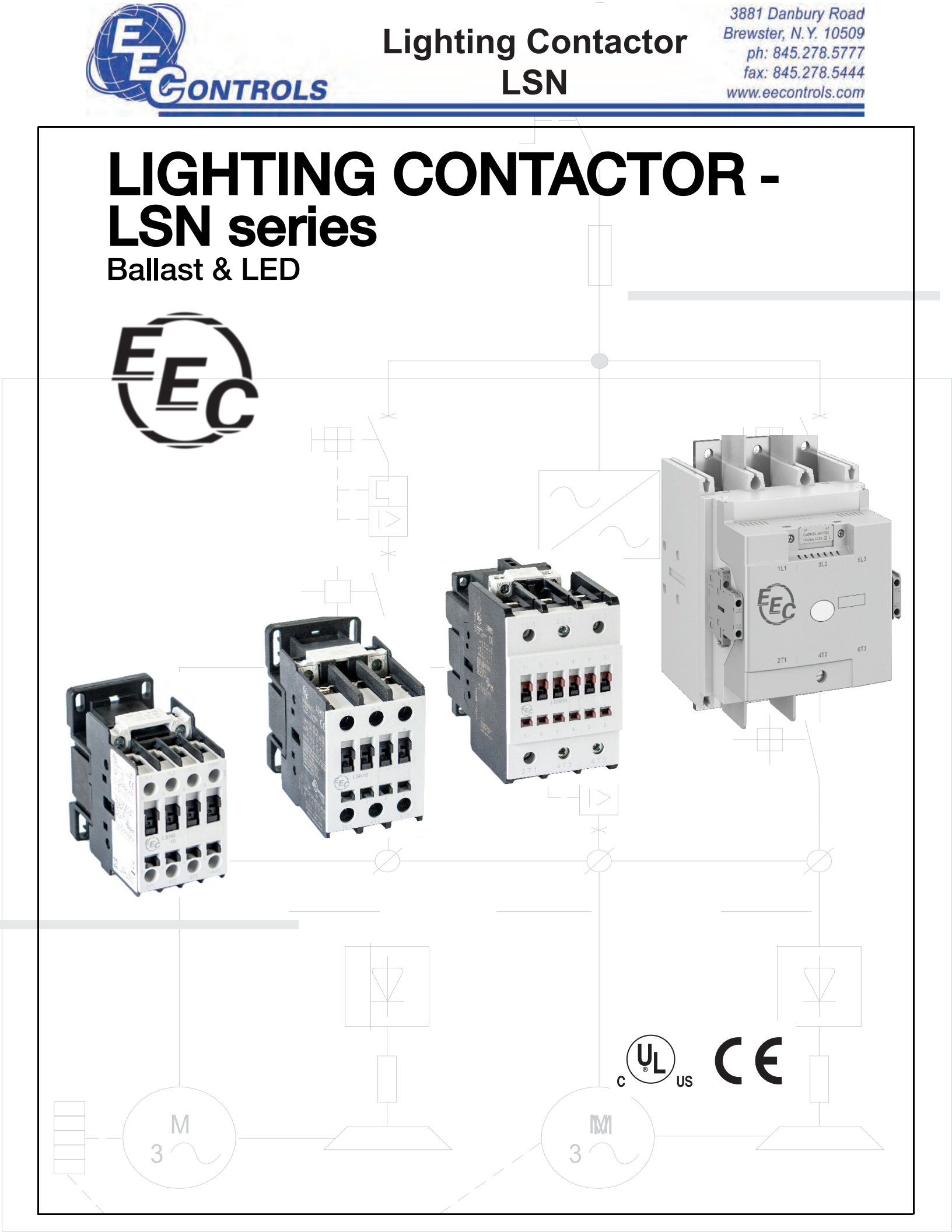
3881 Danbury Road
Brewster, N.Y. 10509
ph: 845.278.5777
fax: 845.278.5444
www.eecontrols.com

