

Self-Regulating Low Temperature Heating Cable

- **Self-Regulating, Energy Efficient**
- **Process Temperature Maintenance to 150°F (65°C)**
- **Maximum Continuous Exposure Temperature (Power Off) 185°F (85°C)**
- **Available in 3, 5, 8 and 10 Watts per Foot**
- **120 and 208-277 Volts**
- **Circuit Lengths to 660 Feet**
- **Hazardous Division 1 Locations**



Chromalox[®]
PRECISION HEAT AND CONTROL

Description

Chromalox HSRL self-regulating heating cable provides safe, reliable heat tracing for Class I, Division 1 hazardous locations.

Applications

- Process Temperature Maintenance
- Freeze Protection of Pipes
- Fluid Flow and Viscosity Maintenance

Approvals

FM approved
Class I, Division 1, Groups B, C, D
Class II, Division 1, Groups F, G
Class III, Division 1

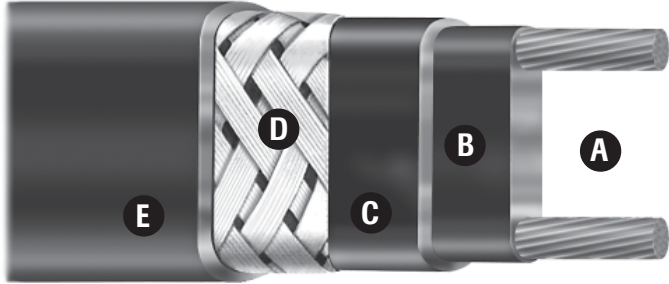
CSA approved
Class I, Division I, Groups B, C, D
Class II, Division I, Groups E, F, G

Features

- Energy Efficient - Uses less energy when less heat is required.
- Easy to Install - Can be cut to length in the field (up to max circuit length). Use of Chromalox termination, splice, tee and end seal kits further reduce installation time.
- Lower Costs - Features lower installed cost than steam tracing, less maintenance expense, less down time. Field splices can be easily performed with no scrap or wasted cold sections.
- Improved Reliability - Can be single overlapped without burnout. This simplifies heat tracing of in-line process equipment such as valves, elbows and pumps. Because cable is self-regulating, overtemperature conditions are virtually impossible.

HSRL - Self-Regulating Low Temperature Heating Cable

Construction



- A. Twin 16 AWG Copper Buss Wires**
Provide reliable electric current capability.
- B. Water-Resistant Polyolefin Jacket**
Flame retardant, electrically insulates the matrix and buss wires. Provides resistance to water and some inorganic solutions.
- C. Semiconductive Polymer Core Matrix**
“Self-Regulating” component of cable. Core’s electrical resistance varies with temperature. As process temperature drops the core’s heat output increases; as process temperature rises, the heat output decreases.
- D. Tinned Copper Braid**
Provides additional mechanical protection in any environment. Provides positive ground path.
- E. Fluoropolymer Overjacket**
Fluoropolymer overjacket protects against exposure to organic or corrosive solutions.

Product Specifications

Model Number	T-Rating	Output @ 50°F (W/ft.)	Nominal Voltage (Vac)	Maximum Circuit Length (ft.)*
HSRL3-1CT	T6	3	120	360
HSRL3-2CT	T6	3	208-277	660
HSRL5-1CT	T5	5	120	270
HSRL5-2CT	T5	5	208-277	540
HSRL8-1CT	T5	8	120	215
HSRL8-2CT	T5	8	208-277	420
HSRL10-1CT	T4A	10	120	180
HSRL10-2CT	T4A	10	208-277	360

* See next page for maximum circuit lengths by start-up temperature and circuit breaker size.

Output Wattage at Alternate Voltages (W/ft.) @ 50°F

Model Number	208 Volts	220 Volts	277 Volts
HSRL3-2CT	2.4	2.6	3.4
HSRL5-2CT	4.1	4.5	5.6
HSRL8-2CT	6.88	7.28	8.96
HSRL10-2CT	8.7	9.2	11.1

Heating Cable System Design

To determine cable rating and length of cable needed, please refer to the Chromalox Design Guide for Heat Tracing Systems (PJ 304).

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Circuit protection depends on the breaker size being used and the start-up temperature. The National Electric Code (NEC 1999) requires the use of ground fault protection breakers for heating cable. The following chart shows the maximum circuit length for a given breaker rating. To determine the number of circuits required for each pipe, divide the total cable length needed (as determined by using the Chromalox Design Guide for Heat Tracing - PJ304) by the maximum circuit length found in the chart. Round up to the next higher number.

Maximum Circuit Length (ft.) by Start-Up Temperature (°F) and Breaker Size (Amps)

Cable Rating	Circuit Breaker	50°F Start-Up						0°F Start-Up						-20°F Start-Up					
		10A	15A	20A	25A	30A	40A	10A	15A	20A	25A	30A	40A	10A	15A	20A	25A	30A	40A
HSRL3-1CT		205	305	360	NR	NR	NR	135	200	270	330	360	NR	120	185	245	300	360	NR
HSRL3-2CT		400	600	660	NR	NR	NR	275	415	555	660	NR	NR	245	370	495	600	660	NR
HSRL5-1CT		125	185	250	270	NR	NR	90	135	180	225	270	NR	80	120	160	205	245	270
HSRL5-2CT		250	375	505	540	NR	NR	180	270	360	450	540	NR	160	245	325	405	490	540
HSRL8-1CT		100	150	200	215	NR	NR	70	110	145	180	215	NR	65	100	130	165	200	210
HSRL8-2CT		185	285	375	420	NR	NR	135	200	265	335	395	420	120	175	235	300	350	420
HSRL10-1CT		60	95	130	160	180	NR	50	80	105	130	155	180	45	70	95	120	140	180
HSRL10-2CT		100	160	210	260	315	360	80	125	170	210	255	340	75	120	160	195	240	320

Thermal magnetic circuit breakers are recommended since magnetic circuit breakers could “nuisance trip” at low temperature. NR = Not Required. Maximum circuit length has been reached in a smaller breaker size.

Accessories

Chromalox has a complete line of accessories specifically designed for use with HSRL cable. Use only Chromalox HL accessories to ensure the performance and approval of your heat tracing system.

Model	Description
B121	NEMA type 7 enclosure with ambient-sensing thermostat
E121	NEMA type 7 enclosure with bulb and capillary thermostat
HL-PC	HL Series connection kit to connect power to 1 cable
HL-S	HL Series connection kit to connect 2 cables
HL-T	HL Series connection kit to connect 3 cables
HL-ES	HL Series connection kit to terminate 1 cable
PS-1, 3 & 10	Pipe straps to affix thermostat, power connection, end seal, splice and tee kits to pipe.
FT-2	Fiberglass tape to affix cable to pipe.
AT-1	Aluminum tape to aid heat transfer.
CL-1	“Electrical Heat Tracing” caution labels to warn personnel of the presence of heat tracing system.

Control Panels - Contact your Chromalox representative for information about our Intellitrace Heat Trace Control package.

For Accessory ordering information refer to HL Series Connection Systems product data sheet (PJ918)

