

# OSR-HA High Temperature Self-Regulating Heating Cable ELSR-HA



## Features

### Outer jacket

- Fluoropolymer (BOT).

### Bus wire

- Nickel plated copper.

### Minimum start-up temperature

- -30 °C (-22 °F).

### Maximum operating temperature (power on)

- 120 °C (248 °F).

### Maximum operating temperature (power off)

- 150 °C (302 °F), continuous.
- 200 °C (392 °F), power off for 1000 hr cumulative.

### Nominal voltage

- 120V, 240/208V.

### Bending radius, min.

- 25 mm (1 in.).

### Installation temperature, min.

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

### Classification

- II 2G Ex e IIC T3 Gb II 2D Ex tb IIIC.
- T 80 °C Db.

- Class I, Division 2, Groups A, B, C, D.
- Class II, Division 2, Groups E, F, G.
- Class III, T6.
- Class I, Zone 1, AEx / Exe II, T6.
- Class 1, Division 1, Groups B, C, D (Contact manufacturer).

### Standards

- CSA C22.2.130.03; -WS.
- CAN/CSA 60079-7:12, 60079-0-11.
- ANSI/IEEE 515, 515.

### Certification

- IECEx EPS 12.0006U.
- 12ATEX1431U.
- CSA C US 2547790.

### Rating

- Wet rated, for outdoor use (WS).

### Warranty

- 1-year basic warranty on the heating cable.

### Application

- Freeze protection, heat tracing instrumentation, pipes, vessel and tanks, chemical and petrochemical industries, food processing, automotive.

## Models

| Nominal Output<br>W/ft. | Product #           |                       | Outer jacket/Mechanical shield<br>BOT | Price/ft. | Cable dimension<br>approx. (mm) |
|-------------------------|---------------------|-----------------------|---------------------------------------|-----------|---------------------------------|
|                         | 120V <sup>1,3</sup> | 240V <sup>1,2,3</sup> |                                       |           |                                 |
| 3                       | ELSR-HA-3-1-BOT     | ELSR-HA-3-2-BOT       | ✓                                     | 35.65     | 12.4 x 5.9                      |
| 7                       | ELSR-HA-7-1-BOT     | -                     | ✓                                     | 35.65     | 12.4 x 5.9                      |
| 10                      | ELSR-HA-10-1-BOT    | ELSR-HA-10-2-BOT      | ✓                                     | 35.65     | 12.4 x 5.9                      |
| 15                      | ELSR-HA-15-1-BOT    | ELSR-HA-15-2-BOT      | ✓                                     | 35.65     | 12.4 x 5.9                      |
| 20                      | ELSR-HA-20-1-BOT    | ELSR-HA-20-2-BOT      | ✓                                     | 35.65     | 12.4 x 5.9                      |

## Custom Cut<sup>4</sup>

| Product # | Price  | Description  |
|-----------|--------|--|
| OSR-CUT   | 155.00 | Cutting fee for all lengths other than 500 ft. and 1000 ft. (25 ft. minimum) |

<sup>1</sup> BOT Protective braid and a fluoropolymer outer jacket.

<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.

<sup>4</sup> Custom cutting service available with cutting fee (OSR-CUT) for all lengths other than 500 ft. and 1000 ft. (minimum of 25 ft.).  
E.g.: To order a 75 ft., cable, write 75 for quantity with product code and add the product code OSR-CUT on another line.

