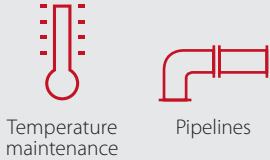


## At a Glance

### Applications



- › Fat-containing wastewater pipes in canteens and large-scale kitchens
- › Installation of hot water supplies
- › Freeze protection of heated lines or pipes
- › Food processing industry

### Benefits

- › Two nominal outputs
- › Water proof

### Designs

- AO** Aluminium foil, TPE-O outer jacket
- BO** Protective braid, TPE-O outer jacket

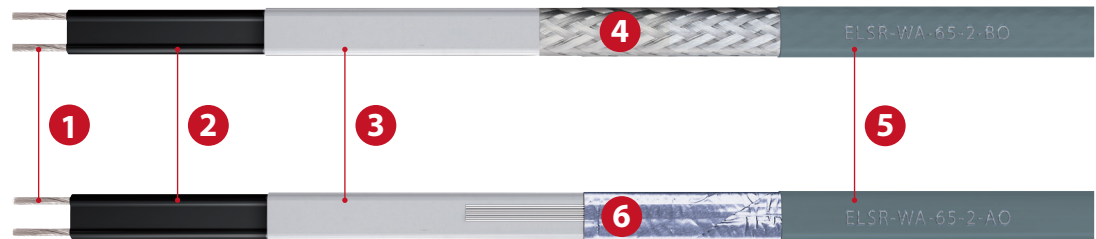
### Approvals



- › Classification  
Class I Zone 1 AEx / Ex e II T5  
Class I Div 2 Group A, B, C, D  
Class II Div 1 Group E, F, G  
Class III Div 1
- › Certification  
FM CUS 3050047
- › Standards  
IEEE 515, CSA 22.2 130.03

# ELSR-WA

up to 194 °F (90 °C)



|   |                                 |                                                      |
|---|---------------------------------|------------------------------------------------------|
| 1 | Bus wire                        | Nickel plated copper, 16 AWG (1.23 mm <sup>2</sup> ) |
| 2 | Self-regulating heating element |                                                      |
| 3 | Insulation                      |                                                      |
| 4 | Protection                      | Protective braid (Cu, tin plated)                    |
| 5 | Outer jacket                    | TPE-O                                                |
| 6 | Protective conductor connection | see 4 or Cu, tin plated with aluminium foil          |

## Checklist

### Power Connection & End Termination

|                      |                                                                                                               |         |
|----------------------|---------------------------------------------------------------------------------------------------------------|---------|
| El-Clc P             | El-Clc P Fast connector with 2.5m cold lead H05 SS-F 3 G 1,5                                                  | 09CAICP |
| El-Clc S             | El-Clc S Fast connector T-splice                                                                              | 09CAICS |
| ELVB-SREx-3/4" BR HT | Power Connection Kit ELSR-WA with nickel plated cable gland, 3/4" NPT <b>hazardous location</b> <sup>①②</sup> | 09CA027 |
| ELVB-SREx-20 BR HT   | Power Connection Kit ELSR-WA, with nickel plated cable gland, M20 <b>hazardous location</b> <sup>①②</sup>     | 09CA028 |
| ELVB-SRAW-3/4" ST    | Power Connection Kit ELSR-WA with steel/zinc cable gland/fitting, 3/4" NPT <sup>②</sup>                       | 09CA019 |
| ELVB-SRAW            | Power Connection kit ELSR-WA without gland                                                                    | 09CA053 |
| ELVB-SRAN            | Power Connection kit ELSR-WA without gland                                                                    | 09CA015 |
| EL-ECN-ex            | End Termination Kit for ELSR-WA <b>hazardous location</b> <sup>①②</sup>                                       | 09CA022 |
| EL-ECW               | End Termination Kit for ELSR-WA <sup>①②</sup>                                                                 | 09CA043 |

\* Canada only

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

<sup>②</sup>coverage: braiding 80 %, aluminum foil 100 %

## Technical Information

|                                                       |                                                       |
|-------------------------------------------------------|-------------------------------------------------------|
| Min. start up temperature                             | -22 °F (-30 °C)                                       |
| Max. continuous exposure temperature (power on)       | 176 °F (80 °C)                                        |
| Max. intermittent exposure temperature (de-energized) | 194 °F (90 °C - max. 1000 h)                          |
| Nominal voltage                                       | 120 VAC (ELSR-WA-XX-1-XX) / 240 VAC (ELSR-WA-XX-2-XX) |
| Min. Bending radius                                   | 0.79 in (20 mm)                                       |
| Min. Installation temperature                         | -49 °F (- 45 °C)                                      |
| Rating                                                | Wet rated, for outdoor use (WS)                       |

