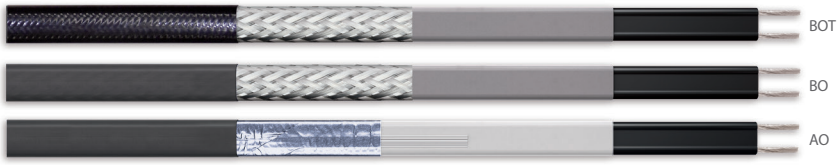
OSR-NA All Purpose Self-Regulating Heating Cable ELSR-NA



Features

Outer jacket
- Thermoplastic (AO, BO), Fluoropolymer (BOT).

Bus wire
- Nickel plated copper, 16 AWG.

Minimum start-up temperature
- -30 °C (-22 °F).

Maximum operating temperature (power on)
- 60 °C (140 °F).

Maximum continuous exposure temperature (power off)
- 80 °C (176 °F).

Nominal voltage
- 120V, 240/208V.

Bending radius, minimum
- 25 mm (1 in.).

Installation temperature, minimum
- AO, BO: -45 °C (-45 °F).
- BOT: -25 °C (-13 °F).

Classification
- II 2G Ex e IIC T6 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, roof and gutter, sprinkler systems.

Models

Nominal Output W/ft.	Product #[1,3] 120V	Outer jacket/Mechanical shield AO	BO	BOT	Nominal Output W/ft.	Product #[1,2,3] 240V	Outer jacket/Mechanical shield AO	BO	BOT	Cable dimension approx. (mm)
3	ELSR-NA-3-1-XX	✓	✓	✓	4	ELSR-NA-4-2-XX	-	-	✓	13.8 x 5.6
5	ELSR-NA-5-1-XX	✓	✓	✓	6	ELSR-NA-6-2-XX	✓	✓	✓	13.8 x 5.6
7	ELSR-NA-7-1-XX	✓	✓	✓	8	ELSR-NA-8-2-XX	✓	✓	✓	14.1 x 5.6
-	-	-	-	-	10	ELSR-NA-10-2-XX	✓	✓	✓	14.1 x 5.6

[1] ***XX*** *= Outer jacket/Mechanical shield.*
AO Aluminum foil and a thermoplastic outer jacket.
BO Protective braid and a thermoplastic outer jacket.
BOT Protective braid and a fluoropolymer outer jacket.
[2] *For operations at 208V, please consult Correction Factors/Multipliers at next page.*
[3] *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.
Custom cutting service available for all lengths other than 500 ft. and 1000 ft. (minimum of 25 ft.).

Options

See OSR Options and Controls section

Heating circuit length for ELSR-NA models

120V				
Start-up temperature	CB capacity (A)	Maximum heating circuit (ft.) for		
		ELSR-NA-3-1	ELSR-NA-5-1	ELSR-NA-7-1
10 °C (50 °F)	10	159	125	82
	15	238	187	123
	20	317	249	164
	25	397	312	205
	30	476	374	246
	35	555	436	287
	40	612	499	328
0 °C (32 °F)	10	143	112	75
	15	215	168	113
	20	287	224	151
	25	358	280	188
	30	430	336	226
	35	502	392	264
	40	573	448	301
-10 °C (14 °F)	10	130	102	69
	15	195	153	104
	20	260	204	139
	25	325	255	173
	30	390	306	208
	35	455	357	243
	40	520	408	277
-30 °C (-22 °F)	10	110	87	60
	15	165	130	90
	20	220	173	120
	25	275	217	150
	30	330	260	180
	35	385	303	210
	40	440	347	240

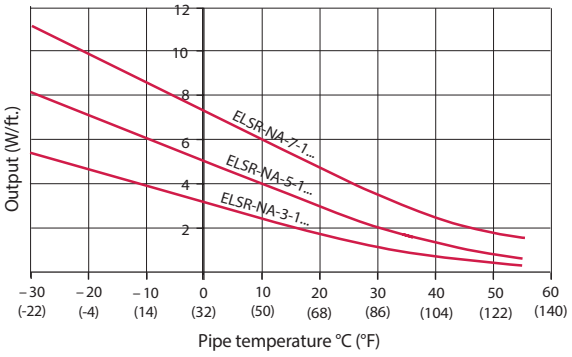
240V					
Start-up temperature	CB capacity (A)	Maximum heating circuit (ft.) for			
		ELSR-NA-4-2	ELSR-NA-6-2	ELSR-NA-8-2	ELSR-NA-10-2
10 °C (50 °F)	10	273	170	127	66
	15	410	255	191	99
	20	547	340	255	132
	25	683	425	318	165
	30	820	510	382	198
	35	957	595	446	231
	40	1087	857	509	264
0 °C (32 °F)	10	245	154	117	61
	15	367	231	175	91
	20	489	308	233	121
	25	612	385	292	152
	30	734	462	350	182
	35	856	539	408	212
	40	979	616	467	243
-10 °C (14 °F)	10	222	141	108	57
	15	333	211	162	85
	20	444	281	216	113
	25	555	352	270	142
	30	666	422	324	170
	35	777	492	378	198
	40	888	563	432	227
-30 °C (-22 °F)	10	187	120	93	50
	15	280	180	140	75
	20	373	240	187	100
	25	467	300	233	125
	30	560	360	280	150
	35	653	420	327	175
	40	747	480	373	200

Maximum heating circuit ELSR-NA-XX on the following conditions:

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

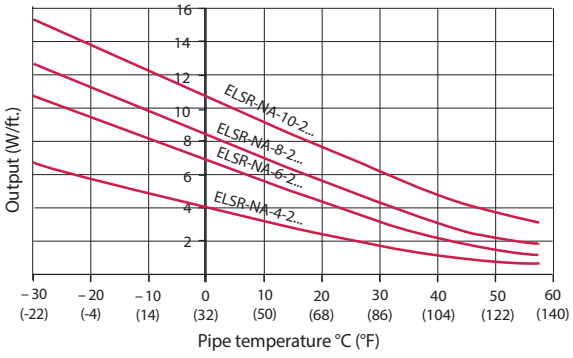
ELSR-NA-XX-1-XX output

(on insulated metallic pipes)



ELSR-NA-XX-2-XX 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-NA-XX-2	0.88	0.93

Cable heat output depending on the environment

In Snow and Ice (120V cable)
- 11W/ft. @ 50 °F (36W/m @ 10 °C)

In Dry Air
- 7W/ft. @ 50 °F (23W/m @ 10 °C)

In Snow and Ice (240/208V cable)
- 13W/ft. @ 50 °F (42W/m @ 10 °C)

In Dry Air
- 8W/ft. @ 50 °F (26W/m @ 10 °C)