The Embedded I/O Company

TIP866-TM-30

Transition Module for TIP866/TIP867

with 16 RJH Connectors

Version 1.0

User Manual

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TIP866-TM-30

Transition Module for TIP866 and TIP867 with 16 RJH Connectors

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Style Conventions

Hexadecimal characters are specified with prefix 0x, i.e. 0x029E (that means hexadecimal value 029E).

For signals on hardware products, an ‚Active Low' is represented by the signal name with # following, i.e. IP_RESET#.

Issue	Description	Date
1.0	First Issue	September 1997
1.1	Redesign	January 1998
1.2	Add cable TA106-10	June 2002
1.3	Completion "Technical Specification"	April 2003
1.4	New address TEWS LLC	September 2006
1.5	Added details for Jumper Configuration	July 2007

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1 <u>Product Description</u>

The TIP866-TM-30 is a complete interface solution for the TIP866-10 (8 serial channels RS232) and the TIP867-10 (8 serial channels RS485). Two TIP866-10 or TIP867-10 can be connected to one TIP866-TM-30. The TIP866-TM-10 comes with two TA106-10 cables (0.8m ribbon cable with 50 pin ribbon cable connectors).

The 16 serial ports of the two TIP866-10 or TIP867-10 are routed to 16 4pin RJH connectors located in the 6U/4TE front panel of the TIP866-TM-30.

Jumper fields are provided for each channel to select termination for the RS485 (Jn1: 1-2, 3-4).

A two pin screw terminal (X9) can be used to supply the on board termination for RS485.

TXD, RXD and GND are supported for each of the 8 serial channels of the TIP866-10 (RS232).

DX+/- and GND are supported for the TIP867-10 (RS485).

This transition module can also be used with the IP-Octals.

2 Technical Specification

Board Size	233 mm x 80 mm
Front panel	6U / 4TE front panel with 16 4pin RJH connectors
Interface to IP	2 connectors for 50 conductor flat cable
Cable	2 TA106-10 (0.8m ribbon cable with 50 pin ribbon cable connectors)
Power Supply	+5V / GND by 2 pin screw terminal Power only required supplying on board termination. Fuse protected by a 1A Multifuse.
MTBF	459746h

Figure 2-1 : Technical Specification

3 Connector X1 Pin Assignment

	Connector X1			Connector X2	
X1 Pin	TIP866-10 (RS232)	TIP867-10 (RS485)	X1 Pin	TIP866-10 (RS232)	TIP867-10 (RS485)
1	GND1	GND1	1	GND9	GND9
2	TXD1	DX1-	2	TXD9	DX9-
3	RXD1	DX1+	3	RXD9	DX9+
4	Nc	Nc	4	Nc	Nc
5	Nc	Nc	5	Nc	Nc
6	GND2	GND2	6	GND10	GND10
7	TXD2	DX2-	7	TXD10	DX10-
8	RXD2	DX2+	8	RXD10	DX10+
9	Nc	Nc	9	Nc	Nc
10	Nc	Nc	10	Nc	Nc
11	GND3	GND3	11	GND11	GND11
12	TXD3	DX3-	12	TXD11	DX11-
13	RXD3	DX3+	13	RXD11	DX11+
14	Nc	Nc	14	Nc	Nc
15	Nc	Nc	15	Nc	Nc
16	GND4	GND4	16	GND12	GND12
17	TXD4	DX4-	17	TXD12	DX12-
18	RXD4	DX4+	18	RXD12	DX12+
19	Nc	Nc	19	Nc	Nc
20	Nc	Nc	20	Nc	Nc
21	GND5	GND5	21	GND13	GND13
22	TXD5	DX5-	22	TXD13	DX13-
23	RXD5	DX5+	23	RXD13	DX13+
24	Nc	Nc	24	Nc	Nc
25	Nc	Nc	25	Nc	Nc
26	GND6	GND6	26	GND14	GND14
27	TXD6	DX6-	27	TXD14	DX14-
28	RXD6	DX6+	28	RXD14	DX14+
29	Nc	Nc	29	Nc	Nc
30	Nc	Nc	30	Nc	Nc
31	GND7	GND7	31	GND15	GND15
32	TXD7	DX7-	32	TXD15	DX15-
33	RXD7	DX7+	33	RXD15	DX15+
34	Nc	Nc	34	Nc	Nc
35	Nc	Nc	35	Nc	Nc
36	GND8	GND8	36	GND16	GND16
37	TXD8	DX8-	37	TXD16	DX16-