LIGHTING CONTACTOR - LSN series

Ballast & LED

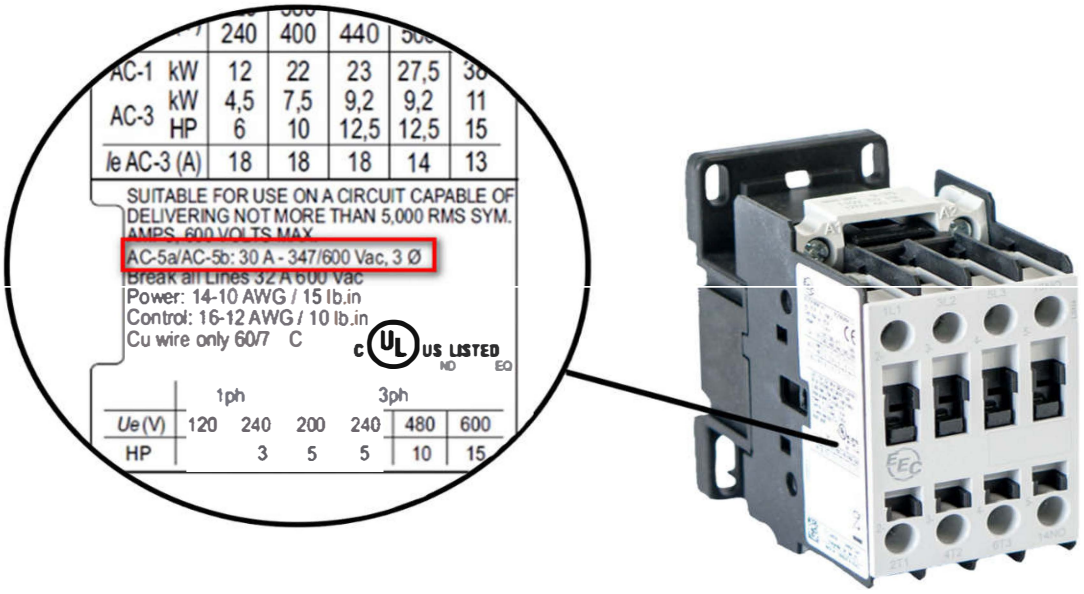


3881 Danbury Road
Brewster, N.Y. 10509
ph: 845.278.5777
fax: 845.278.5444
www.eecontrols.com

Lighting Contactors

Overview

EEC's new generation of Lighting Contactors, designed to meet the new demands Lighting Applications (Ballast & LED). Ranging from 30A up to 500A, EEC is able to offer a wide range of solutions for most lighting contactor requirements. Adhering to UL508, CSA 22.2 #14 (USA and Canada), as well as IEC 60947 and CE approvals. EEC's lighting contactors are suitable for use throughout the world.



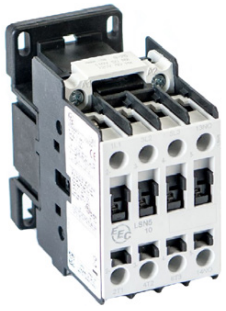
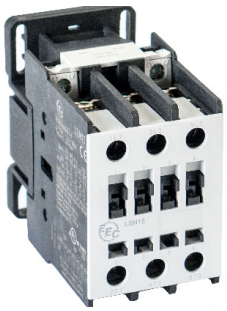
EEC is also offering 277VAC & 347VAC coils as a standard offering, allowing for quicker turn around on contactor types that most companies would consider special order

c UL US LISTED

Utilization Category	Typical Application	Description
AC-5a	Switching of discharge lamps	Gas-discharge lamps are a family of artificial light sources that generate light by sending an electric discharge through an ionized gas, a plasma.
AC-5b	Switching of incandescent lamps	Incandescent light bulb is an electric light with a wire filament heated until it glows.

EE CONTROLS
3881 Danbury Road
Brewster, N.Y. 10509
ph: 845.278.5777
fax: 845.278.5444
www.eecontrols.com

Lighting Contactors


LSN Lighting Contactors - Selection Table

c UL us CE

Contactors for Lighting Applications (Ballast & LED)

Amperage Rating Ballast / LED 600VAC - Maximum A	Number of poles NO (3, 4)	Number of poles NC (1, 2)	Part #	List $
30	2	2	LSN7-2200-♦	$ 110
	4	-	LSN7-400-♦	$ 110
	-	4	LSN7-04-♦	$ 110
40	3	-	LSN18-300L-♦	$ 160
60	3	-	LSN37-300L-♦	$ 274
80	3	-	LSN45-300L-♦	$ 370

To Complete the Part #, Replace "♦" with the Appropriate Coil Voltage Code [1)]

AC coil - 60 Hz							
Coil voltage codes	G	A	C	D	E	F	H
VAC - 50/60 Hz	24	120	208/230	347/380	480	600	277

