

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



eltherm®
Innovations in heat tracing



ELSR-MA-BF

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, 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.
- 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	✓	3414.00	✓	3940.00	✓	6041.00	7.7 x 6.4
5	ELSR-MA-5-1-XX-10	ELSR-MA-5-2-XX-10	✓	3414.00	✓	3940.00	-	-	8.1 x 5.8
500 ft. spool									
3	ELSR-MA-3-1-XX-05	ELSR-MA-3-2-XX-05	✓	1839.00	✓	2101.00	✓	3231.00	7.7 x 6.4
5	ELSR-MA-5-1-XX-05	ELSR-MA-5-2-XX-05	✓	1839.00	✓	2101.00	-	-	8.1 x 5.8
Cut to length ³									
3	ELSR-MA-3-1-XX	ELSR-MA-3-2-XX	✓	6.00	✓	7.00	✓	10.00	7.7 x 6.4
5	ELSR-MA-5-1-XX	ELSR-MA-5-2-XX	✓	6.00	✓	7.00	-	-	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, 25 ft. minimum. 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.

Options

See OSR Options and Controls section

OSR-MA

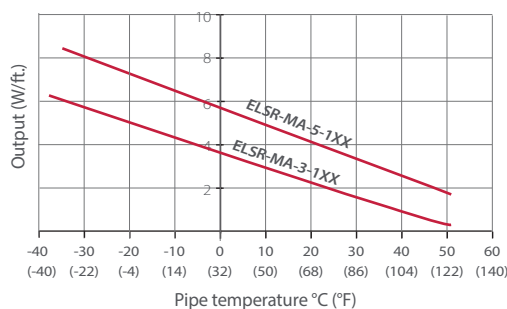
Heating circuit length for ELSR-MA models

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

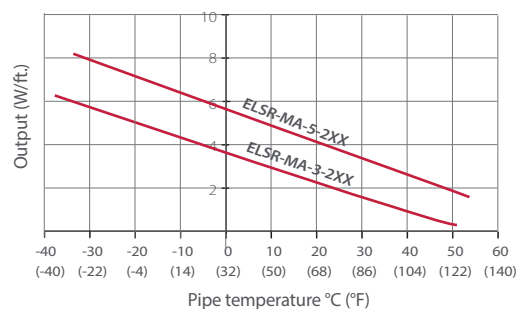
ELSR-MA-XX-1-XX output

(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)



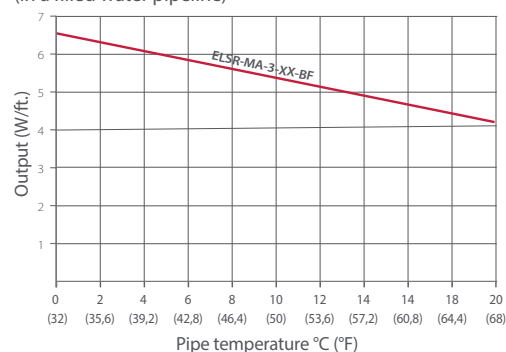
Heating circuit length for ELSR-MA-BF models

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
- MCB type QO (100% utilization)
- Voltage drop max. 10%
- 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

