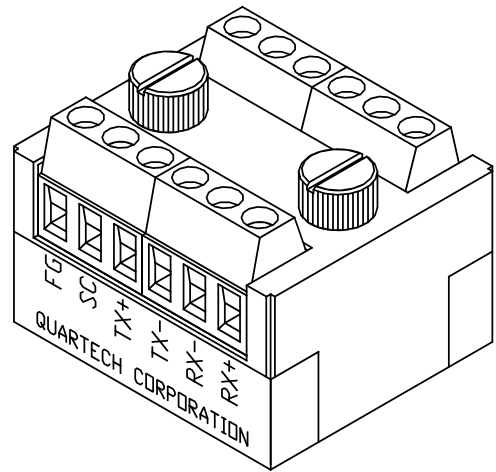


Model 9109K Termination Adapter

The Model 9109K was specifically designed for use with the Allen-Bradley Ultra 3000 Servo Drive. It converts the nine pin D-type connector on the front of the Ultra Drive to miniature compression type terminals.

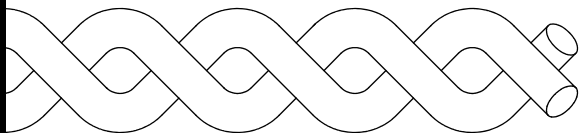
The 9109K simplifies communication cable wiring when multiple Ultra Drives are networked together. It securely mounts to the front of the Ultra Drive using thumb screws.

Network wiring enters one side of the 9109K and can then continue on from the opposite side. This eliminates the need to double up wires into a single terminal which ultimately improves reliability.



The Ultra Drive network is a single master multiple slave configuration using a RS-485 hardware interface. Data is transferred over two twisted pair connections. In this configuration all Ultra Drive transmitters are wired together and connect to the receiver of the master device. All Ultra Drive receivers are wired together and connected to the transmitter of the master device. Each Ultra Drive must have a unique station address which is set using the Ultra Master Programming Software. Provisions exist within the communication protocol that allow the master device to direct a command or request to a particular Ultra Drive using this unique station address.

The physical ordering (position) of an Ultra Drive within a network is irrelevant and independent of the logical ordering (assigned address). The RS-485 network is designed to be wired in a point-to-point fashion. All devices are wired in-line, one after another, forming a single trunk line. Drop lines off the main trunk line are not recommended and may degrade or prevent network operation. The master device should be physically connected at either end of the network so that line termination may be properly implemented if necessary.

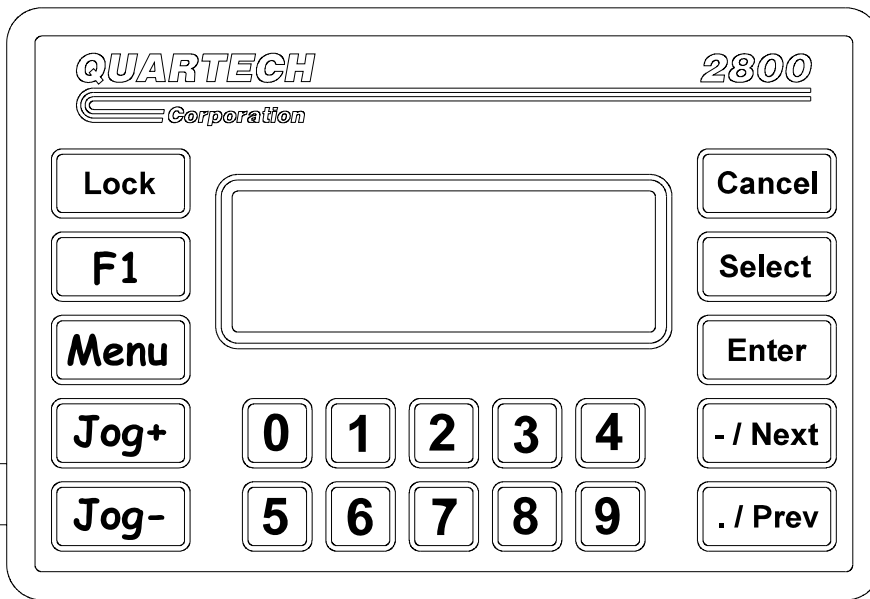


Always use twisted pair communication grade cable designed for RS-485 installations.