Amperage Rating Ballast / LED 600VAC - Maximum A	Number of poles NO (3, 4)	Number of poles NC (1, 2)	Part #	List $
100	3	-	LSN75-322L-♦	$ 870
150	3	-	LSN90-322L-♦	$ 1,100
200	3	-	LSN132-322L-♦	$ 1,410
300	3	-	LSN220-322-♦	$ 1,920

To Complete the Part #, Replace "♦" with the Appropriate Coil Voltage Code [1)]

50/60 Hz / DC[2)]					
Coil voltage codes	G	A	C	E	F
50/60 Hz / DC[3)]	24-28 V	110-130 V	208-250 V	430-500 V	600VAC *

Notes: 1) Other voltages available.
2) Surge suppressor is already integrated

EE CONTROLS
3881 Danbury Road
Brewster, N.Y. 10509
ph: 845.278.5777
fax: 845.278.4444
www.eecontrols.com

Lighting Contactors

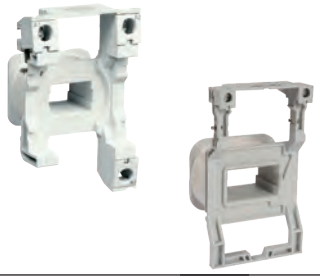
Accessories

Auxiliary Contact Blocks

- Rated 10A I_{th}
- UL508 & CSA 22.2 #14 (USA & Canada)
- Positive driven contacts in accordance with IEC 60947-4-1 resp. IEC 60947-5-1

Illustrative picture	For use with	Max. number of contacts/ contactor	Contacts NO	Contacts NC	Terminal Identification	Part #	List $
	LSN4...LSN55	4 - LSN4...LSN11 6 - LSN15...LSN18	1	0		HBXT10	$ 14
			0	1		HBXT01	$ 14
	LSN4...LSN220	8 - LSN22...55 8 - LSN75...LSN220	2	0		HBXS20	$ 26
			1	1		HBXS11	$ 26
	LSN280 LSN375	8 - LSN280...LSN375	1	1		HCXS11	$ 26
			2	0		HCXS20	$ 26
			0	2		HCXS02	$ 26

Individual Spare Coils

Illustrative picture	Description	For use with	Part #	List $
	AC coil	LSN4....LSN11	LNC2-♦	$ 30
		LSN15...LSN18	LNC3-♦	$ 40
		LSN22...LSN55	LCN4-♦	$ 70
	Dual-voltage coils AC/DC (contactors with electronic module)	LSN75...LSN90	LCN5-♦	$ 120
		LSN132	LNC6-♦	$ 130
		LSN160...LSN220	LCN7-♦	$
		LSN280...LSN375	LCN8-♦	$

Electronic Module

Illustrative picture	Description	For use with	Part #	List $
	AC/DC	LSN75…LSN220	LCE220-♦ [2]	$ 30
		LSN280...LSN375	LCE375-♦ [2]	$ 40

To Complete the Part #, Replace "♦" with the Appropriate Coil Voltage Code [3]

AC coil - 60 Hz							
Coil voltage codes	G	A	C	D	E	F	H
VAC - 50/60 Hz	24	120	208/230	347/380	480	600	277

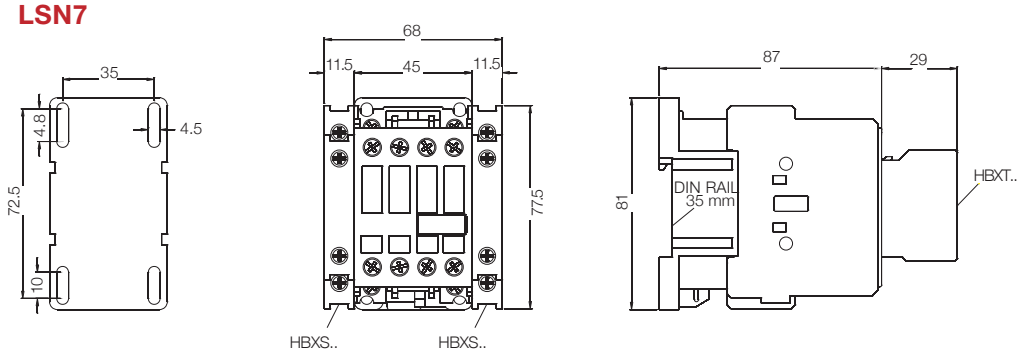
50/60 Hz / DC[3]	LSN75- LSN220)				
Coil voltage codes	G	A	C	E	F
50/60 Hz / DC[3]	24-28 V	110-130 V	208-250 V	430-500 V	600VAC *

