

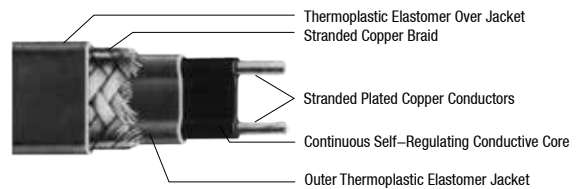
# 230V Type CLT Self-Regulating Heater Cable

## For use in Ordinary (Unclassified) Locations

CE:  
Ordinary (Unclassified) Locations

### Description

- An irradiation cross-linked conductive polymer core material is extruded over the multi-stranded, tin plated, 0.9 mm<sup>2</sup> copper bus wires.
- The conductive core material increases or decreases its heat output in response to temperature changes.
- Two jackets provide extra dielectric strength, moisture resistance, and protection from impact and abrasion damage.
- A thermoplastic elastomer over jacket is then extruded over the inner jacket.
- A stranded copper braid and thermoplastic elastomer over jacket is supplied on all heaters.
- Maintain Temperature: 65°C
- Maximum Continuous Exposure Temperature: 65°C (continuous power on)
- Maximum Intermittent Exposure Temperature: 85°C (1000 hours cumulative exposure)
- Bus Wire Size: 0.9mm<sup>2</sup> Copper Conductors
- Copper Braid Resistance: Maximum 0.015 Ω /m
- Product Dimensions (Nominal): 6.7 mm x 11.1 mm
- Product Weight: 106.0 g/m
- Minimum Installation Temperature: -40°C
- Minimum Bend Radius: 12.0 mm 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.
- The self-regulating effect allows the cable to be overlapped without creating hot spots or burnout.
- As the cable self-regulates its heat output, it provides for the efficient use of electric power, producing heat only when and where it is needed.

### Applications

- Nelson Type CLT self-regulating heater cable is ideal for use in maintaining fluid flow under low ambient conditions.
- Freeze protection and low watt density process temperature systems such as product pipelines, fire protection, process water, dust suppression systems and structure anti-icing are typical applications for this product.

### Accessories

- Nelson PLT and 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

- CE Certified

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COMMERCIAL/LITE INDUSTRIAL HEATING SYSTEMS: SELF-REGULATING HEATING CABLES

**NELSON™**

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## Performance Rating

Service Voltage	Maximum Maintenance Temperature °C	Maximum Intermittent Exposure °C	Watts/m
230	65	85	9
230	65	85	15
230	65	85	25

## 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
9	10	250	315	390	500	625
	-5	205	260	325	415	515
	-20	175	220	275	350	440
	-30	160	200	250	320	400
15	10	170	215	265	340	425
	-5	140	175	220	285	355
	-20	120	150	190	240	305
	-30	110	140	175	220	275
25	10	90	110	140	180	225
	-5	75	95	115	150	185
	-20	65	80	100	130	160
	-30	60	75	90	115	145

### 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.

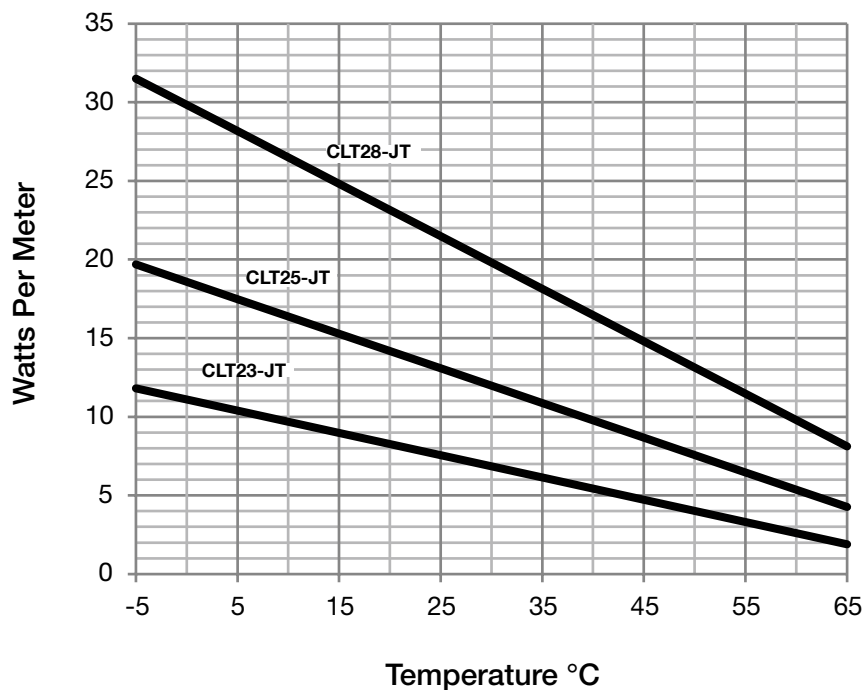
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## Power Output Rating



## Selection Table

Service Voltage	Maximum Segment Length Meters	Description	Catalog Number
230	175	Copper Braid and Modified Polyolefin	<b>CLT23-JT</b>
230	135	Copper Braid and Modified Polyolefin	<b>CLT25-JT</b>
230	110	Copper Braid and Modified Polyolefin	<b>CLT28-JT</b>