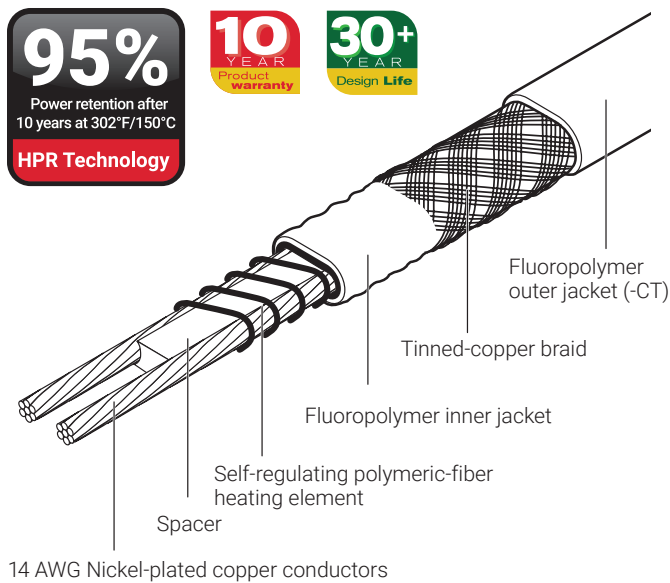


High power retention self-regulating heating cables for freeze protection or process temperature maintenance applications

PRODUCT OVERVIEW



The nVent RAYCHEM XTVR self-regulating heating cable is designed for freeze protection or process temperature maintenance of pipes and vessels requiring high power output and exposure temperatures.

The XTVR heating cables can withstand temperatures up to 482°F (250°C) and provide process temperature maintenance to 302°F (150°C). The XTVR cable incorporates a high power retention (HPR) heating core. This innovative heating core technology and product design results in:

- Highly reliable power output for long operational life
- Ease of stripping, flexing and installation
- Seven wattage levels (240 V range) for efficient heat trace designs and lower installation costs

Power retention: Minimum 95% after 10 years at maximum operating temperature of 302°F (150°C).

Certified for use in hazardous and ordinary areas and comes with a 10 year product warranty.

Design life: 30+ years of design life, depending on application.

nVent RAYCHEM XTVR 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
Traced surface type	Metal
Chemical resistance	Organic and aqueous inorganic chemicals and corrosives


SUPPLY VOLTAGE

XTVR1	100–130 Vac
XTVR2	200–277 Vac

SPECIFICATIONS

Maximum maintain or continuous operating temperature (power on)	302°F (150°C)
Maximum intermittent exposure temperature (power on/off)	482°F (250°C) for 2000 hours cumulative.
Temperature classification (T-Rating or Temperature ID numbers)	T2D 419°F (215°C) 15XTVR1-CT, 20XTVR1-CT, 20XTVR2-CT
Temperature ID numbers are consistent with North America National Electrical Codes	T3 392°F (200°C) 10XTVR2-CT, 10XTVR1-CT, 12XTVR2-CT, 15XTVR2-CT
Minimum installation temperature	T3A 356°F (180°C) 3XTVR2-CT, 5XTVR1-CT, 5XTVR2-CT, 8XTVR2-CT
Minimum installation temperature	-76°F (-60°C)
Bus-Wire size	14 AWG
Outer jacket color	Red
Thickness (nominal)	0.283 in (7.2 mm)
Width (nominal)	0.425 in (10.8 mm)
Weight (nominal)	114 lb/1000 ft (164 g/m)
Minimum bend radius	-76°F (-60°C) ≤ T < -4°F (-20°C): 2" (51 mm) -4°F (-20°C) ≤ T < 14°F (-10°C): 1.4" (35 mm) 14°F (-10°C) ≤ T < 32°F (0°C): 1" (25 mm) 32°F (0°C) ≤ T < 50°F (+10°C): 0.8" (20 mm) T ≥ 50°F (+10°C): 0.5" (12.7 mm)
Design Life	30 years or more depending on application (contact nVent for more details)
Power Retention	Minimum 95% after 10 years at maximum operating temperature of 302°F (150°C)

