

KE\$TREL \$TICK

Double Sided & Single Sided Sticks

LM79

LM80

L70:5+ YEARS



warranty
10^P 5^L

24v

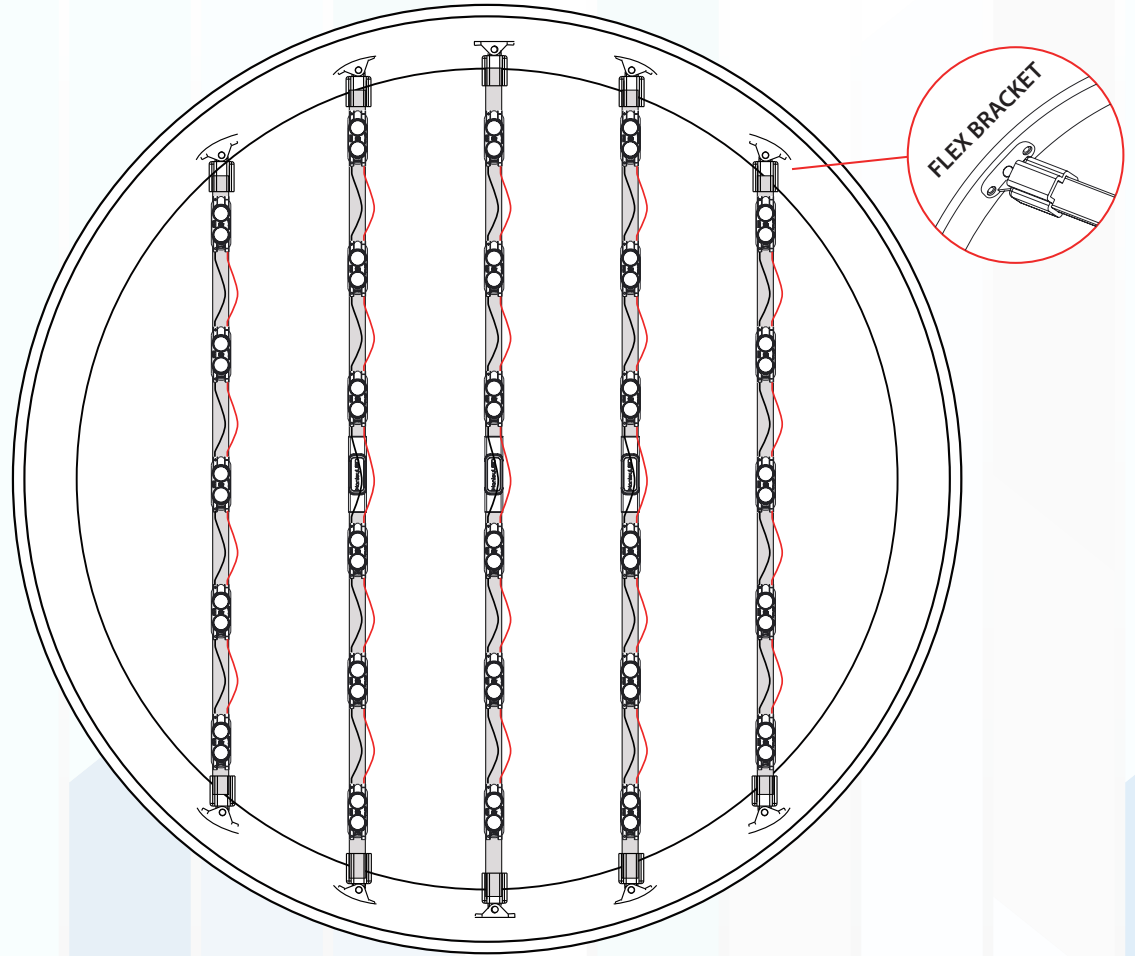
CTS
CUT TO
SIZE



ideal double
sided K\$ depth



ideal single
sided K\$ depth



HanleyLED™

- Brightest, most affordable cabinet solution
- Help your customer by Saving power, Saving time, Saving money
- 24volt, High-Efficiency system
- 165 lumens/watt
- Be prepared! Check out our NEW versatile accessories
- Free shipping anywhere in continental U.S.

UL GENERAL PURPOSE
RETROFIT SIGN
CONVERSION

CERTIFIED FOR USE ONLY IN
ACCORDANCE WITH KIT
INSTRUCTIONS

SAFETY US-CA
e487794

KIT IS COMPLETE ONLY WHEN ALL PARTS
REQUIRED BY THE INSTRUCTIONS ARE PRESENT

Components:

Kestrel 1 sided bar KSS-1SXX



Kestrel 2 sided bar KSS-2SXX



24v Power Supply

Accessories:



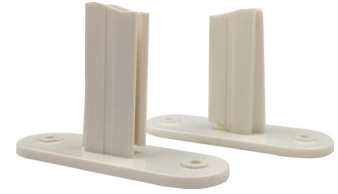
End Cap for HO Socket
(included with all sizes)



Flex Bracket
(for curved cabinets/angled sides)



Joint Bracket
(included with sizes over 60")



Speed Mount Bracket HLED-KSSMB
(optional, ideal for new construction)
*sold individually, QTY1 pc.



