Key Construction Services, LLC
4246 Albany Post Rd
Suite 1
Hyde Park, New York 12538
P: (845) 454-1192
F: (845) 454-1193

Project: 22009- Vails Gate FD- Storage Building PH1 / Fire Station PH2
872 Blooming Grove Turnpike
New Windsor, New York 12553

Submittal #238239-1.0 - PD
238239 - Electric Heaters

Distribution Summary

Distributed by Christopher Germano (Key Construction Services, LLC) on Mar 24, 2023

To Ronald Lombardo (Joseph Lombardo Plumbing, Heating & Cool), Michael Adorno (Joseph Lombardo Plumbing, Heating & Cool) , Joseph Manfredi (Key Construction Services, LLC)

Message None

Attachments

Name	Response	Attachments	Comments
Emily Fusilero (H2M Architects + Engineers)	No Exceptions Taken	238239-1 - Electric Heaters PD.pdf	please see attached

Revision 0

Status Closed

Issue Date

Responsible Contractor Joseph Lombardo Plumbing, Heating & Cool

Received Date Mar 13, 2023

Final Due Date Mar 29, 2023

Location

Submittal Manager Christopher Germano (Key Construction Services, LLC)

Date Created Dec 14, 2022

Spec Section 238239 - Electric Heaters

Received From Ronald Lombardo (Joseph Lombardo Plumbing, Heating & Cool)

Submit By Mar 9, 2023

Lead Time

Cost Code

Type Product Information

Approvers Joseph Manfredi (Key Construction Services, LLC), Emily Fusilero (H2M Architects + Engineers), Katie Margolies (H2M Architects + Engineers)

Ball in Court

Distribution

Description B. Submit manufacturer's product data and installation instructions to Engineer.

Submittal Workflow

Name	Sent Date	Due Date	Returned Date	Response	Attachments
General Information Attachments					238239 HEAT TRACE ELECTRIC HEATERS.pdf
Joseph Manfredi		Mar 15, 2023	Mar 15, 2023	Approved for Review	[OPEN] 238239-1 - Electric Heaters PD.pdf

Name	Sent Date	Due Date	Returned Date	Response	Attachments
Emily Fusilero	Mar 15, 2023	Mar 29, 2023	Mar 23, 2023	No Exceptions Taken	238239-1 - Electric Heaters PD.pdf (Current)
Comment	please see attached				
Katie Margolies	Mar 15, 2023	Mar 29, 2023		Pending	

THIS FORM MUST BE PRINTED TO A STATIC PDF FOR DISTRIBUTION

Yellow highlighted text will not appear in the printed document.

SUBMITTAL REVIEW

CLIENT NAME: Vails Gate Fire Department

PROJECT TITLE: Vails Gate FD - New Firehouse

SUBMITTAL No.: 238239-1 **H2M PROJECT No.:** VGFD2001

SUBMITTAL NAME: Electric Heaters PD

SUBMITTAL REVIEW

REVIEW IS FOR GENERAL COMPLIANCE WITH CONTRACT DOCUMENTS.
NO RESPONSIBILITY IS ASSUMED FOR CORRECTNESS
OF DIMENSIONS OR DETAILS

- [x] NO EXCEPTIONS TAKEN
- [ ] SUBMIT SPECIFIED ITEM
- [ ] MAKE CORRECTIONS NOTED (RESUBMISSION NOT REQUIRED)
- [ ] NO ACTION TAKEN (REVIEW IS THE RESPONSIBILITY OF ANOTHER PARTY)
- [ ] REVISE & RESUBMIT
- [ ] NO ACTION TAKEN (THIS SUBMITTAL IS NOT REQUIRED BY THE CONTRACT)
- [ ] REJECTED - SEE REMARKS
- [ ] RECEIVED FOR RECORD

Corrections or comments made on the shop drawings during this review do not relieve contractor from compliance with requirements of the drawings and specifications. This check is only for review of general conformance with the design concept of the project and general compliance with the information given in the contract documents. The contractor is responsible for: confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating their work with that of all other trades; and performing the work in a safe and satisfactory manner.

H2M architects + engineers

Date: 03/23/2023 By: MJV

Rev.: 2020-05-20

Comments:

Contractor to confirm quantities.

