NELSON™
HEL100 END OF CIRCUIT LIGHT KIT

INSTALLATION INSTRUCTIONS

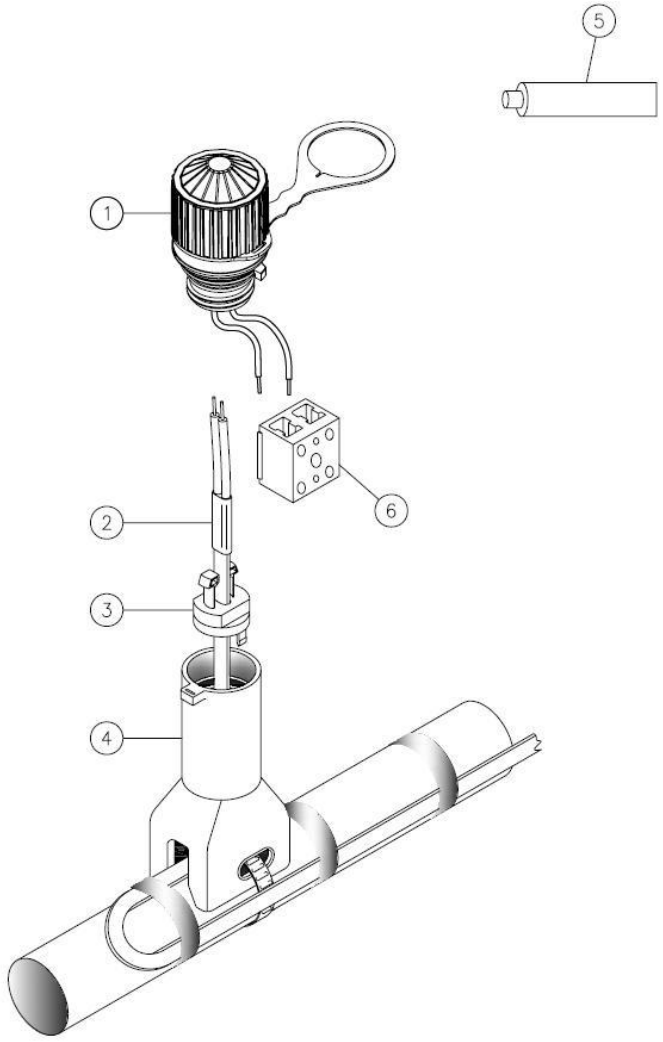
DESCRIPTION

The HEL100 End of Circuit Light Kit is designed for terminating one heater cable to provide a visual indication of buss wire continuity. This kit is designed for use with all wattages of CLT-J(ordinary locations), CLT-JT(ordinary locations), LT-J, LT-JT, QLT-J, HLT-J and XLT-J heating cable constructions. The HEL100 is rated IP66/NEMA 4X and is constructed using long life LED technology for many years of trouble free service.

These instructions are to be used together with the installation and maintenance instructions for self-regulating heater cable (GA-1765).

KIT CONTENTS

QTY	ITEM	DESCRIPTION
1	1	LIGHTED END ASSEMBLY
1	2	POWER TERMINATION
1	3	RETAINER, 1-CABLE
1	4	STANDOFF
1	5	SILICONE ADHESIVE
1	6	TERMINAL BLOCK
1	7	CABLE TIE (not shown)



INSTALLATION ACCESSORIES

- Pipe Clamp – PC03, PC12 or PC20 (included)
- Fiberglass Tape – GT6 or GT60

OPTIONAL INSTALLATION MATERIAL

- HC-SPA Small Pipe Adapter – For 25mm (1”) diameter pipe and below.

