



Korry

Illuminating. Always.



Chromalux® 434

Korry 1/2 x 1-inch LED indicators

This technical guide addresses specifications and part-number selection for Korry Chromalux 434 LED and incandescent indicators, as well as how to retrofit them from incandescent to LED lighting. A modular design makes them very simple to install, maintain, spare, and retrofit. They are installed as original equipment on the Boeing 737, 747, 757, 767, and MD-90 and other commercial aircraft.

The Chromalux 434 indicators is one of the highest performing products of their type, with the lowest

service costs in the industry. LED legends are uniformly bright and sunlight readable with surface temperature and power dissipation as much as 50 percent lower than the incandescent versions.

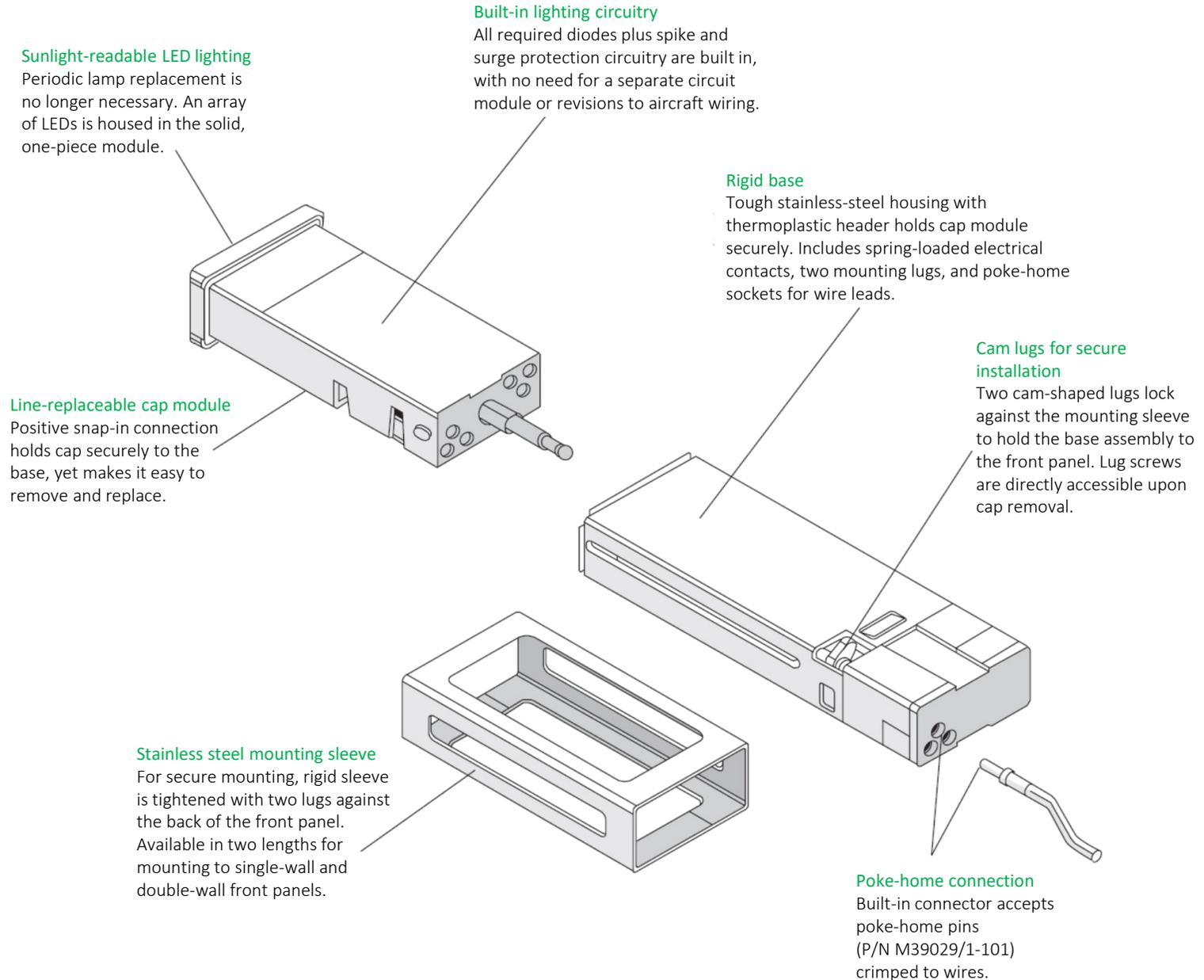
Due to the modularity of the Chromalux 434, LED lighting may be easily retrofitted into existing incandescent installations. Aircraft operators who prefer to keep using incandescent units may still order them as an option, as well as separate incandescent cap modules.



