eltherm®

ELSR-NA
up to 176 °F (80 °C)

At a Glance

Applications

Freeze prevention

Temperature maintenance

Pipelines

Silos, vessels, tanks

- Chemistry and Petrochemistry
- Oil and Gas Industry
- Food Processing Industry
- Automotive
- Cryogenic Storage Tanks

Benefits

- Multiple nominal outputs
- Moisture resistant
- UV-resistant

Designs

AO Aluminium foil, TPE-O outer jacket

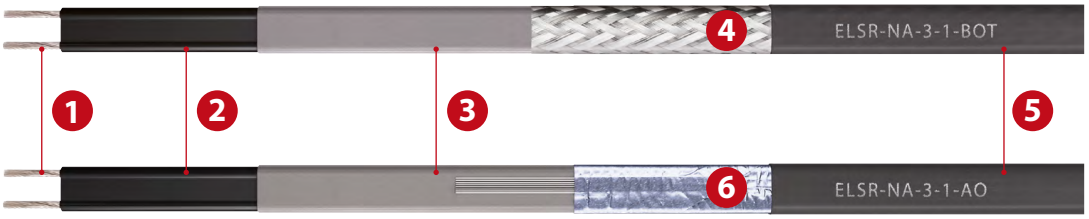
BO Protective braid, TPE-O outer jacket

BOT Protective braid, Fluoropolymer outer jacket

Approvals

- Classification
  Class I Div 1, Groups A, B, C, D; T6*[1]
  Class I Div 2 Groups A, B, C, D, T6
  Class II Div 1 Groups E, F, G, T6*[1]
  Class II Div 2 Groups E, F, G
  Class III Div 1, T6
  Zone1, AEx 60079-30-1 IIC T6 Gb
  Zone1, Ex 60079-30-1 IIC T6 Gb
- Certification
  FM22US0062X
  FM22CA0044X
  CSA C US 2547790
- Standards
  IEC/IEEE 60079-30-1
  IEEE 515/CSA 22.2 130-16
  ANSI/UL 60079-30-1

*[1]with termination kit part no. 09CA051



1	Bus wire	Nickel plated copper, 16 AWG (1.23 mm²)
2	Self-regulating heating element	
3	Insulation	
4	Protection	Protective braid (Cu, tin plated)
5	Outer jacket	TPE-O
6	Protective conductor connection	Cu, tin plated with aluminium foil

Checklist

Power Connection & End Termination

El-Clic P	El-Clic P Fast connector with 2.5m cold lead 3 AWG 14 SJEOOW	09CAICP
El-Clic S	El-Clic S Fast connector T-splice	09CAICS
EL-HAZELECT[①]	Heater entry kit for Div1 rated junction box, 3/4" NPT, for ELSR-NA & -HA, Division 1 rated	09CA051
ELVB-SREx-3/4" BR HT	Power Connection Kit for ELSR-HA, -NA with nickel plated cable gland, 3/4" NPT	09CA017
ELVB-SREx-20 BR HT	Power Connection Kit ELSR-HA, -NA with nickel plated cable gland, M20	09CA028
ELVB-SRAN-3/4" ST	Power Connection Kit ELSR-NA with steel/zinc cable gland / fitting, 3/4" NPT, non-hazardous location	09CA012
ELVB-SRAN	Power Connection kit ELSR-NA without gland	09CA015
EL-SPN-16	Connection kit (splice set)	09CA033
EL-ECN-ex	End Termination Kit for ELSR-NA, -WA	09CA022
Ex-It-LAG	End of circuit lighted termination incl. mounting post; green	09CALAG
Ex-It-LAR	End of circuit lighted termination incl. mounting post; red	09CALAR

[①] Please note the certificate

eltherm®

Technical Information

Min. start up temperature	-22 °F (-30 °C)
Max. operating temperature (power on)	140 °F (60 °C)
Max. exposure temperature (de-energized)	176 °F (80 °C)
Nominal voltage	120 VAC (ELSR-NA-XX-**1**-XX) 240 / 277 VAC (ELSR-NA-XX-**2**-XX)
Min. Bending radius	1" (25 mm)
Min. Installation temperature	-76 °F (– 60 °C)
Usage rating	Wet rated, for outdoor use (-WS)

