



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
- > Weather resistant
- > UV-resistant

Designs

BOT Protective braid, Fluoropolymer outer jacket

Approvals



- > Classification
 - Class I Div 1* Group B,C,D
 - Class I Div 2 Group A,B,C,D
 - Class II Div 2 Group E,F,G
 - Class III T3
 - Class I Zone1 Ex e II T3
- > Certification
 - CSA C US 2547790
- > Standards
 - IEEE 515, CSA 22.2 130.16
 - IEC/IEEE 60079-30-1

*with termination kit part no. 09CA051; Canada only

ELSR-HA

up to 392 °F (200 °C)



1 Bus wire	Nickel plated copper, 16 AWG (1.23 mm ²)
2 Self-regulating heating element	
3 Insulation	
4 Protection	Protective braid (Cu, tin plated)
5 Outer jacket	Fluoropolymer

Checklist

Power Connection & End Termination

EL-HAZELECT*	Heater entry kit for Div1 rated junction box, 3/4" NPT, for ELSR-NA & -HA, Division 1 rated hazardous location	09CA051
ELVB-SREx-3/4" BR HT	Power Connection Kit for ELSR-HA, -NA with nickel plated cable gland, 3/4" NPT hazardous location [Ⓜ]	09CA017
ELVB-SREx-20 BR HT	Power Connection Kit ELSR-HA, -NA with nickel plated cable gland, M20 hazardous location [Ⓜ]	09CA008
ELVB-SRAN-3/4" ST	Power Connection Kit ELSR-NA with steel/zinc cable gland / fitting, 3/4" NPT non-hazardous location [Ⓜ]	09CA012
ELVB-SRAH	Power Connection kit ELSR-HA without gland	09CA014
Ⓜ EL-ECH-ex	End Termination Kit for ELSR-HA [Ⓜ]	09CA021

* Canada only

[Ⓜ]min. installation temperature -49 °F (-45 °C)

[Ⓜ]coverage: braiding 80 %, aluminum foil 100 %

Technical Information

Min. start up temperature	-22 °F (-30 °C)
Max. continuous exposure temperature (power on)	248 °F (120 °C)
Max. intermittent exposure temperature (de-energized)	302 °F (150 °C), continuous, 392 °F (200 °C - max. 1000 h)
Nominal voltage	120 VAC (ELSR-HA-XX-1-XX) 240 VAC / 277 VAC (ELSR-HA-XX-2-XX)
Min. Bending radius	25 mm
Min. Installation temperature	-49 °F (- 45 °C) -76 °F (-60 °C) in conjunction with termination set 09CA024
Rating	Wet rated, for outdoor use (WS)

Heating Circuit Length

Heating circuit length factor 208 V vs. 240 V

▶ 1.00

120 VAC

Start up temp. [°C]	Nominal CB rating [A]	Heating circuit length [ft]				
		ELSR-HA-3-1	ELSR-HA-7-1	ELSR-HA-10-1	ELSR-HA-15-1	ELSR-HA-20-1
50 °F (10 °C)	10	261	137	113	72	53
	15	391	205	169	108	79
	20	521	273	225	145	105
	25	559	342	282	181	132
	30	559	411	338	217	158
	35	559	411	374	253	184
	40	559	411	374	279	200
32 °F (0 °C)	10	249	132	108	70	50
	15	374	198	162	104	75
	20	499	264	216	139	100
	25	559	330	270	174	125
	30	559	396	234	209	150
	35	559	411	374	244	175
	40	559	411	374	279	200
14 °F (-10 °C)	10	239	128	104	67	48
	15	358	192	156	101	72
	20	477	256	208	134	95
	25	559	320	260	168	119
	30	559	384	312	201	143
	35	559	411	364	235	167
	40	559	411	374	269	191
-22 °F (-30 °C)	10	220	120	97	63	43
	15	330	180	145	94	65
	20	440	240	193	125	87
	25	550	300	242	157	109
	30	559	360	290	188	130
	35	559	411	338	220	152
	40	559	411	374	251	174

240 VAC

Start up temp. [°C]	Nominal CB rating [A]	Heating circuit length [ft]				
		ELSR-HA-3-2	ELSR-HA-7-2	ELSR-HA-10-2	ELSR-HA-15-2	ELSR-HA-20-2
50 °F (10 °C)	10	304	181	115	97	127
	15	456	271	173	146	191
	20	608	361	231	194	255
	25	759	452	288	243	318
	30	864	542	346	291	382
	35	864	632	404	340	446
	40	864	716	461	389	509
32 °F (0 °C)	10	286	171	110	92	117
	15	429	256	165	138	175
	20	571	341	220	184	233
	25	714	427	275	230	292
	30	857	512	330	276	350
	35	864	597	385	322	408
	40	864	683	440	368	467
14 °F (-10 °C)	10	270	162	105	87	108
	15	404	243	158	131	162
	20	539	324	211	175	216
	25	674	405	263	219	270
	30	809	486	316	262	324
	35	864	567	369	306	378
	40	864	648	421	350	432
-22 °F (-30 °C)	10	242	147	97	80	93
	15	364	220	145	119	140
	20	485	293	193	159	187
	25	606	367	242	199	233
	30	727	440	290	239	280
	35	848	513	338	278	327
	40	864	587	387	318	373