APPROVALS

Hazardous Locations			Zone Approvals		
IECEX	IECEX BAS 20.0012X Ex 60079-30-1 eb IIC T* Gb or Ex 60079-30-1 tb IIIC T**°C Db Ex 60079-30-1 eb mb IIC T* Gb or Ex 60079-30-1 mb tb IIIC T**°C Db Tmin -60°C (*see schedule)		Class I, Div. 1, Groups A, B, C, D Class II Div. 1, Groups F, G Class III		
			Class I, Div. 1 and 2, Groups A, B, C, D Class II, Div. 1 and 2, Groups E, F, G Class III -WS for Canada		Ex 60079-30-1 IIC T* Gb Ex 60079-30-1 IIIC T* Db Class I Zone 1 AEx eb IIC T* Gb Zone 21 AEx tb IIIC T* Db -WS for Canada

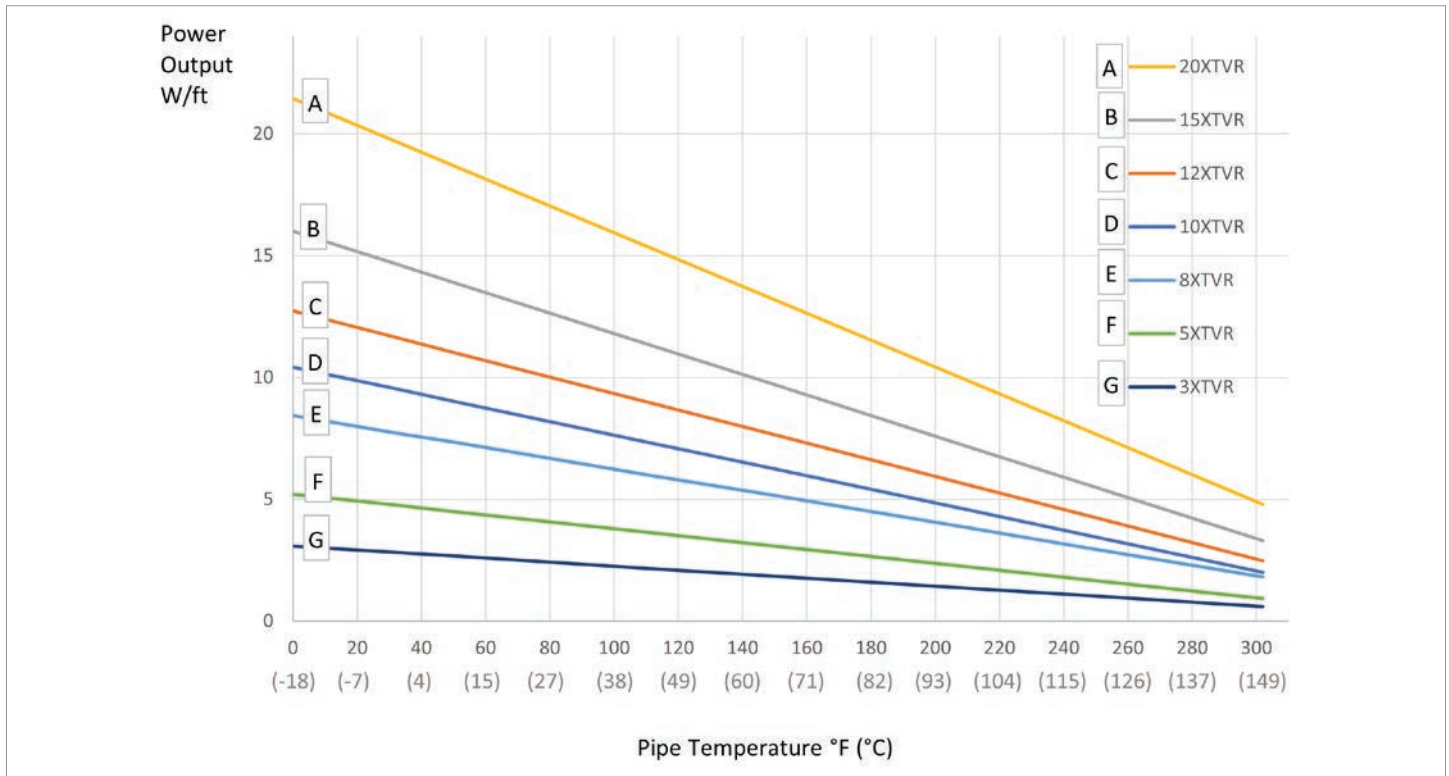
*,** For system T-rating, refer to design document or see schedule.