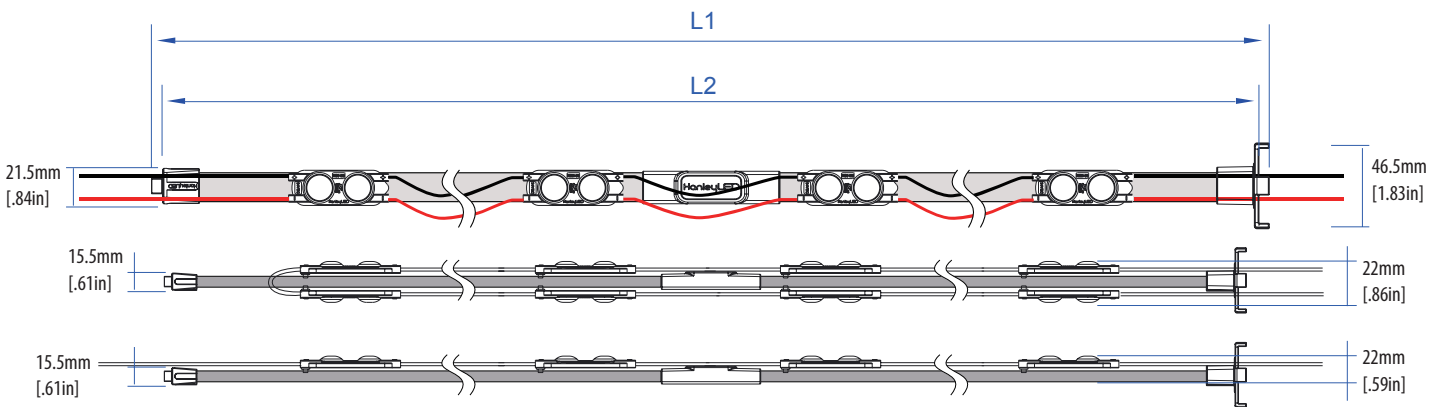
HO Socket Stabilizer
(included with all sizes)



Tombstone Socket Stabilizer HLED-KSSTSS
(optional)



Stick Dimensions

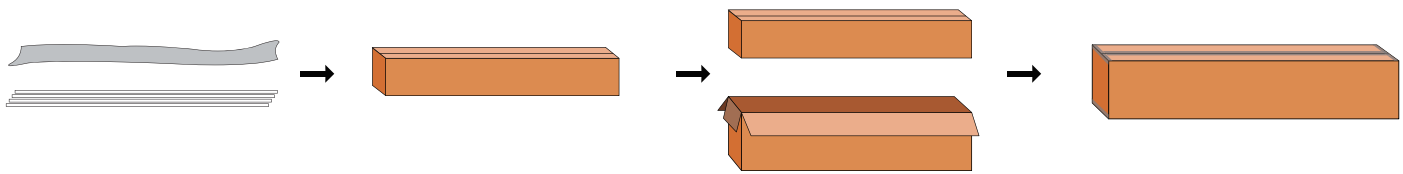


Item	L1	L2
HLED-KSS1S24	21.91"	21.45"
HLED-KSS2S24		
HLED-KSS1S30	27.91"	27.45"
HLED-KSS2S30		
HLED-KSS1S36	33.91"	33.45"
HLED-KSS2S36		
HLED-KSS1S42	39.91"	39.45"
HLED-KSS2S42		
HLED-KSS1S48	45.91"	45.45"
HLED-KSS2S48		

Item	L1	L2
HLED-KSS160	57.91"	57.45"
HLED-KSS260		
HLED-KSS1S64	61.91"	61.45"
HLED-KSS2S64		
HLED-KSS1S72	69.91"	69.45"
HLED-KSS2S72		
HLED-KSS1S84	81.91"	81.45"
HLED-KSS2S84		
HLED-KSS1S96	93.91"	93.45"
HLED-KSS2S96		

Item	L1	L2
HLED-KSS1S108	105.91"	105.45"
HLED-KSS2S108		
HLED-KSS1S117	114.91"	114.45"
HLED-KSS2S117		
HLED-KSS1S120	117.91"	117.45"
HLED-KSS2S120		

Packaging:



6 Kestrel Sticks Per Box | 12 Kestrel Sticks Per Case

Your power saving, labor saving, cost saving Kestrel Stick is ready to go out of the package. Each stick includes our patented cap design for HO socket retrofits, or mount with aluminum angle bars or our new construction mounting brackets.