Heating Circuit Length

Heating circuit length factor 208 V vs. 240 V › 1.00

		120 VAC			240 VAC				277 VAC			
Start up temp. [°F]	Nominal CB rating [A]	Heating circuit length [ft]			Heating circuit length [ft]				Heating circuit length [ft]			
		ELSR-NA-3-1	ELSR-NA-5-1	ELSR-NA-7-1	ELSR-NA-4-2	ELSR-NA-6-2	ELSR-NA-8-2	ELSR-NA-10-2	ELSR-NA-4-2	ELSR-NA-6-2	ELSR-NA-8-2	ELSR-NA-10-2
50 °F (10 °C)	10	164	125	82	253	151	109	79	218	125	105	71
	15	246	187	123	380	227	164	118	327	188	158	107
	20	328	249	164	507	303	219	157	436	251	212	142
	25	337	274	205	597	378	273	197	514	313	264	178
	30	337	274	222	597	454	328	236	514	376	317	213
	35	337	274	222	597	470	383	275	514	389	370	248
	40	337	274	222	597	470	422	315	514	389	408	284
32 °F (0 °C)	10	147	112	75	227	137	100	73	195	114	97	66
	15	221	168	113	341	205	150	110	294	170	145	99
	20	295	224	151	455	273	200	147	392	226	193	133
	25	337	274	188	568	342	250	183	489	283	242	165
	30	337	274	222	597	410	300	220	514	340	290	199
	35	337	274	222	597	470	350	257	514	389	338	232
	40	337	274	222	597	470	400	293	514	389	386	265
14 °F (-10 °C)	10	134	102	69	206	125	93	68	177	104	90	61
	15	201	153	104	309	188	139	102	266	156	134	92
	20	268	204	139	412	251	185	136	355	208	179	123
	25	335	255	173	515	313	232	170	443	259	224	154
	30	337	274	208	597	376	278	204	514	312	269	184
	35	337	274	222	597	439	324	238	514	364	313	215
	40	337	274	222	597	470	371	272	514	389	358	246
-22 °F (-30 °C)	10	113	87	60	173	107	80	60	149	89	77	54
	15	170	130	90	260	160	120	90	224	133	116	81
	20	227	173	120	347	213	160	120	299	176	155	108
	25	283	217	150	433	267	200	150	373	221	193	135
	30	337	260	180	520	320	240	180	448	265	232	163
	35	337	274	210	597	373	280	210	514	309	271	190
	40	337	274	222	597	427	320	240	514	354	309	217

Heating circuit lengths on the following conditions

- Voltage 120 VAC (-1-) / 240 VAC (-2-) / 277 VAC (-2-)
- MCB type QO (100% utilisation)
- Voltage drop max. 10%
- Single heater fed from 1 end

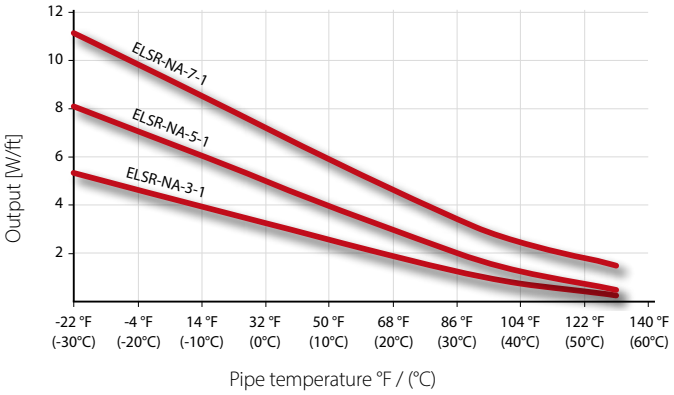
Power Output

Nominal output factor 208 VAC vs 240 VAC › 0.88

120 VAC

ELSR-NA-xx-1-xx Power

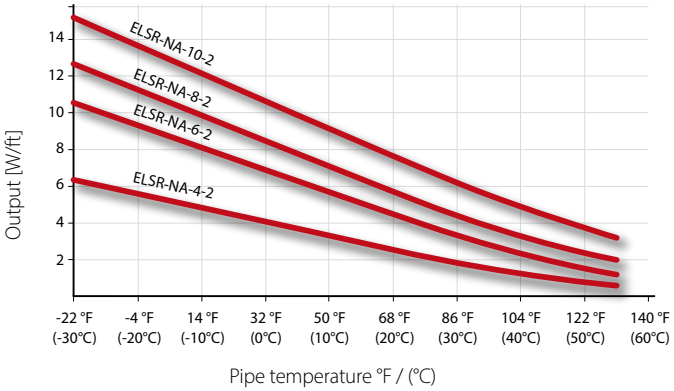
(on insulated metallic pipes, in accordance with IEEE 515/CSA 22.2 130-16)



