



Communications Cable Terminal Block (BA/COMBLK)

Mounting, Termination and Troubleshooting

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Overview

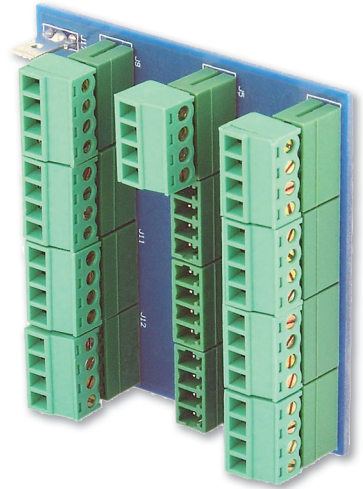
The COMBLK - Communication Cable Terminal Block is a small circuit board designed to simplify the task of terminating communications wiring.

The COMBLK fits into the TRK18 snaptrack or any other industry standard 2.75" snaptrack. Each COMBLK contains four independent circuits with three connectors - one for bus in, one for bus out and a third for wiring to the controller.

The COMBLK allows each bus to be quickly isolated and tested in each direction to simplifying the troubleshooting of communications problems. A common ground connector provides a convenient means of grounding all shield drain wires. The COMBLK also accommodates the COMSRG surge suppressor, which plugs directly inline between the COMBLK and the communications bus segment.

The COMBLK is suitable for RS-485, Modbus, Echelon®, or virtually any other communications standard that talks over two or three wires.

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Mounting

The COMBLK mounts in a piece of snaptrack as shown in Fig. 1.

Note: The COMBLK may be mounted 90 degrees to what is shown in Fig. 1.

