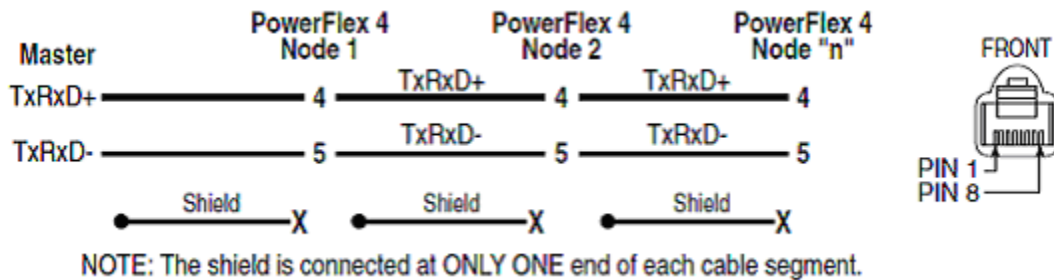


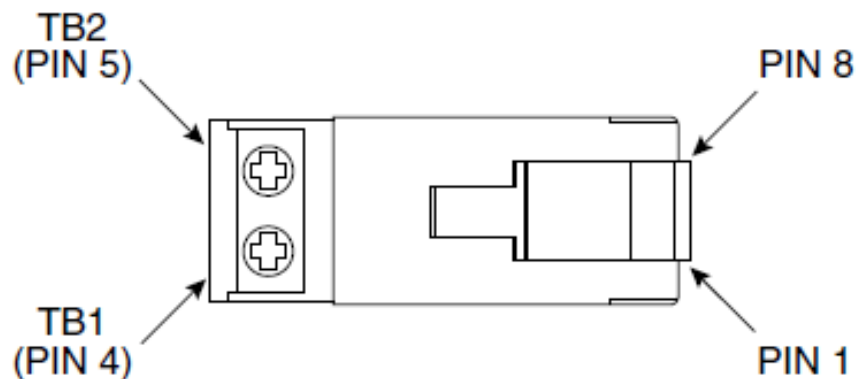
A-B PowerFlex-40 Communications Setup

Allen-Bradley PowerFlex-40 VFD controllers have built-in Modbus communications, which is supported by the Kiltel program. Communications needs to be enabled within each PowerFlex device (this is off by default) by setting appropriate values within several of the device setup registers. The following information, gathered from the Powerflex documentation, highlights the configuration setups and physical wiring modifications to enable communications.

PowerFlex drive(s) are connected in a daisy-chained manner with 22- or 24-gauge stranded (not solid) single-pair communications cable; each unit requires a special adapter which translates from the device's RJ45 socket to screw terminals:



RJ45 Two-Position Terminal Block Adapter – Catalog Number: AK-U0-RJ45-TB2P



For use with Kiltel's standard B&B 485TBLED RS485 serial converter, TB2 should be connected to (RX- and TX-), and TB1 to (RX+ and TX+); there is no ground connection. The termination resistors mentioned in the AB manual can be omitted.

Parameter Configuration

The following PowerFlex 40 parameters are used to configure the drive to operate on a network.

Parameter	Details	Reference
P036 [Start Source]	Set to 5 "RS485 (DSI) Port" if Start is controlled from the network.	Page 3-10
P038 [Speed Reference]	Set to 5 "RS485 (DSI) Port" if the Speed Reference is controlled from the network.	Page 3-12
A103 [Comm Data Rate]	Sets the data rate for the RS485 (DSI) Port. All nodes on the network must be set to the same data rate.	Page 3-30
A104 [Comm Node Addr]	Sets the node address for the drive on the network. Each device on the network requires a unique node address.	Page 3-30
A107 [Comm Format]	Sets the transmission mode, data bits, parity and stop bits for the RS485 (DSI) Port. All nodes on the network must be set to the same setting.	Page 3-31

A103 [Comm Data Rate]

Related Parameter(s): [d015](#)

Sets the serial port rate for the RS485 (DSI) port.

Important: Power to drive must be cycled before any changes will affect drive operation.

Options	Value
0	"1200"
1	"2400"
2	"4800"
3	"9600" (Default)
4	"19.2K"
5	"38.4K"

A104 [Comm Node Addr]

Related Parameter(s): [d015](#)

Sets the drive node address for the RS485 (DSI) port if using a network connection.

Important: Power to drive must be cycled before any changes will affect drive operation.

Values	Default:	100
	Min/Max:	1/247
	Display:	1

A103 should be set to **5** (38.4 Kbaud) for use with Kiltel. Each PowerFlex must also be given a unique Modbus address; the default value (100) should be avoided.

A107 [Comm Format]

Related Parameter(s): [d015](#)

Selects the protocol (RTU only), data bits (8 data bits only), parity (None, Even, Odd), and stop bits (1 stop bit only) used by the RS485 port on the drive.

Refer to [Appendix C](#) for details on using the drive communication features.

Important: Power to drive must be cycled before any changes will affect drive operation.

Options	0	"RTU 8-N-1" (Default)
	1	"RTU 8-E-1"
	2	"RTU 8-O-1"
	3	"RTU 8-N-2"
	4	"RTU 8-E-2"
	5	"RTU 8-O-2"

For use with Kiltel, **A107** should be set to **0** (RTU, 8/N/1). Note the requirement for power cycling when this parameter is changed.