3881 Danbury Road
Brewster, N.Y. 10509
ph: 845.278.5777
fax: 845.278.5444
www.eecontrols.com

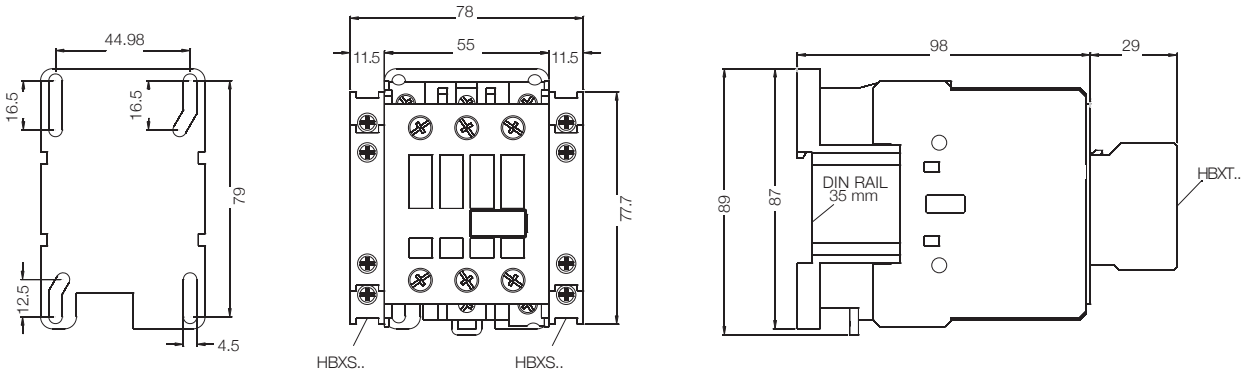
Dimensions

Dimensions (mm)

