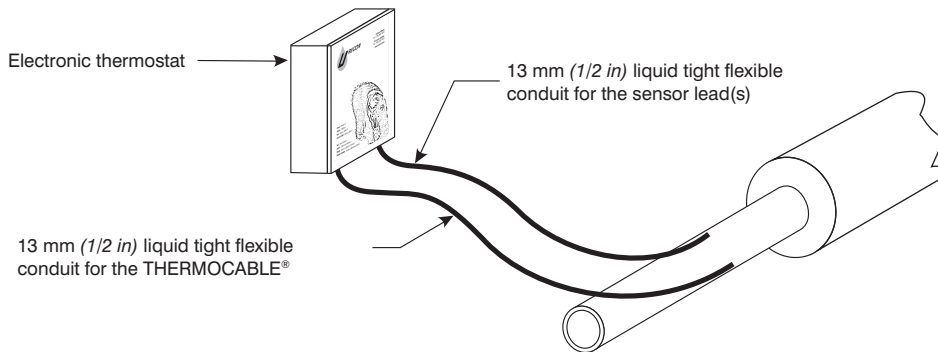


INSTALLATION INSTRUCTION # 4E

PFK-4 (Power feed kit)

One PFK-4 power feed kit contains all the necessary electrical components to connect a THERMOCABLE® to an electronic thermostat of the UTC series. The thermostat may be located up to 3m (10 ft) away from the pipe.



Each kit contains:

ITEM	QUANTITY	DESCRIPTION
Components for the installation and connection of the heating cable.		
1	3 m (10 ft)	13 mm (1/2 in) liquid tight flexible conduit.
2	1	Connector to join the 13 mm (1/2 in) liquid tight flexible conduit to the thermostat.
3	1	13 mm (1/2 in) sealing ring.
4	1	19 mm (3/4 in) wide x 1 m (39 in) long roll of Teflon® tape, to insulate the nichrome resistance heating wire when skinning back heating cable to expose bus wires.
5a	1	Blue insulated butt splice connector # 2RB14X, to splice the C8-120-COJ THERMOCABLE® grounding braid to the # 14 AWG ground wire.
6a	1	# 14 AWG, RW-90 stranded ground wire, green in color.
5b	1	Yellow insulated butt splice connector # 2RC10X, to splice the #12 AWG bus wire THERMOCABLE® grounding braid to the # 12 AWG ground wire.
6b	1	# 12 AWG, RW-90 stranded ground wire, green in color.
7	1	End bushing for liquid tight flexible conduit.
8	1	Adhesive lined heat shrink end cap to terminate remote end of THERMOCABLE®.
9	1	19 mm (3/4 in) diameter X 150 mm (6 in) long heat shrink tube, to shrink over the grounding braid at the end cap.

Components for the installation of the sensor(s).

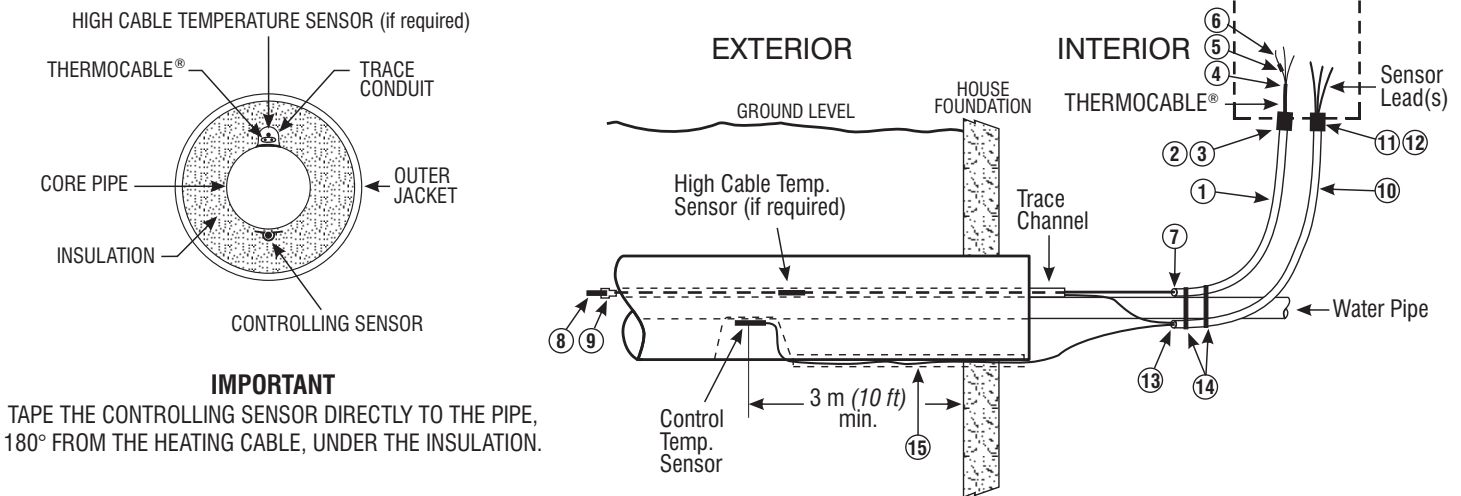
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|----|-------------|---|
| 10 | 3 m (10 ft) | 13 mm (1/2 in) liquid tight flexible conduit. |
| 11 | 1 | Connector to join the 13 mm (1/2 in) liquid tight flexible conduit to the thermostat. |
| 12 | 1 | 13 mm (1/2 in) sealing ring. |
| 13 | 1 | End bushing for liquid tight flexible conduit. |

Miscellaneous components.