## Options

See OSR Options and Controls section

# OSR-HA

## Heating circuit length for ELSR-HA models

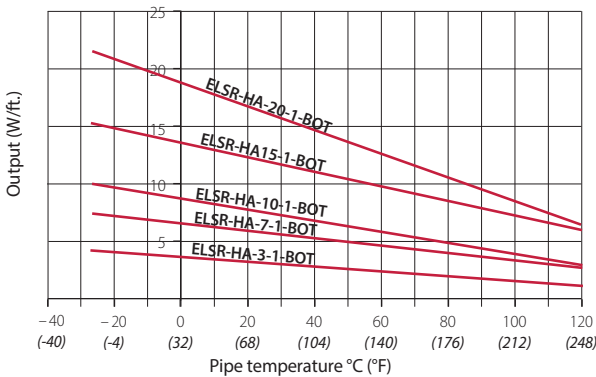
| 120V                 |                 |                                   |             |              |              |              | 240V                 |                 |                                   |              |              |              |
|----------------------|-----------------|-----------------------------------|-------------|--------------|--------------|--------------|----------------------|-----------------|-----------------------------------|--------------|--------------|--------------|
| Start-up temperature | CB capacity (A) | Maximum heating circuit (ft.) for |             |              |              |              | Start-up temperature | CB capacity (A) | Maximum heating circuit (ft.) for |              |              |              |
|                      |                 | ELSR-HA-3-1                       | ELSR-HA-7-1 | ELSR-HA-10-1 | ELSR-HA-15-1 | ELSR-HA-20-1 |                      |                 | ELSR-HA-3-2                       | ELSR-HA-10-2 | ELSR-HA-15-2 | ELSR-HA-20-2 |
| 10 °C (50 °F)        | 10              | 261                               | 137         | 113          | 72           | 53           | 10 °C (50 °F)        | 10              | 649                               | 181          | 115          | 97           |
|                      | 15              | 391                               | 205         | 169          | 108          | 79           |                      | 15              | 973                               | 271          | 173          | 146          |
|                      | 20              | 521                               | 273         | 225          | 145          | 105          |                      | 20              | 1267                              | 361          | 231          | 194          |
|                      | 25              | 559                               | 342         | 282          | 181          | 132          |                      | 25              | 1267                              | 452          | 288          | 243          |
|                      | 30              | 559                               | 411         | 338          | 217          | 158          |                      | 30              | 1267                              | 542          | 346          | 291          |
|                      | 35              | 559                               | 411         | 374          | 253          | 184          |                      | 35              | 1267                              | 632          | 404          | 340          |
| 0 °C (32 °F)         | 40              | 559                               | 411         | 374          | 279          | 200          | 40                   | 1267            | 716                               | 461          | 389          |              |
|                      | 10              | 249                               | 132         | 108          | 70           | 50           | 0 °C (32 °F)         | 10              | 610                               | 171          | 110          | 92           |
|                      | 15              | 374                               | 198         | 162          | 104          | 75           |                      | 15              | 915                               | 256          | 165          | 138          |
|                      | 20              | 499                               | 264         | 216          | 139          | 100          |                      | 20              | 1220                              | 341          | 220          | 184          |
|                      | 25              | 559                               | 330         | 270          | 174          | 125          |                      | 25              | 1267                              | 427          | 275          | 230          |
|                      | 30              | 559                               | 396         | 324          | 209          | 150          |                      | 30              | 1267                              | 512          | 330          | 276          |
| 35                   | 559             | 411                               | 374         | 244          | 175          | 35           |                      | 1267            | 597                               | 385          | 322          |              |
| -10 °C (14 °F)       | 40              | 559                               | 411         | 374          | 279          | 200          | 40                   | 1267            | 683                               | 440          | 368          |              |
|                      | 10              | 239                               | 128         | 104          | 67           | 48           | -10 °C (14 °F)       | 10              | 576                               | 162          | 105          | 87           |
|                      | 15              | 358                               | 192         | 156          | 101          | 72           |                      | 15              | 864                               | 243          | 158          | 131          |
|                      | 20              | 477                               | 256         | 208          | 134          | 95           |                      | 20              | 1152                              | 324          | 211          | 175          |
|                      | 25              | 559                               | 320         | 260          | 168          | 119          |                      | 25              | 1267                              | 405          | 263          | 219          |
|                      | 30              | 559                               | 384         | 312          | 201          | 143          |                      | 30              | 1267                              | 486          | 316          | 262          |
| 35                   | 559             | 411                               | 364         | 235          | 167          | 35           |                      | 1267            | 567                               | 369          | 306          |              |
| -30 °C (-22 °F)      | 40              | 559                               | 411         | 374          | 269          | 191          | 40                   | 1267            | 648                               | 421          | 350          |              |
|                      | 10              | 220                               | 120         | 97           | 63           | 43           | -30 °C (-22 °F)      | 10              | 518                               | 147          | 97           | 80           |
|                      | 15              | 330                               | 180         | 145          | 94           | 65           |                      | 15              | 777                               | 220          | 145          | 119          |
|                      | 20              | 440                               | 240         | 193          | 125          | 87           |                      | 20              | 1036                              | 293          | 193          | 159          |
|                      | 25              | 550                               | 300         | 242          | 157          | 109          |                      | 25              | 1267                              | 367          | 242          | 199          |
|                      | 30              | 559                               | 360         | 290          | 188          | 130          |                      | 30              | 1267                              | 440          | 290          | 239          |
| 35                   | 559             | 411                               | 338         | 220          | 152          | 35           |                      | 1267            | 513                               | 338          | 278          |              |
| 40                   | 559             | 411                               | 374         | 251          | 174          | 40           | 1267                 | 587             | 387                               | 318          |              |              |