Connector X1			Connector X2		
X1 Pin	**TIP866-10 (RS232)**	**TIP867-10 (RS485)**	**X1 Pin**	**TIP866-10 (RS232)**	**TIP867-10 (RS485)**
38	RXD8	DX8+	38	RXD16	DX16+
39	nc	nc	39	Nc	nc
40	nc	nc	40	Nc	nc
41	nc	nc	41	Nc	nc
42	nc	nc	42	nc	nc
43	nc	nc	43	nc	nc
44	nc	nc	44	nc	nc
45	nc	nc	45	nc	nc
46	nc	nc	46	nc	nc
47	nc	nc	47	nc	nc
48	nc	nc	48	nc	nc
49	nc	nc	49	nc	nc
50	nc	nc	50	nc	nc

nc = not connected on the TIP866-TM-30

Figure 3-1 : Connector X1 and Connector X2 Pin Assignment

4 RJH Pin Assignment

Pin No. RJH	RS232	RS485
1	GND	GND
2	RXD	DX+
3	TXD	DX-
4	GND	GND

Figure 4-1 : Pin Assignment of RJH Connector TIP866-TM-30 Channel 1 to 16

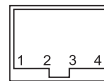**GND of each of the 16 RJH connectors is routed separately to X1 / X2.**

Figure 4-2 : RJH Pinning

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5 Connector X9 Pin Assignment

Pin	Signal
1	GND
2	+5V

Figure 5-1 : Pin Assignment of X9 Screw Terminal

6 Jumper Configuration

Position	Function
1-2	Installed: 120R On Board Termination for RS485 Mode active
3-4	Open: No On Board Termination for RS485 Mode

Figure 6-1 : Jumper Field Jn1

Jumper Configuration Notes:

There is a jumper field (Jn1) per serial channel n (n = 1 to 16) for enabling the on board termination for the RS485 mode. Install all jumpers on the jumper field to enable the on board termination for RS485 mode. Remove all jumpers from a serial channel jumper field for RS232 mode or if on board termination is not desired for RS485 mode.

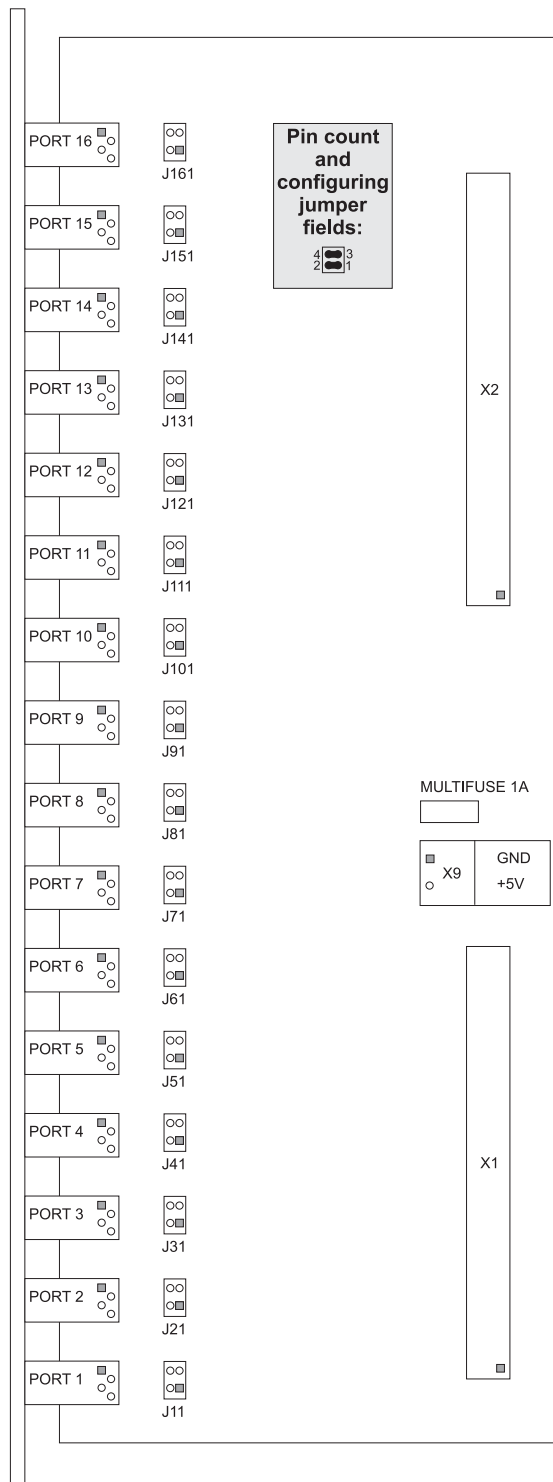**Using the on board termination feature requires a +5V power supply at the X9 connector (2 pin screw terminal).**

7 Assembly Drawing

Figure 7-1 : Assembly Drawing