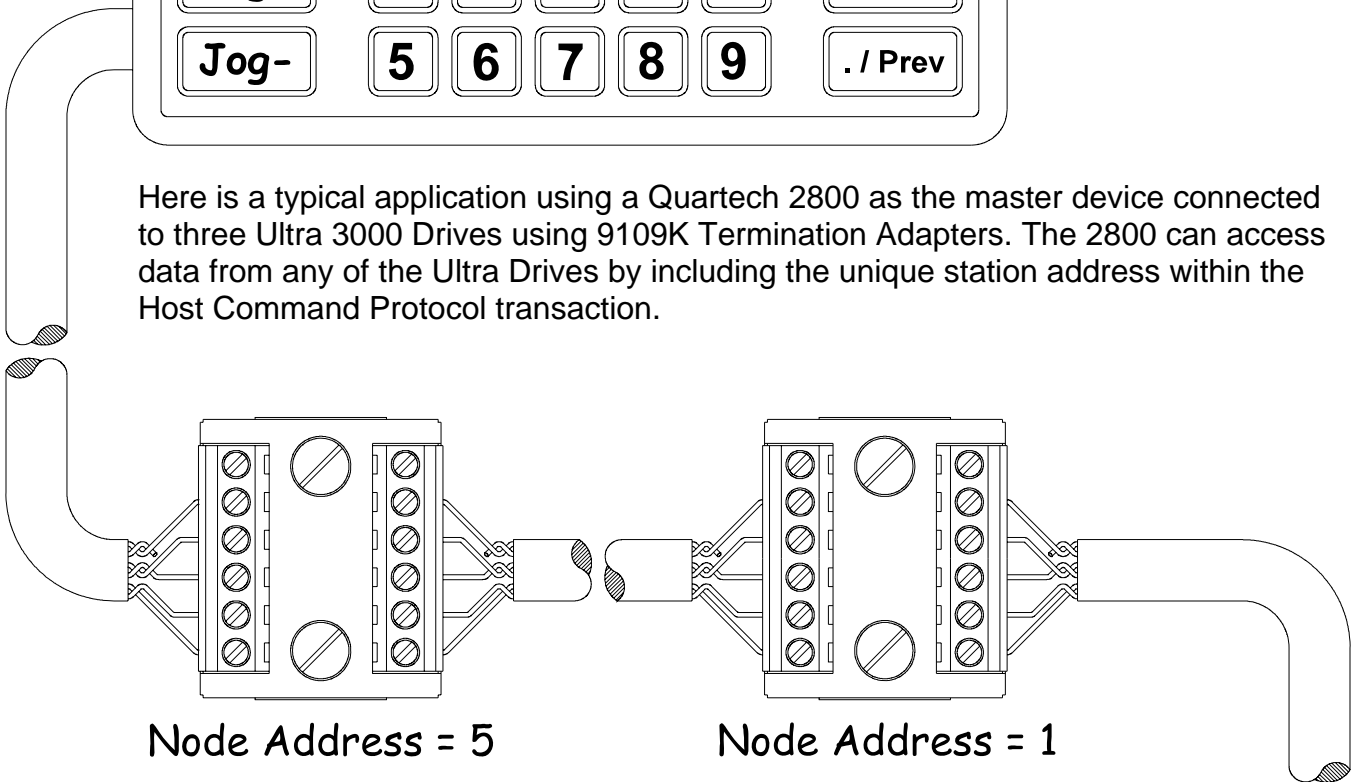
As the trunk line length increases two factors become increasingly important. They are line resistance and line capacitance. In many applications the use of line terminating resistors will improve performance. When necessary, two terminating resistors are required regardless of the number of devices in the network. One terminating resistor is connected at the end of each transmission line. For convenience, a 120 ohm resistor is provided with each 9109K.

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Here is a typical application using a Quartech 2800 as the master device connected to three Ultra 3000 Drives using 9109K Termination Adapters. The 2800 can access data from any of the Ultra Drives by including the unique station address within the Host Command Protocol transaction.