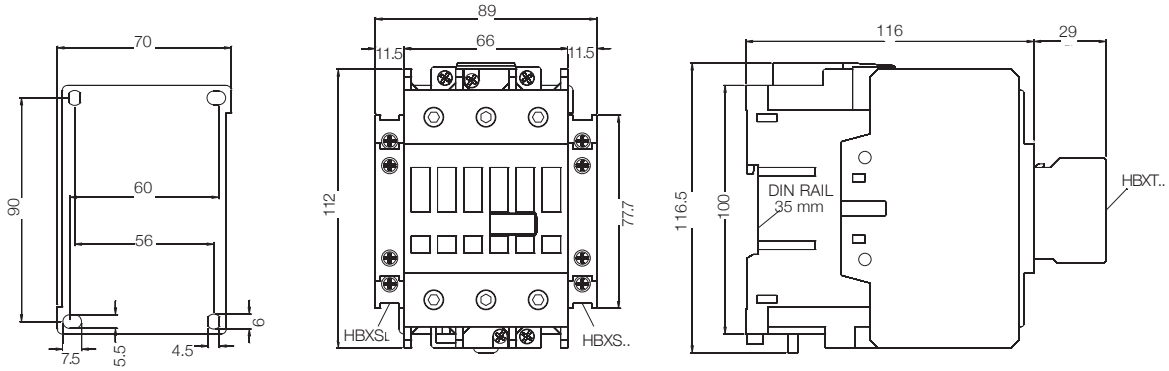
LSN7



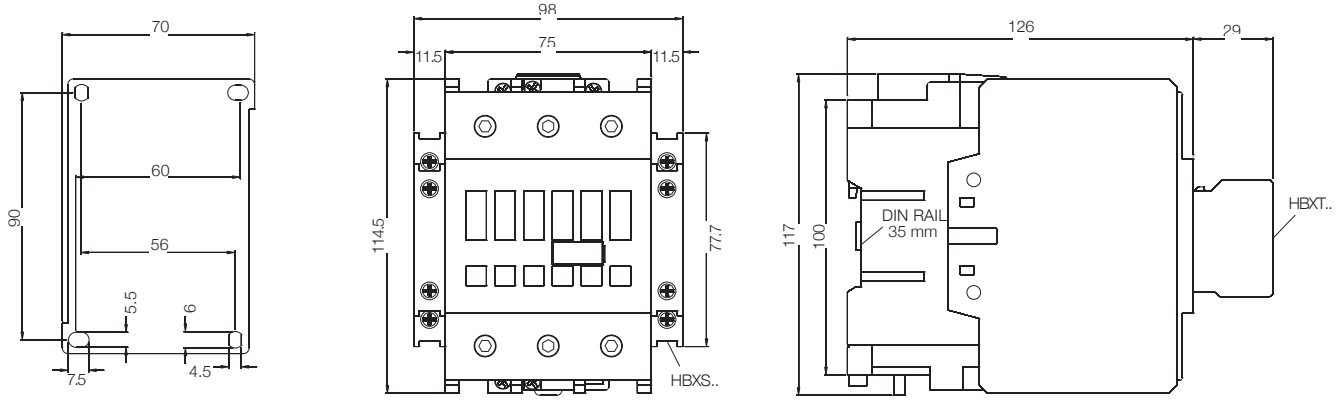
LSN18



LSN37



LSN45

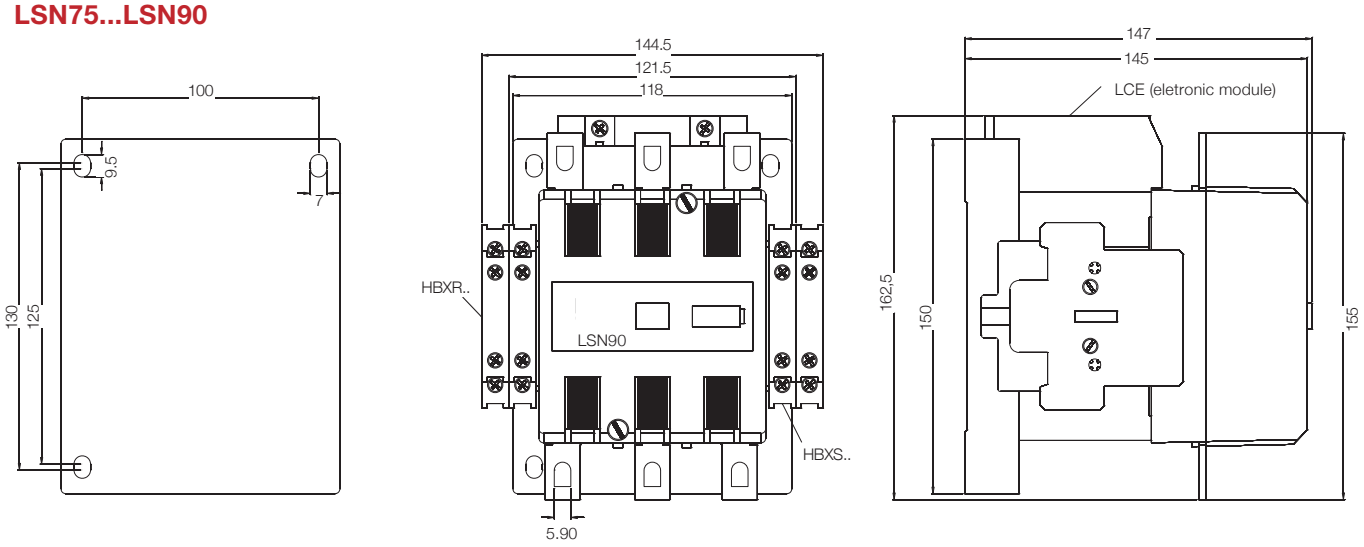


3881 Danbury Road
Brewster, N.Y. 10509
ph: 845.278.5777
fax: 845.278.5444
www.eecontrols.com