### Maximum heating circuit ELSR-HA-XX on the following conditions:

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

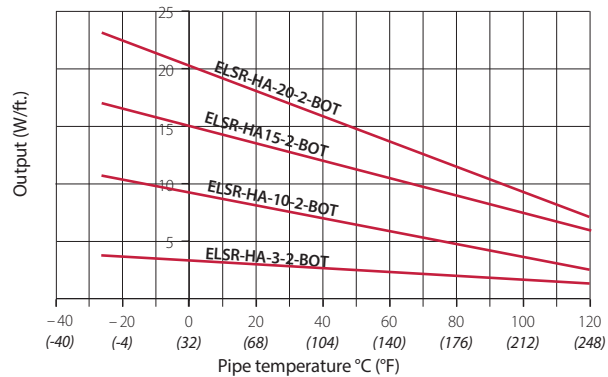
### ELSR-HA-XX-1-BOT output

(on insulated metallic pipes)



### ELSR-HA-XX-2-BOT output

(on insulated metallic pipes)



### 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-HA-XX-2                                  | 0.74                         | 1.00                                 |

# OSR

## Options

| Product #<br>Kit                              | Price  | Description   |
|---|--------|---|
| <b>OSR-NA Series</b>                          |        |   |
| ECA-JB1-NA                                    | 292.00 | Junction box with power connection and termination for single connection c/w label and fastener |
| ECA-JB2-NA                                    | 414.00 | Junction box with power connection and termination for double connection c/w label and fastener |
| EL-CLIC-P                                     | 223.00 | Quick connector with supply lead, for 1 to 3 cables   |
| EL-CLIC-S                                     | 212.00 | Quick connector for direct connection or cold lead connection of 1 to 3 cables                  |
| EL-ECN-EX <sup>1</sup>                        | 20.00  | End termination for ELSR-NA   |
| EL-SPN-16                                     | 31.00  | Heat shrink splice-kit suitable for ELSR-NA and cold lead connections                           |
| ELAK-3-7                                      | 514.00 | Junction box with mounting stand for non-hazardous (ordinary) and hazardous locations           |
| ELVB-SRAN                                     | 38.00  | Power connection without cable gland  |
| ELVB-SRAN-12-PA                               | 52.00  | Power connection with plastique/PA12 cable gland/fitting, 1/2" NPT, non-hazardous location      |
| ELVB-SRAN-34-PA                               | 55.00  | Power connection with plastique/PA12 cable gland/fitting, 3/4" NPT, non-hazardous location      |
| ELVB-SRAN-34-ST                               | 66.00  | Power connection with steel/zinc cable gland/fitting, 3/4" NPT, non-hazardous location          |
| ELVB-SREX-34-HT <sup>1</sup>                  | 177.00 | Power connection with nickel plated cable gland, 3/4" NPT, hazardous location                   |
| ELVB-SREX-M20-HT <sup>1</sup>                 | 165.00 | Power connection with nickel plated cable gland, M20, hazardous location                        |
| KIT-OSR-ELSR-NA                               | 76.00  | End and power termination kit with warning sticker NA Series                                    |
| <b>OSR-MA Series (AO and BO outer jacket)</b> |        |   |
| EL-ECM <sup>1</sup>                           | 20.00  | End termination for ELSR-MA   |
| ELVB-SRAM                                     | 38.00  | Power connection without cable gland  |
| ELVB-SRAM-34-ST                               | 66.00  | Power connection with steel/zinc cable gland/fitting, 3/4" NPT, non-hazardous location          |
| KIT-OSR-ELSR-MA                               | 76.00  | End and power termination kit with warning sticker MA Series                                    |
| <b>OSR-MA Series (BF outer jacket)</b>        |        |   |
| EL-ECMF <sup>2</sup>                          | 28.00  | End termination for ELSR-MA-BF  |
| ELVB-SRAM-34-ST                               | 66.00  | Power connection with steel/zinc cable gland/fitting, 3/4" NPT, non-hazardous location          |
| KIT-OSR-ECA-MABF-PH-FIT                       | 44.00  | Brass gland cable fitting 3/4" NPT non-hazardous location for MA-BF cable                       |
