

CRL-(x) Specification Sheet

SHEET # 940-2C040

DESCRIPTION

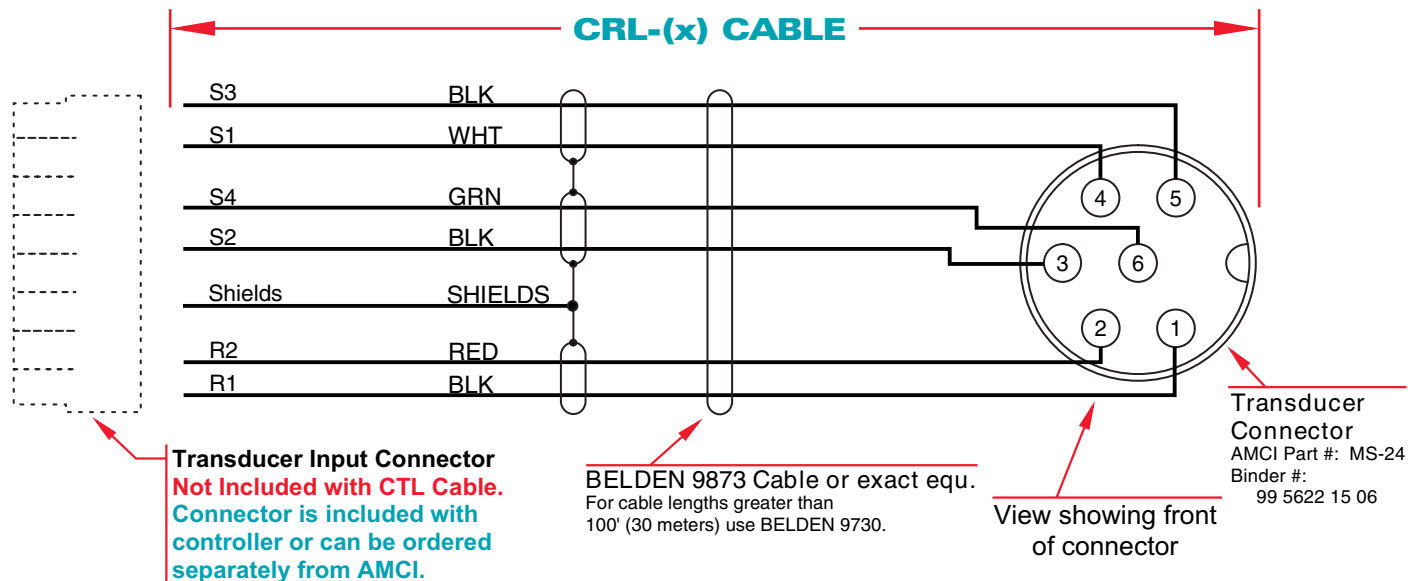
The CRL-(x) cable is used with all IP67 rated size 11 resolvers manufactured by AMCI that have a connector.

The (x) in the part number denotes the cable length in feet. {A CRL-25 is 25 feet (7.6 meters) long.}

Note that the CRL-(X) transducer cable does not include a mating connector for the controller. Wires on the controller end of the cable are pigtailed and tinned. Connectors are supplied with the PLC plug-in module or controller or can be purchased separately. For correct connections, please see the cable wiring diagram in the installation section of the controller's manual.

The IP67 rating only applies when the cable is properly mated to the resolver.

PIN OUT DRAWING



TECHNICAL DATA

One of two cable types is used for the CRL cable. For cable length under 100 feet, Belden 9873 or exact equivalent is used. For cable lengths over 100 feet, Belden 9730 or exact equivalent is used. The reason for the change is because of cable capacitance which causes a phase shift in the resolver signals. The 9730 has a much lower cable capacitance because of its smaller conductors, (24AWG instead of the 9873's 20AWG), but these smaller conductors can also make it harder to install.

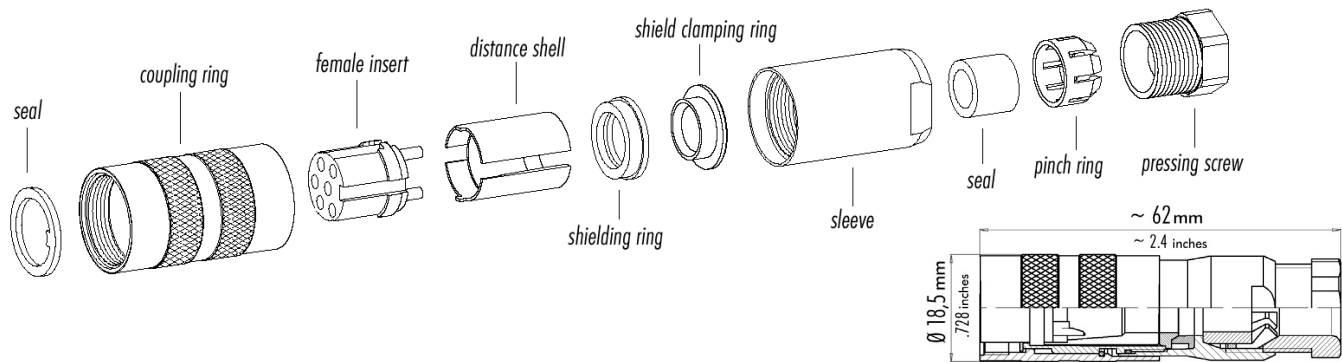
If you are making your own cable, Belden 9730 can be used for any length.