RECOMMENDED TOOLS

- Utility Knife
- Wire Cutters
- Needle Nose Pliers
- Large Slotted Screwdriver

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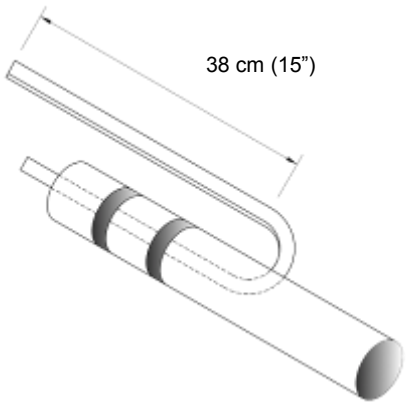
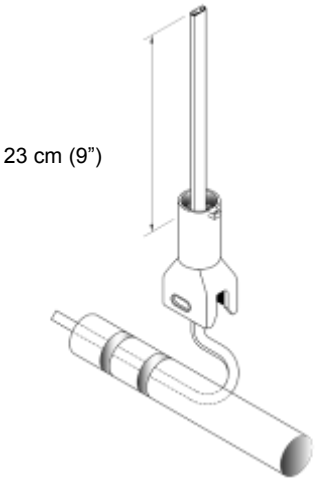
STANDOFF POSITIONING





STEP 1

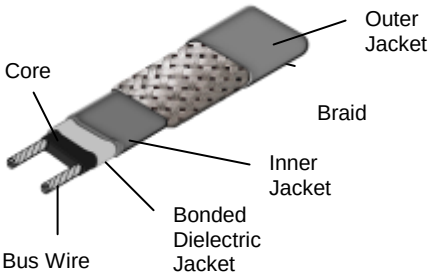
- Mark pipe where standoff will be mounted.
- Allow approximately 46 cm (18”) of heating cable for installation.
- Heating cable may be cut at a 45° angle for easier penetration.

STEP 2

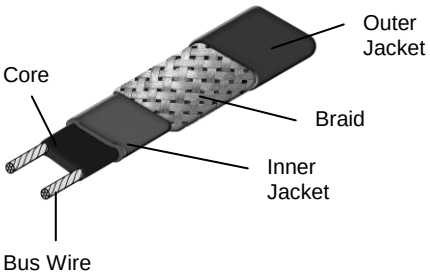
- Insert heating cable through standoff allowing approximately 31 cm (12”) of cable for terminations.
- Use cable lubricant if necessary.
- Proceed to Heating Cable Terminations.

CABLE CONSTRUCTION DETAILS

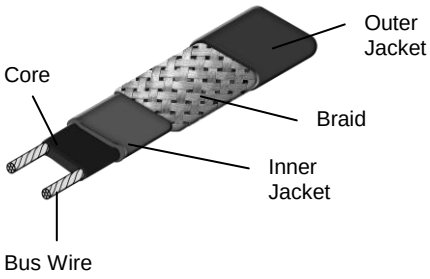
LT SELF-REGULATING CABLE



HLT / QLT / XLT SELF-REGULATING CABLE



CLT SELF-REGULATING CABLE



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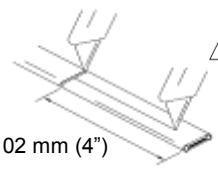
INSTALLATION INSTRUCTIONS

HEATING CABLE PREPARATION

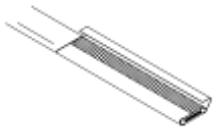
1

- Lightly cut around the cable outer jacket and up the center.
- Bend cable to break outer jacket.



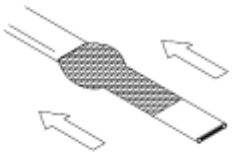
2

- Remove outer jacket from heating cable.



3

- Push braid back to create a bulge.

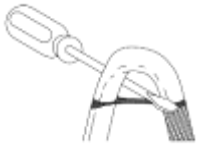


4

- At the bulge, separate the braid to make an opening.

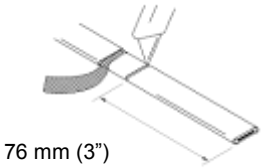
5

- Bend heating cable at opening and pull the cable through.



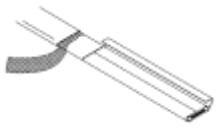
6

- Lightly cut around the cable inner jacket.



7

- Cut up the middle of the inner jacket.
- Bend cable to break inner jacket and remove.



8

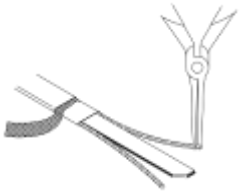
- Shave the core material from the outside of each bus wire.

9

- Notch core material approximately 6 mm (¼”) for the end of the heating cable.

10

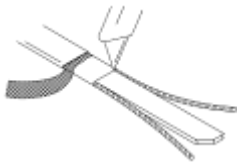
- Peel both bus wires from core material.