Item	LED Lamp Cross Reference	Included Accessories	Module QTY Per Bar	Watts (w)	Lumens (lm) (Per Stick)	Actual size (in)
HLED-KSS1S24	F24HO	<ul style="list-style-type: none"> • End Cap for HO Socket • HO Socket Stabilizer 	4	4.8w	792	21.91"
HLED-KSS2S24			8	9.6w	1584	
HLED-KSS1S30	F30HO	<ul style="list-style-type: none"> • End Cap for HO Socket • HO Socket Stabilizer 	5	6w	990	27.91"
HLED-KSS2S30			10	12w	1980	
HLED-KSS1S36	F36HO	<ul style="list-style-type: none"> • End Cap for HO Socket • HO Socket Stabilizer 	6	7.2w	1188	33.91"
HLED-KSS2S36			12	14.4w	2376	
HLED-KSS1S42	F42HO	<ul style="list-style-type: none"> • End Cap for HO Socket • HO Socket Stabilizer 	7	8.4w	1386	39.91"
HLED-KSS2S42			14	16.8w	2772	
HLED-KSS1S48	F48HO	<ul style="list-style-type: none"> • End Cap for HO Socket • HO Socket Stabilizer 	8	9.6w	1584	45.91"
HLED-KSS2S48			16	19.2w	3168	
HLED-KSS1S60	F60HO	<ul style="list-style-type: none"> • End Cap for HO Socket • HO Socket Stabilizer 	10	12w	1980	57.91"
HLED-KSS2S60			20	24w	3960	
HLED-KSS1S64	F64HO	<ul style="list-style-type: none"> • End Cap for HO Socket • HO Socket Stabilizer • Joint Bracket 	10	12w	1980	61.91"
HLED-KSS2S64			20	24w	3960	
HLED-KSS1S72	F72HO	<ul style="list-style-type: none"> • End Cap for HO Socket • HO Socket Stabilizer • Joint Bracket 	12	14.4w	2376	69.91"
HLED-KSS2S72			24	28.8w	4752	
HLED-KSS1S84	F84HO	<ul style="list-style-type: none"> • End Cap for HO Socket • HO Socket Stabilizer • Joint Bracket 	14	16.8w	2772	81.91"
HLED-KSS2S84			28	33.6w	5544	
HLED-KSS1S96	F96HO	<ul style="list-style-type: none"> • End Cap for HO Socket • HO Socket Stabilizer • Joint Bracket 	16	19.2w	3168	93.91"
HLED-KSS2S96			32	38.4w	6336	
HLED-KSS1S108	F108HO	<ul style="list-style-type: none"> • End Cap for HO Socket • HO Socket Stabilizer • Joint Bracket 	18	21.6w	3564	105.91"
HLED-KSS2S108			36	43.2w	7128	
HLED-KSS1S117	F117HO	<ul style="list-style-type: none"> • End Cap for HO Socket • HO Socket Stabilizer • Joint Bracket 	16	19.2w	3168	114.91"
HLED-KSS2S117			32	38.4w	6336	
HLED-KSS1S120	F120HO	<ul style="list-style-type: none"> • End Cap for HO Socket • HO Socket Stabilizer • Joint Bracket 	20	24w	3960	117.91"
HLED-KSS2S120			40	48w	7920	

NOTE:

All materials removed must be disposed of in accordance with applicable local, state, and federal laws.

WARNING check polarity: All connections must be WHITE-TO-RED (+) and BLACK-TO-BLACK (-). Reverse polarity connections may damage the LEDs and will void product warranty.

Caution: Turn off power to sign before inspecting or removing existing light source. Power must remain off while installing the Kestrel Stick System.

Layout Guidelines

Single Sided Depth	Double Sided Depth	Space Between Sticks
3"	6"	8"
4"	8-9"	9"
5-6"	10-13"	12"
7"	14-15"	15"
8-9"	16-18"	20"
10-15"	20-30"	22"