If you need a high temperature cable, AMCI suggests using Belden 89730 cable with foamed Teflon insulation. AMCI's FAQ "What Transducer Cable Can I Use In High Temp or High Flex Applications?" gives installation guidelines on the 89730 cable. This document can be found in the FAQ section of our website, www.amci.com.

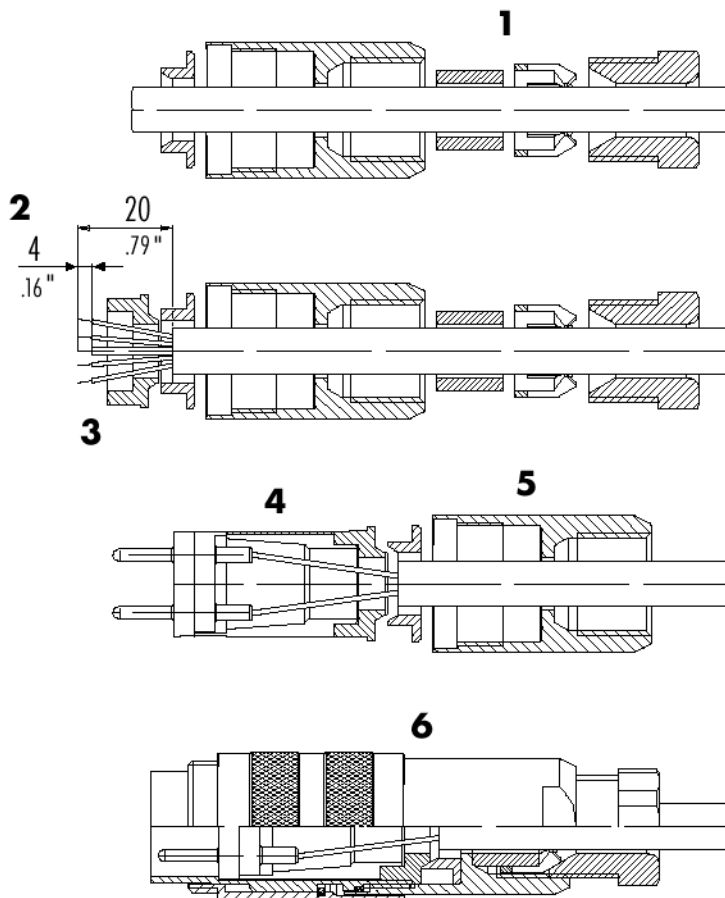
	Belden Cable Number	
	9873	9730
Max. Cable Length	100 ft.	1000 ft.
Wire Gauge	20 AWG (7X28 Stranded)	24 AWG (7X32 Stranded)
Jacket Insulation Material	PVC	PVC
Wire Insulation Material	Polyethylene	Polyethylene
Temp. Rating	-20°C to +60°C	-20°C to +60°C
Capacitance	30.0 pF/ft.	12.5 pF/ft.

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CONNECTOR EXPLODED VIEW



CONNECTOR ASSEMBLY



- 1) Begin assembly by threading the following on the cable in the given order: *pressing screw*, *pinch ring*, *seal*, *sleeve*, *shield clamping ring*, *shielding ring*.
- 2) Strip back approximately 0.8" of insulation and remove the pair shielding. Trim back the shielding and drain wires down into the cable insulation. You do not want the cable shields to make contact with the connector housing. This could lead to a ground loop when you install the system.
- 3) Remove approximately 0.16" of insulation from each wire.
- 4) Solder the wires to the *female insert*. Note that there are three black wire that are paired with the color wires. Make sure you keep the wires paired correctly. You can install the *distance shell* before or after you solder the wires to the *female insert*.
- 5) Begin mechanical assembly by sliding the *distance shell* onto the *female insert*. Slide the *two shielding rings* and the *sleeve* up on to the *distance shell*. Slide the *coupling ring* on to the *female insert*. While holding the *female insert* with the plastic *spanner tool*, screw the *sleeve* into the *coupling ring*. The connection must be tight because there is a sealing o-ring between the *sleeve* and the *coupling ring*.



Spanner Tool

NOTE

Check for electrical conductivity between the body of the connector and the shield wire at the other end of the cable. It should be open circuit. If it is a short, disassemble the connector and make sure all of the drain wires are trimmed down inside the cable's outer jacket.

- 6) Finish mechanical assembly by sliding the *pinch ring* over the *seal* and then sliding these two into the *sleeve*. While holding the *female insert* with the plastic *spanner tool*, tighten the *pressing screw* into the *sleeve* using care to not cross thread the connection. Insert the *seal* into the *coupling ring* and push it to the bottom with the *spanner tool*.



CAUTION

When installing the connector, verify that the seal is there. The connector will leak if this seal is missing.