HEATING CABLE PREPARATION

11

- Lightly score core material and snap off at base of bus wires.



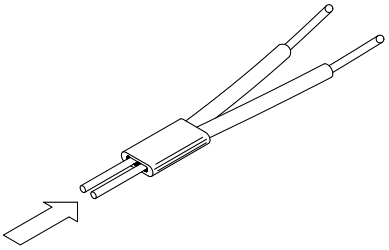
12

- Trim away any frayed or damaged bus wire ends.
- Pull braid tight to form a pigtail.

POWER TERMINATION INSTALLATION

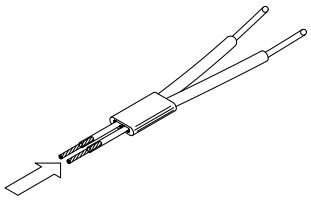
1

- Insert guide tubes into power termination fitting, if required. Note: XLT cable will need to be installed without the assistance of guide tubes.



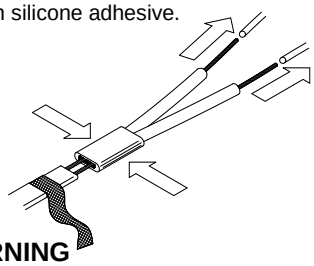
2

- Insert buss wires into guide tubes, if used.
- Make sure that all buss wire strands are inserted through fitting tubes.



3

- Remove guide tubes, if used previously.
- Squeeze power termination opening and fill void with silicone adhesive.

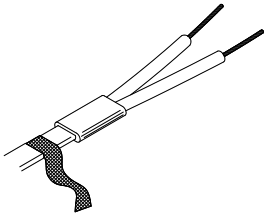


WARNING

- **Be sure that bus wires do not bunch or cross-over**

4

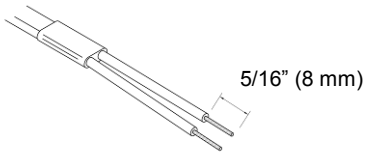
- Push power termination to overlap jacket.
- The silicone will set up in approximately 30 minutes with a complete cure after 24 hours.



POWER TERMINATION INSTALLATION

5

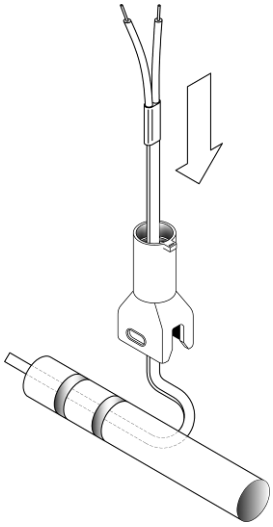
- Completely remove all exposed braid material before proceeding to final assembly
- Trim bus wires and braid as necessary.



WARNING

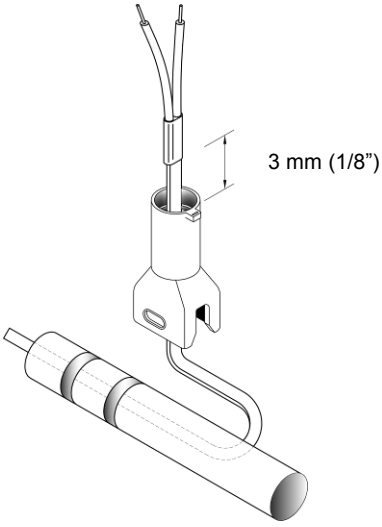
- **Do not megger or hipot until silicone completely cured.**
- **Braid must be kept from bus wires or shorting may occur.**

FINAL ASSEMBLY



- Pull excess heating cable back through standoff.

STEP 3

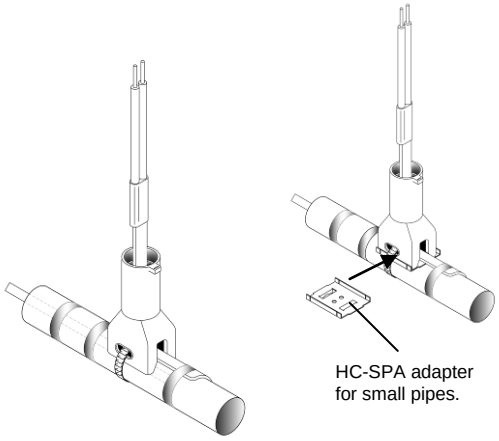


- Allow 3 mm (1/8”) of heating cable to remain above top of standoff body.