CONTRACTOR'S COMPANY NAME
ADDRESS

SUBMISSION TRANSMITTAL FORM
CLIENT NAME: Vails Gate Fire District
PROJECT TITLE: VGFD2001-New Firehouse

H2M PROJECT NO.: VGFD2001

Product, Item, or System Submitted:	Electric Heaters Product Data		
Submission Date:	3/15/2023	Submission Log No.:	238239-1
Specification Section:	238239	Paragraph Reference:	1.03/B,C
Contract Drawing Reference(s):			
Manufacturer's Name:			
Manufacturer's Mailing Address:			
Manufacturer's Contact Information:	*Name*	( ) *Tel. no.*	*Email*
Supplier's Name:	Joseph Lombardo Plumbing & Heating		
Supplier's Mailing Address:			
Supplier's Contact Information:	*Name*	( ) *Tel. no.*	*Email*
This item is a substitution for the specified item:		☑ No	☐ Yes
KEY CONSTRUCTION SERVICES, LLC **Project No: VGFD2001** Reviewed for General Acceptance Only. This review does not relieve the Subcontractors or Suppliers of responsibility for making the work conform to the requirements of the contract. The Subcontractor and Suppliers are responsible for all dimensions, correct fabrication and accurate fit with the work of other trades. **SUBJECT TO ARCHITECT AND OR ENGINEER APPROVAL** **Signed** *Joseph Manfredi*(PM) **Date: 3/15/2023** Contractor's Approval Stamp with Signature & Date		Contractor's Brief Comments or Remarks (attach separate letter as needed): By making this submission, we represent that we have determined and verified all field measurements and dimensions, field construction criteria, site and building constraints in terms of limitations in moving the item into the enclosed space, materials, catalog and model numbers and similar data and that we have checked and coordinated this submission with other work at or adjacent to the installed location in accordance with the requirements contained in the Contract Documents.	

END OF SECTION 013300

Joe Lombardo

Plumbing & Heating of Rockland, Inc.

LETTER OF TRANSMITTAL

321 Spook Rock Road
Suffern, NY 10901
Ph. 845-357-6537 Fx 845-357-8529
E: info@josephlombardo.com
Website: www.josephlombardo.com

Rockland Cty. Plumbing #1000 *Rockland Cty. Cooling # 1468*
Westchester Cty. Plumbing #460 *New Jersey State Plumbing #12702*

DATE:	JOB NO.
3-13-23	
ATTENTION: Joe Manfredi	
RE: Vails Gate Firehouse	

TO: **Key Construction**
4246 Albany Post Rd. Suite 1
Hyde Park, NY 12538

WE ARE SENDING YOU ☐ **Attached** ☐ **Under separate cover via** _____ **the following items:**

☐ **Shop Drawings** ☐ **Prints** ☐ **Plans** ☐ **Samples** ☐ **Specifications**
☐ **Copy of letter** ☐ **Change order** ☐ _____

EMAIL	DATE	NO.	DESCRIPTION
1	3-13-23	238239	SUBMITTAL ELECTRIC HEATERS – HEAT TRACE

THESE ARE TRANSMITTED as checked below:

☐ **For approval** ☐ **No Exceptions Taken** ☐ **Resubmit** _____ **copies for review**
☐ **For your use** ☐ **Make Corrections Noted** ☐ **Submit** _____ **copies for distribution**
☐ **As requested** ☐ **Rejected** ☐ **Return** _____ **corrected prints**
☐ **For review and comment** ☐ _____
☐ **FOR BIDS DUE** _____ **20** ___ ☐ **PRINTS RETURNED AFTER LOAN TO US**

COPY TO: Joe Manfredi

SIGNED: Ronald J. Lombardo

SUBMITTAL INFORMATION:

VAILS GATE FD-NEW FIRESTATION PHASE II

ROOF HEAT TRACE

FREEZE PROTECTION

MANUFACTURER: CHROMALOX, INC.

1111 PAULISON AVE.
CLIFTON, NJ 07011
PH: 973-546-7900
FAX: 973-546-9337

March 9, 2023

The heat trace material proposed for this job has been manufactured by Chromalox, Inc. Faber Associates is the representative for this manufacturer. Listed below is the appropriate contact information:

Faber Associates, Inc.
PO Box 2000
1111 Paulison Ave
Clifton, NJ 07015
Phone: 973-546-7900
Fax: 973-546-9337
Email: support@faberinc.com
www.faberinc.com

Chromalox, Inc.
103 Gamma Drive
Pittsburgh, PA 15238
Phone: 412-967-3800
Fax: 412-967-5148
Email: webmaster@chromaloxheating.com
www.chromalox.com

HEAT TRACE AND ACCESSORIES PROPOSED FOR THIS PROJECT:

