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**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

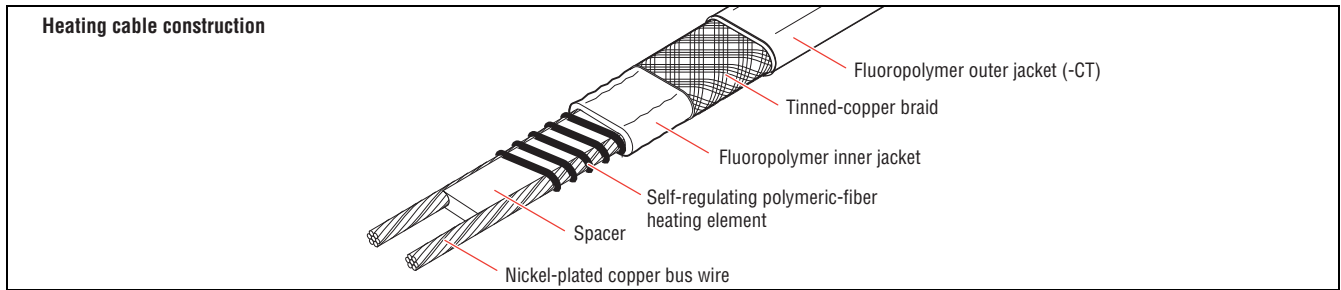
provide process temperature maintenance to 250°F (121°C).

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

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

ature, 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)
Minimum installation temperature	–40°F (–40°C)

**Temperature ID Number (T-Rating)**

**T2:** 572°F (300°C)    **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**



IECEX BAS 06.0044X  
Ex e II T\* (see schedule)  
Ex tD A21 IP66 T<sup>(2)</sup>

**Hazardous Locations**



Class I, Div. 2, Groups A, B, C, D  
Class II<sup>(1)</sup>, Div. 2, Groups F, G  
Class III<sup>(1)</sup>



Class I, Div. 1 and 2, Groups A, B, C, D  
Class II, Div. 1 and 2, Groups E, F, G  
Class III

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

**Zone Approvals**



CL1, ZN1, AEx e II T3 (T2)



Ex e II T3 (T2)



09-IEEx-0005X  
BR-Ex e II T\* (see Table 1)

<sup>1)</sup> Applications must be reviewed by the manufacturer.

<sup>2)</sup> For maximum surface temperature, see heating cable, design documentation or schedule

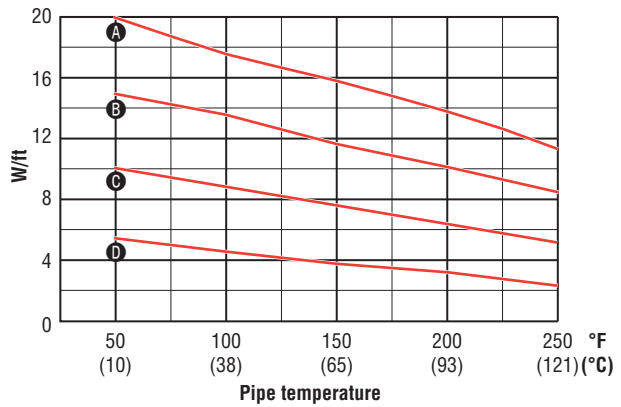
**Design and Installation**

For proper design and installation, use TraceCalc Pro design software or the Design section of the *Industrial Product Selection and Design Guide* (H56550). Also, refer to the *Industrial Heat-Tracing Installation and Maintenance Manual* (H57274). Literature is available 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



**Note:** To choose the correct heating cable for your application, use the Design section of the *Industrial Product Selection and Design Guide* (H56550). For more detailed information, use TraceCalc Pro design software.

**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				
		15 A	20 A	30 A	40 A	50 A	15 A	20 A	30 A	40 A	50 A
<b>5XTV-CT</b>	50°F (10°C)	180	240	360	385	385	360	480	720	765	765
	0°F (-18°C)	160	210	320	385	385	315	420	625	765	765
	-20°F (-29°C)	150	200	305	385	385	295	395	595	765	765
	-40°F (-40°C)	145	195	290	385	385	285	380	570	760	765
<b>10XTV-CT</b>	50°F (10°C)	110	145	220	270	270	220	295	440	540	540
	0°F (-18°C)	95	130	195	260	270	195	260	385	515	540
	-20°F (-29°C)	95	125	190	250	270	185	245	370	495	540
	-40°F (-40°C)	90	120	180	240	270	175	235	355	470	540
<b>15XTV-CT</b>	50°F (10°C)	75	100	150	200	220	150	200	300	400	445
	0°F (-18°C)	65	90	135	180	220	130	175	265	355	440
	-20°F (-29°C)	65	85	130	170	215	125	165	250	335	420
	-40°F (-40°C)	60	80	125	165	205	120	160	240	320	405
<b>20XTV-CT</b>	50°F (10°C)	60	80	120	160	190	115	150	230	305	380
	0°F (-18°C)	50	70	105	140	180	100	135	205	275	345
	-20°F (-29°C)	50	65	100	135	170	100	130	200	265	330
	-40°F (-40°C)	50	65	100	130	165	95	125	190	255	320

**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 Tyco Thermal Controls, 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 DigiTrace control and monitoring systems meet the ground-fault protection requirement.

**Product Characteristics**

Temperature ID number (T-Rating)	T2C	T2D	T3
	20XTV2-CT-T2	15XTV1-CT-T2, 20XTV1-CT-T2	5XTV1-CT-T3, 5XTV2-CT-T3 10XTV1-CT-T3, 10XTV2-CT-T3 15XTV2-CT-T3
Minimum bend radius	@68°F (20°C): 0.5 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 in x 0.3 in (11.7 mm x 7.6 mm)		

**Connection Kits**

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

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