

## High-temperature self-regulating heating cables

### Electrical freeze protection and process-temperature maintenance for both nonhazardous and hazardous locations.

The XTV family of self-regulating heating cables provides solutions for industrial freeze protection and process-temperature maintenance applications requiring high power output. XTV heating cables can withstand temperatures up to 420°F (215°C) and

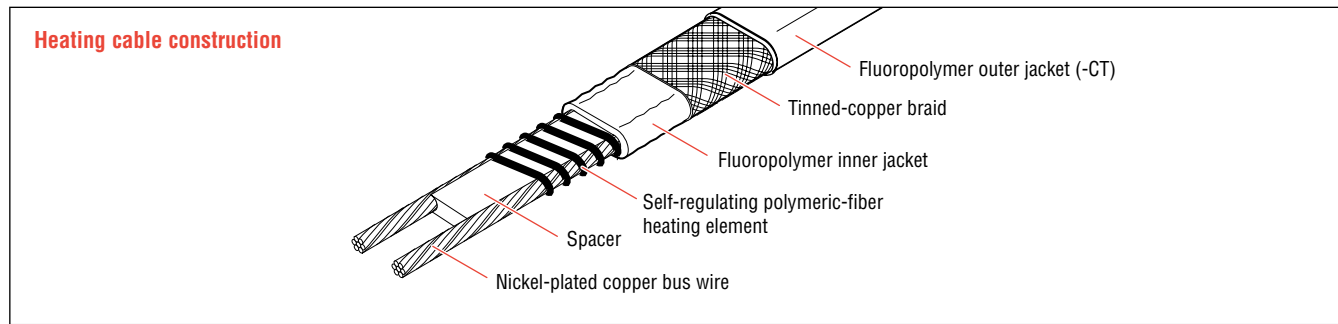
provide process temperature maintenance to 250°F (121°C).

The heating cables are configured for use in nonhazardous and hazardous (classified) locations, including areas where corrosives may be present.

The power output of self-regulating heating cable depends on the heating cable tempera-

ture, and can provide up to 20 W/ft at 50°F (10°C).

Raychem® XTV cables meet the requirements of the U.S. National Electrical Code and the Canadian Electrical Code. For additional information, contact your Tyco Thermal Controls representative or call Tyco Thermal Controls at (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

XTV1	100–130 Vac
XTV2	200–277 Vac

### Temperature rating

Maximum maintain or continuous exposure temperature (power on)	250°F (121°C)
Maximum intermittent exposure temperature, 1000 hours (power on or off)	420°F (215°C)

### Temperature ID number (T-rating)

**T2C:** 446°F (230°C)    **T2D:** 419°F (215°C)    **T3:** 392°F (200°C)  
Temperature ID numbers are consistent with North America national electrical codes.

### Approvals

#### Hazardous Locations



Class I, Div. 2, Groups A, B, C, D  
Class II,\* Div. 2, 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

#### Zone Approvals



CLI, ZN1, AEx e II

\*Applications must be reviewed by the manufacturer.

XTV heating cables also have many other approvals including BASEEFA, PTB, DNV, and ABS.

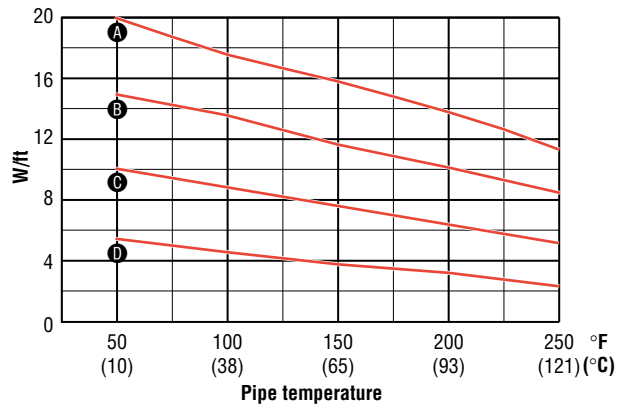
### Design and installation

For proper design and installation, use TraceCalc® Pro software or the Design section of the *Industrial Product Selection and Design Guide*. Also, refer to the *Installation & Maintenance Manual—Ordinary and CID2 Locations* (H54484). Literature is available through the Tyco Thermal Controls Fax-on-Demand system and via the Tyco Thermal Controls Web site, [www.tycothermal.com](http://www.tycothermal.com).

**Nominal power output rating on metal pipes at 120 V/240 V**

	Adjustment factors	
	Power output	Circuit length
<b>208 V</b>		
5XTV2	0.87	0.99
10XTV2	0.88	0.99
15XTV2	0.88	0.98
20XTV2	0.86	1.00
<b>277 V</b>		
5XTV2	1.07	1.08
10XTV2	1.08	1.06
15XTV2	1.08	1.06
20XTV2	1.07	1.08

- A 20XTV-CT
- B 15XTV-CT
- C 10XTV-CT
- D 5XTV-CT



To choose the correct heating cable for your application, use the Design section of the *Industrial Product Selection and Design Guide*. For more detailed information, use TraceCalc Pro design software.

**Maximum circuit length based on circuit-breaker sizes**

	Ambient temperature at start-up	Maximum continuous circuit length (in feet) per circuit breaker									
		120 V					240 V				
		15 A	20 A	30 A	40 A	50 A	15 A	20 A	30 A	40 A	50 A
5XTV-CT	50°F	180	240	360	385	385	360	480	720	765	765
	0°F	160	210	320	385	385	315	420	625	765	765
	-20°F	150	200	305	385	385	295	395	595	765	765
	-40°F	145	195	290	385	385	285	380	570	760	765
10XTV-CT	50°F	110	145	220	270	270	220	295	440	540	540
	0°F	95	130	195	260	270	195	260	385	515	540
	-20°F	95	125	190	250	270	185	245	370	495	540
	-40°F	90	120	180	240	270	175	235	355	470	540
15XTV-CT	50°F	75	100	150	200	220	150	200	300	400	445
	0°F	65	90	135	180	220	130	175	265	355	440
	-20°F	65	85	130	170	215	125	165	250	335	420
	-40°F	60	80	125	165	205	120	160	240	320	405
20XTV-CT	50°F	60	80	120	160	190	115	150	230	305	380
	0°F	50	70	105	140	180	100	135	205	275	345
	-20°F	50	65	100	135	170	100	130	200	265	330
	-40°F	50	65	100	130	165	95	125	190	255	320

**Note:** Tyco Thermal Controls and national electrical codes require both ground-fault protection of equipment and a grounded metallic covering on all heater cables. Following are some of the ground-fault breakers that satisfy this equipment protection requirement: Square D Type QOB-EPD or QO-EPD; Raychem/Square D Type GFPD EHB-EPD (277 Vac); Cutler Hammer (Westinghouse) Type QBGFEP.

**Product characteristics**

Temperature ID number	T2C	T2D	T3
	20XTV2-CT-T2	20XTV1-CT-T2 15XTV1-CT-T2	5XTV1-CT-T3 5XTV2-CT-T3 10XTV1-CT-T3 10XTV2-CT-T3 15XTV2-CT-T3
Minimum bend radius	@68°F (20°C):1/2 in (12.7 mm)		
Weight (lb per 10 ft, nominal)	1.1		
Bus wire size	14 AWG		
Outer jacket color	Red		
Heating cable dimensions	0.46 x 0.3 in		

**Components**

Tyco Thermal Controls offers a full range of components for power connections, splices, and end seals. These components must be used to ensure proper functioning of the product and compliance with warranty, code, and approvals requirements.