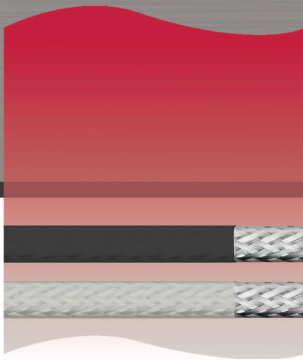


OSRMA Micro Self-Regulating Heating Cable ELSR-MA



Features

Outer jacket

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

Bus wire

- Nickel plated copper.

Minimum start-up temperature

- -30 °C (-22 °F).

Maximum operating temperature (power off)

- 60 °C (140 °F).

Maximum operating temperature (power on)

- 60 °C (140 °F).

Nominal voltage

- 120V, 240V.

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.
- 10-year limited warranty available.

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 #		AO	Outer jacket/Mechanical shield			Cable dimension approx. (mm)		
	120V ¹	240V ^{1,2}		Price	BO	Price		BF	Price
1000 ft. spool									
3	ELSR-MA-3-1-XX-10	ELSR-MA-3-2-XX-10	✓	3250.00	✓	3750.00	✓	5750.00	7.7 x 6.4
5	ELSR-MA-5-1-XX-10	ELSR-MA-5-2-XX-10	✓	3250.00	✓	3750.00	-	-	8.1 x 5.8
500 ft. spool									
3	ELSR-MA-3-1-XX-05	ELSR-MA-3-2-XX-05	✓	1750.00	✓	2000.00	✓	3075.00	7.7 x 6.4
5	ELSR-MA-5-1-XX-05	ELSR-MA-5-2-XX-05	✓	1750.00	✓	2000.00	-	-	8.1 x 5.8
Cut to length³									
3	ELSR-MA-3-1-XX	ELSR-MA-3-2-XX	✓	3.75	✓	4.50	✓	6.75	7.7 x 6.4
5	ELSR-MA-5-1-XX	ELSR-MA-5-2-XX	✓	3.75	✓	4.50	-	-	8.1 x 5.8

¹ 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).

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

³ Cut to length service. When ordering, the quantity on the purchase order is equal to the length in feet of cable required.

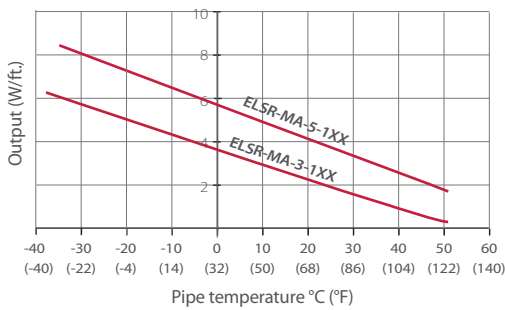
E.g.: To order 35 ft., write 35 for quantity with cut to length product code.

Heating circuit length for ELSR-MA models

120V				240V			
Start-up temperature	CB capacity (A)	Maximum heating circuit (ft.) for		Start-up temperature	CB capacity (A)	Maximum heating circuit (ft.) for	
		ELSR-MA-3-1-XX	ELSR-MA-5-1-XX			ELSR-MA-3-2-XX	ELSR-MA-5-2-XX
10 °C (50 °F)	10	208	132	10 °C (50 °F)	10	415	320
	15	233	190		15	415	346
	20	233	190		20	415	346
	25	233	190		25	415	346
0 °C (32 °F)	10	170	110	0 °C (32 °F)	10	379	273
	15	213	174		15	379	320
	20	213	174		20	379	320
	25	213	174		25	379	320
-10 °C (14 °F)	10	146	94	-10 °C (14 °F)	10	325	239
	15	197	150		15	349	299
	20	197	161		20	349	299
	25	197	161		25	349	299
-30 °C (-22 °F)	10	113	73	-30 °C (-22 °F)	10	255	190
	15	172	117		15	307	266
	20	172	141		20	307	266
	25	172	141		25	307	266

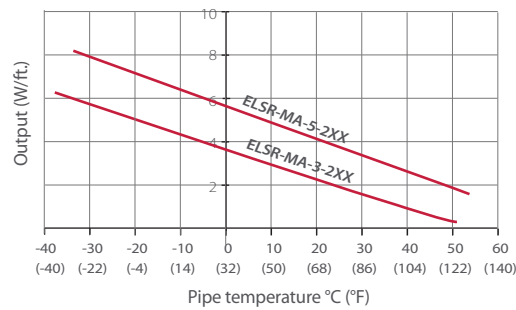
ELSR-MA-XX-1-XX output

(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)