STEP 4

FINAL ASSEMBLY

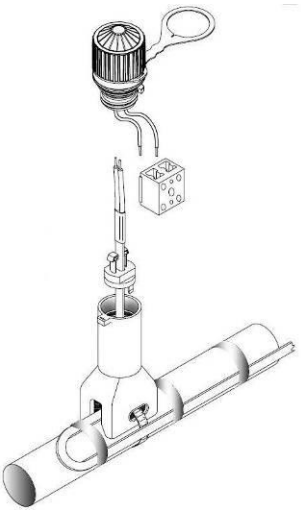
Note: For pipes 25mm (1") and below, install HC_SPA (purchased separately) between standoff and pipe.



HC-SPA adapter for small pipes.

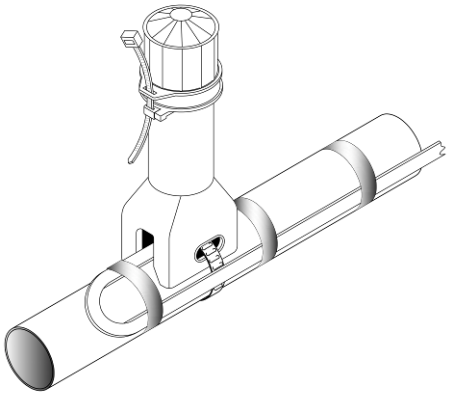
- Mount standoff securely to pipe.

STEP 5



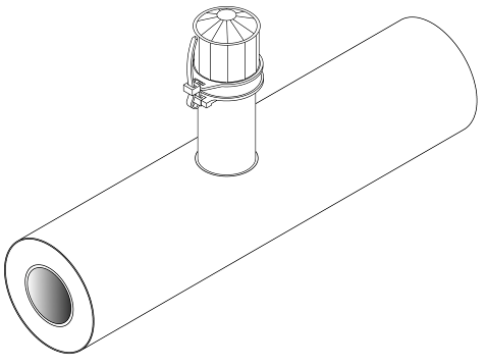
- Connect lead wires from light assembly to heater cable bus wires using supplied terminal block.
- Orient heater cable power termination as shown above and insert connections into light assembly base.
- Light assembly leads should be free to rotate during installation.

STEP 6



- Screw Light Assembly into standoff until fully seated.
- Insert supplied cable tie through slot provided to prevent possible rotation of End Cap.

STEP 7



- Install thermal insulation and protective lagging.
- Apply sealant around standoff penetration to prevent moisture entry.
- Leave installation instructions with end user for future maintenance and/or trouble shooting.

STEP 8

GENERAL CONDITIONS OF SAFE USE

- To prevent electrical arcing and fire hazard, all cable connections and electrical wiring connections should be sealed against moisture. This includes the use of proper cable sealing kits and the moisture proofing of all wire connections.
- Isolate electrical power supply before opening or removing the enclosure cover.
- The main components used in this connection system may present a hazard from static electricity. Only surface cleaning with a damp cloth is acceptable.
- Routine maintenance is required to maintain compliance with health and safety legislation:
  - Check that the O-rings are in place and not damaged each time the assembly is closed.
  - Check that all electrical connections are tight and secure on a routine basis.
  - Check for physical damage and replace as required.
- This connection system is designed for use in areas subject to normal industrial levels of vibration. They are not designed for use in areas subject to intentional or extreme conditions of vibration.
- Measures shall be taken to avoid accumulation of dust inside the standoff. This could result in unacceptable temperature rises violating the certification of the equipment.

APPROVALS

NEC® 2014; NFPA 70: National Electrical Code®, International Electrical Code Series

IEEE Std 515™-2011 Standard for the Testing, Design, Installation, and Maintenance of Electrical Resistance Heat Tracing for Industrial Applications

C SA US

Class I, Division 2, Groups BCD
Class II, Groups EFG; (Canada Only)
Class III; (Canada Only)
Encl. Type 4X, Temp. Code T6 – T3*;
Usages -G, -W
CSA LR42104
* For temperature code see heating cable or design information