Single-Sleeve Mounting Configuration

The Chromalux 434 LED indicator (434-3000 series) features high-performance LED lighting for bright and uniform lighting without incandescent lamps that need replacement. The incandescent version (434-2000 series)

is still available as an option. The 434 has long been specified on Boeing 737, 747-400, 757, 767, and MD-90 aircraft. The LED version is shown here.



Lighting

The Chromalux 434-3000 series is illuminated with LEDs. For customers who prefer the incandescent version, the 434-2000 series is still available with two lamps per cap. Additional information on lighting performance and information on how to upgrade to LED illumination is shown later in this brochure.



The advantages of LED lighting

LED lighting is standard for Chromalux 434 switch lights, but incandescent versions are still available. Both lighting types are sunlight readable and available in aviation colors: green, amber, red, blue, and white. The LEDs, however, offer significant performance and cost advantages, and it's easy to upgrade existing incandescent units to LED lighting, thanks to Korrry's drop-in retrofit capability

Life-of-the-aircraft longevity

LED illumination has a life greater than 60,000 hours versus 10,000 hours for incandescent.

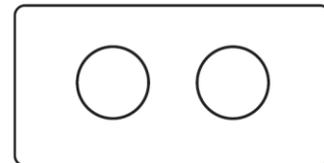
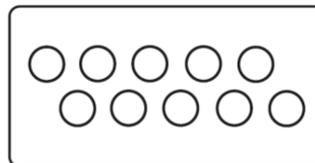
Lower maintenance costs

By never having to replace lamps, you save continually on lamp inventory, labor, and avoided lamp-failure AOGs.

Reduced power consumption and surface temperature

LEDs reduce power consumption by as much as 50 percent and also lower the temperature of the display face.

434 LED versus incandescent



Improved legend uniformity

LED arrays provide more light sources than incandescent lamps. Color and brightness are more uniform.

Lighting Specifications

Brightness	Voltage	Brightness
	VDC	FtL*
RED	12.0 ± 0.3	5.0-10.0
	26.5 ± 0.3	200-400
AMBER	12.0 ± 0.3	7.0-14.0
	26.5 ± 0.3	300-600
GREEN	12.0 ± 0.3	5.0-10.0
	26.5 ± 0.3	200-400
BLUE	12.0 ± 0.3	0.9 min
	26.5 ± 0.3	50 min
WHITE	12.0 ± 0.3	5.0-10.0
	26.5 ± 0.3	200-400

* The range given is for an overall legend average of separate readings from every character. The ratio between character readings does not exceed 2:1.

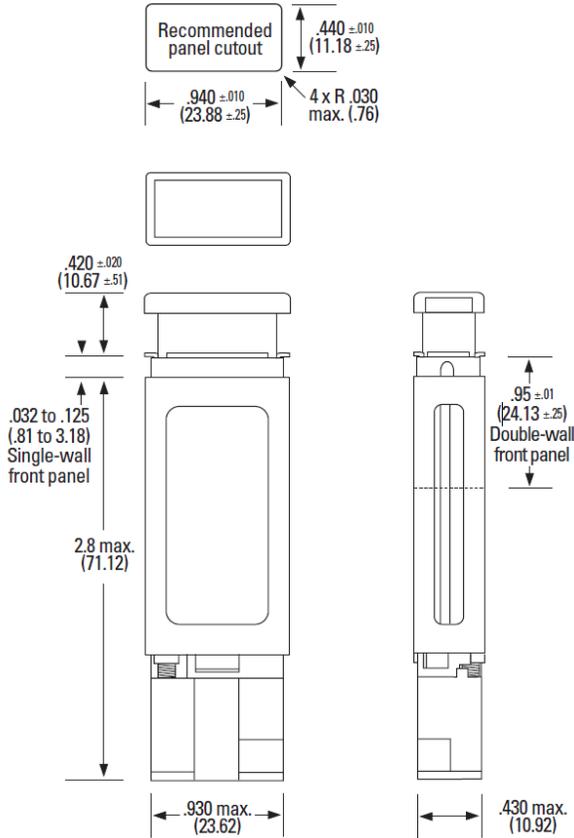
Chromaticity	Voltage	Chromaticity*	
	VDC	X	Y
RED	26.5 ± 0.3	0.670	0.330
		0.710	0.290
		0.670	0.310
		0.695	0.285
AMBER	26.5 ± 0.3	0.570	0.430
		0.605	0.395
		0.562	0.415
GREEN	26.5 ± 0.3	0.596	0.382
		0.402	0.597
		0.455	0.545
BLUE	26.5 ± 0.3	0.436	0.515
		0.385	0.566
		0.130	0.400
		0.180	0.400
WHITE	26.5 ± 0.3	0.130	0.300
		0.180	0.300
		0.421	0.441
		0.468	0.454
WHITE	26.5 ± 0.3	0.409	0.408
		0.453	0.420