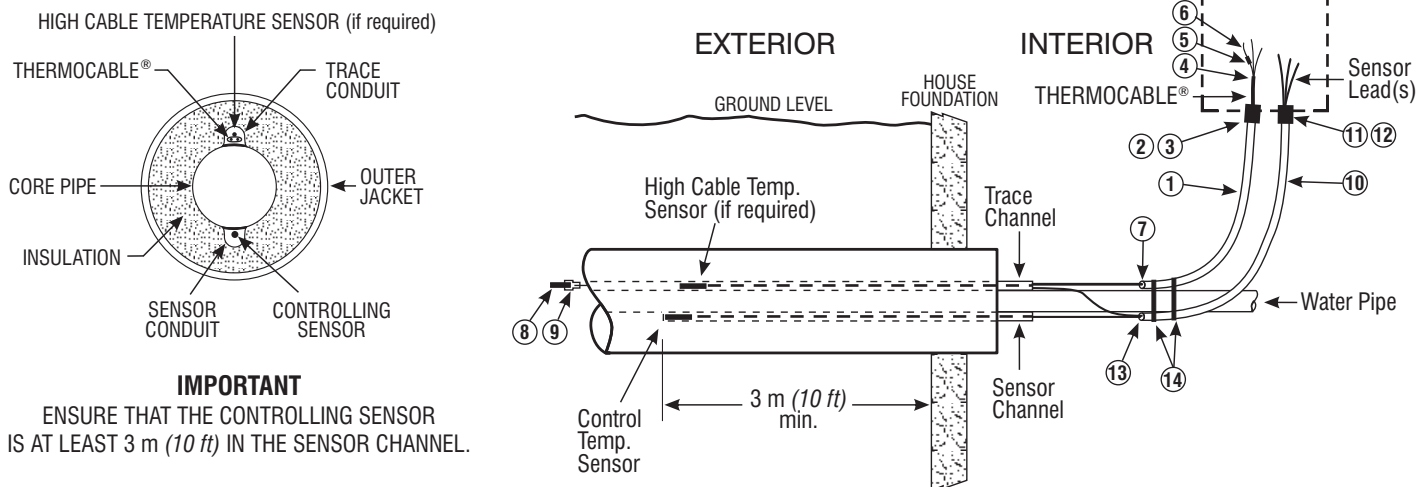
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|----|---|---|
| 14 | 2 | Stainless steel collars, to attach both conduits to the pipe. |
| 15 | 1 | 50 mm (2 in) wide x 15 m (50 ft) long butyl mastic lined polymer tape to cover exposed sensor wire and insulation cutaway for sensor. |
| 16 | 1 | 50 mm (2 in) wide X 1 m (39 in) long roll of aluminum tape, to tape sensor(s) and heating cable into place. |
| 17 | 1 | Installation instruction # 1E, THERMOCABLE®. |

NOTE: Item numbers are keyed to those on the diagrams.

