



Using the TIU Terminal Range with a KEB COMBIVERT Inverter.

Protocol Revisions

Version 1.00 Supports master only operation to the slave Inverter using the KEB ANSI 3.28 protocol. Communication is via the 9 pin 'D' type located on the front of the inverter. The default settings are 9600 baud, seven data bits, even parity and one stop bit with no handshaking. The connector can be wired either as RS232 or RS 422/485 communications. See attached drawings.

Correct Firmware

The TIU terminal will only communicate with the Drive if it has the appropriate firmware installed. This will be displayed on the front screen of the terminal during "power up". If new firmware needs installing the appropriate file for the terminal type is required i.e.

Tiu050 = KEB_R?.0xx
Tiu1xx = KEB_R?.1xx
Tiu2xx = KEB_R?.2xx
? = The TIU firmware revision.

To install the firmware into the TIU terminal select: -

Select "Configure" / "Terminal type" to initialise all relevant parameters.

Select "Configure" / "Communication Settings" in Cbreeze and then select the "Manufacturer" and "Model" being used and also check that Communication Mode, Baud Rates and Network details are all correct. Then from the "File" menu select "Update TIU Protocol". The correct file name should be displayed.

Addresses

Global Remote Node ID default address is 1.

The address can be changed in parameter ud 6 within the range 1 to 239. This can be changed from the TIU but obviously, once changed, communication will no longer be possible until the Communication node address has been changed in the configuration to be the same as the Drive.

Broadcasting to multiple drives simultaneously

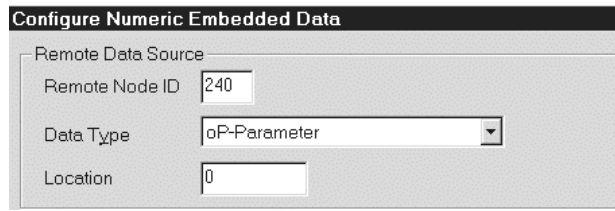
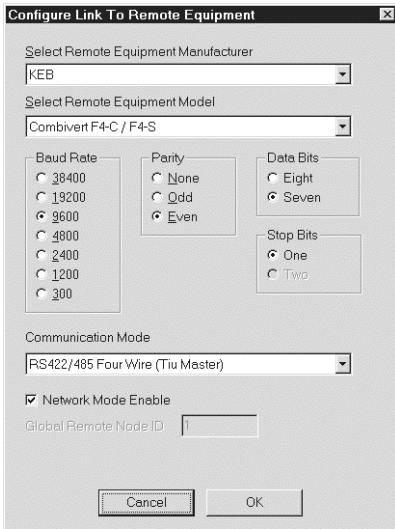
Broadcasting to a multiple of networked drives is possible with this Drive. The Comms mode must be set to RS422/485 with the Network Mode Enable.

Address 240 in the TIU will broadcast to KEB COMBIVERT addresses 0-15 and will read from address 0.
Address 241 in the TIU will broadcast to KEB COMBIVERT addresses 0-15 and will read from address 16.

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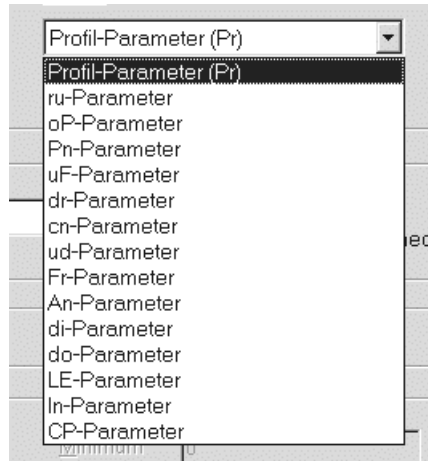
Address 254 in the TIU will broadcast to KEB COMBIVERT addresses 224-239 and will read from address 224

Note that on a broadcast network, reads can only be from the lowest address in the group. Attempting to read from any other address will result in a communication failure and will show as *****.



Parameter Range

The full parameter range is implemented and displayed as follows: -



The functionality of these registers is beyond the scope of the document and users should refer to the appropriate KEB COMBIVERT manual for details.

However it is worth noting that some parameter value are shown in hexadecimal format on the KEB COMBIVERT display but these will be shown in decimal on the TIU.

Connecting a TIU to a KEB Combivert inverter

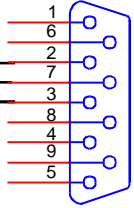
Interface Part number
00.F4.010-1009

TIU 100/110

+5V	1
TX 485/422+	2
TX 485/422-	3
RX 485/422+	4
RX 485/422-	5
TX RS232	6
0V (GND)	7
RX RS232	8
TX 20mA +	9
TX 20mA-	10
RX 20mA+	11
RX 20mA-	12
EARTH	13