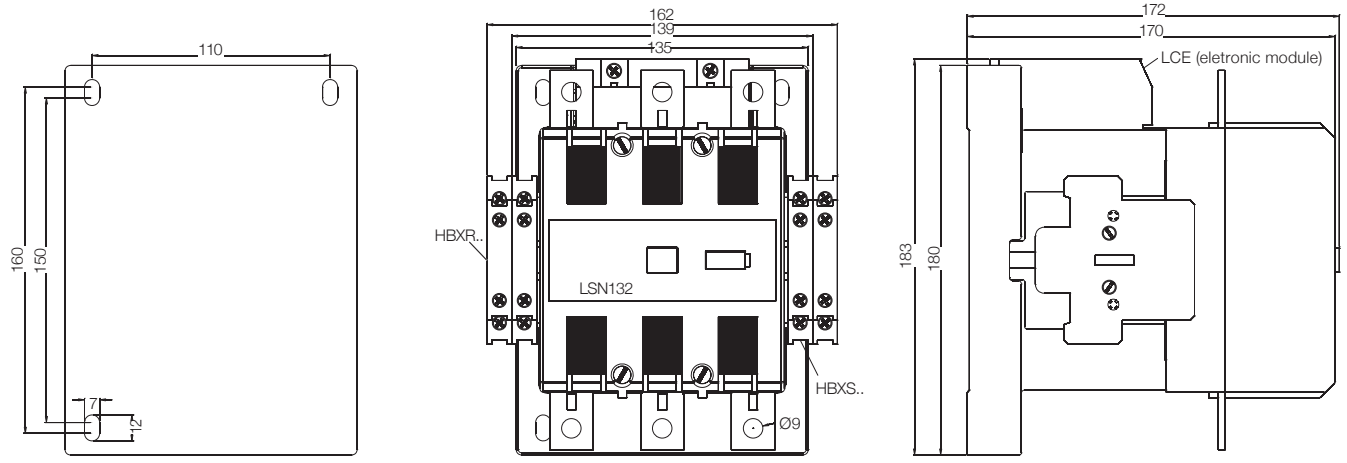
Lighting Contactors

Dimensions

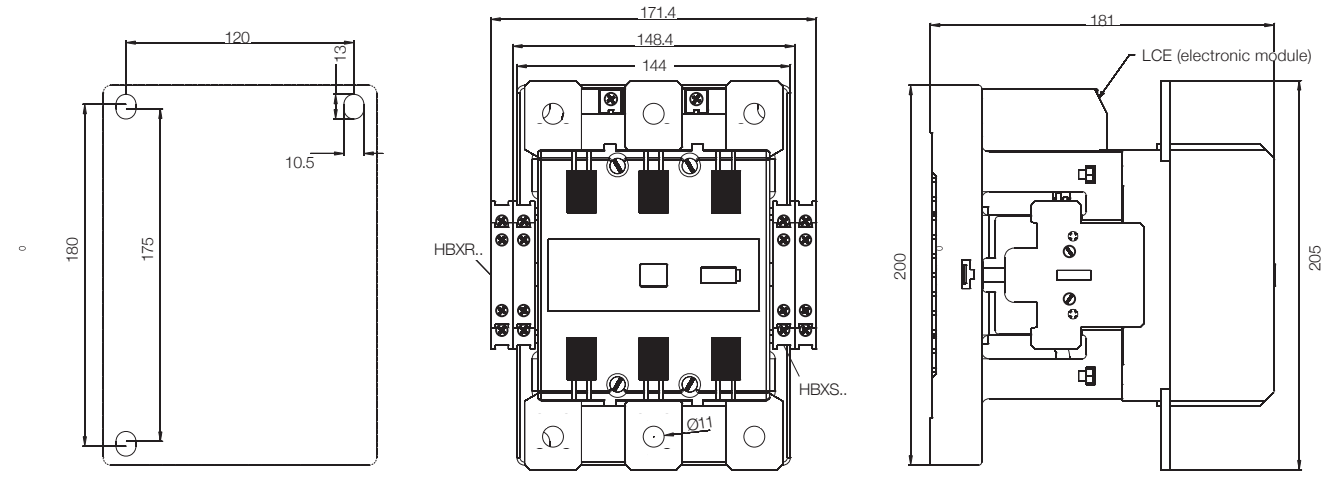
LSN75...LSN90



LSN132



LSN220



EE CONTROLS
3881 Danbury Road
Brewster, N.Y. 10509
ph: 845.278.5777
fax: 845.278.5444
www.eecontrols.com