| KIT-OSR-ELSR-MA-BF                            | 85.00  | End and power termination kit with warning sticker BF Series                                    |
| KIT-OSR-MABF-PH-1-CTSOD <sup>3</sup>          | 83.00  | Quick connect plumbing kit for 1" OD polyethylene CTS pipes for MA-BF cable                     |
| KIT-OSR-MABF-PH-114-CTSOD <sup>3</sup>        | 98.00  | Quick connect plumbing kit for 1 1/4" OD polyethylene CTS pipes for MA-BF cable                 |
| KIT-OSR-MABF-PH-112-CTSOD <sup>3</sup>        | 127.00 | Quick connect plumbing kit for 1 1/2" OD polyethylene CTS pipes for MA-BF cable                 |
| KIT-OSR-MABF-PH-34-ID <sup>3</sup>            | 76.00  | Quick connect plumbing kit for 3/4" ID polyethylene pipes for MA-BF cable                       |
| KIT-OSR-MABF-PH-1-ID <sup>3</sup>             | 98.00  | Quick connect plumbing kit for 1" ID polyethylene pipes for MA-BF cable                         |
| KIT-OSR-MABF-PH-114-ID <sup>3</sup>           | 111.00 | Quick connect plumbing kit for 1 1/4" ID polyethylene pipes for MA-BF cable                     |
| KIT-OSR-MABF-PH-112-ID <sup>3</sup>           | 177.00 | Quick connect plumbing kit for 1 1/2" ID polyethylene pipes for MA-BF cable                     |
| <b>OSR-WA Series</b>                          |        |   |
| EL-CLIC-P                                     | 223.00 | Quick connector with supply lead, for 1 to 3 cables   |
| EL-CLIC-S                                     | 212.00 | Quick connector for direct connection or cold lead connection of 1 to 3 cables                  |
| EL-ECW <sup>1</sup>                           | 20.00  | End termination for ELSR-WA   |
| ELVB-SRAW                                     | 45.00  | Power connection without cable gland  |
| ELVB-SRAW-34-ST                               | 72.00  | Power connection with steel/zinc cable gland, 3/4" NPT, non-hazardous location                  |
| KIT-OSR-ELSR-WA                               | 81.00  | End and power termination kit with warning sticker WA Series                                    |
| <b>OSR-HA Series</b>                          |        |   |
| ECA-JB1-HA                                    | 292.00 | Junction box with power connection and termination for single connection c/w label and fastener |
| ECA-JB2-HA                                    | 414.00 | Junction box with power connection and termination for double connection c/w label and fastener |
| EL-ECH-EX <sup>1</sup>                        | 20.00  | End termination for ELSR-HA   |
| ELAK-3-7                                      | 514.00 | Junction box with mounting stand for non-hazardous (ordinary) and hazardous locations           |
| ELVB-SRAH                                     | 38.00  | Power connection without cable gland  |
| ELVB-SRAH-34-ST                               | 66.00  | Power connection with steel/zinc cable gland/fitting, 3/4" NPT, non-hazardous location          |
| ELVB-SREX-34-HT <sup>1</sup>                  | 177.00 | Power connection with nickel plated cable gland, 3/4" NPT, hazardous location                   |
| ELVB-SREX-M20-HT <sup>1</sup>                 | 165.00 | Power connection with nickel plated cable gland, M20, hazardous location                        |
| KIT-OSR-ELSR-HA                               | 76.00  | End and power termination kit with warning sticker HA Series                                    |



EL-EC(x)



ELVB-SRA(x)



ELVB-SRA(x)-34-ST



KIT-OSR-ELSR-xx



KIT-OSR-MABF-PH-xx-CTSOD



KIT-OSR-MABF-PH-xx-ID



ECA-JB1

<sup>1</sup> Minimum installation temperature -45 °C (-49 °F).

<sup>2</sup> Minimum installation temperature -13 °C (-25 °F).

<sup>3</sup> 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.