CPR 5-2CR - HEAT TRACE CABLE

RTBC - LINE SENSING THERMOSTAT

RTES - END SEAL KIT

PS-3 - PIPE STRAP

FT-X - FIBERGLASS TAPE

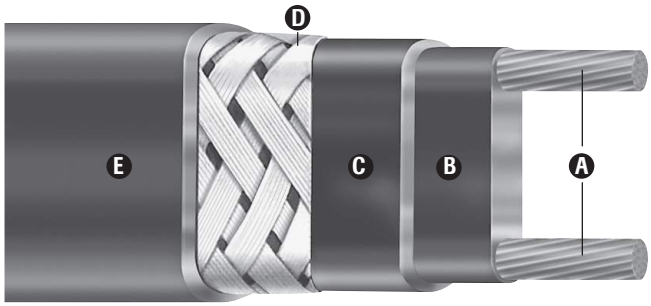
CL-1-F - CAUTION LABELS

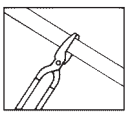
CPR
Self-Regulating Heat Trace

- Self-Regulating, Energy Efficient
- Max. Exposure Temp. 150°F (65°C) (Power Off)
- CPR Commercial Applications
- Pipe Freeze Protection
  - Potable & Non-Potable Piping
  - Sanitary & Storm Piping
  - Fire Sprinkler Piping
- Flow Maintenance
  - Greasy Waste Piping
  - Diesel Fuel Piping
- Roof & Gutter De-icing
- Freezer Frost Heave Prevention
- Floor Warming
- TPR or TPE Overjackets
- Circuit Lengths, Up to 660 Ft.
- 3, 5, 8, 10 and 15 W/Ft.
- 120, 208 - 277 Volt From Stock
- Approximate Size 3/8"W x 1/8"H
- Minimum Bend Radius 1-1/8"
- For Use on Metal Pipes, Plastic Pipes, Roofs, and Gutters

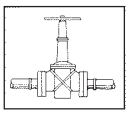
Per IEEE 515.1 for Commercial Heating Device installation Type A, B, C or D including on insulated surfaces, outdoor exposed areas, installation with embedded trace heating and installation with trace heater inside conduit or piping.

WARNING — A ground fault protection device is required by NEC to minimize the danger of fire if the heating cable is damaged or improperly installed. A minimum trip level of 30mA is recommended to minimize nuisance tripping.

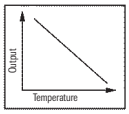




Cut to Length in Field



Can be Single Overlapped



Self Regulating Output

Description

Chromalox CPR Cable is a multi-purpose heating cable designed for commercial pipe tracing, roof & gutter deicing, embedded floor warming, and frost heave prevention. Chromalox's CPR Cable is constructed of a self-regulating polymer core that varies its heat output based on sensed temperature along its entire length. It can be easily cut to length, spliced, tee to more easily follow piping networks. In addition to insulated surfaces, Chromalox's CPR Heating Cable can be used on roofs and in gutters to prevent Ice Dams and provide a path for the melt water to excavate the roof surface.

Chromalox's CPR Heating Cable can be placed in conduit and embedded in concrete to prevent frost heave or placed onto concrete slabs for supplemental comfort heat. Chromalox's CPR cable can even be placed inside of conduit for applications making replacement of the heating cable possible. Chromalox's CPR is truly a versatile heating cable solution.

Features

- Energy efficient, self-regulating CPR uses less energy when less heat is required.
- Easy to install, CPR can be cut to any length (up to max. circuit length) in the field.
- Field splices can be performed easily in minutes with no scrap or wasted cold sections.
- CPR can be overlapped without burnout, which simplifies heat tracing of in-line process equipment such as valves, elbows and pumps.
- Because CPR is self-regulating, overtemperature conditions are minimized.
- Chromalox termination, splice, tee and end seal kits reduce installation time.

Construction

A **Twin Nickel Plated 16 AWG Copper Buss Wires —** Provide high electrical current capability.

B **Semiconductive Polymer Core Matrix —** its electrical resistance varies with temperature. As process temperature drops, the core's heat output increases; conversely, as process temperature rises, the heat output decreases.

C **Polyolefin Jacket —** Flame retardant, electrically insulates the matrix and buss wires. Also provides resistance to water and some inorganic chemical solutions.

D **Tinned Copper Braid —** The braid covering the jacket provides additional mechanical protection in any environ- ment and a positive ground path.