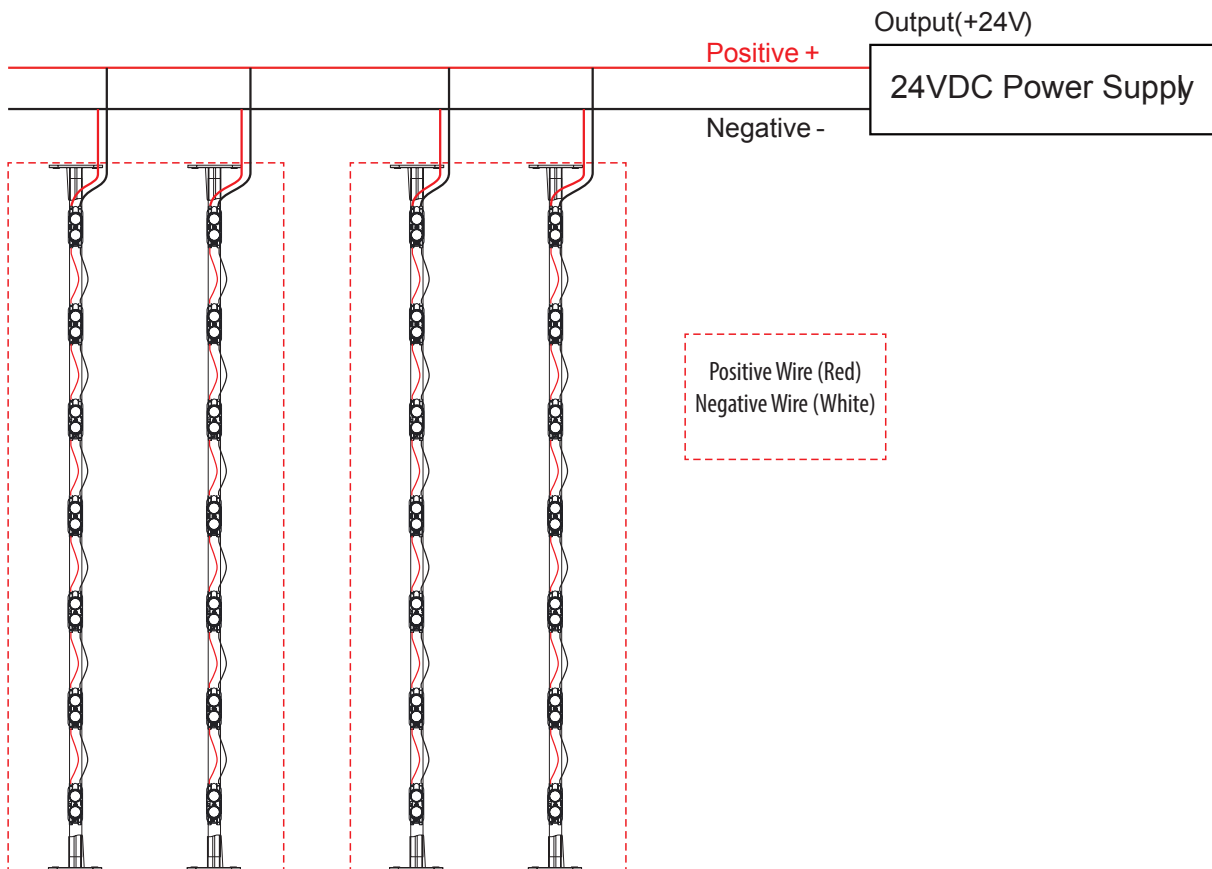
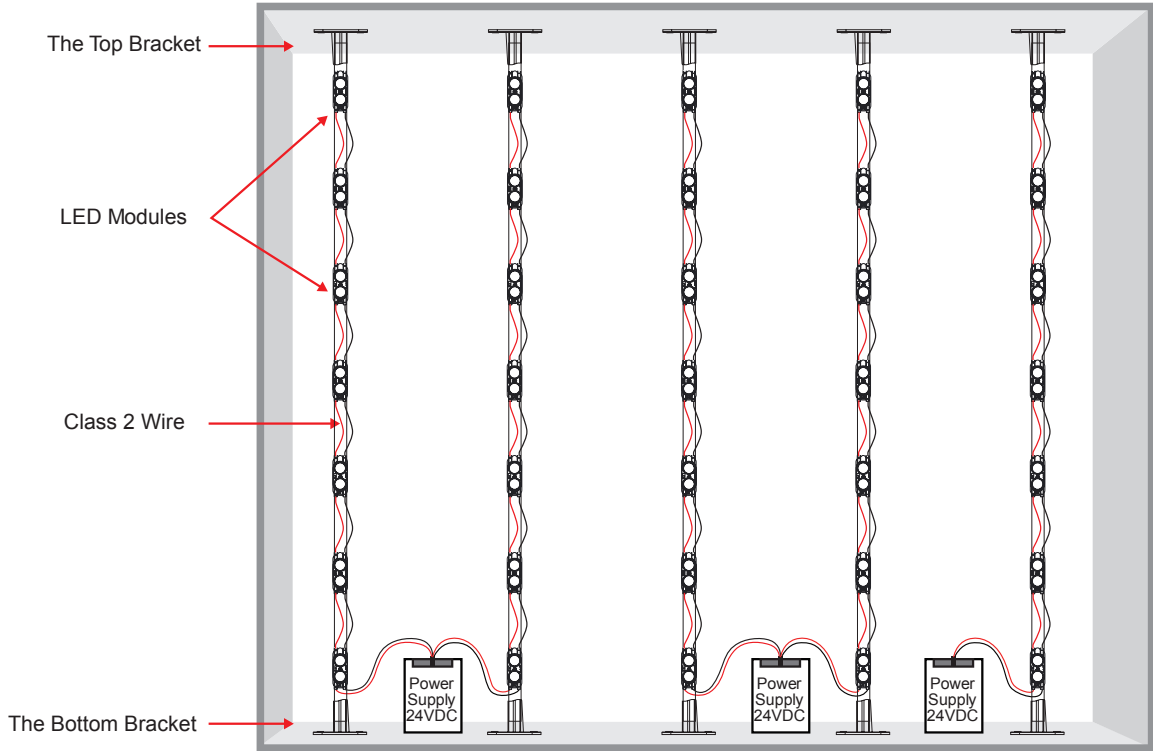
* If cabinet exceeds 15" single sided depth, or 30" double sided depth mount sticks 8" away from the face on both sides and space 12"*

