

## At a Glance

### Applications



Freeze prevention



Temperature maintenance



Pipelines



Silos, vessels, tanks

- › Chemistry and Petrochemistry
- › Maritime and offshore
- › Food Processing Industry
- › Water and sanitation utilities

### Benefits

- › Four nominal outputs
- › UV-resistant
- › Moisture proof
- › Junction box for pipe mounting

### Design

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

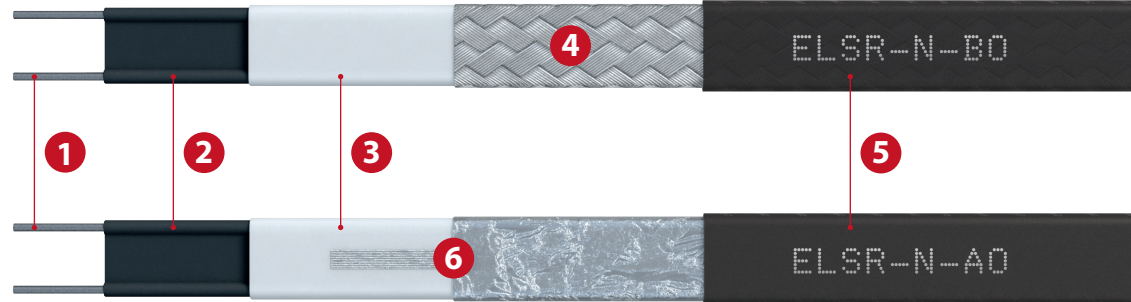
### Approvals



- › Trace Heater classification
  - II 2G Ex 60079-30-1 IIC Gb
  - II 2D Ex 60079-30-1 IIIC Db
- › System classification
  - II 2G Ex 60079-30-1 eb IIC T6 Gb
  - II 2D Ex 60079-30-1 tb IIIC T85°C Db
- › Certification
  - EPS IECEx 18.0064U
  - EPS IECEx 19.007X
  - EPS 18 ATEX 1133 U
  - EPS 19 ATEX 1014 X
- › Temperature class
  - T6

# Type ELSR-N

## up to 80 °C



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

## Checklist ELSR-N

### Power Connection & End Termination

ELVB-SRAN-Ex-20	Power connection, glued, Gland M20, brass, Ex d	0X81PND
EL-ECN-ex	Silicone termination cap black, glued, transparent with ex marking	0X81EN1
ELVB-SREx-25	Power connection, glued, Gland M25 x 1,5, PE, Ex e	0X81PA1
Ex-Con-SR	Ex connection sleeve Ø 36 x 210 mm 4J	0X81125
ELVB-SREx-IT	Power connection, glued, without gland	091AIT1
ELVB-SRA-25	Power connection, glued, Gland M25 x 1,5, PE	091A010
EL-ECN	Silicone termination cap, glued, transparent	09112N1
ELVB-SRV-N-L-W	Connection set, shrink-fit	0911116
El-Clc P/S	El-Clc P Fast connector with integrated cold lead	09ClcP
	El-Clc S Fast connector T-splice	09ClcS

### Junction Boxes

ELAK-Ex-2.00	110 x 75 x 57 mm, polyester, IP66, 1 Trace heater, 1 Power cable	0X85200
ELAK-Ex-4.01	122 x 120 x 90 mm, polyester, IP66, 1 - 3 Trace heaters, 1 Power cable	0X85401
Ex-it-R	ø 150 x 125 mm, 3 heaters, 1 Pt100 power supply lead, incl. mounting stand, IP 65	0X80070
ELAK-2	104 x 104 x 70 mm, polycarbonate, breakouts 7x M25, IP 66	0920030
ELAK-5	122 x 120 x 90 mm, polyester, 3 breakouts M25, IP 66	0920013
ELAK-5.1	130 x 130 x 75 mm, polycarbonate, breakouts 9x M20/M25, IP 66	0920002
ELAK-RS-T	150 x 125 mm, twin Pt100, 3 heaters incl. mounting stand, IP 65	0920059

## Technical Information

<b>Maximum maintain temperature</b>	65 °C
<b>Maximum exposure temperature (de-energized)</b>	80 °C
<b>Nominal voltage*</b>	230 V
<b>Bending radius, min.</b>	25 mm
<b>Installation temperature, min.</b>	-60 °C