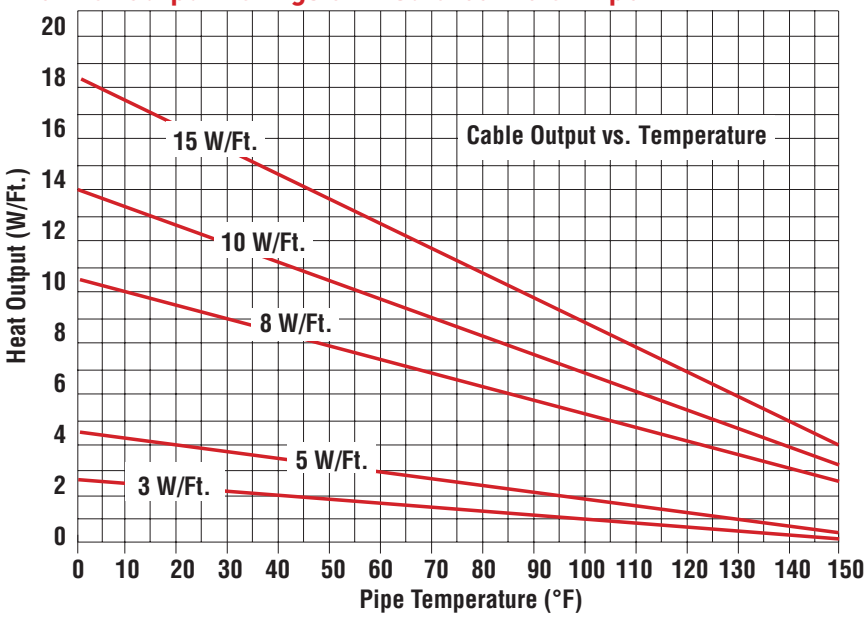
E **High Temperature Fluoropolymer or TPR Overjacket —** Corrosion resistant, flame retardant overjacket is highly effective in many environments. TPR coatings protect against certain inorganic chemical solutions. Fluoropolymer coatings are used for exposure to organic or corrosive solutions. These coatings also protect against abrasion and impact damage.

Approvals

CSA Certified for ordinary areas, fire suppression system piping and grease waste flow maintenance.

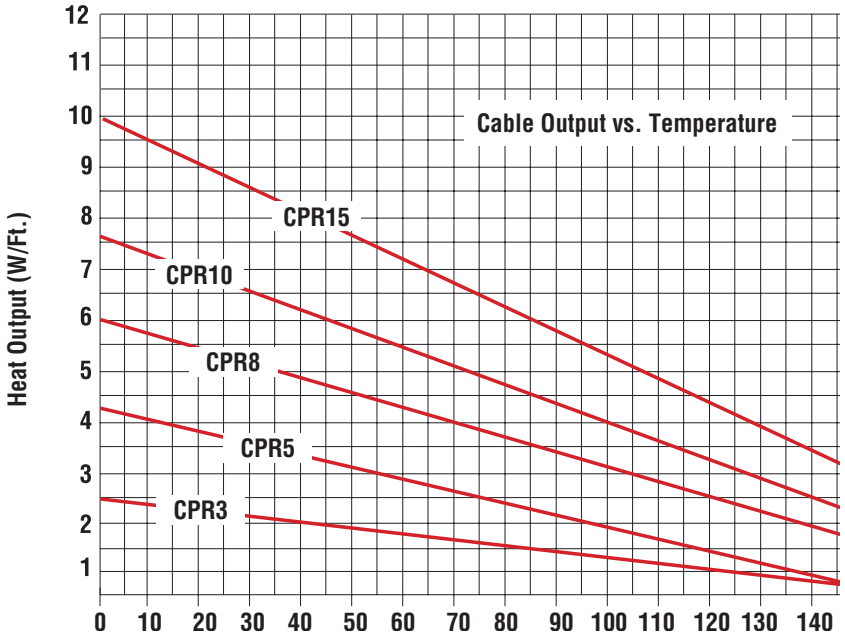
CPR
Self-Regulating Heat Trace *(cont'd.)*

Thermal Output Ratings on Insulated Metal Pipe[1]



Note 1 — Thermal output is determined per IEEE 515-2011 Standard for testing, design installation, and maintenance of electrical resistance heat tracing section 4.1.11 Method C.

Thermal Output Ratings on Plastic Pipe with Aluminum Tape



Output Wattage at Alternate Voltages (W/Ft.)

