

230V Type XLT Self-Regulating Heater Cable

ATEX:
II 2 G Ex e IIC T3 Gb
II 2 D Ex tb IIIC T195°C
-40°C ≤ Tamb ≤ +55°C

IECEX:
II 2 G Ex e IIC T3 Gb
II 2 D Ex tb IIIC T195°C
-40°C ≤ Tamb ≤ +55°C

Description

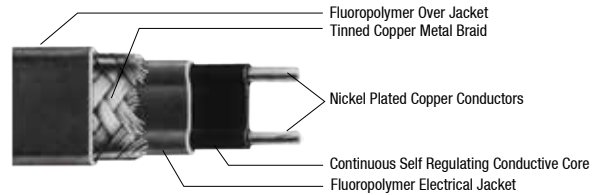
- Nelson Self-Regulating Heater Cable Type XLT is a parallel circuit electric heater strip.
- A conductive fluoropolymer core material is extruded over the multi-stranded, nickel-plated, 2.1mm² copper bus wires.
- A fluoropolymer jacket provides excellent dielectric strength, moisture resistance, protection from impact and abrasion damage, and a wide range of chemical resistance.
- A stranded tinned copper metal braid and fluoropolymer over jacket is supplied on all heaters.
- Maintain Temperature: 150°C
- Maximum Continuous Exposure Temperature: 150°C (continuous power on)
- Maximum Intermittent Exposure Temperature: 232°C (1000 hours cumulative exposure)
- Temperature Classification (T Code): T3 200°C as per IEC 60079 standards
- Bus Wire Size: 2.1mm² Copper Conductors
- Tinned Copper Braid Resistance: Maximum 0.015 Ω/m
- Product Dimensions (Nominal): 5.6 mm x 11.6 mm
- Minimum Installation Temperature: -40°C
- Minimum Bend Radius: 25mm at -40°C

Operating Principle

- The parallel bus wires apply voltage along the entire length of the heater cable.
- The conductive core provides a continuous parallel heating element permitting the cable to be cut to any length in the field with no dead or cold zones developing.
- The heater cable derives its self-regulating characteristic from the inherent properties of the conductive core material.
- As the core material temperature increases, the number of conductive paths in the core material decreases, automatically decreasing the heat output.
- As the temperature decreases, the number of conductive paths increases, causing the heat output to increase.
- This occurs at every point along the length of the cable, adjusting the power output to the varying conditions along the pipe.
- As the cable self-regulates its heat output, it limits the maximum sheath temperature, while also providing useful power for process temperature maintenance.

Application

- Nelson Type XLT self-regulating heater cable is ideal for maintaining fluid flow over a wide range of operating temperatures.
- The product is used for freeze protection of periodically steam (29 BAR) cleaned pipes and temperature maintenance for 232°C or lower processes.
- Typical applications include hydrocarbon and chemical product piping.



Accessories

- Nelson EX Series Connection Kits for Power, Splice, Tee Splice, Powered Splices and End Terminations
- Nelson TA and TH Series Thermostats
- Junction Boxes, Tapes and Warning Signs
- Custom Control, Monitoring and Power Panels

Certifications and Compliances

- ATEX/IECEX Protection: Ⓜ II 2 G, Ⓜ e IIC T3 Gb, Ⓜ II 2 D, Ⓜ tb IIIC T195°C
- Ambient Temperature: -40°C ≤ Tamb ≤ 55°C
- ATEX Certificate: KEMA 07 ATEX 0124
- IECEX Certificate: KEM 07.0041
- Other Standards: IEC/IEEE 60079-30

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NELSON™

INDUSTRIAL HEATING SYSTEMS: SELF-REGULATING HEATING CABLES

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Performance Rating

Service Voltage	Maximum Maintenance Temperature °C	Maximum Continuous Exposure Temperature °C	Maximum Intermittent Exposure °C	T-Rating ①	Watts/m
230	150	150	232	T3	15
230	150	150	232	T3	32
230	150	150	232	T3	46
230	150	150	232	T3	63