RS232

9 Pin Male
D type (Rear)



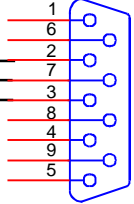
Interface Part number
00.F4.010-1009

TIU 50/101/102/111/112/20X

TX 485/422+	1
TX 485/422-	2
RX 485/422+	3
RX 485/422-	4
TX RS232	5
0V (GND)	6
RX RS232	7
SHIELD	8

RS232

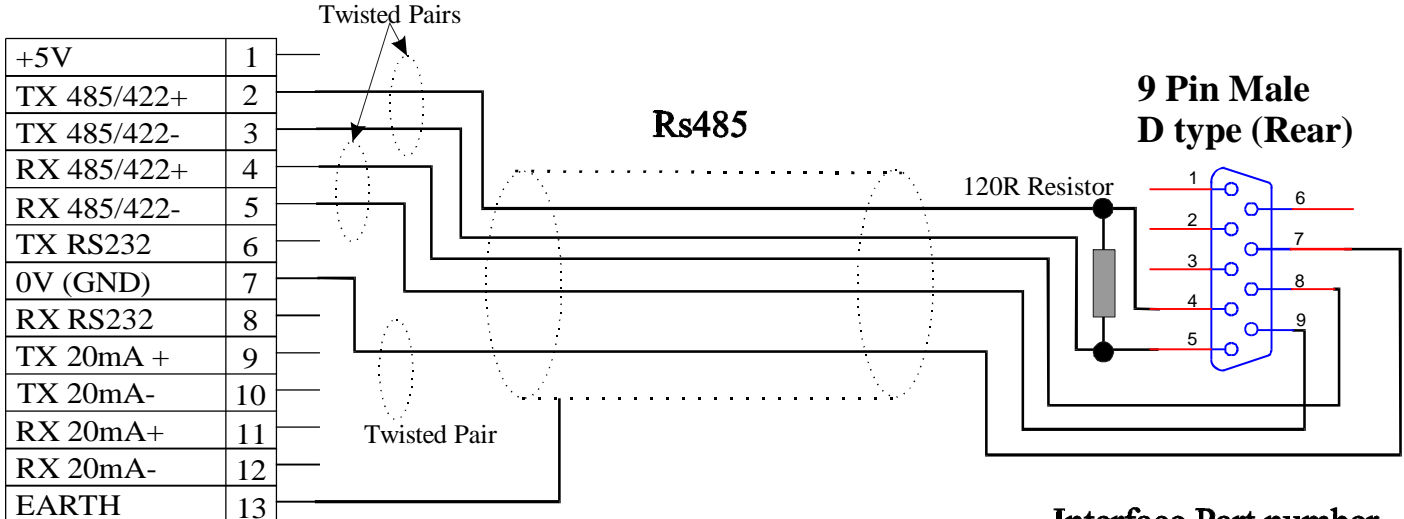
9 Pin Male
D type (Rear)



Connecting a TIU to a KEB Combivert inverter

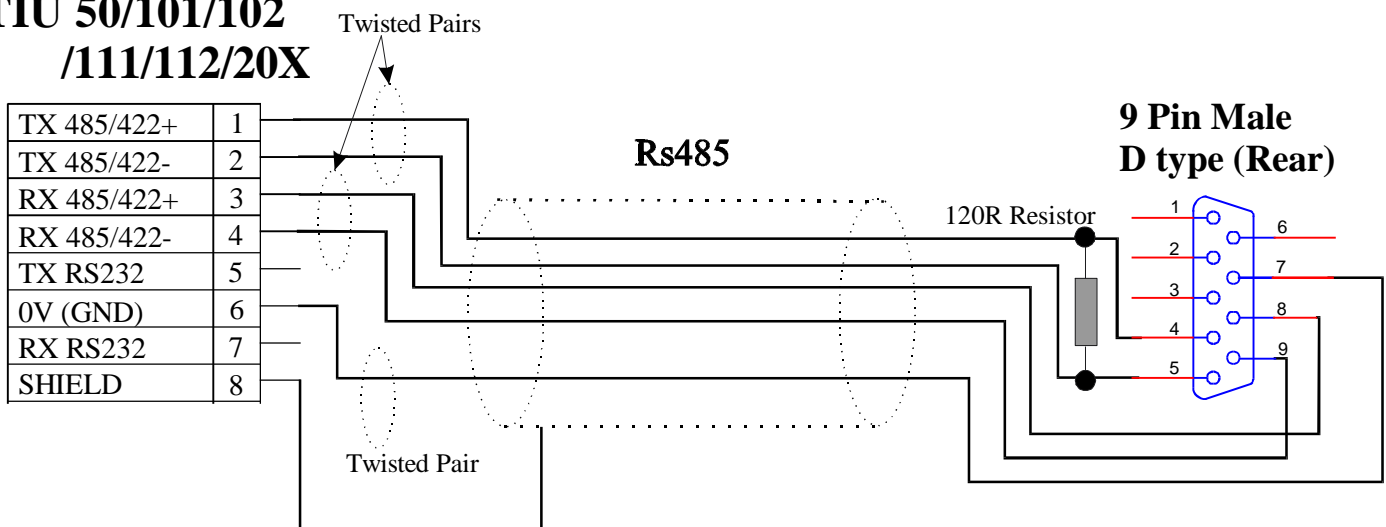
Interface Part number
00.F4.010-1009

TIU 100/110



Interface Part number
00.F4.010-1009

TIU 50/101/102 /111/112/20X



Configuration Bank

Switch	ON	OFF
1	Pull-up	No Pull-up
2	120 termination	No termination
3	Pull-down	No Pull-down
4	Reserved for future use	

NOTE: Switch 1 and 3 must be used together.

Use Belden 9503 type (triple twisted pair) cable.
The 120R resistor should be fitted on the last node on the network.