## Heating Circuit Length

Heating circuit length factor 208 V vs. 240 V

▶ 1.90

### 120 VAC

| Start up temperature<br>[°C] | Nominal<br>CB rating<br>[A] | Heating circuit length<br>[ft] |              |
|------------------------------|-----------------------------|--------------------------------|--------------|
|                              |                             | ELSR-WA-55-1                   | ELSR-WA-65-1 |
| 50 °F<br>(10 °C)             | 10                          | 144                            | 97           |
|                              | 15                          | 219                            | 145          |
|                              | 20                          | 246                            | 194          |
|                              | 25                          | 246                            | 198          |
|                              | 30                          | 246                            | 198          |
| 32 °F<br>(0 °C)              | 10                          | 131                            | 87           |
|                              | 15                          | 197                            | 133          |
|                              | 20                          | 233                            | 176          |
|                              | 25                          | 233                            | 189          |
|                              | 30                          | 233                            | 189          |
| 14 °F<br>(-10 °C)            | 10                          | 118                            | 81           |
|                              | 15                          | 180                            | 121          |
|                              | 20                          | 221                            | 160          |
|                              | 25                          | 221                            | 180          |
|                              | 30                          | 221                            | 180          |
| -22 °F<br>(-30 °C)           | 10                          | 102                            | 68           |
|                              | 15                          | 153                            | 103          |
|                              | 20                          | 202                            | 139          |
|                              | 25                          | 203                            | 167          |
|                              | 30                          | 203                            | 167          |

### 240 VAC

| Start up temperature<br>[°C] | Nominal<br>CB rating<br>[A] | Heating circuit length<br>[ft] |              |
|------------------------------|-----------------------------|--------------------------------|--------------|
|                              |                             | ELSR-WA-55-2                   | ELSR-WA-65-2 |
| 50 °F<br>(10 °C)             | 10                          | 231                            | 149          |
|                              | 15                          | 348                            | 226          |
|                              | 20                          | 430                            | 302          |
|                              | 25                          | 430                            | 348          |
|                              | 30                          | 430                            | 348          |
| 32 °F<br>(0 °C)              | 10                          | 207                            | 136          |
|                              | 15                          | 312                            | 203          |
|                              | 20                          | 405                            | 272          |
|                              | 25                          | 405                            | 326          |
|                              | 30                          | 405                            | 326          |
| 14 °F<br>(-10 °C)            | 10                          | 187                            | 123          |
|                              | 15                          | 279                            | 184          |
|                              | 20                          | 372                            | 247          |
|                              | 25                          | 384                            | 310          |
|                              | 30                          | 384                            | 312          |
| -22 °F<br>(-30 °C)           | 10                          | 158                            | 105          |
|                              | 15                          | 237                            | 160          |
|                              | 20                          | 315                            | 212          |
|                              | 25                          | 353                            | 263          |
|                              | 30                          | 353                            | 286          |

Heating circuit lengths on the following conditions

- ▶ Voltage 120 VAC (-1-) / 240 VAC (-2-)
- ▶ Voltage drop max. 10%
- ▶ MCB type QO (100% utilisation)
- ▶ Single heater fed from 1 end

## Power Output

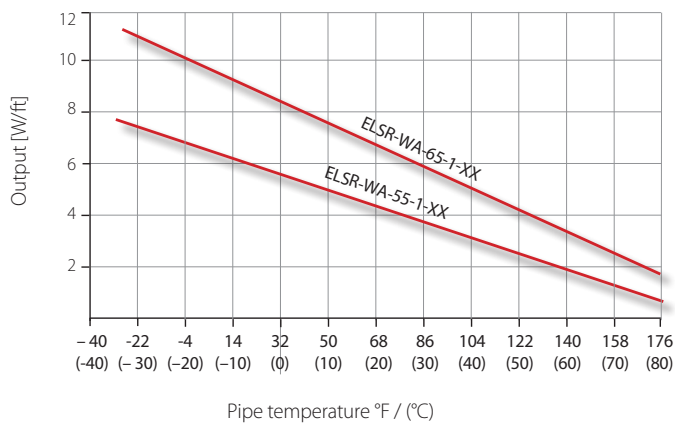
Nominal output factor 208 VAC zu 240 VAC

