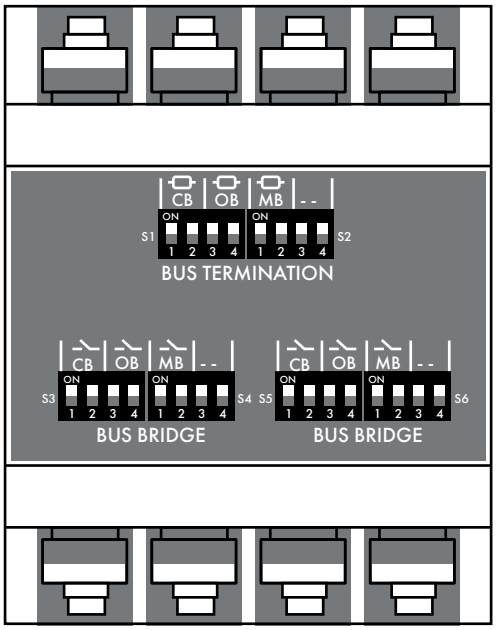
Dimensions

Length (L)	Width (W)	Height (H)
90mm	71mm	58mm



Internal DIP Switch Settings

Switch Block	Switch	Function
S1	1 + 2	Bus Termination Resistor – CAN bus ON : Bus Termination in circuit (120R)
	3 + 4	Bus Termination Resistor – Optibus ON : Bus Termination in circuit (120R)
S2	1 + 2	Bus Termination Resistor – Modbus RTU ON : Bus Termination in circuit (120R)
	3 + 4	No Function
S3	1 + 2	Bus Bridge : CAN Open Ports 5 + 6 ON : CAN open is linked to Ports 5 & 6
	3 + 4	Bus Bridge : Optibus Ports 5 + 6 ON : CAN open is linked to Ports 5 & 6
S4	1 + 2	Bus Bridge : Modbus RTU Ports 5 + 6 ON : CAN open is linked to Ports 5 & 6
	3 + 4	No Function
S5	1 + 2	Bus Bridge : CAN Open Ports 7 + 8 ON : CAN open is linked to Ports 7 & 8
	3 + 4	Bus Bridge : Optibus Ports 7 + 8 ON : CAN open is linked to Ports 5 & 6
S6	1 + 2	Bus Bridge : Modbus RTU Ports 7 + 8 ON : CAN open is linked to Ports 7 & 8
	3 + 4	No Function



Operating Principle

All pins of ports 1 to 4 are internally connected together at all times, e.g., pin 1 of port 1 is connected to pin 1 of ports 2, 3 and 4, pin 2 of port 1 is connected to pin 2 of ports 2, 3 and 4 etc. This ensures that all networks are always connected between ports 1, 2, 3 and 4.

All pins of ports 5 and 6 are internally connected together at all times, e.g., pin 1 of port 5 is connected to pin 1 of port 6, pin 2 of port 5 is connected to pin 2 of port 6 etc. This ensures that all networks are always connected between ports 5 and 6.

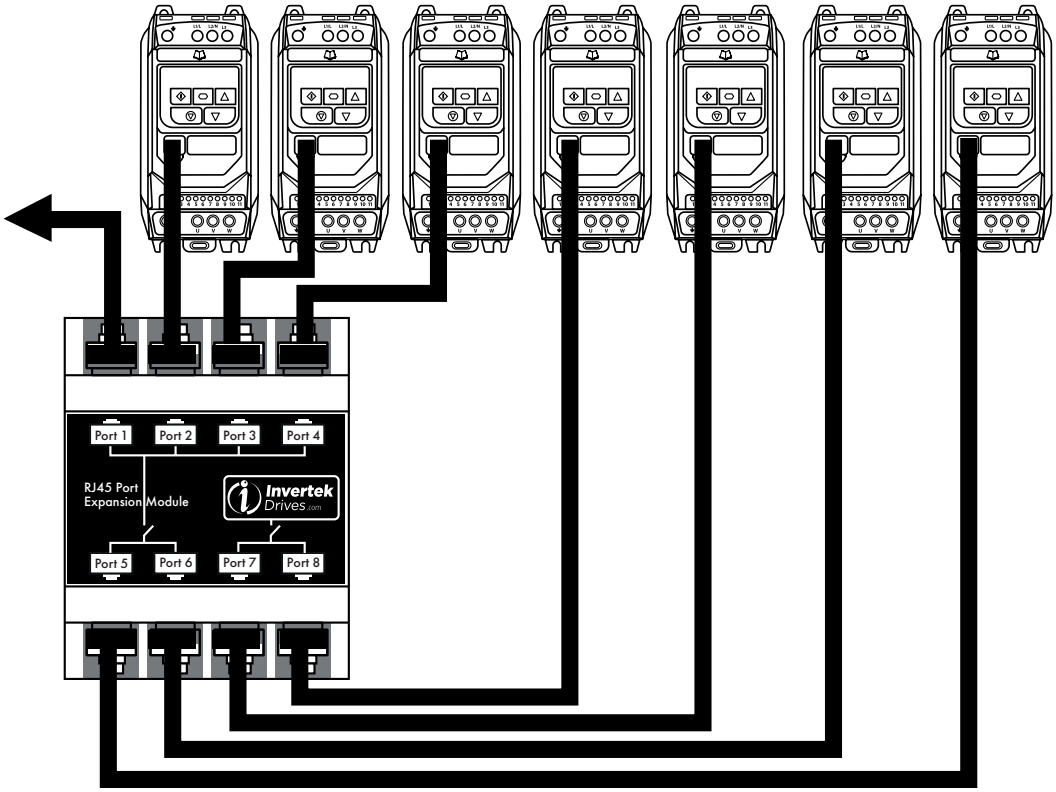
Ports 5 and 6 are connected to ports 1 to 4 via the Bus Bridge DIP Switches S3 and S4. This allows the user to select whether connection is required for each individual bus, e.g., if DIP Switches 1 and 2 of S3 are on, CAN bus is connected from ports 1 – 4 to ports 5 and 6.

All pins of ports 7 and 8 are internally connected together at all times, e.g., pin 1 of port 7 is connected to pin 1 of port 8, pin 2 of port 7 is connected to pin 2 of port 8 etc. This ensures that all networks are always connected between ports 7 and 8.

Ports 7 and 8 are connected to ports 1 to 4 via the Bus Bridge DIP Switches S5 and S6. This allows the user to select whether connection is required for each individual bus, e.g., if DIP Switches 1 and 2 of S5 are on, CAN bus is connected from ports 1 – 4 to ports 7 and 8.

Using the DIP switches, the user can easily create networks which use multiple bus systems, for example when a number of drives are connected on a Modbus network, each with an Optipad remote keypad. The Optipad uses Optibus to communicate with the connected drive, and a maximum of two Optipads can be connected on a single Optibus network. By using the DIP switches on the RJ45 Port Expansion Module, the end user can connect an Optipad to port 5 and a drive to port 6, allowing the Optipad and drive to communicate. A second Optipad can be connected to port 7, and a second drive connected to port 8, again allowing the Optipad and drive to communicate.

Usage Example



Connect 7 E3 drives to a single master PLC

- Bus Termination Resistors can be switched on or off as required
- All Bus Bridges can be switched on or off as required

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