

Technical Data Sheet  
ThimmTherm-Self-Limiting TSL-X

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**Technical Data Sheet**  
**Self-Limiting Heating Tape**  
**ThimmTherm Self-Limiting**  
**TSL-X**

# Technical Data Sheet

## ThimmTherm-Self-Limiting TSL-X

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Product name: Thimm Self-Limiting –X- 10/15//25/30/45/60 W/m - 230V AC  
Product type: Self-limiting heating tape with PTC characteristic (intrinsic limitation)  
Area of application: Frost protection, maintenance or increase of surface temperature (e.g. pipe runs, containers, surfaces)

### **Product design:**

Two flexible copper conductors are embedded at a constant distance apart from each other in a semi-conducting heating element consisting of a polyolefin / carbon mixture.

The semiconductor element has a PTC characteristic and increases internal resistance with rising temperature. The heating power is thus reduced in a non-linear manner. The power values tend asymptotically towards zero with increasing temperature. Overheating is therefore impossible. The heating tapes can cross or touch each other without compromising safety.

TSL-X heating tape has a primary isolation of fluoropolymer, a tinned copper braid (earthing / protection) and an outer sheath.

Construction data: 2 parallel conductors, cross-section 1.2 mm<sup>2</sup>, nickel-plated copper conductors embedded in a semiconductor element made from defined proportions of fluoropolymer and carbon (doping).

Overall dimensions: overall dimension over braid: approx. 10,2 \* 4,8 mm  
Primary isolation: fluoropolymer  
Wall thickness: 0.8 mm

Protective braid resistance (max.): < 18,2 Ohm/km

Operating voltage: 230V, 50Hz, AC

Heating tape temperatures: Heating tape switched on: +120 °C  
Heating tape switched off: +190 °C

Minimum handling temperature: - 60 °C

Minimum start-up temperature: - 60 °C

Min. bend radius: 13 mm @ 20°C

Atex approval: KEMA 07ATEX0177 U

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Permissible heating circuit lengths:

	Start-up Temp. (°C)	Operating Voltage 120 Vac			Operating Voltage 254 Vac		
		16 A	20 A	30 A	16 A	20 A	30 A
TSL-X 10	+10	100	120	120	200	235	235
	-25	89	120	120	175	235	235
	-60	82	120	120	165	225	235
TSL-X 15	+10	80	95	95	165	189	189
	-25	56	75	95	117	152	189
	-60	52	75	95	110	144	189
TSL-X 25	+10	60	69	69	110	140	140
	-25	44	59	69	88	120	140
	-60	40	55	69	80	114	136
TSL-X 30	+10	44	58	58	85	114	114
	-25	35	45	58	69	92	114
	-60	32	41	58	65	86	110
TSL-X 45	+10	35	41	41	70	82	82
	-25	24	33	41	49	66	82
	-60	22	26	41	45	62	78
TSL-X 60	+10	25	32	32	50	64	64
	-25	20	25	32	38	52	64
	-60	17	21	32	35	48	60

