



**Control
Technology
Corporation**

Installation Guide

Model 2150 Four Digit Thumbwheel Assembly
Model 2158 Eight Digit Thumbwheel Assembly
Model 2860 Four Digit Numeric Display
Model 2868 Eight Digit Numeric Display

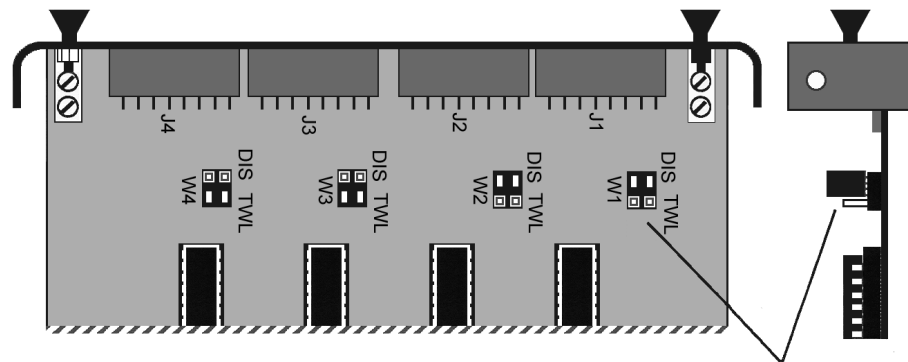
For Use with the 2204 Thumbwheel and Display Interface Module

This guide shows how to connect thumbwheel and numeric displays to your controller.

Connecting Thumbwheels and Numeric Displays

The model 2204 contains a separate pair of jumpers for each of its four connectors. The connectors allow any connector to be independently configured for either thumbwheel or numeric display connections. You cannot mix thumbwheels and displays on a single connector.

As shown in the following illustration, the jumper pairs are labeled and are located adjacent to the connector to which they relate. To configure the connector labelled (on the front panel) BANK 1 to connect a numeric display, move both of the related jumpers labeled W1 to the upper position. This position is labelled DIS on the 2204 module's circuit board.



Jumpers for BANK 1 shown in display position

The jumpers for any given connector must always be moved as a pair, or the controller does not operate properly. In the illustration, the first two connectors are shown configured for displays and the last two are configured for thumbwheels.

HINT! For best performance configure any unused connectors for thumbwheels. The controller constantly scans any connectors configured for display. If the connector is unused, this needlessly slows down the controller.

