SC, SC/H

SERIES-RESISTANCE HEATING CABLES FOR ELCTRICAL FREEZE PROTECTION ION LONGLINE SYSTEMS (HAZARDOUS AND NONHAZARDOUS)

Heating cable construction

10 YEAR Product warranty

PRODUCT OVERVIEW

nVent RAYCHEM SC and SC/H series-resistance technology provides freeze protection and high-temperature maintenance for longline applications.

This series-resistance type heating cable can withstand continuous exposure temperatures up to 482°F (250°C), and is suitable for use in hazardous locations and in areas exposed to corrosives. SC heating cables can be used for continuous circuit lengths to 12,000 feet (3659 m), powered from a single source.

nVent RAYCHEM SC heating cables meet the requirements of the U.S. National Electrical Code and the Canadian Electrical Code.

For additional information, contact your nVent representative or call (800) 545-6258.

APPLICATION

Area classification	Nonhazardous and hazardous locations; 1SC cables for use in low mechanical abuse areas only.
Chemical resistance	Organic and aqueous inorganic chemicals and corrosives

SUPPLY VOLTAGE

Maximum 600 Vac

TEMPERATURE RATING

	SC	SC/H
Maximum continuous exposure (Power off)	400°F (204°C)	482°F (250°C)
Minimum installation temperature	–40°F (–40°C)	–40°F (–40°C)

TEMPERATURE ID NUMBER (T-RATING)

Established by calculating the maximum sheath temperature for the application. Contact nVent for assistance.

APPROVALS

1SC

Nonhazardous Locations

-W

Hazardous Locations

-W Ex e II T (1)(2)

(1)for T-Rating, see design documentation
(2)for 1SC60-CT, 1SC70-CT, and 1SC80-CT only

2SC

Hazardous Locations

-W FM APPROVED Class I, Div. 2, Groups A, B, C, D
Class II, Div. 2, Groups F, G
Class III

For T-Rating, see design documentation

Ex II 2GD Ex e II T* (see schedule) Ex tD A21 IP66
Baseefa06ATEX0189X

IECEx Ex e II T* (see schedule) Ex tD A21 IP66
IECEx BAS 06.0049X

-W Ex e II T (1)

IEx Ex e IIC T* Gb

3SC

Hazardous Locations

-W FM APPROVED Class I, Div. 2, Groups A, B, C, D
Class II, Div. 2, Groups F, G
Class III

For T-Rating, see design documentation

Ex II 2GD Ex e II T* (see schedule) Ex tD A21 IP66
Baseefa06ATEX0189X

IECEx Ex e II T* (see schedule) Ex tD A21 IP66
IECEx BAS 06.0049X

-W Ex e II T (1)

IEx Ex e IIC T* Gb

DESIGN AND INSTALLATION

SC and SC/H applications must be designed and approved by nVent. Series heating cable technology requires that SC cables must not be overlapped. The use of appropriate control and monitoring equipment specified by nVent is required.

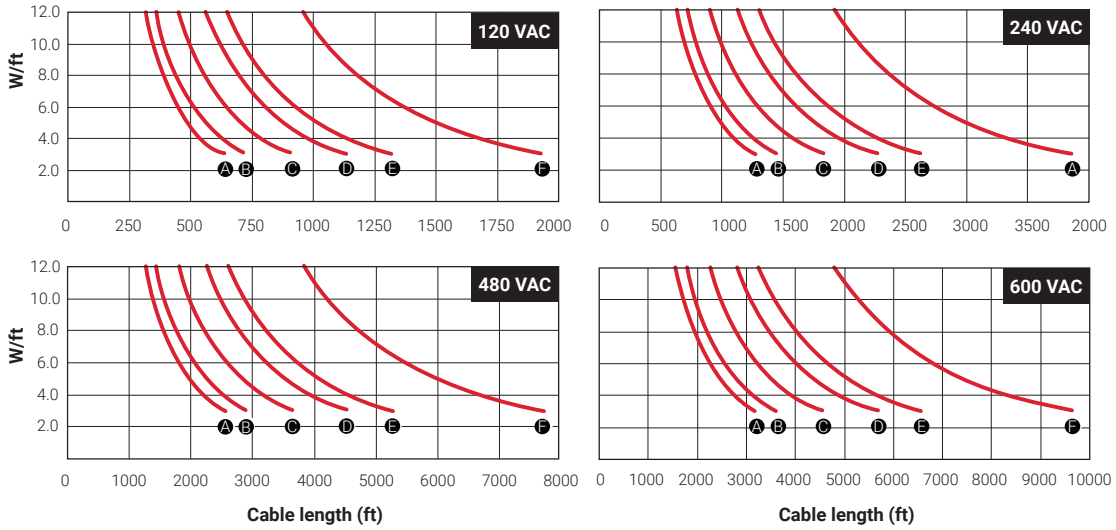
NOMINAL POWER OUTPUT RATING

These graphs are general guides to selection. Actual designs require consideration of other important variables and must be confirmed by nVent. Also, many other voltages and electrical configurations are possible.