240 VAC

ELSR-NA-xx-2-xx Power

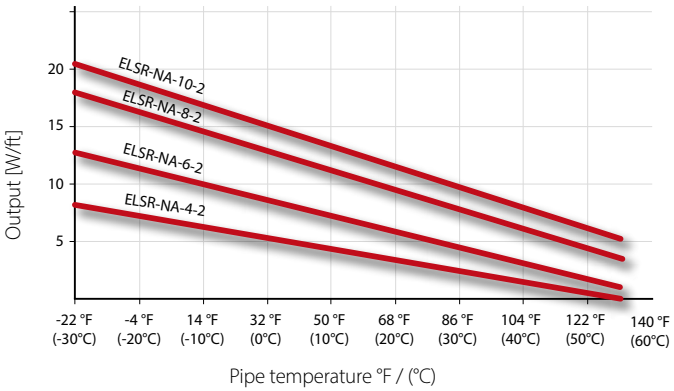
(on insulated metallic pipes, in accordance with IEEE 515/CSA 22.2 130-16)



277 VAC

ELSR-NA-xx-2-xx Power

(on insulated metallic pipes, in accordance with IEEE 515/CSA 22.2 130-16)



Ordering Information

120 VAC

Type	Nominal output [W/ft at 41°F] (5 °C)	WxH approx. [mm]	Weight approx. [g/ft]	Article - No.
ELSR-NA-3-1-AO	3 W/ft	13.6 x 5.5	28	BA200131
ELSR-NA-3-1-BO	3 W/ft	14.1 x 5.8	33	BA200111
ELSR-NA-3-1-BOT	3 W/ft	13.8 x 5.6	33	BA200121
ELSR-NA-5-1-AO	5 W/ft	13.6 x 5.5	28	BA200231
ELSR-NA-5-1-BO	5 W/ft	14.1 x 5.8	33	BA200211
ELSR-NA-5-1-BOT	5 W/ft	13.8 x 5.6	33	BA200221
ELSR-NA-7-1-AO	7 W/ft	13.6 x 5.5	28	BA200331
ELSR-NA-7-1-BO	7 W/ft	14.1 x 5.8	33	BA200311
ELSR-NA-7-1-BOT	7 W/ft	13.8 x 5.6	33	BA200321

240/277 VAC

Type	Nominal output [W/ft at 41°F] (5 °C)	WxH approx. [mm]	Weight approx. [g/ft]	Article - No.
ELSR-NA-4-2-AO	4 W/ft	13.6 x 5.5	28	BA200130
ELSR-NA-4-2-BO	4 W/ft	14.1 x 5.8	33	BA200110
ELSR-NA-4-2-BOT	4 W/ft	13.8 x 5.6	33	BA200120
ELSR-NA-6-2-AO	6 W/ft	13.6 x 5.5	28	BA200230
ELSR-NA-6-2-BO	6 W/ft	14.1 x 5.8	33	BA200210
ELSR-NA-6-2-BOT	6 W/ft	13.8 x 5.6	33	BA200220
ELSR-NA-8-2-AO	8 W/ft	13.6 x 5.5	28	BA200330
ELSR-NA-8-2-BO	8 W/ft	14.1 x 5.8	33	BA200310
ELSR-NA-8-2-BOT	8 W/ft	13.8 x 5.6	33	BA200320
ELSR-NA-10-2-AO	10 W/ft	13.6 x 5.5	28	BA200430
ELSR-NA-10-2-BO	10 W/ft	14.1 x 5.8	33	BA200410
ELSR-NA-10-2-BOT	10 W/ft	13.8 x 5.6	33	BA200420