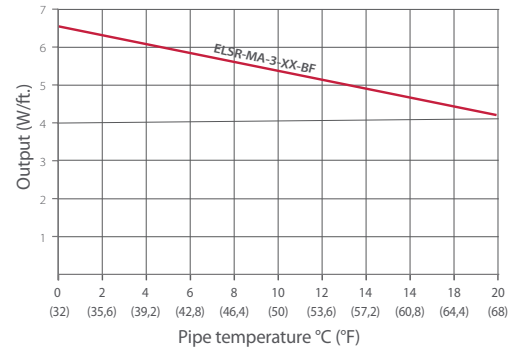
Heating circuit length for ELSR-MA-BF models

120V		
Start-up temperature	CB capacity (A)	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

240V		
Start-up temperature	CB capacity (A)	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

Options

Product #	Price	Description	Factory Installed	Kit
ELSR-NA Models				
EL-ECN-EX ¹	18.00	End termination for ELSR-NA	-	✓
ELVB-SRAN	35.00	Power connection without cable gland	-	✓
ELVB-SRAN-3/4-ST	60.00	Power connection with steel/zinc cable gland/fitting, 3/4" NPT, non-hazardous location	-	✓
ELSR-KIT-NA	69.00	End and power termination kit with warning sticker NA Series	-	✓
ECA-JB1-NA	265.00	Junction box with power connection and termination for single connection c/w label and fastener	-	✓
ECA-JB2-NA	375.00	Junction box with power connection and termination for double connection c/w label and fastener	-	✓
ELVB-SREX-3/4-HT ¹	160.00	Power connection with nickel plated cable gland, 3/4" NPT, hazardous location	-	✓
ELVB-SREX-20-HT ¹	150.00	Power connection with nickel plated cable gland, M20, hazardous location	-	✓
ELSR-MA Models				
EL-ECM ¹	18.00	End termination for ELSR-MA	-	✓
ELVB-SRAM-3/4-ST	60.00	Power connection with steel/zinc cable gland/fitting, 3/4" NPT, non-hazardous location	-	✓
ELSR-KIT-MA	69.00	End and power termination kit with warning sticker MA Series	-	✓
ELVB-SRAM	35.00	Power connection without cable gland	-	✓
ELSR-MA-BF Models				
EL-ECMF ²	25.00	End termination for ELSR-MA-BF	-	✓
ELVB-SRAM-3/4-ST	60.00	Power connection with steel/zinc cable gland/fitting, 3/4" NPT, non-hazardous location	-	✓
ECA-MABF-PH-1	65.00	Quick connect plumbing kit for 1" polyethylene pipes	-	✓
ECA-MABF-PH-11/4	85.00	Quick connect plumbing kit for 1 1/4" polyethylene pipes	-	✓
ECA-MABF-PH-11/2	115.00	Quick connect plumbing kit for 1 1/2" polyethylene pipes	-	✓
ELSR-KIT-MA-BF	77.50	End and power termination kit with warning sticker BF Series	-	✓
FIT-BF	36.00	Brass gland cable fitting 3/4" NPT non-hazardous location for MA-BF cable	-	✓
ELSR-WA Models				
EL-ECW ¹	18.00	End termination for ELSR-WA	-	✓
ELVB-SRAW-3/4-ST	65.00	Power connection with steel/zinc cable gland, 3/4" NPT, non-hazardous location	-	✓
ELSR-KIT-WA	74.00	End and power termination kit with warning sticker WA Series	-	✓
ELVB-SRAW	40.00	Power connection without cable gland	-	✓
ELSR-HA Models				
ELVB-SRAH-3/4-ST	60.00	Power connection with steel/zinc cable gland/fitting, 3/4" NPT, non-hazardous location	-	✓
ELVB-SRAH	35.00	Power connection without cable gland	-	✓
EL-ECH-EX ¹	18.00	End termination for ELSR-HA	-	✓
ELSR-KIT-HA	69.00	End and power termination kit with warning sticker HA Series	-	✓
ECA-JB1-HA	265.00	Junction box with power connection and termination for single connection c/w label and fastener	-	✓
ECA-JB2-HA	375.00	Junction box with power connection and termination for double connection c/w label and fastener	-	✓
ELVB-SREX-3/4-HT ¹	160.00	Power connection with nickel plated cable gland, 3/4" NPT, hazardous location	-	✓
ELVB-SREX-20-HT ¹	150.00	Power connection with nickel plated cable gland, M20, hazardous location	-	✓
All ELSR Models				
Multiple applications				
ECA-TYS6-280	10.00	Stainless steel fastener 1/4" x 6" (6.8 mm x 152.4 mm)	-	✓
ECA-TYS9-280	11.00	Stainless steel fastener 1/4" x 9" (6.8 mm x 228.6 mm)	-	✓
ECA-TYS12-280	13.00	Stainless steel fastener 1/4" x 12" (6.8 mm x 304.8 mm)	-	✓
ECA-TYS18-280	15.00	Stainless steel fastener 1/4" x 18" (6.8 mm x 457.2 mm)	-	✓
ECA-TYS24-280	18.00	Stainless steel fastener 1/4" x 24" (6.8 mm x 609.6 mm)	-	✓
EL-WS03	2.00	Warning label/sign bilingual (English / French)	-	✓
Roof and gutter				
ELB-18	8.00	Gutter and downspout mounting plate	-	✓
ELB-20	12.00	Downspout mounting plate	-	✓
ELB-21	13.00	Gutter mounting plate	-	✓
ELB-RCLIP	35.00	Roof clips for cable, qty 25	-	✓
Pipe tracing				
ELB-16-10	7.00	Mechanical fastener, plastic strap (L 102 mm x 2.5 mm)	-	✓
ELB-16-20	9.00	Mechanical fastener, plastic strap (L 200 mm x 3.6 mm)	-	✓
ELB-16-36	15.00	Mechanical fastener, plastic strap (L 360 mm x 4.8 mm)	-	✓
ELB-03	45.00	Self-adhesive glass fiber tape, max. temp. = 90 °C (194 °F), 50 m (165 ft.)	-	✓
ELB-06C	35.00	Self-adhesive aluminum tape, max. temp. = 80 °C (176 °F), 50 m (165 ft.)	-	✓