Lighting Contactors

Technical Data

General Data

Reference code	LSN7	LSN18	LSN37	LSN45	LSN75	LSN90	LSN132	LSN220
Standards	IEC 60947 / UL 508 / CSA 22.2 #14							
Rated insulation voltage U_i IEC 60947 UL / CSA	1,000 V 600 V							
Rated impuse withstand voltage U_{imp}	6 kV		8 kV					
Rated operational frequency	25 - 400 Hz							
Degree of protection Main circuits	Protection against direct contact from the front when operated by a perpendicular test finger (IEC 536) IP20	IP10			IP00			
Control circuits and auxiliary contacts	IP20							
Ambient temperature Operating temperature Storage temperature	-25 °C to +55 °C -55 °C to +80 °C							
Altitude Normal values 90% I_e / 80% U_e 80% I_e / 75% U_e	Up to 3,000 m 3,000 to 4,000 m 4,000 to 5,000 m							
Overvoltage category / Pollution degree	III / 3							
Climatic proofing	Acc. IEC 60680-2							
Pole numbers of main circuits	3							
Rated operation voltage U_e	690 V							
Mechanical lifespan Ops x 10^6	10							
Mounting	Screw or 35 mm DIN Rail				Screw			

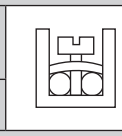
Control Circuit

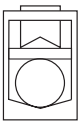
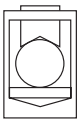
Reference code		LSN7	LSN18	LSN37	LSN45	LSN75	LSN90	LSN132	LSN220
Rated insulation voltage U_i	IEC	1,000 V							
	UL, CSA	600 V							
Rated voltages (standard coil)	Us 50/60 Hz	12...660 V				-			
Rated voltages (electronic module)	Us 50/60 Hz	-				24...500 V			
Number of terminals	AC coil	4	4	3		2			
Operation time	Closing /Opening (AC) ms	8...20 / 6...13	10...19 / 5...25	15...30 / 9...15		60...70 / 13...17			
Power consumption of the AC coil 50/60 Hz									
Pick-up	(VA)	69.5	98	255					
	cos φ	0.85	0.69	0.32					
Sealing	(VA)	4...7.2	6.6...12.3	13.1...19.1					
	cos φ	0.28	0.34	0.54					
Coil operation limits 50/60 Hz		0.85...1.1 x U_s				0.85...1.1 x U_s			
Bifrequency coils	Pick-up					0.7...0.85	0.7...0.85	0.7...0.85	
	Sealing					0.4...0.6	0.4...0.6	0.4...0.6	

3881 Danbury Road
Brewster, N.Y. 10509
ph: 845.278.5777
fax: 845.278.5444
www.eecontrols.com

Technical Data

Terminal Capacity and Tightening Torque - Power Terminals

Reference code		LSN7		
Screw type		M3.5x 9 Flat / Phillips		
Power terminal capacity[1)]		Finely stranded with end sleeve	Stranded and finely stranded without end sleeve	Solid
mm²		1x 0.5...4 2x 0.5...2.5	1x 1...6 2x 1...2.5 2x 2.5...6	1x 0.5...6 2x 0.5...2.5 2x 2.5...6
AWG (UL/CSA)		14...10		
Tightening torque (N.m)		1...1.5		
Tightening torque (lb.in) (UL/CSA)		15		

Reference code		LSN18			LSN37			LSN45		
Screw type		M4x 16.5 Flat / Phillips			M8 Allen 4mm			M10 Allen 4mm		
Power terminal capacity		Finely stranded with end sleeve	Stranded and finely stranded without end sleeve	Solid	Finely stranded with end sleeve	Stranded and finely stranded without end sleeve	Solid	Finely stranded with end sleeve	Stranded and finely stranded without end sleeve	Solid
One conductor on bottom										
mm²		1...16	1.5...16	1...16	2.5...35	6...35	2.5...35	4...35	6...35	4...35
AWG (UL/CSA)		14...8			14...1/0			10...1/0		
One conductor on top										
mm²		0.75...16	1...16	0.75...16	1...35	1.5...35	1...35	1.5...50	2.5...50	1.5...50
AWG (UL/CSA)		14...8			14...1/0			10...1/0		
Two conductors at the same time - bottom conductor										
mm²		1...16	1.5...16	1...16	2.5...25	6...35	2.5...35	4...35	6...35	4...35
AWG (UL/CSA)		14...8			14...1/0			10...1/0		
Two conductors at the same time - top conductor										
mm²		0.75...16	1...16	0.75...16	1...25	1.5...35	1...35	1.5...50	2.5...50	1.5...50
AWG (UL/CSA)		14...8			14...1/0			10...1/0		
Tightening torque (N.m)		2...2.5			4...6			5...6.5		
Tightening torque (lb.in) (UL/CSA)		22			40			60		