Numbering of Thumbwheels and Displays

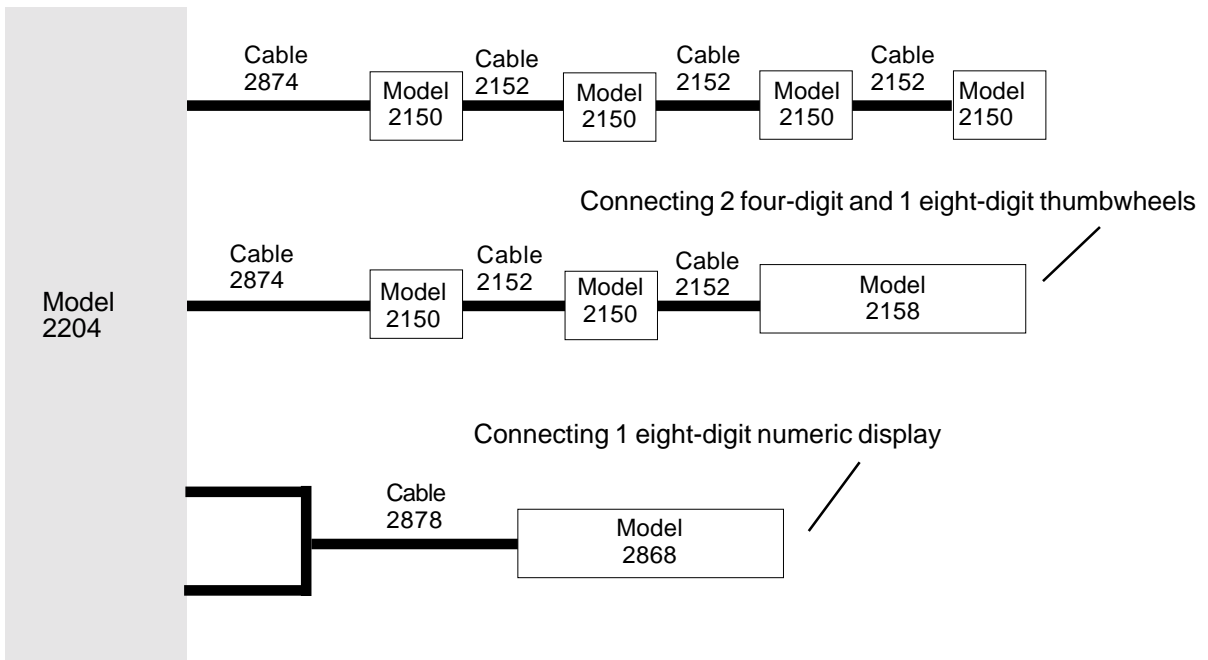
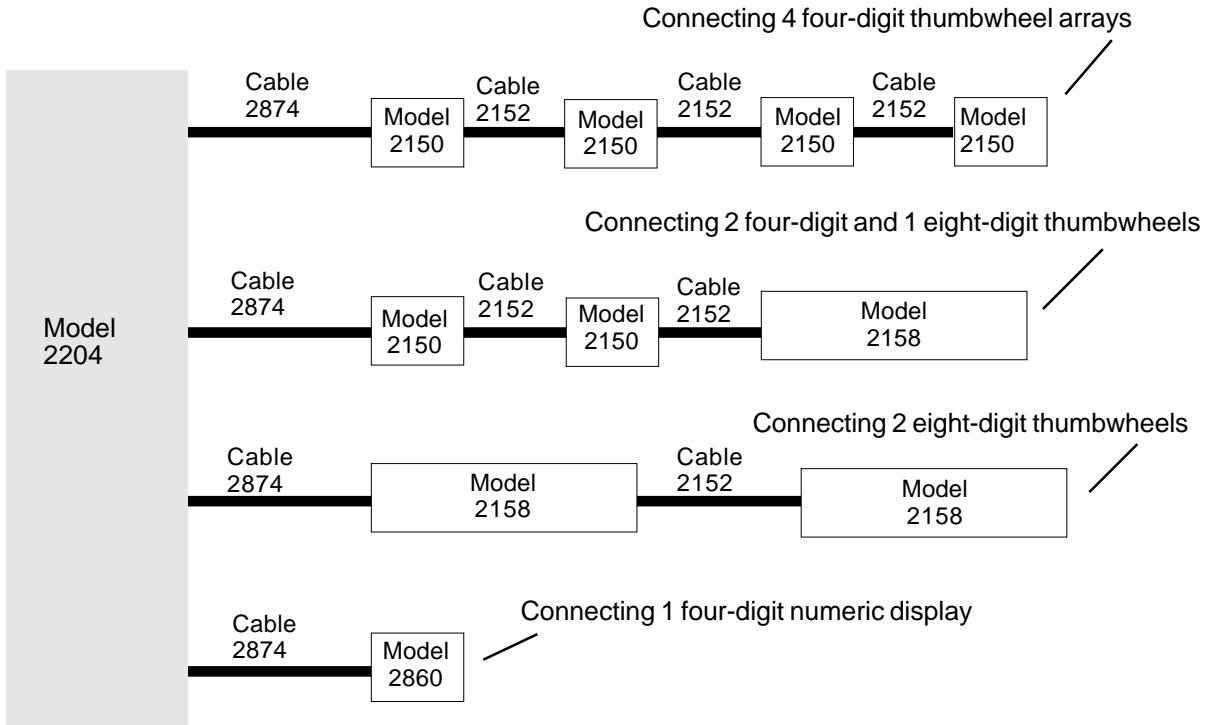
The controller automatically scans the 2204 module on power up and dynamically assigns display numbers and thumbwheel numbers to the connectors. For each model 2204, the controller scans the connectors and assigns numbers from BANK 1 to BANK 4 sequentially. Each connector is counted whether or not there is a device plugged into it.

Because a controller configured for thumbwheel may have up to four thumbwheel arrays connected, each connector so configured is counted a four thumbwheel arrays. If more than one thumbwheel array is connected, the thumbwheel array closest to the controller is the lowest numbered and the one furthest from the controller is the highest numbered.

Only one numeric display can be connected to any single connector. For this reason, any connector configured for a display is only counted as a single display.

For specific information about programming instructions for thumbwheels and numeric displays, refer to the *Quickstep™ Language and Programming Guide*.

The following diagrams illustrate some of the connection options for the four connectors on the model 2204 Thumbwheel and Display Interface Module.



Component Dimensions

| Model | Dimensions |
|--|---|
| Model 2150 four-digit thumbwheel array | 2.2" W x 0.945" H x 2.06" behind panel |
| Model 2158 eight-digit thumbwheel array | 3.46" W x 0.945" H x 2.06" behind panel |
| Model 2860 four-digit numeric display | 3.4" W x 1.6" H x 1.83" behind panel |
| Model 2868 eight-digit numeric display | 5.4" W x 1.6" H x 1.83" behind panel |
| Model 2874 Cable (for all but model 2868) | 6 ft |
| Model 2152 Cable (for all but model 2868) | 1 ft |
| Model 2878 Cable (for model 2868 only) | 6 ft |