Product # Kit	Price	Description
OSR-NA Series		
ECA-JB1-NA	270.00	Junction box with power connection and termination for single connection c/w label and fastener
ECA-JB2-NA	383.00	Junction box with power connection and termination for double connection c/w label and fastener
EL-CLIC-P	206.00	Quick connector with supply lead, for 1 to 3 cables
EL-CLIC-S	196.00	Quick connector for direct connection or cold lead connection of 1 to 3 cables
EL-ECN-EX ¹	18.00	End termination for ELSR-NA
EL-SPN-16	29.00	Heat shrink splice-kit suitable for ELSR-NA and cold lead connections
ELVB-SRAN	36.00	Power connection without cable gland
ELVB-SRAN-34-ST	61.00	Power connection with steel/zinc cable gland/fitting, 3/4" NPT, non-hazardous location
ELVB-SREX-34-HT ¹	163.00	Power connection with nickel plated cable gland, 3/4" NPT, hazardous location
ELVB-SREX-M20-HT ¹	153.00	Power connection with nickel plated cable gland, M20, hazardous location
KIT-OSR-ELSR-KIT-NA	70.00	End and power termination kit with warning sticker NA Series
OSR-MA Series (AO and BO outer jacket)		
EL-ECM ¹	18.00	End termination for ELSR-MA
ELVB-SRAM	36.00	Power connection without cable gland
ELVB-SRAM-34-ST	61.00	Power connection with steel/zinc cable gland/fitting, 3/4" NPT, non-hazardous location
KIT-OSR-ELSR-KIT-MA	70.00	End and power termination kit with warning sticker MA Series
OSR-MA Series (BF outer jacket)		
EL-ECMF ²	26.00	End termination for ELSR-MA-BF
ELVB-SRAM-34-ST	61.00	Power connection with steel/zinc cable gland/fitting, 3/4" NPT, non-hazardous location
KIT-OSR-ECA-MABF-PH-FIT	40.00	Brass gland cable fitting 3/4" NPT non-hazardous location for MA-BF cable
KIT-OSR-ELSR-KIT-MA-BF	79.00	End and power termination kit with warning sticker BF Series
KIT-OSR-MABF-PH-1-CTSOD ³	77.00	Quick connect plumbing kit for 1" OD polyethylene CTS pipes for MA-BF cable
KIT-OSR-MABF-PH-114-CTSOD ³	90.00	Quick connect plumbing kit for 1 1/4" OD polyethylene CTS pipes for MA-BF cable
KIT-OSR-MABF-PH-112-CTSOD ³	117.00	Quick connect plumbing kit for 1 1/2" OD polyethylene CTS pipes for MA-BF cable
KIT-OSR-MABF-PH-34-ID ³	70.00	Quick connect plumbing kit for 3/4" ID polyethylene pipes for MA-BF cable
KIT-OSR-MABF-PH-1-ID ³	90.00	Quick connect plumbing kit for 1" ID polyethylene pipes for MA-BF cable
KIT-OSR-MABF-PH-114-ID ³	103.00	Quick connect plumbing kit for 1 1/4" ID polyethylene pipes for MA-BF cable
KIT-OSR-MABF-PH-112-ID ³	163.00	Quick connect plumbing kit for 1 1/2" ID polyethylene pipes for MA-BF cable
OSR-WA Series		
EL-CLIC-P	206.00	Quick connector with supply lead, for 1 to 3 cables
EL-CLIC-S	196.00	Quick connector for direct connection or cold lead connection of 1 to 3 cables
EL-ECW ¹	18.00	End termination for ELSR-WA
ELVB-SRAW	41.00	Power connection without cable gland
ELVB-SRAW-34-ST	66.00	Power connection with steel/zinc cable gland, 3/4" NPT, non-hazardous location
KIT-OSR-ELSR-KIT-WA	75.00	End and power termination kit with warning sticker WA Series
OSR-HA Series		
ECA-JB1-HA	270.00	Junction box with power connection and termination for single connection c/w label and fastener
ECA-JB2-HA	383.00	Junction box with power connection and termination for double connection c/w label and fastener
EL-ECH-EX ¹	18.00	End termination for ELSR-HA
ELVB-SRAH	36.00	Power connection without cable gland
ELVB-SRAH-34-ST	61.00	Power connection with steel/zinc cable gland/fitting, 3/4" NPT, non-hazardous location
ELVB-SREX-34-HT ¹	163.00	Power connection with nickel plated cable gland, 3/4" NPT, hazardous location
ELVB-SREX-M20-HT ¹	153.00	Power connection with nickel plated cable gland, M20, hazardous location
KIT-OSR-ELSR-KIT-HA	70.00	End and power termination kit with warning sticker HA Series
All OSR Series		
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)
KIT-OSR-EL-WS03	2.00	Warning label/sign bilingual (English / French)
Roof and gutter		
ELB-18	8.00	Gutter and downspout mounting plate
ELB-21	13.00	Gutter mounting plate
ELB-RCLIP	36.00	Roof clips for cable, qty 25
Pipe tracing		
ELB-03	46.00	Self-adhesive glass fiber tape, max. temp. = 90 °C (194 °F), 50 m (165 ft.)
ELB-06C	36.00	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).³ Identifying the type of pipe is key to ensuring a simple and effective connection, Ouellet Canada is not responsible for incorrect pipe selection. No returns will be accepted.