Power Supply Load Chart & Cascading (Kestrel Sticks in a series) Information Guidelines

Item	Watts/Stick	Power Supplies (24v)					Cascading/ Run Information
		60w H60W-PPSS24V H60W-PPSEM24V	96w H96W-SD-24	100w H100W-PPS524V H100W-PPSEM24V	150w H150W-PPS524V H150W-PPSEM24V	240w H240W-PPS524V	Max Series Wired
		Max Number of Kestrel Sticks Per Power Supply					
HLED-KSS1S24	4.8w	12	20	20	30	48	N/A
HLED-KSS2S24	9.6w	6	10	10	14	24	
HLED-KSS1S30	6w	10	16	16	24	40	N/A
HLED-KSS2S30	12w	5	8	8	12	20	
HLED-KSS1S36	7.2w	8	13	13	20	32	N/A
HLED-KSS2S36	14.4w	4	6	6	10	16	
HLED-KSS1S42	8.4w	7	11	11	16	28	N/A
HLED-KSS2S42	16.8w	3	5	5	8	12	
HLED-KSS1S48	9.6w	6	10	10	14	24	N/A
HLED-KSS2S48	19.2w	3	5	5	6	12	
HLED-KSS1S60	12w	5	8	8	12	20	N/A
HLED-KSS2S60	24w	2	4	4	6	8	
HLED-KSS164	12w	5	8	8	12	20	N/A
HLED-KSS264	24w	2	4	4	6	8	
HLED-KSS1S72	14.4w	4	6	6	10	16	N/A
HLED-KSS2S72	28.8w	2	3	3	4	8	
HLED-KSS1S84	16.8w	3	5	5	8	12	N/A
HLED-KSS2S84	33.6w	1	2	2	4	4	
HLED-KSS1S96	19.2w	3	5	5	6	12	N/A
HLED-KSS2S96	38.4w	1	2	2	2	4	
HLED-KSS1S108	21.6w	2	4	4	6	8	N/A
HLED-KSS2S108	43.2w	1	2	2	2	4	
HLED-KSS1S117	19.2w	3	5	5	6	12	N/A
HLED-KSS2S117	38.4w	1	2	2	2	4	
HLED-KSS1S120	24w	2	4	4	6	8	N/A
HLED-KSS2S120	48w	1	2	2	2	4	

Wiring and Installation Guidelines

Place Kestrel Sticks in sign cabinet and screw in the desired brackets. Add silicone for extra stability.