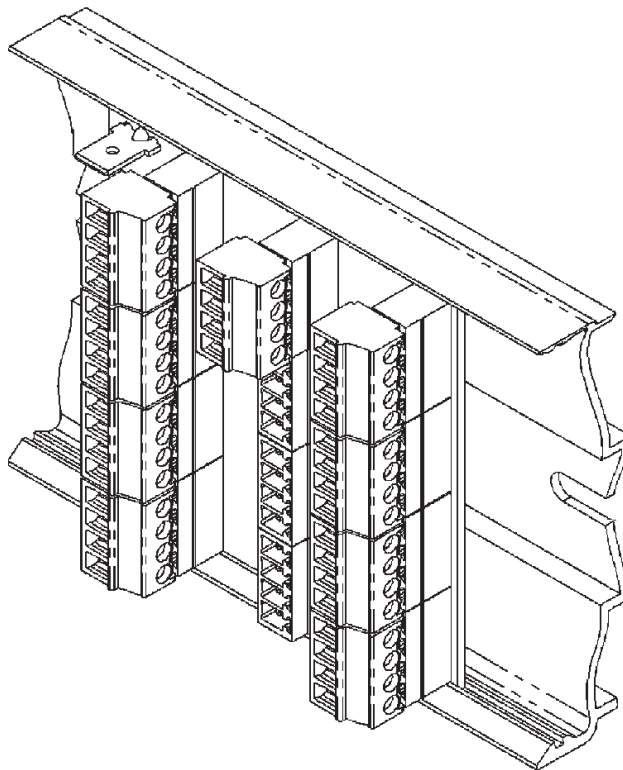


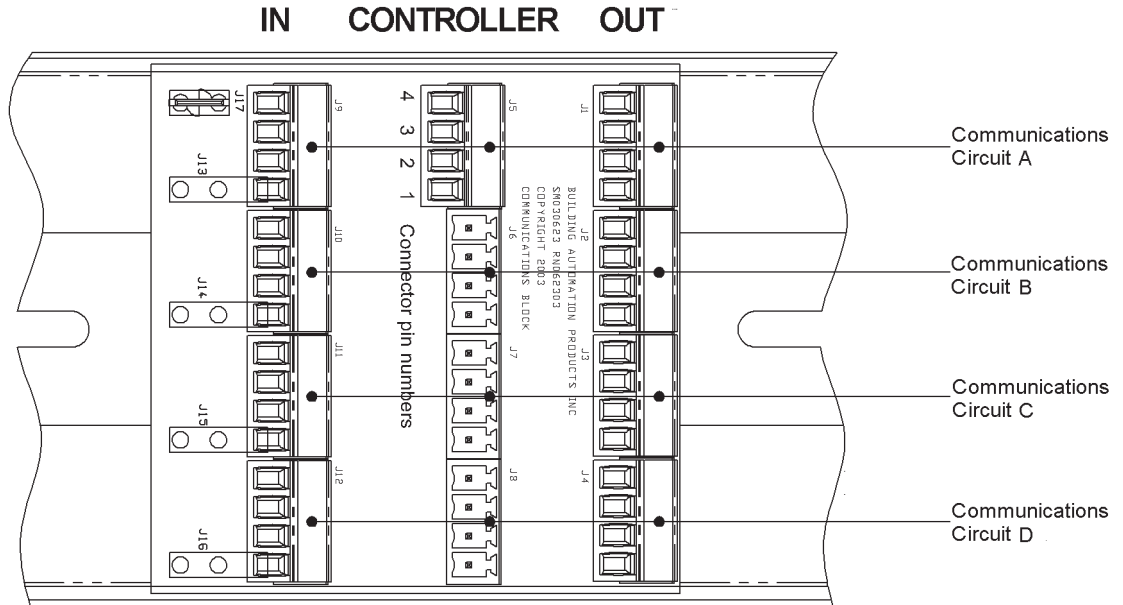
Fig. 1: COMBLK mounted in snaptrack.

Specifications subject to change without notice.

Termination

There are four independent circuits on the COMBLK. Circuit 1 will be described, Circuits 2, 3 and 4 are identical.

Fig. 2:
COMBLK
component
identifier



Note: Pin numbers are only shown for J5. Pin numbers for all other jacks (J1 through J12) are identical.

Jacks J1, J5 and J9 make up Circuit A. All three connector's pin 1s are connected together, all three connector's pin 2s are connected together and all three connector's pin 3s are connected together; additionally, all twelve connector's (J1 through J12) pin 4s are connected together.

Terminal jacks in each communication circuit and their suggested usages are shown in table 1. Suggested pin usage is shown in table 2.

A wire connected to a good earth ground should be connected to 1/4 inch quick connect J17.

Note: The male connectors that plug into the jacks on the board use a rising block screw terminal to hold the wires. It is possible for the block to be in a partially up position allowing the wire to be inserted under the block. Be sure that the male connector screws are turned fully counterclockwise before inserting the wire. Lightly tug on each wire after tightening to verify proper termination.

Note: Best practice is to pick a wiring standard and stick with it for all subsequent terminations. For example; if you have three wires plus shield in your communications cable always wire the same color wire to the same terminal.

Table 1: Communications Block Wiring

| Communication | Connectors Used |
|---------------|--|
| A | J9 (Bus input), J5 (Controller), J1 (Bus out) |
| B | J10 (Bus input), J6 (Controller), J2 (Bus out) |
| C | J11 (Bus input), J7 (Controller), J3 (Bus out) |
| D | J12 (Bus input), J8 (Controller), J4 (Bus out) |

Table 2: Suggested Connector Wiring

| Connector Pin | Circuit Function | Suggested Wire Color |
|---------------|----------------------------|----------------------|
| 1 | Comm A (+) | Red |
| 2 | Comm B (-) | Black |
| 3 | Signal Ground (if needed) | White |
| 4 | Communication Cable Shield | Shield |

Diagnostics

Possible Problem:

Controller cannot talk on bus

Possible Solutions:

- Make sure that the connections are all in the same communications circuit.
- Make sure that polarity is correct on the two communication wires.

Specifications

Wire Size: 16 to 22 gauge

Specifications subject to change without notice.