



This Datasheet is for the

## [IC693CBL303](#)

Hand-Hand Programmer and Converter (IC690ACC900) Cable

<http://www.qualitrol.com/shop/p-14592-ic693cbl303.aspx>

Provides the wiring diagrams and installation guidelines for this GE Series 90-30 module.

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## IC693CBL303

### Hand-Hand Programmer and Converter (IC690ACC900) Cable

#### Function of cable

The Hand-Held Programmer cable provides the connections that allow the Hand-Held Programmer and the Programmable Logic Controller to communicate. This cable also provides the power connections for the HHP, and a signal which indicates to the PLC that the HHP is attached to the PLC serial port. It can also be used to connect the RS-485 serial port on the PLC to the RS-422/RS-485 to RS-232 converter (IC690ACC900).

#### Cable Specifications

The prewired cable (IC693CBL303) is 6 feet (2 meters) long. If a different length cable is required for connection to the converter, refer to the information below for specifications and wiring information.

This information is essential if you intend to build your own cable. The recommended cable types for this cable are listed below and depend on the length of the cable.

#### *Specifications for IC693CBL303 Prewired cable*

Item	Description
<b>Connectors</b> Same connector is on both ends	15-pin male, D-Subminiature Type, Canon DA15S (solder pot)
<b>Hood</b>	AMP 207470-1 connector shell
<b>Hardware kit</b>	AMP 207871-1 Kit includes 2 metric screws and 2 screw clips
<b>Cable Type</b>	Belden 9508: AWG #24 (.22 mm <sup>2</sup> )
<b>Cable Length</b>	6 feet (2 meters)

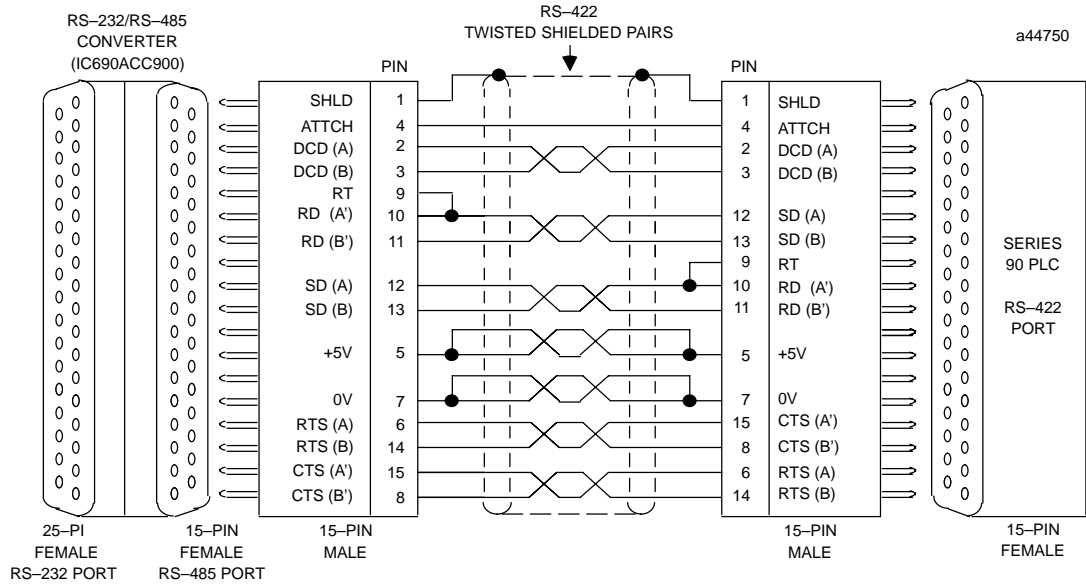
#### *Wire Types for Custom Cables*

Cable Length	Wire Size	Catalog Number
30 feet (10m)	22 (.36 mm <sup>2</sup> )	Belden 9309
>30 (10m) feet to 980 feet (300m)	22 (.36 mm <sup>2</sup> )	Same as for 30 feet. In addition, the +5 VDC logic power source for the converter cannot be supplied by the PLC. It must be provided by an external power supply connected to the +5V and SG pins at the converter end of the connector. The +5V pin at the PLC connector must not be connected to the cable. The +5V and SG connections from the power supply must be isolated from its own power line ground connection. Be sure that there is no connection between the external supply and the PLC except the SG cable connection.

1. Catalog numbers are provided as suggestions only. Any cable having the same electrical characteristics is acceptable. It is strongly recommended that you use stranded wire. Since it is sometimes hard to find a cable with the desired number of twisted pairs (the Belden 9309 has an extra pair), you may end up with a cable with extra pairs.
2. A greater cable length between the PLC and the converter increases the possibility of noise coupling into the data and converter logic power circuits within the cable. The cable should be as short as possible in noisy environments. In extreme cases, additional noise protection measures, such as double-shielded cables, may be required.

## Wiring Diagram

The following wiring diagram applies to the IC693CBL303 cable and to custom-built cables.



**NOTE:** PINS 9 AND 10 ARE JUMPED AT BOTH ENDS OF CABLE TO CONNECT TERMINATING RESISTORS FOR THE RD SIGNAL WHICH IS INSIDE THE PLC POWER SUPPLY.

Figure 10-23. Wiring Connections for IC693CBL303 and Custom-Built Cables

## Connecting the Cable

- Attach the 15-pin male D connector to the serial port connector on the PLC power supply.
- Attach the D connector on the other end to the mating connector on the HHP. These connections are shown in the following figure.

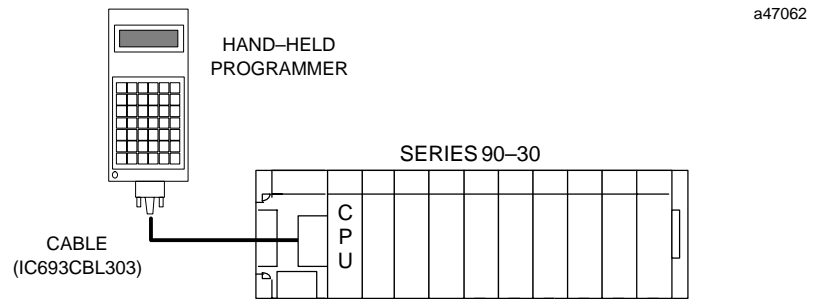


Figure 10-24. Hand-Held Programmer Cable Connection to a Series 90-30 PLC