Model	208V	% Change In Output	220V	% Change In Output	277V	% Change In Output
CPR 3	2.4	-20	2.6	-13	3.4	+15
CPR 5	4.1	-18	4.5	-10	5.6	+13
CPR 8	6.88	-14	7.28	-9	8.96	+12
CPR 10	8.7	-13	9.2	-8	11.1	+10
CPR 15	13.2	-12	13.95	-7	16.2	+8

CPR

Self-Regulating Heat Trace *(cont'd.)*

Circuit Breaker Selection (Max. Circuit Lengths in Ft.)

GREASE FLOW MAINTENANCE

Cable Rating	65˚F Start-up (Ft.)				50˚F Start-up (Ft.)			
	15 Amp	20 Amp	30 Amp	40 Amp	15 Amp	20 Amp	30 Amp	40 Amp
CPR3-1	350	440	440	440	305	360	360	360
CPR3-2	680	800	825	825	600	660	660	660
CPR5-1	205	270	300	300	185	250	270	270
CPR5-2	410	550	620	620	375	505	540	540
CPR8-1	165	220	240	240	150	200	215	215
CPR8-2	310	425	480	480	285	375	420	420
CPR10-1	105	140	190	190	95	130	180	180
CPR10-2	210	230	345	420	160	210	315	360
CPR15-1	70	90	145	190	65	85	130	175
CPR15-2	105	150	220	280	100	140	210	265

PIPE FREEZE PROTECTION

Cable Rating	40˚F Start-up (Ft.)				20˚F Start-up (Ft.)				0˚F Start-up (Ft.)				-40˚F Start-up (Ft.)			
	15 Amp	20 Amp	30 Amp	40 Amp	15 Amp	20 Amp	30 Amp	40 Amp	15 Amp	20 Amp	30 Amp	40 Amp	15 Amp	20 Amp	30 Amp	40 Amp
CPR3-1	265	350	360	360	220	290	360	360	200	270	360	360	160	220	325	340
CPR3-2	525	660	660	660	440	585	660	660	415	555	660	660	320	445	595	625
CPR5-1	170	230	270	270	150	200	270	270	135	180	270	270	105	145	220	225
CPR5-2	340	450	540	540	300	400	540	540	270	360	540	540	215	290	440	510
CPR8-1	135	180	215	215	115	155	215	215	110	145	215	215	85	115	180	195
CPR8-2	270	330	420	420	235	310	420	420	200	265	395	420	175	210	315	400
CPR10-1	90	105	160	210	85	115	170	210	80	90	135	180	65	85	125	170
CPR10-2	185	210	315	420	170	225	340	420	125	185	275	365	135	145	215	300
CPR15-1	60	80	120	165	55	75	110	150	53	70	105	140	45	60	90	120
CPR15-2	95	125	200	250	90	110	180	230	75	100	160	210	65	90	135	175

ROOF & GUTTER DE-ICING

Cable Rating	40˚F Start-up (Ft.)				0˚F Start-up (Ft.)				-20˚F Start-up (Ft.)			
	15 Amp	20 Amp	30 Amp	40 Amp	15 Amp	20 Amp	30 Amp	40 Amp	15 Amp	20 Amp	30 Amp	40 Amp
CPR3-1	265	350	360	360	200	270	360	360	180	240	360	360
CPR3-2	525	660	660	660	415	555	660	660	360	480	660	660
CPR5-1	170	230	270	270	135	180	270	270	120	160	240	270
CPR5-2	340	450	540	540	270	360	540	540	225	300	450	540
CPR8-1	135	180	215	215	110	145	215	215	95	130	195	215
CPR8-2	270	330	420	420	200	265	395	420	185	245	365	420
CPR10-1	90	105	160	210	80	90	135	180	70	95	140	180
CPR10-2	185	210	315	420	125	185	275	365	110	150	225	275

FROST HEAVE PREVENTION

Cable Rating	0˚F Start-up (Ft.)				-20˚F Start-up (Ft.)			
	15 Amp	20 Amp	30 Amp	40 Amp	15 Amp	20 Amp	30 Amp	40 Amp
CPR3-1	200	270	360	360	180	240	360	360
CPR3-2	415	555	660	660	360	480	660	660
CPR5-1	135	180	270	270	120	160	240	270
CPR5-2	270	360	540	540	225	300	450	540
CPR8-1	110	145	215	215	95	130	195	215
CPR8-2	200	265	395	420	185	245	365	420
CPR10-1	80	90	135	180	70	95	140	180
CPR10-2	125	185	275	365	110	150	225	275

