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ProtoCarrier-232 DTE User Manual
Model # FPC-CØ1

APPLICABILITY & EFFECTIVITY

This manual provides instructions for the following FieldServer products:

Description

Explains the Functioning and Set-up of the ProtoCarrier-232 FPC-CØ1.

The instructions are effective for the above as of April 2008

Instruction Manual Part Number: T17016
Rev.A.

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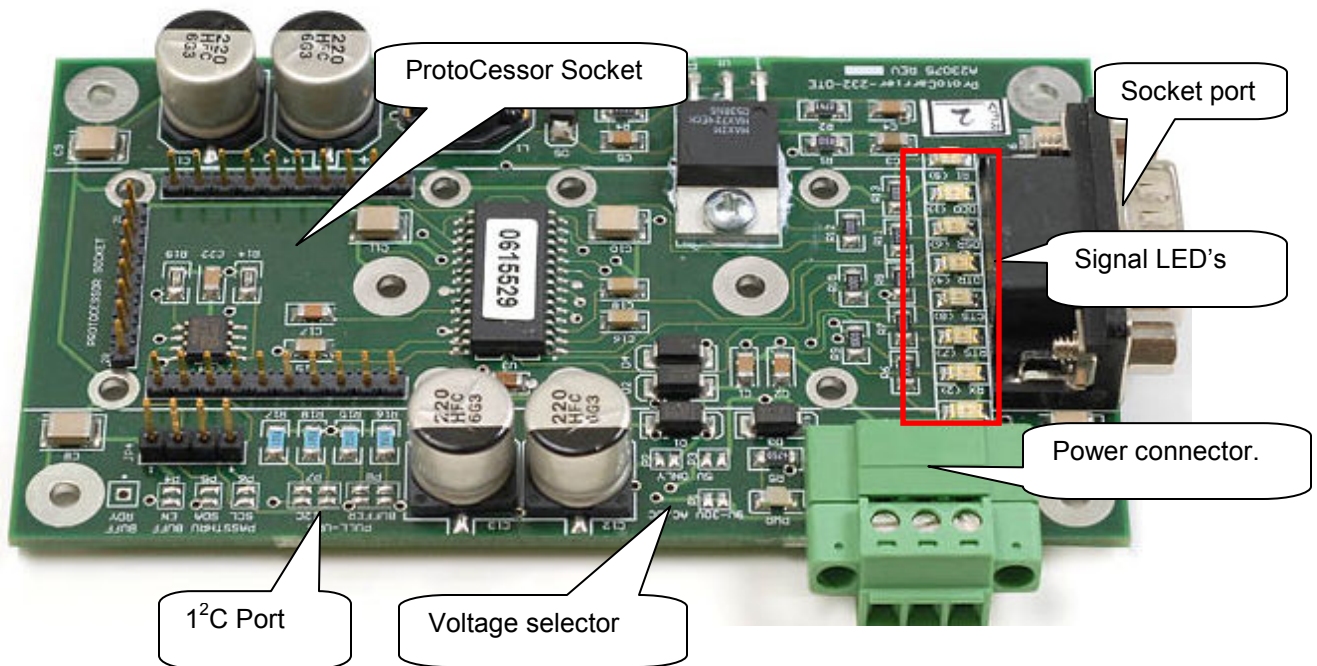
1. Introduction

The ProtoCarrier-232 FPC-CØ1 board is a carrier board for ProtoCessor devices providing a serial port interface to the TTL socket serial port provided on the ProtoCessor. The board allows easy connection to the serial ports using a DB-9 connector, connected as a DTE (Data Terminal Equipment) so that it may be connected to DCE (Data Communication Equipment) device e.g. a modem. Full serial status indication is provided with LED's.

The board can be powered from a fixed 5V DC supply or a 9V - 30V AC/DC. The input voltage is rectified and regulated to meet the requirements of the ProtoCessor devices.

2. Board Layout

The important ports and devices on the ProtoCarrier-232 FPC-CØ1 board are indicated below.



3. Port Assignments

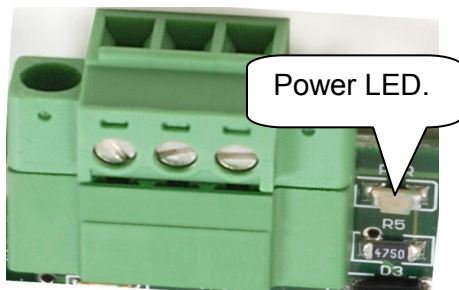
3.1. ProtoCessor Socket

The ProtoCessor module is plugged onto the board at the ProtoCessor socket. The pinouts for the ProtoCessor Socket are as follows.