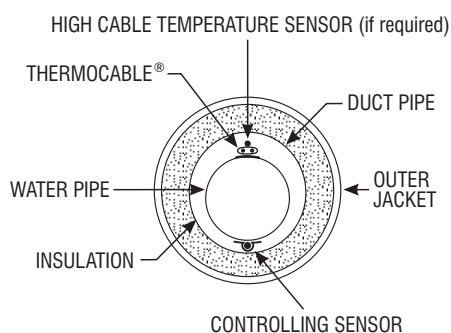
SINGLE CHANNEL



DUAL CHANNEL

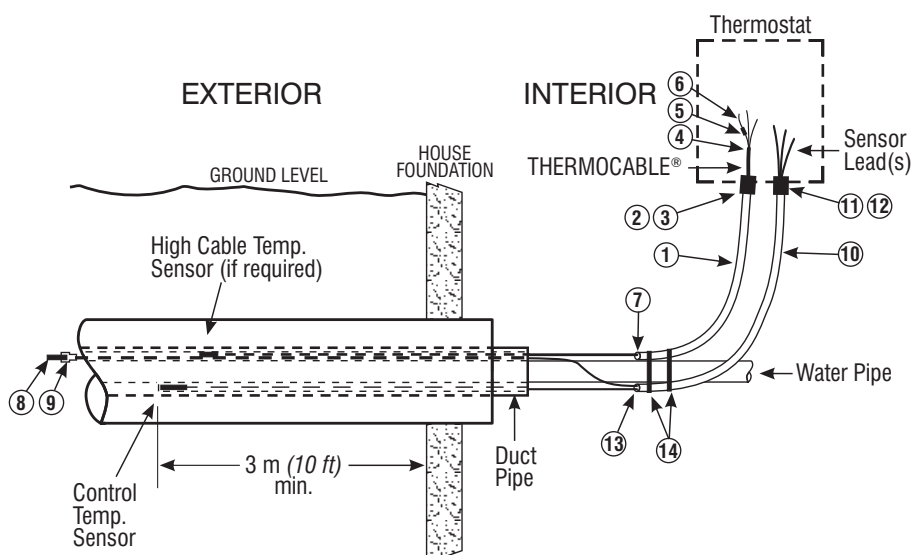


DUCT SYSTEM



IMPORTANT

TAPE THE CONTROLLING SENSOR DIRECTLY TO THE PIPE, 180° FROM THE HEATING CABLE.



Assembly instruction:

- 1) Normally the power feed kit is attached to the pipe at the point of entry in the building, where the pipe is exposed. The other end is fastened to the thermostat with the connectors provided in the kit.
- 2) Install the thermostat in the appropriate position close to the service pipe (within 3 m (10 ft) maximum).
- 3) Mount the conduit connector bodies (ensuring that the gasket is on the exterior side) to the bottom of the thermostat enclosure.
- 4) Cut each liquid tight flexible conduits to the appropriate length and fit in the connector body at the thermostat. Tighten the connector.
- 5) Screw the end bushings on the liquid tight flexible conduits.
- 6) Attach the two flexible conduits to the pipe and secure with the pipe collars, tighten with a screwdriver.
- 7) Terminate the THERMOCABLE® following the detailed instructions for the power end termination shown in the THERMOCABLE® installation recommendation # 1E, using the butt splice connector, ground wire and Teflon® tape. The strain relief connector shown is not required nor supplied in this kit.
- 8) Pull gently the THERMOCABLE® through one of the flexible conduits: Connect the heater and ground

wire to the appropriate terminals in the thermostat in accordance with the installation instruction supplied (#44E).

Sensor installation:

- 9) When more than one temperature sensor is used, they have to be identified according to their use i.e. : controlling sensor or high cable temperature sensor (on plastic pipe) in order to connect them to the proper terminals. As a general rule, when multiple sensors are required, they can be supplied with two different color lead wires. Pull the sensor(s) through the available conduit, make sure that the sensors are properly identified. Connect the sensor leads to the proper terminals in the thermostat.

IMPORTANT

PLACE THE HIGH CABLE TEMPERATURE SENSOR IN CONTACT WITH AN ACTIVE ZONE OF THE HEATING CABLE.

There are three basic installation methods;

- Pre-insulated pipe supplied with only one channel; meant to insert the heating cable (and the high cable temperature sensor when a plastic pipe).
- Pre-insulated pipe supplied with two channels; one for the heating cable and the second one to insert the controlling sensor.
- Pre-insulated duct; in this case, the carrier pipe is fitted with a heating cable and temperature sensor(s) before it is inserted in the duct.

Pre-insulated pipe supplied with only one channel

10a) Install the sensor(s) in their proper location with aluminum tape. The high cable temperature sensor is to be taped to an active zone of the THERMOCABLE® (not the cold lead) within the trace channel. The controlling sensor is to be taped directly to the pipe 180° away from the heating cable. This is done by cutting away a 50 mm (2 in) x 250 mm (10 in) portion of insulation to expose the pipe. The sensor is then routed on the exterior of the insulation from the controller to the cutaway section and taped. The insulation is installed back over the sensor and then sealed by wrapping the butyl mastic tape around the cutaway ensuring that there is a minimum overlap of 25 mm (1 in). The sensor lead wire should also be covered with a layer of tape from the sensing point to the inside of the building.

Pre-insulated pipe supplied with two channels

10b) The high cable temperature sensor is to be taped to an active zone of the THERMOCABLE® (not the cold lead) within the trace channel. The controlling sensor is fished in at least 3 m (10 ft) in the second channel provided.

Pre-insulated duct

10c) The high cable temperature sensor is to be taped to an active zone of the THERMOCABLE® (not the cold lead) and the controlling sensor is to be taped directly to the pipe 180° away from the heating cable before the assembly is inserted into the duct system.

Because this system is controlling a pipe which enters a heated building, the sensors must be located at least 3m (10 ft) away from the outside wall to avoid inaccurate temperature sensing. **The accurate identification and positioning of the sensors is absolutely essential to the efficient and safe operation of the system.**

11) Before installing the insulation on the pipe joints, test the heat tracing circuit to ensure that the thermostat and THERMOCABLE® are operating as specified and record those values for future reference.

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