CPR
Self-Regulating Heat Trace *(cont'd.)*

Ordering Information

Output (W/Ft.)	Volts	Model	Stock	PCN	Wt./1000' (Lbs.)
3 @ 50˚F	120	CPR 3-1CT	S	512209	66
		CPR 3-1CR	S	512102	64
	208-277	CPR 3-2CT	S	512217	66
		CPR 3-2CR	S	512110	64
5 @ 50˚F	120	CPR 5-1CT	S	512225	66
		CPR 5-1CR	S	512129	64
	208-277	CPR 5-2CT	S	512233	66
		CPR 5-2CR	S	512137	64
8 @ 50˚F	120	CPR 8-1CT	S	512241	66
		CPR 8-1CR	S	512145	64
	208-277	CPR 8-2CT	S	512250	66
		CPR 8-2CR	S	512153	64
10 @ 50˚F	120	CPR 10-1CT	S	512268	66
		CPR 10-1CR	S	512161	64
	208-277	CPR 10-2CT	S	512276	66
		CPR 10-2CR	S	512170	64
15 @ 50˚F	120	CPR 15-1CT	S	512284	66
		CPR 15-1CR	S	512188	64
	208-277	CPR 15-2CT	S	512292	66
		CPR 15-2CR	S	512196	64

To Order - Specify length, model, PCN and Installation accessories

Accessories

Accessories		DL	EL
Power Connection	Heat trace to electrical service connection	RTPC	SSK/HSK-PC
Splice & Tee		RTST	RT-RST
End Seal	For terminating cable	RTES	RT-RES
Thermostat	Ambient air sensing thermostat	RTAS	TPR
	Line sensing mechanical thermostat	RTBC	TPR

General Application & Installation Accessories such as tape, pipe straps, warning labels, etc., refer to the Heat Trace Accessories page at the end of this section.

Ordering Information

To Order — *Complete the Model Number using the Matrix provided.*

Model	Self-Regulating Freeze Protection
CPR	Self-Regulating, Commercial Pipe and Roof Heating Cable

Code	Output (W/Ft.)
3	Three
5	Five
8	Eight
10	Ten
15	Fifteen

Code	Voltage
1	120
2	208 - 277

Code	Overjacket Options
CR	TPR overjacket over braid for hostile/corrosive environments
CT	TPE overjacket over braid for protection against certain inorganic chemical solutions

CPR ☐ – ☐ ☐ **Model Number**

DL
Integrated Temperature Controls

- **Line or Ambient Sensing Thermostats**
- **ElectroMechanical Control**
- **Rugged, Corrosion Resistant Construction**
- **NEMA 4X Design with Corrosion and Weather Resistant Ryton® Construction**
- **Ambient Sensing**
  - **120 - 480 Vac**
  - **0 - 225°F Temp. Rating**
  - **9/16" OD x 4" SS Probe**
  - **Ordinary & Hazardous Area (Div. 2) Approvals**
- **Bulb & Capillary**
  - **120 - 480 Vac**
  - **0 - 400°F Setpoint Range**
  - **1/4" OD x 7-1/4" SS Bulb and 3 Ft. Capillary**
  - **Ordinary & Hazardous Area (Div. 2) Approvals**

Description

The DL Series Single Point On/Off Temperature Controls from Chromalox represent the state of the art in heat tracing and are available in five models to handle a broad range of applications. Models include two ambient sensing thermostats, two line sensing thermostats and a line sensing solid state controller. These high-quality models combine temperature control and power connection in a convenient, easy to use and economical package.

Applications

- Hydrocarbon and Chemical Product Piping
- Process Temperature Maintenance
- Fluid Flow and Viscosity Maintenance
- Freeze Protection

Features

- Integrated Controls and Power Connections reduce installation hardware
- Molded of Durable Plastic Material (Ryton® PPS)[1]
- High Service Temperature
- Corrosion Resistant
- Thermal Stability
- Non-Flammability
- High Strength and Rigidity
- Stainless Steel Sensor Sheath
- Hermetically Sealed Switches on EP models permit control in Div. 2 hazardous areas
- Stainless Steel Hardware to ensure the integrity of the system
- Cable Terminations inside enclosure reduce installation time and cost
- Liquid Tight Design prevents moisture from reaching the electrical connections. All models are rated NEMA 4X.

Approvals[2]

UL, CSA, FM is carried by most models, consult specific product information.