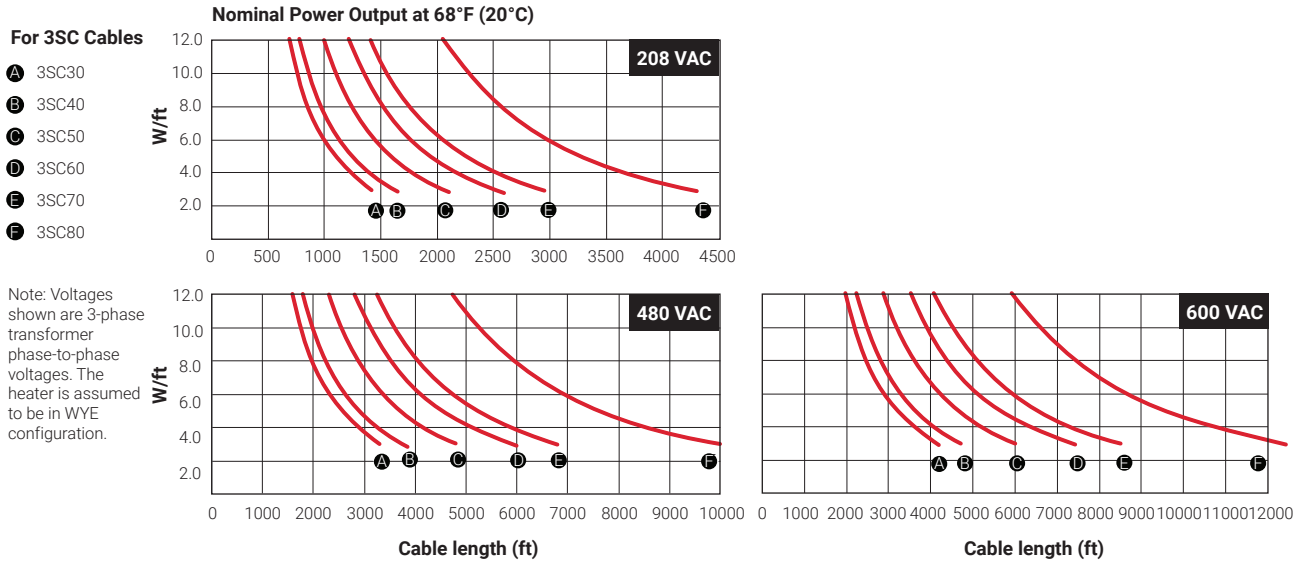
Nominal Power Output at 68°F (20°C)

For 2SC Cables

- A 2SC30
- B 2SC40
- C 2SC50
- D 2SC60
- E 2SC70
- F 2SC80



NOMINAL POWER OUTPUT RATING



Note: Voltages shown are 3-phase transformer phase-to-phase voltages. The heater is assumed to be in WYE configuration.

PRODUCT CHARACTERISTICS

SC or SC/H	Conductor size	Cable resistance (nominal) @ 68°F (20°C) ohms/ft	ohms/m	Weight (nominal) lb/10 ft	Maximum circuit breaker size	Cable dimensions (nominal) (in)	Minimum bend radius (in)
(Single conductor cable)							
1SC30-CT	18	0.00590	0.01935	0.4	30	0.22 diameter	1
1SC40-CT	16	0.00458	0.01502	0.5	30	0.23 diameter	1
1SC50-CT	14	0.00290	0.00951	0.6	30	0.24 diameter	1
1SC60-CT	12	0.00187	0.00613	0.7	60	0.26 diameter	1
1SC70-CT	10	0.00120	0.00394	0.9	80	0.29 diameter	1
1SC80-CT	8	0.00065	0.00213	1.2	100	0.32 diameter	1
(Dual conductor cable)							
2SC30-CT	18	0.01180	0.03869	0.8	40	0.41 x 0.27	1
2SC40-CT	16	0.00916	0.03004	1.0	40	0.42 x 0.28	1
2SC50-CT	14	0.00580	0.01902	1.2	40	0.45 x 0.29	1
2SC60-CT	12	0.00374	0.01226	1.4	60	0.5 x 0.31	1
2SC70-CT	10	0.00240	0.00787	1.8	80	0.55 x 0.34	1
2SC80-CT	8	0.00130	0.00426	2.4	100	0.61 x 0.37	1
(Triple conductor cable, resistance per conductor)							
3SC30-CT	18	0.00590	0.01935	1.2	40	0.56 x 0.27	1
3SC40-CT	16	0.00458	0.01502	1.5	40	0.58 x 0.28	1
3SC50-CT	14	0.00290	0.00951	1.8	40	0.62 x 0.29	1
3SC60-CT	12	0.00187	0.00613	2.1	60	0.68 x 0.31	1
3SC70-CT	10	0.00120	0.00394	2.7	80	0.75 x 0.34	1
3SC80-CT	8	0.00065	0.00213	3.6	100	0.85 x 0.37	1

CONNECTION KITS

nVent offers a full range of connection kits for power connections, splices, and end termination. These connection kits must be used to ensure proper functioning of the product and compliance with warranty, code, and approvals requirements.

GROUND-FAULT PROTECTION

To minimize the danger of fire from sustained electrical arcing if the heating cable is damaged or improperly installed, and to comply with the requirements of nVent, agency certifications, and national electrical codes, ground-fault equipment protection must be used on each eating cable branch circuit. Arcing may not be stopped by conventional circuit protection. Many RAYCHEM control and monitoring systems meet the ground-fault protection requirement.

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