Pin No	Pin Assignment	Data Direction
Pin 1	Frame Ground	
Pin 2	5V	
Pin 3	TxD	Out
Pin 4	RxD	In
Pin 5	CTS	In
Pin 6	RTS	Out
Pin 7	DSR	In
Pin 8	DTR	Out
Pin 9	DCD	In
Pin 10	Reserved	
Pin 11	GND	
Pin 12	I ² C Clock line	
Pin 13	I ² C Data Line	
Pin 14	RI	In
Pin 15	Reserved	
Pin 16	Reserved	
Pin 17	Reserved	
Pin 18	Reserved	
Pin 19	Reserved	
Pin 20	Reserved	

3.2. Power Connector

The Power Supply Port uses the three pin plug connector that can supply fixed 5V DC or 9V – 30V AC/DC. A power LED is included to display whether the board has 5V power or not.

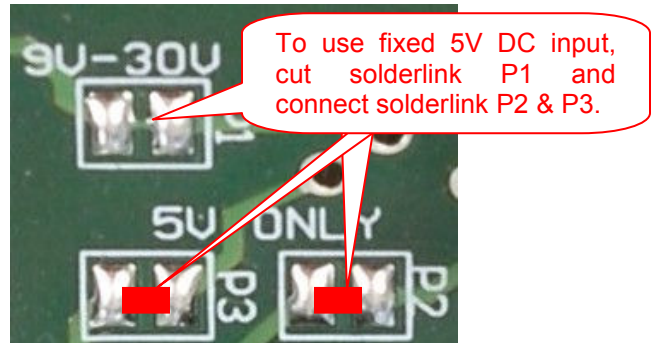


3.3. Voltage Selector

By default the voltage selector is set for 9V – 30V AC/DC input. To use a fixed 5V DC input the SolderLink P1 needs to be cut and

SolderLinks P2 and P3 need to be connected.

Refer also to Section 5.



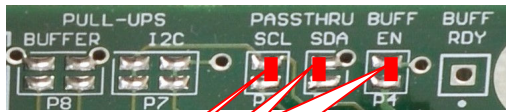
3.4. Socket Port

This port provides access to the serial port provided by the ProtoCessor module. On the ProtoCarrier-232 FPC-CØ1 board this connector is a male DB9 connector, connected as a DTE device. This allows one to connect the board to a modem device using a standard modem cable. The pin assignments are as follows:

Pin No	Pin Assignment	Data Direction
Pin 1	DCD	In
Pin 2	RX	In
Pin 3	TX	Out
Pin 4	DTR	Out
Pin 5	GND	
Pin 6	DSR	In
Pin 7	RTS	Out
Pin 8	CTS	In
Pin 9	RI	In

3.5. I²C Port

The I²C port provides I²C communication to other ProtoCessors or devices. The I²C port contains an I²C buffer for more reliable I²C communications which is enabled by default. The buffer can be bypassed by connecting the Solderlinks P4, P5 and P6. Refer also to Section 5.



Connect solderlinks P4, P5 & P6 to bypass buffer.

- When using the I²C with the I²C Buffer enabled, it is necessary to provide I²C pull-up resistors external to the board and to ensure that the I²C pull-up resistors on the ProtoCessor modules are connected as well.
- When bypassing the I²C buffer one should provide external I²C pull-up resistors.

The I²C connector has the following pinouts.

Pin No	Pin Assignment
Pin 1	GND
Pin 2	I ² C Data
Pin 3	5V
Pin 4	I ² C Clock

These pinouts are identical to the popular MCC I²C cables.

Notes:

3.6. RS-232 Signal LEDs

The RS-232 Signal LEDs are each labeled and correspond to the respective data and control signals. Each label also shows the pin number (on the connector) that the signal is transmitted or received on. The following signals are provided. TX, RX, RTS, CTS, DTR, DSR, DCD, and RI.



4. Power Requirements

The power supply requirements of the ProtoCarrier-232 FPC-C01 board are 9V – 30V AC/DC or fixed 5V DC input.

The power supply must be able to supply 1A of current.

5. Summary of SolderLinks

Link	Function	9V – 30V AC/DC input	
		Select	Deselect
P1	These links are used to select power input. For 9V – 30V AC/DC input (default) P1 is selected and P2, P3 deselected. For 5V DC supply, P1 must be deselected and P2, P3 selected.	Solder across the link.	Clear solder from link.
P2			
P3			
P4	This link enables or disables the I ² C buffer, and is used in conjunction with P5 and P6 to bypass the buffer chip. Note: P4 must be closed if P5 and P6 are closed. Leaving P4 open with P5 and P6 closed will create contention between the I ² C signals from the ProtoCessor and the buffered signals, and lead to incorrect communication.	Solder across the link.	Clear solder from link.
P5	This link causes the I ² C Data signal to bypass the I ² C buffer.	Solder across the link.	Clear solder from link.
P6	This link causes the I ² C Clock signal to bypass the I ² C buffer.	Solder across the link.	Clear solder from link.

Appendix A. Disclaimer

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