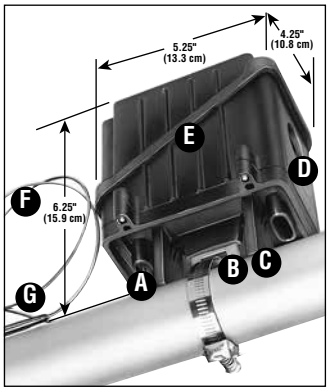
UL Listed for ordinary areas

CSA Certified for ordinary and:
- Class I, Div. 2, Groups A, B, C, D
- Class II, Div. 2, Groups E, F, G

FM Approved for ordinary and:
- Class I, Div. 2, Groups B, C, D
- Class II, Div. 2, Groups E, F
- Class III, Div. 2 Areas.

Notes —
1. Ryton®, is a registered trade name of Phillips Chemical Company.
2. Depends on specific model and cable applied.

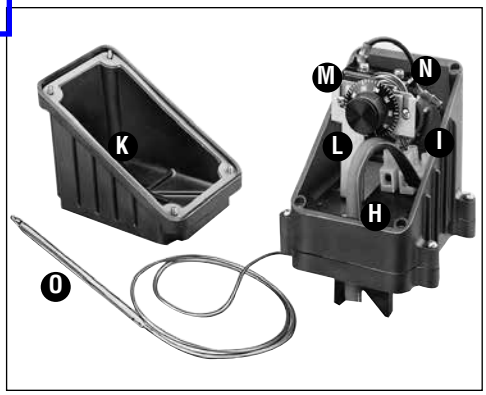
DL
Integrated Temperature Controls *(cont'd.)*



RTBC & RTBC-EP Bulb & Capillary

RTBC is a line-sensing thermostat which is generally used for process temperature maintenance applications in ordinary (non-hazardous) areas. The thermostat is mounted within the enclosure and the capillary is brought out through one of the openings in the bottom of the box. This design provides extra protection for the capillary, especially when the control is mounted on a pipe, for heat tracing applications. The three foot long stainless steel capillary provides good flexibility in mounting locations.

RTBC-EP is a modified version of the RTBC which utilizes a hermetically sealed switch. Since this switch has no arcing contacts it can be used in Division 2 Hazardous Areas.



Specifications

Temp. Setpoint Range — 0 to 400°F (-18 to 200°C) for RTBC, RTBC-EP

Microswitch® Rating — 22 Amps SPDT for RTBC; 11 Amps, RTBC-EP

Minor Scale Division — 10°F (5.6°C)

Max. Sensor Exposure Temp. — 450°F (230°C)

Sensor Dimensions — 1/4" (6.4mm) OD x 7-1/4" (18.4cm) L Bulb, 3' (1m) Capillary

Operating Ambient Temp. Range — -40°F to 160°F (-40 to 71°C)

Factory Preset and Calibrated — 200°F (93°C) for RTBC, RTBC-EP

Construction

- **A** Strategically placed cable entries allow maximum flexibility for insulation (Heating cable cut away for clarity).
- **B** Stainless steel tiedown support provides positive attachment to pipes.[1]
- **C** Heavy duty support legs give stable pipe mounting and provide conduit clearance for applications with up to three inches of insulation.
- **D** Opening for 3/4" (20 mm) conduit hub.[1]
- **E** Oblique sided box and cover allow easy access for wiring.
- **F** Stainless steel capillary (3 ft/1m long).
- **G** Stainless steel sensing bulb.
- **H** Cable grommets provide water-tight seal between base, box, cable and capillary. Use GRSR with all self-regulating cables. Use GRCW with constant wattage cables. One of each grommet included in kit. See table below for spare grommets.
- **I** Three position terminal block for easy wiring.
- **J** Power wiring entry. Conduit hub not included.[1]
- **K** Gasket provides water-tight seal between box and lid. It is affixed to the lid and captures the mounting hardware.
- **L** Thermostat mounting bracket.
- **M** Setpoint adjustment knob.
- **N** Thermostat switch.
- **O** Stainless steel sensing bulb.

Note 1 —Refer to DL & EL General Application Accessories at the end of this section.