¹ Minimum installation temperature -45 °C (-49 °F).

² Minimum installation temperature -13 °C (-25 °F).



EL-EC(x)



ELVB-SRA(x)



ELVB-SRA(x)-3/4-ST



ECA-JB1



ELSR-KIT-(xx)

Controls

Product #	Price	Description
Controller options for pipe tracing for use in non-hazardous (ordinary) locations		
ECA-E55-R25HT ¹	725.00	SPDT, NEMA 4X thermostat in molded aluminum housing, 22A at 120/250/480V, with 10 ft. (3 m) stainless steel bulb and capillary
TPR-L1N-3X-Q10 ¹	395.00	SPDT, NEMA 4X thermostat in polycarbonate housing, 22A at 120/250/480V, with 10 ft. (3 m) tinned copper bulb and capillary
TRF115-005 ¹	135.00	SPDT, NEMA 4X thermostat, range -17 °C to 49 °C (0 °F to 120 °F), 25A at 120/208/240/277V, with 5 ft. (1.5 m) stainless steel bulb and capillary
TRF115-007 ¹	140.00	SPDT, NEMA 4X thermostat, range -35 °C to 38 °C (-30 °F to 100 °F), 25A at 120/208/240/277V, with 8 ft. (2.4 m) copper bulb and capillary
Controller options for roof and gutter for de-icing		
DS-2C ¹	471.00	Aerial mounted controller with sensors to detect humidity and temperature, 30A, 100V to 277V
DS-8C ¹	575.00	Aerial mounted controller with a sensor to detect temperature and a sensor to detect humidity with 10 ft. (3 m) cable, 30A, 100V to 277V
DS-9C ¹	590.00	Aerial mounted controller with a sensor to detect temperature and a sensor to detect humidity with 10 ft. (3 m) cable, 2 X 30A, 100V to 277V
EX-50	205.00	50 ft. (15 m) extension kit, with connection fittings for humidity sensor
CDP-2	195.00	Interior controller and display for DS products
ETO2 ¹	524.00	Dual-zone electronic controller, 3 X 16A, 120V to 240V
ETF-744/99	169.00	24V outdoor sensor for measuring temperature
ETOR-55	330.00	Gutter sensor to detect humidity with 33 ft. (10 m) cable
Controller options for pipe tracing for use in non-hazardous (ordinary) and hazardous locations		
TXR-L2S-10-Q10 ¹	1275.00	SPDT, explosion-proof, NEMA 4, 7 and 9 thermostat, in anodized aluminum housing, 22A at 120/250/480V, with 10 ft. (3 m) stainless steel bulb and capillary
TM-1SIH1-E5-RTD-A1	1385.00	TraceMate™ I GFCI electronic thermostat for single circuit at 120V
TM-1DIH2-E5-RTD-A1	1575.00	TraceMate™ I GFCI electronic thermostat for single circuit at 208/240V
TM-2SIH1-E5-RTD	2375.00	TraceMate™ II GFCI electronic thermostat for dual circuit at 120V
TM-2DIH2-E5-RTD	3025.00	TraceMate™ II GFCI electronic thermostat for dual circuit at 208/240V
MS-2101	2900.00	MasterTrace Single circuit electronic GFCI controller with double pole, 120V to 277V, 30A, with user interface
MS-2102	3500.00	MasterTrace Double circuit electronic GFCI controller with single pole, 120V only, 30A, with user interface

¹ Requires a ground fault circuit interrupter (GFCI) in the electrical panel.