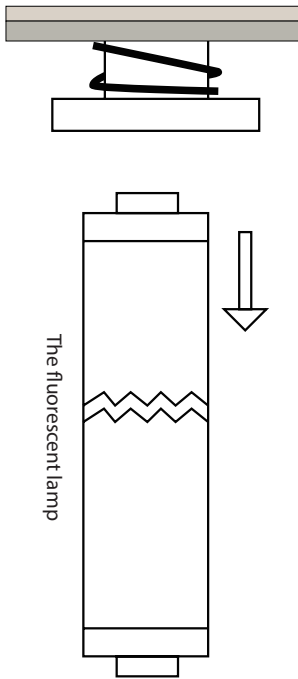


Double Sided Sticks

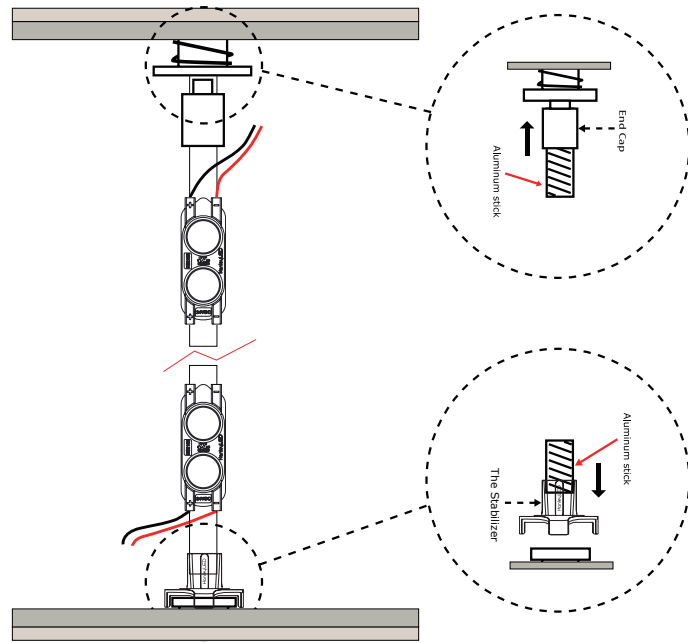
RETROFIT INSTALLATION-1

Step 1: Cut off power

Step 2: Remove existing fluorescent lamps



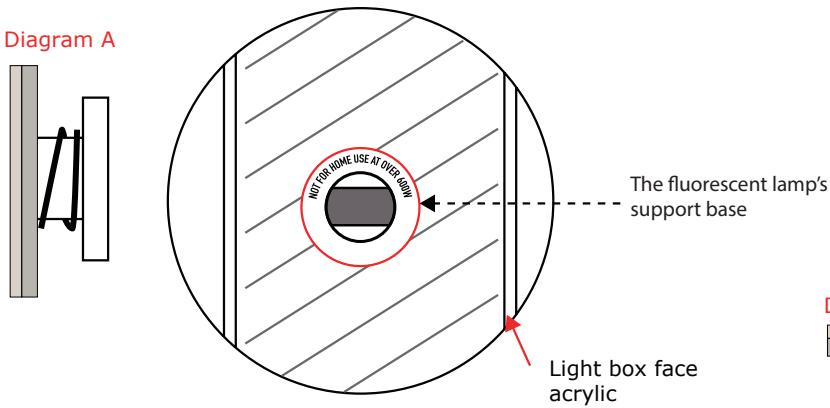
Step 3: Place End Cap for HO socket and HO Socket stabilizer on each end of Kestrel Stick



RETROFIT INSTALLATION-2

If the fluorescent lamp support base is like "Diagram A" HO sockets will need to be used to install the stick.

Diagram A



Step 1

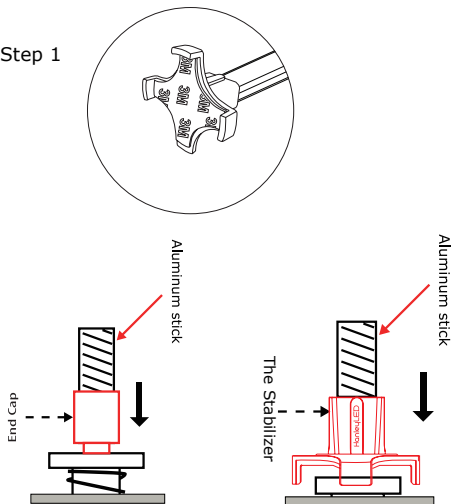
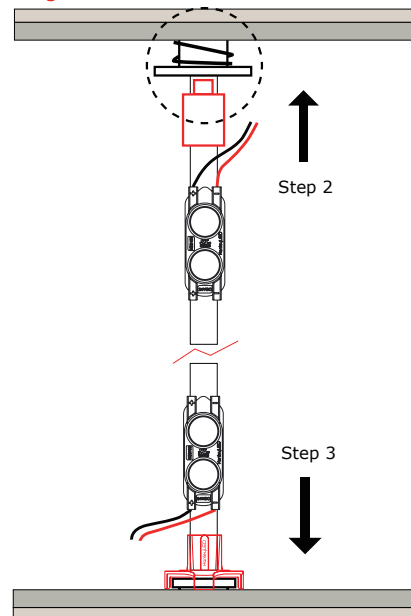


