



INSTALLATION INSTRUCTIONS ULC S139 Approved MICC EZ Termination kit

Step 1

- With a hacksaw, cut the end of the MI cable square and file the end smooth.
- Identify the compression connector supplied with the termination kit. Mark the MI cable sheath at length "L" shown in the Table A. This is the length of sheath to remove.
- If using ZSU or ZSUS Stripper Tools, place a second mark 0.67 in (1.7mm) behind this first mark as shown.

Step 2

• Place the glands on to the cable. The glands is made up of three parts: the gland nut, the compression sleeve and the gland body. It should be placed on to the cable with all three parts assembled.





Step 3

- Grip the cable with the Handvise.
- Using the sheath stripping tool (ZSU or ZSUS Stripper Tools shown), begin stripping the copper sheath back towards the first mark

Step 4

• For final stripping, grip the cable with the Handvise at the second mark. When the stripping tool touches the edge of the Handvise, it will stop and make a clean cut on the cable sheath at the first mark. At this point, the correct length of solid conductor will have been exposed.







Step 5

- Clean the conductor with a clean, dry, rag to remove loose powder from the conductor. Next, polish all around entire length of solid conductor and 2 in (5.0 cm) of sheath behind the conductor with emery paper to achieve a clean surface.
- Visually inspect the magnesium oxide insulation at the face of the cable for traces of copper filings and burrs and if present, gently remove with a pick.

Step 6

 Using a 500 Vdc megohmmeter, check the insulation resistance (IR) of the cable between conductor and sheath to ensure it is free of grounds and shorts. The other cable end must also be free of grounds and shorts and must be sealed. See Appendix 1 for detailed test procedure and IR test criteria. Once IR readings are satisfactory, immediately complete Step 7 to seal the end of the MI cable. A delay will cause the IR to drop and



Table A Crimp Guide for insulated stranded copper conductor tail to MI solid copper conductor

MICC Cable REF. Number	MI cable size (AWG/kcmil)	Length "L" of MI cable sheath to strip	Number of crimps	
			Solid End	Stranded End
CC1H6W	6	2-3/4 in(70mm)	1	1
CC1H4W	4	2-3/4 in(70mm)	2	2
CC1H3W	3	2-3/4 in(70mm)	2	2
CC1H2W	2	2-7/8 in(73mm)	2	2
CC1H1W	1	2-7/8 in(73mm)	2	2
CC1H1/0W	1/0	2-7/8 in(73mm)	2	2
CC1H2/0W	2/0	2-7/8 in(73mm)	2	2
CC1H3/0W	3/0	3 in(76mm)	2	2
CC1H4/0W	4/0	3 in(76mm)	1	1
CC1H250W	250	3 in(76mm)	2	2
CC1H350W	350	3-1/8 in(79mm)	1	1
CC1H500W	500	3-3/8 in(86mm)	2	2





Step 7

- Apply tape seal to MI cable and ensure that you tape along the sheath and solid conductor as shown. Stretch the sealing tape to about 3 times its length (or about half of the original width), just short of the breaking point.'
- Beginning on the cable sheath and using half-laps, wind the tape under tension, taping 1-1/2 in to 1-3/4 in (3.8 cm to 4.5 cm) along the cable sheath and 1-1/2 in to 1-3/4 in (3.8 cm to 4.5 cm) along the solid conductor.
- Reverse the direction and wind the tape back along the conductor and 1-1/2 in to 1-3/4 in (3.8 cm to 4.5 cm) of cable sheath (over the tape just applied).of the MI cable. A delay will cause the IR to drop and the cable must be retested prior to sealing the end.and if present, gently remove with a pick.
- Finally, reverse the direction once again and wind the tape back along the sheath and 1-1/2 in to 1-3/4 in (3.8 cm to 4.5 cm) of conductor (again, over the tape just applied). Maintain half-laps and stretch tape as described above while winding along sheath and conductor. Tear off excess tape. The tape will bond to itself in a short time.



Step 9

Step 8

• Once the tape seal is completed to this point, the end of the MI cable should appear as below.





7/-7 (5) MICC GROUP

• Strip just enough insulation from the stranded conductor tail

to fit to the center-stop in the compression connector.
Crimp the connector to the stranded conductor tail using the required number of crimpsand an approved crimping (see the table A) tool (see Table on page 3 for details).

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Step 10

- Place the adhesive lined heat shrinkable tubing (supplied with termination kit) on to the MI cable.
- Insert the solid MI conductor into the other end of the compression connector.
- Crimp the connector to the solid conductor using the required number of crimps (see Table A for details). Where multiple crimps are required, make the outside crimp first and work towards the middle of the connector. The solid conductor to stranded conductor joint should appear as shown.

Step 11

- Prior to sealing the entire joint with the heatshrinkabletubing, remove all sharp edges from the compression connector with a flat file.
- Place the heat-shrinkable tubing over the joint so that it completely covers the tape seal and compression connector and overlaps the MI cable sheath and the insulation on the stranded conductor tail by at least 1/2 in (1.3 cm).
- Shrink in place with a heat gun or propane torch being careful not to damage the heat-shrinkable tubing. When using a propane torch, take care not to burn the heatshrinkable tubing.



Step 12

 Check IR once more from stranded conductor tail to MI cable sheath to ensure that the cable has been properly sealed and IR is satisfactory. If the IR does not meet the values under Test Criteria in Appendix 1, the termination must be removed and remade.





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Appendix 1: Insulation Resistance (IR)

Test Equipment

500 Vdc Megohmmeter

IR Testing

IR testing is conducted using a megohmmeter and tests the integrity of the cable between the conductor and the copper sheath.

Test Criteria

When received:

 Check cable on reel. Note that ends may need to be prepared to allow insulation resistance (IR) readings to be taken. IR readings must not be less than 200 MΩ under any conditions.

After installing EZ termination kit:

- In a warm, dry environment, IR readings should be 200 M Ω or higher.
- In an outdoor environment or indoors in wet or humid conditions, IR readings should all be above 100 M $\Omega.$
- Similar cables exposed to similar conditions should all have IR readings in the same general range. Where a large difference in readings is encountered, high readings can be accepted; low readings (below 100 MΩ) should be checked and re-terminated.

Test Procedure

- 1. Set megohmmeter test voltage at 0 Vdc or off.
- 2. Connect the positive (+) (earth) lead to the cable sheath.
- 3. Connect the negative (-) (line) lead to the conductor.
- 4. Turn on the megohmmeter and set the voltage to 500 Vdc; apply the voltage for one minute. Meter needle should stop moving. Rapid deflection indicates a short. Note the insulation resistance value. It should correspond to the values shown under Test Criteria.
- 5. Turn off the megohmmeter.
- Testing is complete. If the megohmmeter does not selfdischarge, discharge phase connection to ground with a suitable grounding rod. Disconnect the megohmmeter.