\* Further power inputs on request

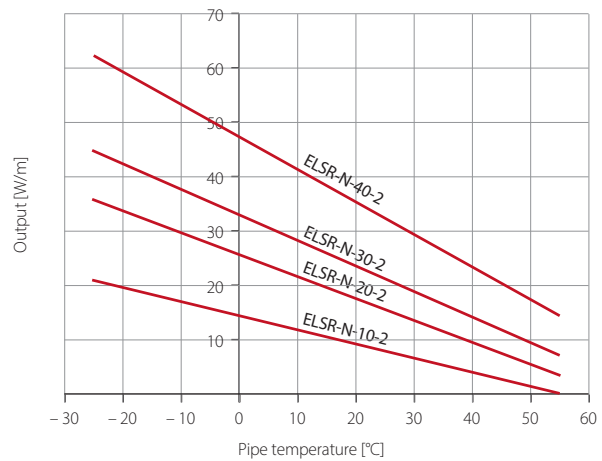
### Heating circuit lengths on the following conditions

- 230 V nominal voltage
- Delayed action circuit breakers (C-characteristic) with 80 % maximum load
- Maximum 10 % line voltage drop on heating cable bus wire
- Power connection to one heater end

Switch-on temperature (°C)	Nominal cutout value (A)	Heating circuit length (m) for			
		ELSR-N-10-2	ELSR-N-20-2	ELSR-N-30-2	ELSR-N-40-2
10	10	128.0	68.0	52.0	36.0
	16	177.0	109.0	83.0	57.0
	20	177.0	129.0	104.0	71.0
	25	177.0	129.0	113.0	89.0
	32	177.0	129.0	113.0	94.0
0	10	106.0	57.0	45.0	31.0
	16	160.0	92.0	71.0	50.0
	20	160.0	115.0	89.0	62.0
	25	160.0	119.0	105.0	78.0
	32	160.0	119.0	105.0	88.0
-10	10	90.0	50.0	39.0	28.0
	16	144.0	79.0	63.0	44.0
	20	149.0	99.0	78.0	55.0
	25	149.0	111.0	98.0	69.0
	32	149.0	111.0	98.0	83.0
-20	10	78.0	44.0	35.0	25.0
	16	125.0	70.0	56.0	40.0
	20	139.0	87.0	69.0	50.0
	25	139.0	104.0	87.0	62.0
	32	139.0	104.0	87.0	78.0
-40	10	62.0	35.0	28.0	21.0
	16	99.0	56.0	45.0	33.0
	20	124.0	71.0	57.0	42.0
	25	124.0	88.0	71.0	52.0
	32	124.0	88.0	71.0	66.0

### ELSR-N...-2 output

(on insulated metallic pipes in accordance with EN 62395-1)



Type	Nominal output	Dimensions approx. (mm)	Weight approx. (g/m)	Part No.
ELSR-N-10-2-AO	10 W/m at 10 °C	13.6 x 5.5	91	B0200130
ELSR-N-10-2-BO	10 W/m at 10 °C	14.1 x 5.8	108	B0200110
ELSR-N-10-2-BOT	10 W/m at 10 °C	13.8 x 5.6	108	B0200119
ELSR-N-20-2-AO	20 W/m at 10 °C	13.6 x 5.5	91	B0200230
ELSR-N-20-2-BO	20 W/m at 10 °C	14.1 x 5.8	108	B0200210
ELSR-N-20-2-BOT	20 W/m at 10 °C	13.8 x 5.6	108	B0200219
ELSR-N-30-2-AO	30 W/m at 10 °C	13.6 x 5.5	91	B0200330
ELSR-N-30-2-BO	30 W/m at 10 °C	14.1 x 5.8	108	B0200310
ELSR-N-30-2-BOT	30 W/m at 10 °C	13.8 x 5.6	108	B0200319
ELSR-N-40-2-AO	40 W/m at 10 °C	13.6 x 5.5	91	B0200430
ELSR-N-40-2-BO	40 W/m at 10 °C	14.1 x 5.8	108	B0200410
ELSR-N-40-2-BOT	40 W/m at 10 °C	13.8 x 5.6	108	B0200419