Reference code		LSN75...LSN90		LSN132		LSN220	
Screw type		M6 Hexagon head		M8 Hexagon head		M10 Hexagon head	
Main terminal capacity		Solid and stranded with end sleeve	Busbars	Solid and stranded with end sleeve	Busbars	Solid and stranded with end sleeve	Busbars
mm²		2x 25...70	2 x (15 x 3)	2x 50...120	2 x (20 x 3)	2x 50...150	2 x (30 x 5)
AWG (UL/CSA)		2x 2...3/0	-	2x 1/0...250	-	2x 1/0...300	-
Tightening torque (N.m)		5.4...6		14...16		23...26	

3881 Danbury Road
Brewster, N.Y. 10509
ph: 845.278.5777
fax: 845.278.5444
www.eecontrols.com

Technical Data

Terminal Capacity and Tightening Torque - Coil Terminals

Reference code	LSN7...LS455			LSN75...LSN220		
Screw type	M3.5x 10 Flat / Phillips			M3.5x 10 Flat / Phillips		
Coil terminal	Finely stranded with end sleeve	Stranded and finely stranded without end sleeve	Solid	Finely stranded with end sleeve	Stranded and finely stranded without end sleeve	Solid
mm²	1x 0.5...4 2x 0.5...1.5 2x 1...2.5	1x 1...4 2x 1...2.5	1x 0.5...4 2x 0.5...1.5 2x 1...2.5	1x 0.5...4 2x 0.5...1.5 2x 1...2.5	1x 1...4 2x 1...2.5	1x 0.5...4 2x 0.5...1.5 2x 1...2.5
AWG (UL/CSA)	1x 20...10 2x 20...14 2x 16...12	1x 16...10 2x 16...12	1x 20...10 2x 20...14 2x 16...12	1x 20...10 2x 20...14 2x 16...12	1x 16...10 2x 16...12	1x 20...10 2x 20...14 2x 16...12
Tightening torque (N.m)	0.8...1.1			0.8...1.1		
Tightening torque (lb.in) (UL/CSA)	10			10		

Auxiliary Contacts

Reference code			Auxiliary contact blocks		
			HBXT..	HBXS..	HCXS..
Rated insulation voltage U_i IEC/EN 60 947 UL/CSA		(V) (V)	1,000 600		1,000 600
Rated operational voltage U_e		(V)	690		690
Conv. thermal current I_{th}		(A)	10		10
Rated operational current I_e AC-15 UL/CSA	 220 - 240 V 380 - 400 V 415 V 500 V	 (A) (A) (A) (A)	 10 4 3.5 2.5 A600		 10 4 4 2.5 A600
DC-13 UL/CSA	24 V 48 V 110 V 220 V	(A) (A) (A) (A)	4 2 0.7 0.3 Q600		4 2 0.7 0.3 Q600
Making capacity I_m AC-15 DC-13	 $U_e \leq$ 400 V 50/60 Hz $U_e \leq$ 220 V dc	 (A) (A)	 90 90		 10 x Ie 1.1 x Ie
Breaking capacity I_c AC-15 DC-13	 $U_e \leq$ 400 V 50/60 Hz $U_e \leq$ 220 V dc	 (A) (A)	 60 0.95		 10 x Ie 1.1 x Ie
Short-circuit protection max. fuse gL/gG		(A)	10		10
Control circuit reliability			I_e min = 5 mA U_e min = 17 V		5 mA 17 V
Electrical lifespan		Ops	10^6		
Mechanical lifespan		Ops	10 x 10^6		

Terminal Capacity and Tightening Torque - Auxiliary Contact Blocks

Reference code	HBXT...HBXS			HCXS		
Screw type	M3.5x9 Flat / Philips			M3.5 Flat / Philips		
Auxiliary contact block	Finely stranded with end sleeve	Stranded and finely stranded without end sleeve	Solid	Finely stranded with end sleeve	Stranded and finely stranded without end sleeve	Solid
mm²	1x 0.5...4 2x 0.5...2.5	1x 0.75...2.5 2x 0.75...2.5	1x 0.5...4 2x 0.5...2.5	2 x 1...2.5		
AWG (UL/CSA)	22...12			-		
Tightening torque (N.m)	0.8...1.1			1.0		
Tightening torque (lb.in) (UL/CSA)	10			-		