DESIGN AND INSTALLATION

For proper design and installation, use TraceCalc Pro design software or the Self-Regulating Heating Cables Design Guide H56882. See Design Guide document H56882 for circuit length tables with 208 V and 277 V. Also, refer to the nVent Installation and Maintenance manual (H57274). Literature is available via the nVent web site, nVent.com/RAYCHEM

Power Adjustment Factors		
	Voltage	
	208 V	277 V
3XTVR2-CT	0.89	1.07
5XTVR2-CT	0.9	1.05
8XTVR2-CT	0.92	1.06
10XTVR2-CT	0.9	1.06
12XTVR2-CT	0.92	1.05
15XTVR2-CT	0.93	1.05
20XTVR2-CT	0.93	1.06

NOMINAL POWER OUTPUT ON METAL PIPES AT 120 AND 240 VOLTS



MAXIMUM CIRCUIT LENGTHS BASED ON CIRCUIT BREAKER SIZES

	Ambient temperature at start-up		Maximum circuit length (in feet) per circuit breaker									
			120 V					240 V				
	°F	°C	15 A	20 A	30 A	40 A	50 A	15 A	20 A	30 A	40 A	50 A
3XTVR2-CT	50	10	N/A					480	640	960	979	979
	0	-18						415	553	830	979	979
	-20	-29						394	526	789	979	979
	-40	-40						376	501	751	979	979
5XTVR1-CT 5XTVR2-CT	50	10	180	240	360	373	373	360	480	720	744	744
	0	-18	155	207	310	373	373	311	414	621	744	744
	-20	-29	147	196	294	373	373	295	393	589	744	744
	-40	-40	139	186	279	372	373	280	374	561	744	744
8XTVR2-CT	50	10	N/A					261	348	522	578	578
	0	-18						227	302	453	578	578
	-20	-29						216	287	431	575	578
	-40	-40						205	274	411	548	578
10XTVR1-CT 10XTVR2-CT	50	10	111	148	221	256	256	221	295	443	509	509
	0	-18	96	128	192	256	256	192	256	383	509	509
	-20	-29	91	121	182	242	256	182	243	364	485	509
	-40	-40	87	115	173	231	256	173	231	346	462	509

	Ambient temperature at start-up		Maximum circuit length (in feet) per circuit breaker									
			120 V					240 V				
	°F	°C	15 A	20 A	30 A	40 A	50 A	15 A	20 A	30 A	40 A	50 A
12XTVR2-CT	50	10	N/A					192	256	384	456	456
	0	-18						166	222	332	443	456
	-20	-29						158	211	316	421	456
	-40	-40						150	200	301	401	456
15XTVR1-CT 15XTVR2-CT	50	10	72	96	144	193	200	144	193	289	385	407
	0	-18	63	84	127	169	200	125	167	251	334	407
	-20	-29	60	81	121	161	195	119	159	238	318	392
	-40	-40	58	77	115	154	189	114	151	227	302	378
20XTVR1-CT 20XTVR2-CT	50	10	58	77	115	154	169	115	154	230	307	339
	0	-18	51	68	102	135	151	100	134	200	267	301
	-20	-29	49	65	97	130	146	95	127	191	255	289
	-40	-40	47	62	93	124	141	91	121	182	243	279

ORDERING DETAILS

Part description	Part number	Part description	Part number
5XTVR1-CT	2000003071	3XTVR2-CT	2000003070
10XTVR1-CT	2000003074	5XTVR2-CT	2000003072
15XTVR1-CT	2000003077	8XTVR2-CT	2000003073
20XTVR1-CT	2000003079	10XTVR2-CT	2000003075
		12XTVR2-CT	2000003076
		15XTVR2-CT	2000003078
		20XTVR2-CT	2000003080

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 heating cable branch circuit. Arcing may not be stopped by conventional circuit protection. Many nVent RAYCHEM control and monitoring systems meet the ground-fault protection requirement.

North America

Tel +1.800.545.6258
thermal.info@nVent.com

Latin America

Tel +1.713.868.4800
thermal.info@nVent.com



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