Diagram B

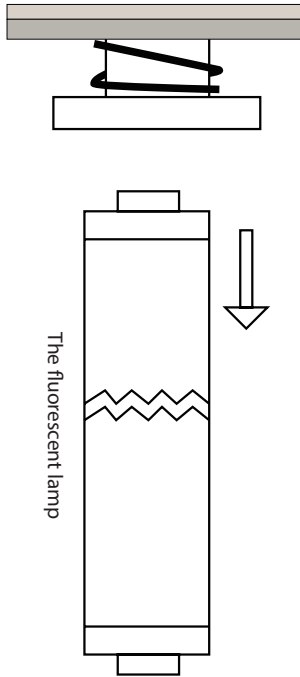


Single Sided Sticks

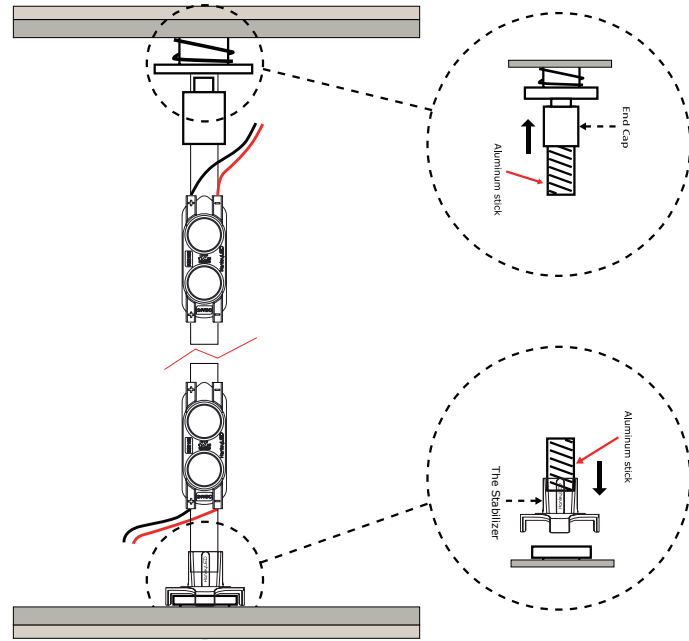
RETROFIT INSTALLATION-1

Step 1: Cut off power.

Step 2: Remove existing fluorescent lamps.



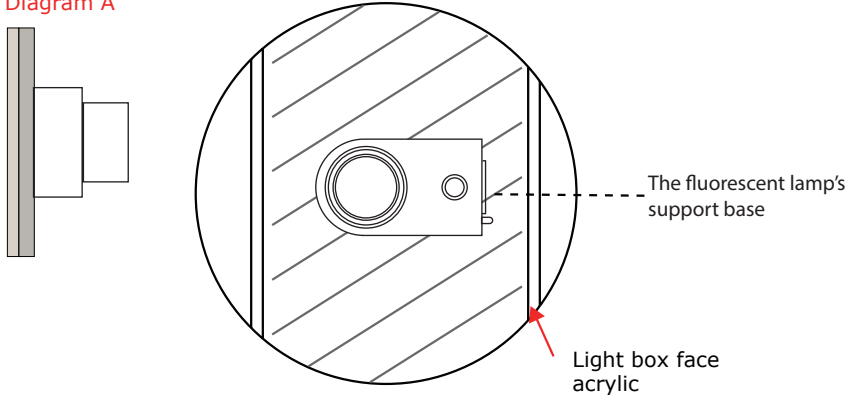
Step 3: Place End Cap for HO socket and HO Socket stabilizer on each end of Kestrel Stick.



RETROFIT INSTALLATION-2

If the fluorescent lamp's support base is like "Diagram A" HO sockets will need to be used to install the stick.

Diagram A



Step 1

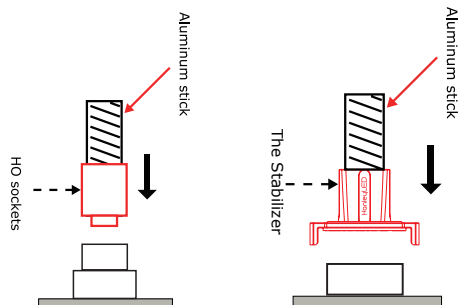
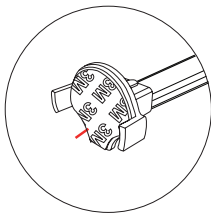
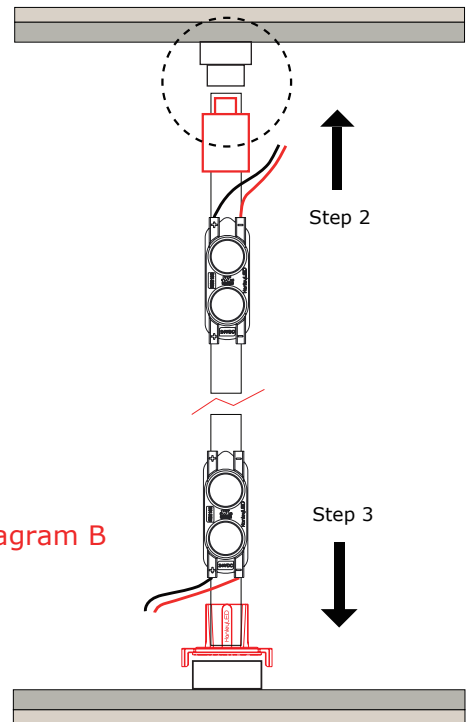