Circuit Breaker Selection

Watts/m	Start-Up Temp. °C	Total Heater Length in Meters Vs. Circuit Breaker Size 230 Vac				
		16A	20A	25A	32A	40A
15	10	175	220	270	350	435
	-5	160	200	250	320	400
	-20	150	185	235	300	375
	-30	145	180	225	285	355
32	10	100	125	155	200	250
	-5	95	115	145	185	230
	-20	85	110	135	175	215
	-30	85	105	130	165	210
46	10	70	85	110	140	175
	-5	65	80	100	130	165
	-20	60	75	95	125	155
	-30	60	70	90	120	145
63	10	55	65	85	105	135
	-5	50	65	80	100	125
	-20	50	60	75	95	120
	-30	45	60	75	95	115

① Electrical equipment T-rating codes define the maximum surface temperature that equipment will reach. It is intended for applications in potentially explosive atmospheres – Directive 94/9/EC.

Notes

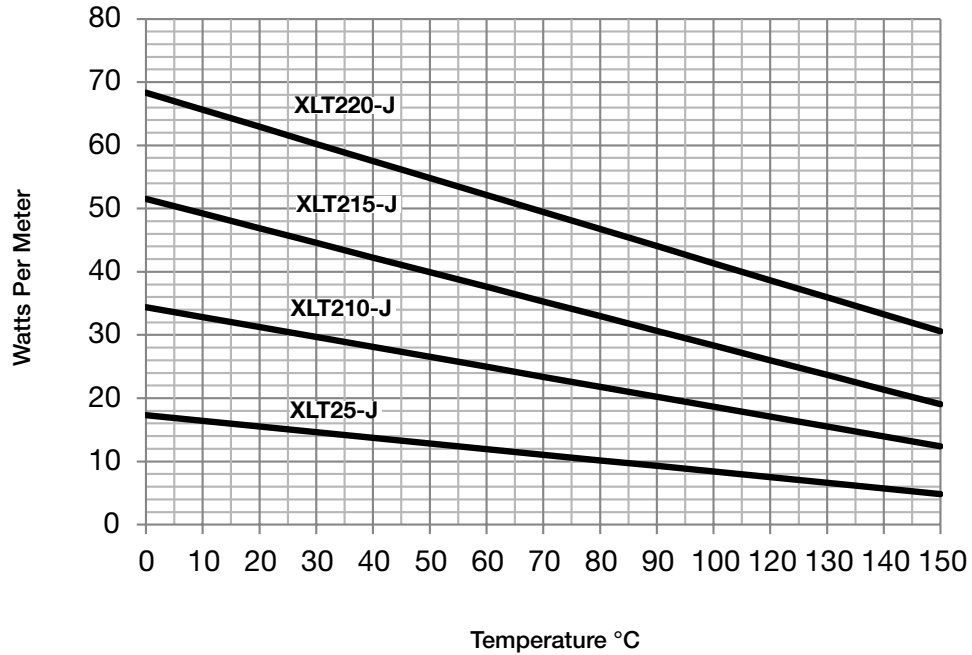
- The circuit length values shown above are for estimation only.
- Total Heater Length is the total length of heater cable that can be installed on a breaker without tripping either under start-up or operating conditions. Values may indicate that multiple heater segments must be installed on the breaker with none of the segments exceeding the Maximum Segment Lengths as shown in the Performance and Rating table.
- For detailed information on maximum circuit lengths or additional voltages, refer to Nelson Heat Tracing Systems Selection software or contact your local Nelson representative for assistance.

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Power Output Rating



Selection Table

Service Voltage	Maximum Segment Length Meters	Description	Catalog Number
230	220	Tinned Copper Braid and Fluoropolymer	XLT25-J
230	155	Tinned Copper Braid and Fluoropolymer	XLT210-J
230	120	Tinned Copper Braid and Fluoropolymer	XLT215-J
230	90	Tinned Copper Braid and Fluoropolymer	XLT220-J