

# OSR-MA Micro Self-Regulating Heating Cable ELSR-MA



## Features

### Outer jacket

- Thermoplastic (AO, BO), Fluoropolymer (BF).

### Bus wire

- Nickel plated copper, 18 AWG.

### Minimum start-up temperature

- -30 °C (-22 °F).

### Maximum operating temperature (power on)

- 60 °C (140 °F).

### Maximum continuous exposure temperature (power off)

- 60 °C (140 °F).

### Nominal voltage

- 120V, 240/208V.

### Bending radius, minimum

- 25 mm (1 in.).

### Installation temperature, minimum

- AO, BO: -45 °C (-49 °F).
- BF: -25 °C (-13 °F).

### Standards

- IEEE 515, CSA 22.2 130.03.

### Certification

- FM CUS 3050047.

### Rating

- Wet rated, for outdoor use (WS) (AO, BO).
- PS (2000 kPa/290 psi) (BF).

### Warranty

- 1-year basic warranty on the heating cable.

### Application

- Heat tracing of metallic and non-metallic pipes, pumps, vessels and valves, food processing industry, automotive, refrigeration, sprinkler systems, sewage pipes, intake drain pipes, potable water line (BF).

## Models

Nominal Output W/ft.	Product #		Outer jacket/Mechanical shield						Cable dimension approx. (mm)
	120V <sup>1,3</sup>	240V <sup>1,2,3</sup>	AO	Price/ft.	BO	Price/ft.	BF	Price/ft.	
3	ELSR-MA-3-1-XX	ELSR-MA-3-2-XX	✓	6.00	✓	6.75	✓	10.40	7.7 x 6.4
5	ELSR-MA-5-1-XX	ELSR-MA-5-2-XX	✓	6.00	✓	6.75	-	-	8.1 x 5.8

<sup>1</sup> XX = Outer jacket/Mechanical shield.

AO Aluminum foil and a thermoplastic outer jacket.

BO Protective braid and a thermoplastic outer jacket.

BF Protective braid, suitable for use in potable water (certified according to NSF/ANSI 61).

<sup>2</sup> For operations at 208V, please consult Correction Factors/Multipliers at next page.

<sup>3</sup> When ordering, the quantity on the purchase order is equal to the length in feet of the cable required.

E.g.: To order a 500 ft., cable, write 500 for quantity with product code.

Custom cutting service available for all lengths other than 500 ft. and 1000 ft. (minimum of 25 ft.).

## Options

See OSR Options and Controls section

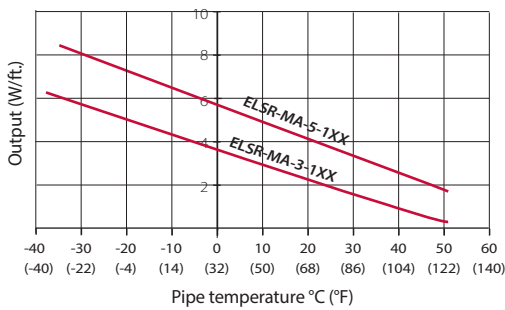
Heating circuit length for ELSR-MA models

Start-up temperature	CB capacity (A)	120V	
		Maximum heating circuit (ft.) for	
		ELSR-MA-3-1-XX	ELSR-MA-5-1-XX
10 °C (50 °F)	10	208	132
	15	233	190
	20	233	190
	25	233	190
0 °C (32 °F)	10	170	110
	15	213	174
	20	213	174
	25	213	174
-10 °C (14 °F)	10	146	94
	15	197	150
	20	197	161
	25	197	161
-30 °C (-22 °F)	10	113	73
	15	172	117
	20	172	141
	25	172	141

Start-up temperature	CB capacity (A)	240V	
		Maximum heating circuit (ft.) for	
		ELSR-MA-3-2-XX	ELSR-MA-5-2-XX
10 °C (50 °F)	10	415	320
	15	415	346
	20	415	346
	25	415	346
0 °C (32 °F)	10	379	273
	15	379	320
	20	379	320
	25	379	320
-10 °C (14 °F)	10	325	239
	15	349	299
	20	349	299
	25	349	299
-30 °C (-22 °F)	10	255	190
	15	307	266
	20	307	266
	25	307	266

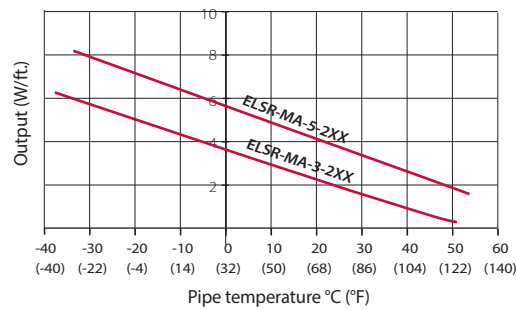
ELSR-MA-XX-1-XX output

(on insulated metallic pipes, in accordance with IEEE 515/CSA 22.2 130-03)



ELSR-MA-XX-2-XX output

(on insulated metallic pipes, in accordance with IEEE 515/CSA 22.2 130-03)



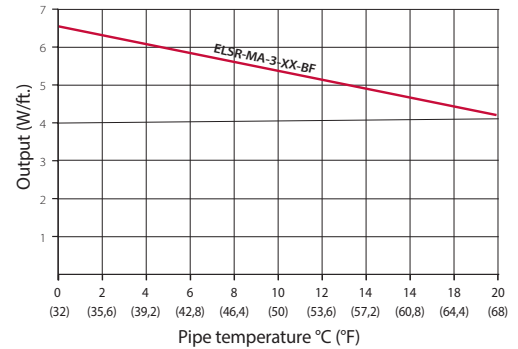
Heating circuit length for ELSR-MA-BF models

Start-up temperature	CB capacity (A)	120V
		Maximum heating circuit (ft.) for
		ELSR-MA-3-1-BF
10 °C (50 °F)	10	139
	15	167
	20	167
	25	167
0 °C (32 °F)	10	112
	15	153
	20	153
	25	153

Start-up temperature	CB capacity (A)	240V
		Maximum heating circuit (ft.) for
		ELSR-MA-3-2-BF
10 °C (50 °F)	10	241
	15	302
	20	302
	25	302
0 °C (32 °F)	10	202
	15	282
	20	282
	25	282

ELSR-MA-3-XX-BF

(in a filled water pipeline)



Maximum heating circuit ELSR-MA-XX on the following conditions:

- 120/240 Voltage
- Voltage drop max. 10%
- MCB type QO (100% utilization)
- Single cable fed 1 end

Eltherm® Correction Factors/Multipliers for Operation of Heating Cables in 208V

To calculate the corrected power output for operation in 208V, multiply the published output at 240V (in W/ft.) by the nominal output factor provided for the applicable heating cable type.

To calculate maximum heating circuit lengths for operation in 208V (tables provided in product data sheets), multiply the published max. heating circuit length at 240V provided for the applicable heating cable type.

Heating Cable Correction Factors/ Multipliers	Nominal Output 208V vs. 240V	Heating Circuit Length 208V vs. 240V
ELSR-MA-XX-2	0.82	1.00