



RMC200 A8 Cable

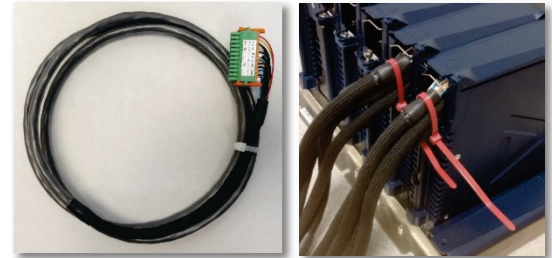
R2-CB-A8-nnA Installation and Wiring

Pigtail cables provide a compact, convenient option for RMC200 modules. These cables are for short distances between the RMC200 and terminal blocks within the same cabinet. For long cable runs, Delta recommends using cables with lower resistance and better shielding.

Supplied Components

The **R2-CB-A8-nnA** part number denotes a single cable assembly. The A8 module requires two R2-CB-A8-nnA cable assemblies – one per terminal block. Each cable assembly consists of:

- Terminal block connector
- One cable wired to the single terminal block connector
- Pigtail ends
- Flexible cable leader for easy bending out of module

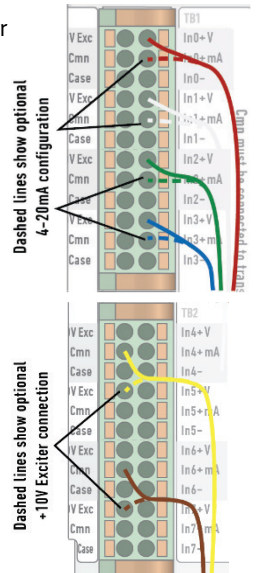


Cable specifications:

- Length: nn = 06: 6 ft (1.83 m); nn = 12: 12 ft (3.66 m) (other lengths available)
- Belden 8778 or equivalent
- OD: 0.352 in; min. bend radius: 3.75 in.
- 6 twisted pairs, individually foil-shielded, 22 AWG stranded, 1 drain wire per pair
- Impedance: 50 Ohms; Capacitance: 30 pf/ft; Resistance: 15 Ohms/1000 ft
- PVC jacket, -20 to 80 °C

A8 Cable Wiring Notes

- The terminal block connectors are pre-wired for voltage inputs. For inputs requiring 4-20 mA, configure the input for current:
 - a. On the terminal block connector, press the orange button with a screwdriver and remove the wire from **In+ V**, then insert the wire into the neighboring **In+ mA** pin.
 - b. In RMCtools, after configuring an axis to use the input, set the **Input Type** axis parameter to current.
- All inputs share the same common potential and all sensor commons must be tied together at some point in the system (typically, they will share a power supply, which would take care of this requirement).
- All Cmn pins on the A8 are internally connected.
- Cables are pre-wired with four Cmn wires and no +10V Exciter wires. The Yellow and/or Brown wires can be moved to +10V Exciter. To do so, on the terminal block connector, move the wire from **Cmn** to an **+10V Exc** pin.
- Shields from each individual sensor cable should be terminated at separate terminal blocks with a low impedance connection to ground.
- Delta recommends the use of ferrules with these cables.



A8 Cable Pin-out

Terminal Block 1 (TB1), Inputs 0-3

Color Pairs		Pin
	Red	In0+
	Black	In0-
	White	In1+
	Black	In1-
	Green	In2+
	Black	In2-
	Blue	In3+
	Black	In3-
	Yellow	Cmn
	Black	Cmn
	Brown	Cmn
	Black	Cmn