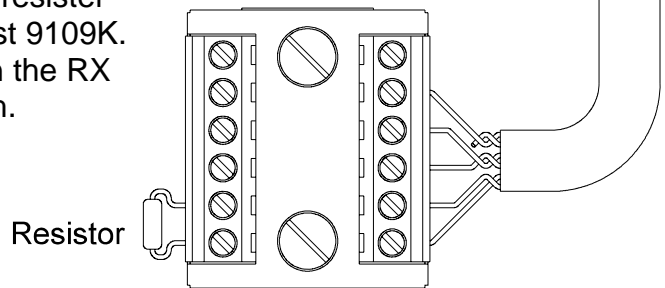


Node Address = 5

Node Address = 1

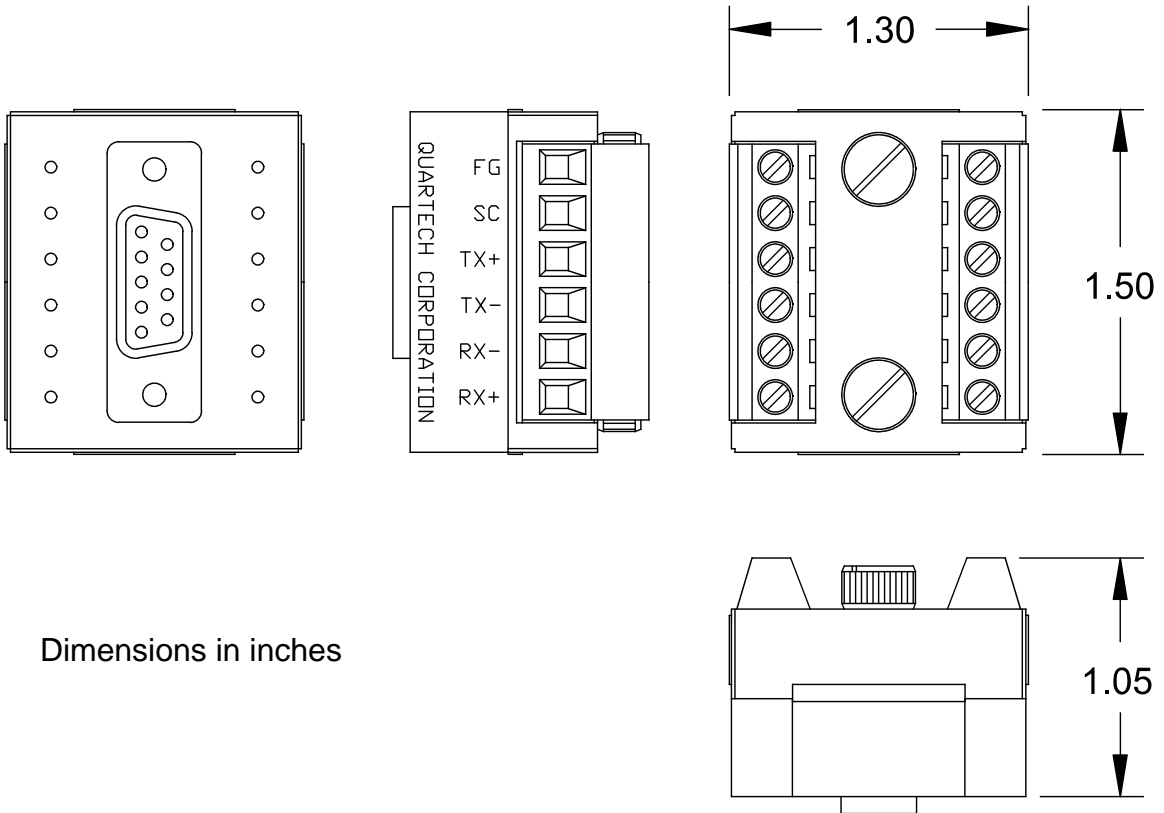
Notice that the assigned node addresses for the Ultra 3000 Drives are not contiguous and are not in ascending or descending order. The only rule is that the addresses must be a unique number from one to thirty two.

The maximum distance from the 2800 to the last Ultra Drive is four thousand feet. Notice a termination resistor is installed across the RX terminal pair on the last 9109K. A termination resistor is also connected between the RX terminal pair on the 2800 by closing a DIP switch.



Node Address = 15

Model 9109K Physical Dimensions



Electrical Schematic