Heating circuit lengths on the following conditions

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

Heating Circuit Length

277 VAC

Start up temp. [°C]	Nominal CB rating [A]	Heating circuit length [ft]				
		ELSR-HA-3-2	ELSR-HA-7-2	ELSR-HA-10-2	ELSR-HA-15-2	ELSR-HA-20-2
50 °F (10 °C)	10	571	298	185	120	102
	15	856	447	276	180	153
	20	1115	596	368	240	204
	25	1115	744	461	300	255
	30	1115	847	553	360	306
	35	1115	847	645	420	357
32 °F (0 °C)	10	537	280	174	114	97
	15	805	420	261	172	145
	20	1074	560	348	229	193
	25	1115	700	436	286	242
	30	1115	840	522	343	290
	35	1115	847	609	400	338
14 °F (-10 °C)	10	507	265	165	109	91
	15	760	396	248	164	138
	20	1014	528	330	219	184
	25	1115	661	413	274	230
	30	1115	793	496	329	275
	35	1115	847	578	384	321
-22 °F (-30 °C)	10	456	237	150	101	84
	15	684	357	224	151	125
	20	912	475	299	201	167
	25	1115	594	374	252	209
	30	1115	712	449	302	251
	35	1115	831	523	352	292
40	1115	847	599	402	334	

Ordering Information

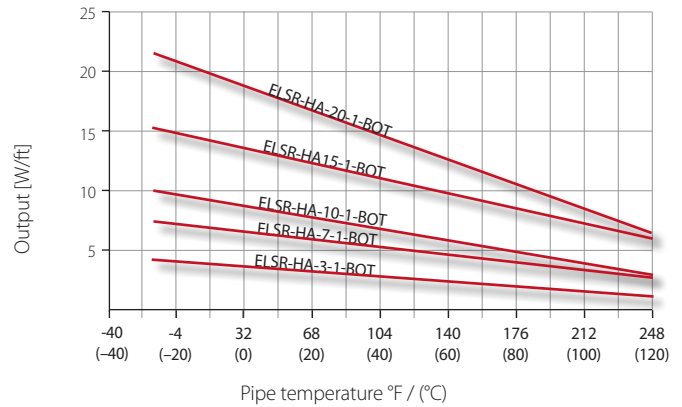
Type	Nominal output [W/ft at 41°F] (5 °C)	WxH approx. [mm]	Weight approx. [g/m]	Article - No.
ELSR-HA-3-1-BOT	3 W/ft	12.4 x 5.9	120	BA221101
ELSR-HA-3-2-BOT	3 W/ft	12.4 x 5.9	120	BA221103
ELSR-HA-7-1-BOT	7 W/ft	12.4 x 5.9	120	BA221201
ELSR-HA-7-2-BOT	7 W/ft	12.4 x 5.9	120	BA221203
ELSR-HA-10-1-BOT	10 W/ft	12.4 x 5.9	120	BA221301
ELSR-HA-10-2-BOT	10 W/ft	12.4 x 5.9	120	BA221303
ELSR-HA-15-1-BOT	15 W/ft	12.4 x 5.9	120	BA221451
ELSR-HA-15-2-BOT	15 W/ft	12.4 x 5.9	120	BA221453
ELSR-HA-20-1-BOT	20 W/ft	12.4 x 5.9	120	BA221601
ELSR-HA-20-2-BOT	20 W/ft	12.4 x 5.9	120	BA221603

Power Output

120 VAC

ELSR-HA-xx-1-BOT Power

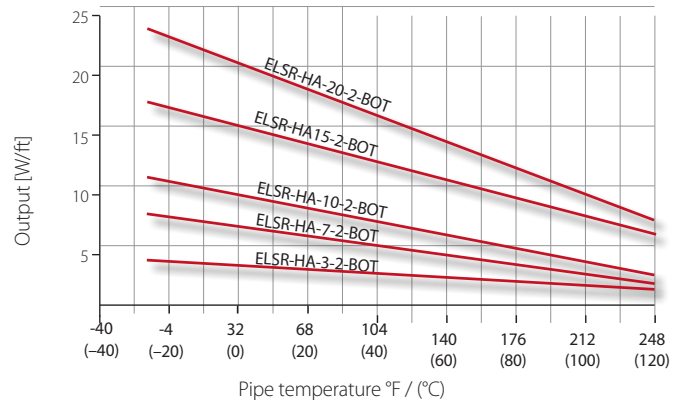
(on insulated metallic pipes, in accordance with IEEE 515/CSA 22.2 130-03)



240 VAC

ELSR-HA-xx-2-BOT Power

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



Nominal output factor 208 V vs. 240 V > 0.74

277 VAC

ELSR-HA-xx-2-BOT Power

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