EL-EC(x)



ELVB-SRA(x)



ELVB-SRA(x)-34-ST



KIT-OSR-ELSR-KIT-(xx)



KIT-OSR-MABF-PH-(xx)-CTSOD



KIT-OSR-MABF-PH-(xx)-ID



ECA-JB1

Controls

Product #	Price	Description
Controller options for roof and gutter for de-icing		
DS-2C ¹	480.00	Aerial mounted controller with sensor to detect humidity and temperature, 30A, 100V to 277V
DS-8C ¹	587.00	Aerial mounted controller with sensor to detect temperature and a sensor to detect humidity with 10 ft. (3 m) cable, 30A, 100V to 277V
DS-9C ¹	602.00	Aerial mounted controller with sensor to detect temperature and a sensor to detect humidity with 10 ft. (3 m) cable, 2 X 30A, 100V to 277V
EX-50	209.00	50 ft. (15 m) extension kit, with connection fittings for humidity sensor
CDP-2	199.00	Interior controller and display for DS products
ETO2 ¹	534.00	Dual-zone electronic controller, 3 X 16A, 120V to 240V
ETF-744-99	172.00	24V outdoor sensor for measuring temperature
ETOR-55	337.00	Gutter sensor to detect humidity with 33 ft. (10 m) cable
Controller options for pipe tracing for use in non-hazardous (ordinary) locations		
ECA-E55-R25HT ¹	740.00	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	403.00	SPDT, NEMA 4X thermostat in polycarbonate housing, 22A at 120/250/480V, with 3 ft. (1 m) tinned copper bulb and capillary
TPR-L1N-10X-Q10 ¹	525.00	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	138.00	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 bulb and capillary
TRF115-007 ¹	143.00	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
ELTC-14-RTD ¹	663.00	Digital temperature control 20A at 90-260V, including 3-wire RTD (Pt-100) sensing element is 5 x 50 mm with 5 m of fluoropolymer lead wires, range 0 to 250°C
Controller options for pipe tracing for use in non-hazardous (ordinary) and hazardous locations		
TXR-L2S-10-Q10 ¹	1301.00	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	1607.00	TraceMate™ I GFCI electronic thermostat for single circuit at 120V
TM-1DIH2-E5-RTD-A1	1811.00	TraceMate™ I GFCI electronic thermostat for single circuit at 240/2080V
TM-2SIH1-E5-RTD	2726.00	TraceMate™ II GFCI electronic thermostat for dual circuit at 120V
TM-2DIH2-E5-RTD	3234.00	TraceMate™ II GFCI electronic thermostat for dual circuit at 240/2080V
MS-2101	2968.00	MasterTrace Single circuit electronic GFCI controller with double pole, 120V to 277V, 30A, with user interface
MS-2102	3920.00	MasterTrace Double circuit electronic GFCI controller with single pole, 120V only, 30A, with user interface
Control panel options		
OSR-4-240	4100.00	240V GFCI control panel with 2 x 4-pole contactors and transformer 240-120V
OSR-6-240	4550.00	240V GFCI control panel with 3 x 4-pole contactors and transformer 240-120V
OSR-8-240	5150.00	240V GFCI control panel with 4 x 4-pole contactors and transformer 240-120V
OSR-12-240	6100.00	240V GFCI control panel with 6 x 4-pole contactors and transformer 240-120V

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

