

CPP Comm Ports RS-232 -- RS-422/485 Conversion

Using external devices, all comm ports of the CPP can be converted to full duplex RS-422/485 protocols. Additionally, five comm ports of the CPP can be converted between RS-232 and RS-422/485 by removing/installing a line driver integrated circuit and toggling several dip switches. These comm ports are presented below. Several of the comm ports can be used in half duplex operation. These are indicated below. Unless specified at time of order, all comm ports are shipped as RS-232 ports.

Main Processor PC Board

Comm Port #1

This comm port is located on the main Processor PC Board, and can be configured for full or half duplex operation. This comm port is used to poll the CPP.

	<u>RS-232 Operation</u>	<u>RS-422/485 Operation</u>
U36*	Not Installed	Installed
SW2-1	Closed	Open
SW2-2	Closed	Open
SW2-3	Closed	Open
SW1-4	Closed – Half duplex	Closed – Half duplex
SW1-4	Open – Full duplex	Open – Full duplex

Comm Port #2

This comm port is located on the main processor PC Board, and can be configured for full or half duplex operation. This comm port is used for most Modbus connections.

	<u>RS-232 Operation</u>	<u>RS-422/485 Operation</u>
U45*	Not Installed	Installed
SW2-4	Closed	Open
SW2-5	Closed	Open
SW2-6	Closed	Open

Full and half duplex operation of this comm port is set up in the comm port initialization.

Comm Port #3-0

This comm port is located on the main processor PC Board, and can be configured for full or half duplex operation. This comm port is used to connect to instrumentation.

	<u>RS-232 Operation</u>	<u>RS-422/485 Operation</u>
U37*	Not Installed	Installed
SW2-7	Closed	Open
SW2-8	Closed	Open
SW2-9	Closed	Open
SW1-3	Closed – Half duplex	Closed – Half duplex
SW1-3	Open – Full duplex	Open – Full duplex

Expanded Comm Ports

Two ports on the expanded comm port PC Board can be setup as RS-422/485 ports.

Comm Port #3-1

This comm port can be internally configured as an RS-422/485 port operating either half or full duplex. This port is used to collect data from instruments.

	<u>RS-232 Operation</u>	<u>RS-422/485 Operation</u>
U17*	Not Installed	Installed
SW2-1	Closed	Open
SW2-2	Closed	Open
SW2-3	Closed	Open
SW2-4	Closed – Half duplex	Closed – Half duplex
SW2-4	Open – Full duplex	Open – Full duplex

Comm Port #3-2

This comm port can be internally configured as an RS-422/485 port operating either half or full duplex. This port is used to collect data from instruments.

	<u>RS-232 Operation</u>	<u>RS-422/485 Operation</u>
U16*	Not Installed	Installed
SW2-5	Closed	Open
SW2-6	Closed	Open
SW2-7	Closed	Open
SW1-8	Closed – Half duplex	Closed – Half duplex
SW1-8	Open – Full duplex	Open – Full duplex

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These Integrated circuits are RS-422/485 line drivers manufactured by either Linear Technology LTC491, Sipex SP491, or equivalent integrated circuits.