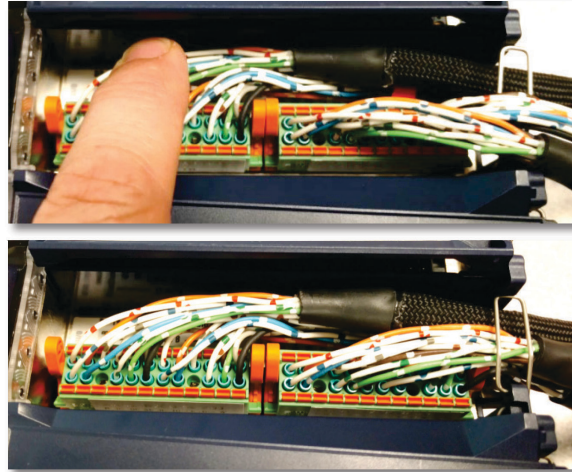
Terminal Block 2 (TB2), Inputs 4-7

Color Pairs		Pin
	Red	In4+
	Black	In4-
	White	In5+
	Black	In5-
	Green	In6+
	Black	In6-
	Blue	In7+
	Black	In7-
	Yellow	Cmn
	Black	Cmn
	Brown	Cmn
	Black	Cmn



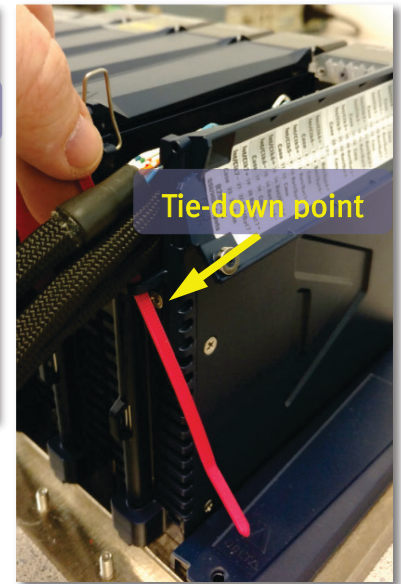
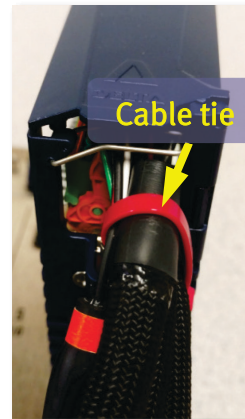
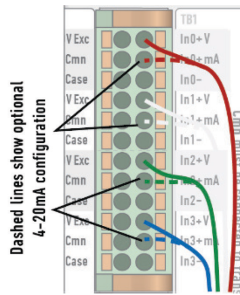
Installation Procedure

1. Insert the terminal block connectors for each cable assembly into the A8 module, tucking the upper cable into the groove:

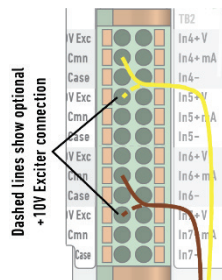


2. Use a cable tie to attach all cables exiting module to the tie-down location shown. This ensures that module door will close properly. The cable tie should clamp onto the heat shrink tubing. Do not overtighten.

3. For each input, insert the **In+** wire into the **V** or **mA** pin on the A8 connector based on your sensor type.



4. Cables are pre-wired with four Cmn wires and no +10V Exciter wires. The Yellow and/or Brown wires can be moved to +10V Exciter. To do so, on the terminal block connector, move the wire from **Cmn** to an +10V **Exc** pin.



5. Connect the pigtail ends to terminal blocks as required by the application. Delta recommends the use of ferrules.

Differential Wiring

The A8 inputs are differential analog inputs. Differential inputs cancel noise when wired as shown below, with the signal and cmn wire in a twisted-pair connected to In+ and In-, and a separate common wire connected to Cmn. Any noise will affect the In+ and In- wires approximately equally. The input subtracts In- from In+, which effectively subtracts out the noise.

The differential input common mode voltage must not drift more than about 12V from the Cmn. Therefore, the In- and Cmn pins must be connected together. If this connection is done close to the sensor, the noise-cancelling qualities are retained. If In- and Cmn are connected together close to the input, the input will function properly, but there will be no noise-cancelling, since the noise on In- is shunted to common and is not available to cancel the noise on the In+ pin.