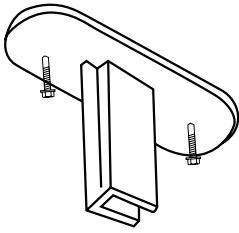
Diagram B



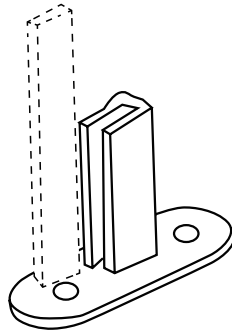
Single Sided and Double Sticks

NEW INSTALLATION

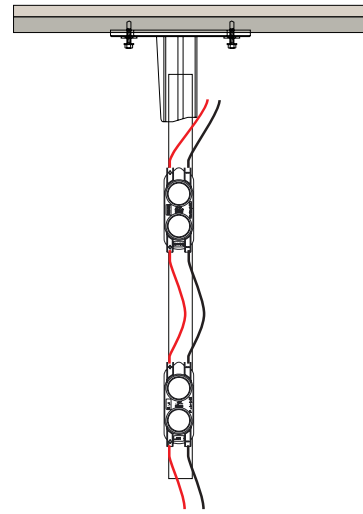
Step 1: Attach the upper bracket and lower bracket.



Step 2: Slide into mounting bracket.



Step 3: Screw mounting brackets into the sign cabinet.



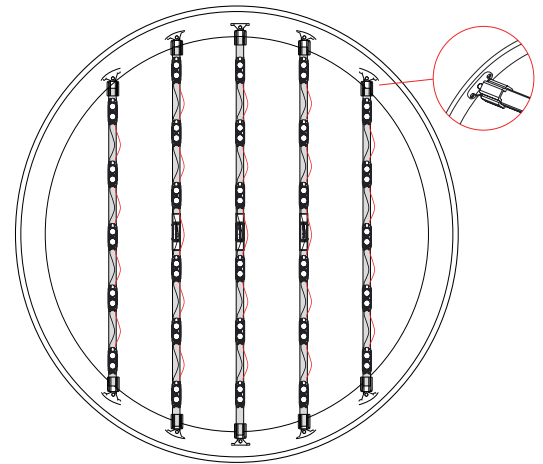
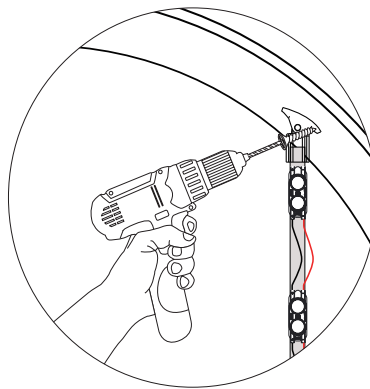
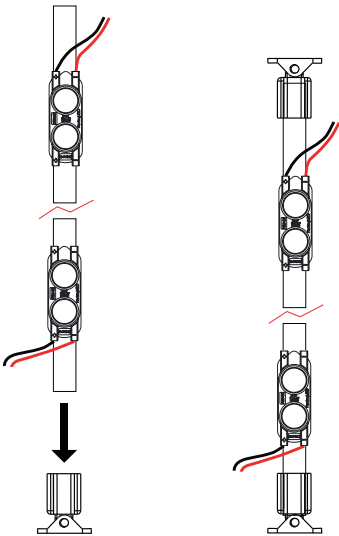
64in, 6ft, 7ft, 9ft, 10ft, and 117in Sticks will require a joining (included with Kestrel Sticks)



CURVED SHAPED SIGN CABINET INSTALLATION

Step 1: Attach Flex Bracket to the Kestrel Stick.

Step 2: Screw the brackets into place.



WARNING – Risk of fire or electric shock. LED Retrofit Kit installation requires knowledge of sign electrical systems. If not qualified, do not attempt installation. Contact a qualified electrician.

WARNING – Risk of fire or electric shock. Install this kit only in host signs that have been identified in the installation instructions and where the input rating of the retrofit kit does not exceed the input rating of the sign.

WARNING – Risk of fire or electric shock. Installation of this LED retrofit kit may involve drilling or punching of holes into the structure of the sign. Check forenclosed wiring and components to avoid damage to wiring and electrical parts.

WARNING – To prevent wiring damage or abrasion, do not expose wiring to edges of sheet metal or other sharp objects.