Spare Grommets

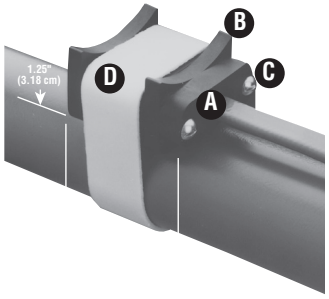
		PCN
GRS	RTD/Capillary type	**385000**
GR0	Blank	**385019**
GRSR	Self-regulating cable type	**389714**
GRCW	Constant wattage cable type	**389722**

Ordering Information — RTBC

Model	PCN	Switch Rating (Amps/Volts)	Max. Continuous Exposure Temp.		Max. Intermittent Exposure Temp.		Wt. (Lbs.)
			°F	°C	°F	°C	
RTBC	389600	22A @ 120 - 480	400	200	500	260	2
RTBC-EP	389618	11A @ 120 - 250	400	200	500	260	2

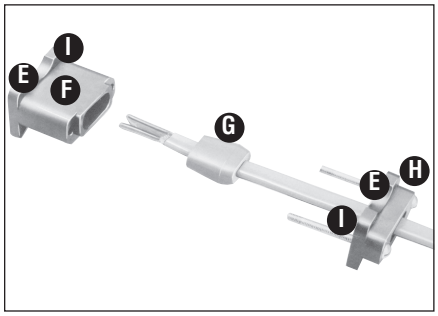
Stock Status: **S** = stock NS = non-stock
To Order—Specify model, PCN and quantity.

DL
Commercial Connection Accessories *(cont'd.)*



RTES — End Seal Kit

RTES End Seal Fitting is a NEMA 4X rated enclosure designed to terminate all Chromalox Rapid Trace Heating Cables. This model provides waterproof cable entry for one cable, enclosure support and a waterproof corrosion resistant enclosure. The fitting has two different curved mounting surfaces. One side has a 1-1/2" radius curved surface that provides stable support on pipes with a diameter of 3" or more. The other side has a 1/2" radius curved surface which permits a better fit on smaller pipes. In addition, this side also has four "feet" for installation on flat surfaces.



Construction

- **A** Cable entry.
- **B** Three inch diameter curved mounting surface.
- **C** Captured stainless steel hardware.
- **D** One inch wide strapping channel for secure mounting.
- **E** One-half inch radius curved mounting surface.
- **F** End cap.
- **G** Cable grommet provides water-tight seal between end cap and pressure plate. Use GRSR with all self-regulating cables. Use GRCW with constant wattage cables. One of each grommet included in kit. See table below for spare grommets.
- **H** Pressure plate.
- **I** Mounting feet for installation on flat surfaces.

RTES — End Seal Kit

1 end cap
1 pressure plate
1 GRSR Self-regulating cable sealing grommet
1 GRCW Constant wattage cable sealing grommet

Ordering Information — RTES

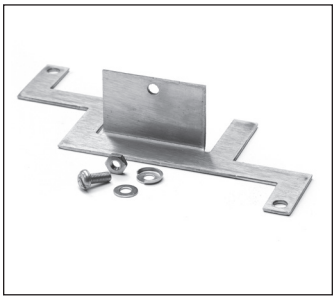
Model	PCN	Stock	Wt. (Lbs.)
RTES	513180	S	1

Spare Grommets

		PCN
GRS	RTD/Capillary type	**513287**
GR0	Blank	**513295**
GRSR	Self Regulating type	**513308**
GRCW	Constant Wattage type	**513316**

DL Accessory Components

MP-1 (385780)



Mounting Plate Kit Attachments

For installing RTPC and RTST kits on flat surfaces. Kit includes:
1 mounting plate
1 lock washer
1 bolt
1 washer
1 nut

Note — The complete line of DL & EL Mounting Accessories is located at the end of this section.

PS

Pipe Strap

Data Sheet

Stainless Steel Pipe Straps used to secure heat trace components to pipe.

PS-1	For ½” to ¾" pipes
→ **PS-3**	For 1” to 3½” pipes
PS-10	For 2” to 10" pipes
PS-20	For 3” to 20" pipes

*Interlock Straps for larger diameter pipes.

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FT-X

Fiberglass Tape

Data Sheet

Fiberglass tape used to secure heat trace cable to metallic pipe; secure heat trace cable every 1 foot interval per manufacturer's installation instructions.

Size:	3/4in wide x 180ft long
Temperature Rating:	-40F to 310F

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CL-1-F

Heat Trace Caution Labels

Data Sheet

Per NEC, warning labels are required every 10ft of linear heat trace, must be visibly located outside of the insulation jacket. These labels also provide an area to write circuit and panel information.

Size:	2.5" x 9.25"
Qty:	5 labels per pack
Material:	4mil weather resistant yellow vinyl with adhesive backing and UV resistant ink

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