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## Q Style Relay Tools

A Tooling range designed use with Q relays

### Crimp Tool

Crimp tool J7100/1 or 6 is a hand operated portable tool used to crimp removable connectors (Style QC) onto various wire sizes, for termination at a 'Q' relay plugboard.

The tool comprises a fixed jaw and a sliding jaw which is operated by squeezing the two handles together.

The connectors will accept the following wire sizes and insulated covering. These wires may be crimped single or double:

- 7 x 0.44 mm to Spec 1320P22.
- 9 x 0.3 mm Copolymer to Spec D.C. SE1010.
- 9 x 0.3 mm Rubber Polychloroprene to BR Spec 872 Type MC1.
- 16 x 0.3 mm Rubber Polychloroprene to BR Spec 872 Type MC1.
- Alternative wire 24 x 0.2 mm and 32 x 0.2 mm PVC covered to BS 6231.
- Maximum conductor size 1.13 mm<sup>2</sup>,
- Minimum conductor size 0.63 mm<sup>2</sup>.

### Connector removal Tool

(see reverse of sheet)

Connector Removing Tool J4489/3 is used to unclip and remove Style QC connectors from a 'Q' relay plugboard.

### Connector Insertion Tool

Connector Insertion Tool J4489/4 is used to insert Style QC connectors into 'Q' relay plugboards.



Crimp Tool J7100/1

### Retaining Clip removal Tool

These tools are used to lever off the wire retaining clip securing a 'Q' relay to its plugboard.

Two types are available:

Type J10648/1 for use with relays fitted with pressed steel handles.

Type J10648/2 for relays with cast handles.

### Time Setting Tool

The J15802/1 Time Setting Tool is used with Style QMT1 and QMT2 relays, for adjusting the time delays.

# Crimping Procedure

Strip a 5 mm length of insulation from the end of the wire to be terminated, ensuring that insulation is stripped without damage to the conductor strands. Slightly twist the stripped conductor strands so that no 'whiskers' are formed. Position the connector in the crimping tool jaws so that the raised flange butts against the tool locator bar. Squeeze the tool handles together until the connector is just held in position by the ratchet action. Insert the wire (or wires if two are to be crimped simultaneously) into the connector barrel, then complete the crimp by closing the two handles together. On completion, the handles of the crimp tool will spring apart to open the jaws and release the formed joint.

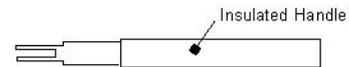
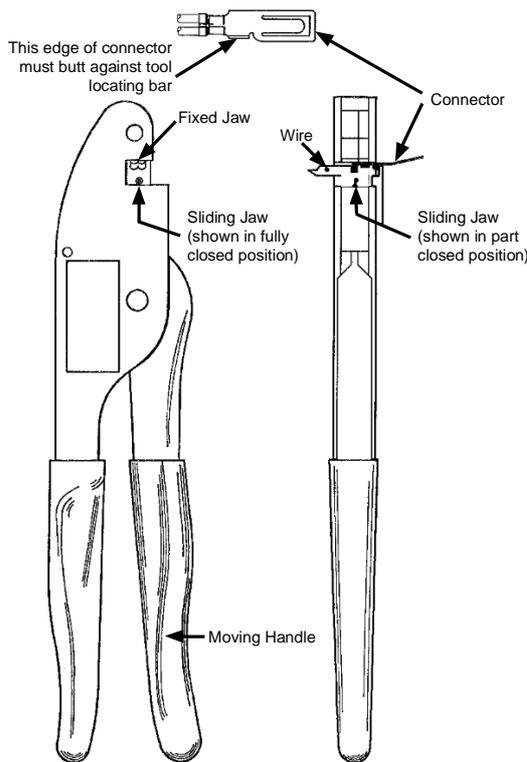
Routine checks should be made to ensure the tool is crimping correctly. To test, first strip a length of either size cable such that the crimp will only grip the conductor. Then check that the crimp will withstand the pull-off forces detailed in the following table.

## Pull-Off Loads For 'Q' Relay Removable Connector Crimps

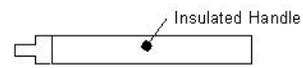
NUMBER & NOMINAL DIA. OF STRANDS	CROSS-SECTIONAL AREA mm <sup>2</sup>	MIN. PULL-OFF LOAD NEWTONS	RECOMMENDED CRIMP TOOLS & DIES
7/0.44	1.064	129	MK3/RS5 J7100/6
9/0.3	0.636	80	MK3/RS8 J7100/1
16/0.3	1.131	140	MK3/RS5 J7100/6
24/0.2	0.754	97	MK3/RS5 J7100/6
32/0.2	1.005	127	MK3/RS5 J7100/6

### CAUTION:

If the tool fails to function correctly it must be returned to Siemens Rail Automation for inspection and repair.



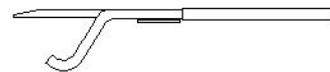
CONNECTOR REMOVING TOOL J4489/3



CONNECTOR INSERTION TOOL J4489/4



REMOVING TOOL FOR RETAINING CLIP J10648/1  
(for relays with pressed steel handles)



REMOVING TOOL FOR RETAINING CLIP J10648/2  
(for relays with cast handles)



TIME SETTING TOOL J15802/1  
(for Style QMT1 and QMT2 relays)