➤ 0.80

### 120 VAC

#### ELSR-WA-XX-1-XX output

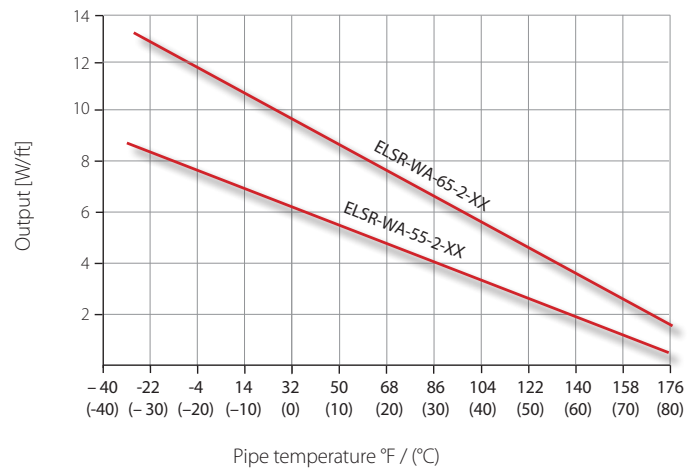
(on insulated metallic pipes, in accordance with IEEE 515/CSA 22.2 130-03)



### 240 VAC

#### ELSR-WA-XX-2-XX output

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



## Ordering Information

Used for water supply lines

### 120 VAC

| Type            | Nominal output<br>[at 131°F (55°C)] | WxH<br>approx.<br>[mm] | Weight<br>approx.<br>[g/m] | Article -<br>No. |
|-----------------|-------------------------------------|------------------------|----------------------------|------------------|
| ELSR-WA-55-1-AO | 3 W/ft                              | 13.4 x 5.8             | 100                        | BA200360         |
| ELSR-WA-55-1-BO | 3 W/ft                              | 13.6 x 5.6             | 130                        | BA200370         |
| ELSR-WA-65-1-AO | 4 W/ft                              | 13.4 x 5.8             | 100                        | BA200460         |
| ELSR-WA-65-1-BO | 4 W/ft                              | 13.6 x 5.6             | 130                        | BA200470         |

### 240 VAC

| Type            | Nominal output<br>[at 131°F (55°C)] | WxH<br>approx.<br>[mm] | Weight<br>approx.<br>[g/m] | Article -<br>No. |
|-----------------|-------------------------------------|------------------------|----------------------------|------------------|
| ELSR-WA-55-2-AO | 3 W/ft                              | 13.4 x 5.8             | 100                        | BA200380         |
| ELSR-WA-55-2-BO | 3 W/ft                              | 13.6 x 5.6             | 130                        | BA200390         |
| ELSR-WA-65-2-AO | 4 W/ft                              | 13.4 x 5.8             | 100                        | BA200480         |
| ELSR-WA-65-2-BO | 4 W/ft                              | 13.6 x 5.6             | 130                        | BA200490         |

Used with fat / oil lines

### 120 VAC

| Type            | Nominal output<br>used<br>with fat/ oil lines<br>[at 104 °F (40 °C)] | WxH<br>approx.<br>[mm] | Weight<br>approx.<br>[g/m] | Article -<br>No. |
|-----------------|----------------------------------------------------------------------|------------------------|----------------------------|------------------|
| ELSR-WA-65-1-AO | 7 W/ft                                                               | 13.4 x 5.8             | 100                        | BA200460         |
| ELSR-WA-65-1-BO | 7 W/ft                                                               | 13.6 x 5.6             | 130                        | BA200470         |

### 240 VAC

| Type            | Nominal output<br>used<br>with fat/ oil lines<br>[at 104 °F (40 °C)] | WxH<br>approx.<br>[mm] | Weight<br>approx.<br>[g/m] | Article -<br>No. |
|-----------------|----------------------------------------------------------------------|------------------------|----------------------------|------------------|
| ELSR-WA-65-2-AO | 7 W/ft                                                               | 13.4 x 5.8             | 100                        | BA200480         |
| ELSR-WA-65-2-BO | 7 W/ft                                                               | 13.6 x 5.6             | 130                        | BA200490         |