## Options

| Product #<br>Kit             | Price | Description   |
|------------------------------|-------|---|
| <b>All OSR Series</b>        |       |   |
| <b>Multiple applications</b> |       |   |
| 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                | 15.00 | Stainless steel fastener 1/4" x 12" (6.8 mm x 304.8 mm)                     |
| ECA-TYS18-280                | 17.00 | Stainless steel fastener 1/4" x 18" (6.8 mm x 457.2 mm)                     |
| ECA-TYS24-280                | 20.00 | 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)                             |
| <b>Roof and gutter</b>       |       |   |
| ELB-20                       | 12.00 | Downspout 90° mounting plate  |
| ELB-21                       | 15.00 | Gutter mounting plate   |
| ELB-RCLIP                    | 38.00 | Roof clips for cable, qty 25  |
| <b>Pipe tracing</b>          |       |   |
| ELB-03                       | 50.00 | Self-adhesive glass fiber tape, max. temp. = 90 °C (194 °F), 50 m (165 ft.) |
| ELB-06C                      | 38.00 | Self-adhesive aluminum tape, max. temp. = 80 °C (176 °F), 50 m (165 ft.)    |

## Controls

| Product #  | Price   | Description   |
|--|---------|---|
| <b>Controller options for roof and gutter for de-icing</b>   |         |   |
| DS-2C <sup>1</sup>   | 642.00  | Aerial mounted controller with sensor to detect humidity and temperature, 30A, 100V to 277V   |
| DS-8C <sup>1</sup>   | 763.00  | 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 <sup>1</sup>   | 751.00  | 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  | 228.00  | 50 ft. (15 m) extension kit, with connection fittings for humidity sensor   |
| CDP-2  | 259.00  | Interior controller and display for DS products   |
| ETO2 <sup>1</sup>  | 748.00  | Dual-zone electronic controller, 3 X 16A, 120V to 240V  |
| ETF-744-99   | 186.00  | 24V outdoor sensor for measuring temperature  |
| ETOR-55  | 364.00  | Gutter sensor to detect humidity with 33 ft. (10 m) cable   |
| <b>Controller options for pipe tracing for use in non-hazardous (ordinary) locations</b>               |         |   |
| ECA-E55-R25HT <sup>1</sup>   | 924.00  | 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 <sup>1</sup>  | 440.00  | 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 <sup>1</sup>   | 573.00  | SPDT, NEMA 4X thermostat in polycarbonate housing, 22A at 120/250/480V, with 10 ft. (3 m) tinned copper bulb and capillary  |
| TRF115-005 <sup>1</sup>  | 151.00  | 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 <sup>1</sup>  | 156.00  | 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 <sup>1</sup>   | 725.00  | 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 °C to 250 °C (32 °F to 482 °F) |
| <b>Controller options for pipe tracing for use in non-hazardous (ordinary) and hazardous locations</b> |         |   |
| TXR-L25-10-Q10 <sup>1</sup>  | 1421.00 | 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   | 1838.00 | TraceMate™ I GFCI electronic thermostat for single circuit at 120V  |
| TM-1DIH2-E5-RTD-A1   | 2260.00 | TraceMate™ I GFCI electronic thermostat for single circuit at 240/2080V   |
| TM-2SIH1-E5-RTD  | 3119.00 | TraceMate™ II GFCI electronic thermostat for dual circuit at 120V   |
| TM-2DIH2-E5-RTD  | 3531.00 | TraceMate™ II GFCI electronic thermostat for dual circuit at 240/2080V  |
| MS-2101 <sup>2</sup>   | 3704.00 | MasterTrace Single circuit electronic GFCI controller with double pole, 85V to 280V, 30A, with user interface   |
| MS-2102 <sup>2</sup>   | 4281.00 | MasterTrace Double circuit electronic GFCI controller with single pole, 120V or 277V, 30A, with user interface  |
| RTD-7  | 343.00  | RTD probe for MasterTrace controller  |
| <b>Control panel options</b>   |         |   |
| OSR-4-240  | 4477.00 | 240V GFCI control panel with 2 x 4-pole contactors, controller ETO2 and transformer 240-120V  |
| OSR-6-240  | 4969.00 | 240V GFCI control panel with 3 x 4-pole contactors, controller ETO2 and transformer 240-120V  |
| OSR-8-240  | 5624.00 | 240V GFCI control panel with 4 x 4-pole contactors, controller ETO2 and transformer 240-120V  |
| OSR-12-240   | 6661.00 | 240V GFCI control panel with 6 x 4-pole contactors, controller ETO2 and transformer 240-120V  |

<sup>1</sup> Requires a ground fault circuit interrupter (GFCI) in the electrical panel.

<sup>2</sup> Requires a RTD probe for MasterTrace controller (RTD-7).