* CIE color coordinates for the legend fall within the defined area.



Mechanical

Note: dimensions in inches (mm).



Mounting sleeve

Available in two lengths:

- Long, for mounting to a single-wall front panel
0.032 to 0.125 inch thick (3.18-8.13mm)
- Short, for mounting to a double-wall front panel
0.95 inch thick (24.13 mm)

Materials

Cap: molded thermoplastic

Mounting sleeve: stainless steel

Operating Characteristics

Cap extraction force 3.0-6.5 pounds

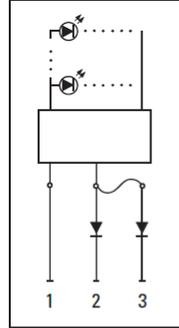
Legend

Typeface 0.125-inch Futura Medium Capital unless otherwise specified.

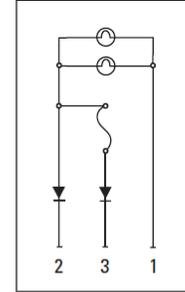
Electrical

Lamp Circuits

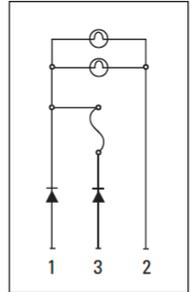
3-pin type I
(LED array)



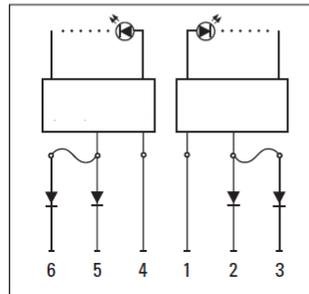
3-pin type I
(incandescent)



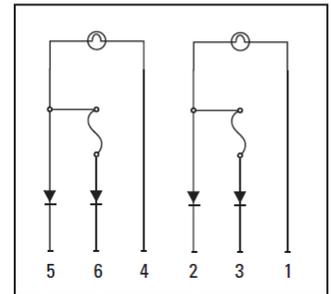
3-pin type II
(incandescent)



6-pin type I
(LED array)



6-pin type I
(incandescent)

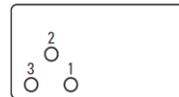


Lamp circuit voltage

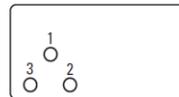
28 VDC

Termination

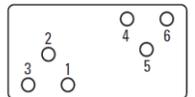
3-pin type I



3-pin type II



6-pin type I





How to find the right 434 part number

Complete assembly

For a given configuration, the last three digits of the dash numbers are identical for the 434-3000, 434-2000, and 434-1000 series. Every 434-2000 or 434-1000 unit is one-way upgradeable to a 434-3000 with the same final three digits in the dash number. For each series, the Chromalux 434 comes in three basic configurations: 3-pin termination, 6-pin termination, and matrix units. These tables summarize the correspondence between the three series within the three configuration types:

3-Pin Termination

	434-3000 (LED)	434-2000 (incand.)	434-1000 (incand.)
Korry P/N	434-674-1041-3xxx	434-674-1031-2xxx	434-674-1005-1xxx
Boeing P/N	N/A	S231T300-2xxx	S231T300-1xxx

6-Pin Termination

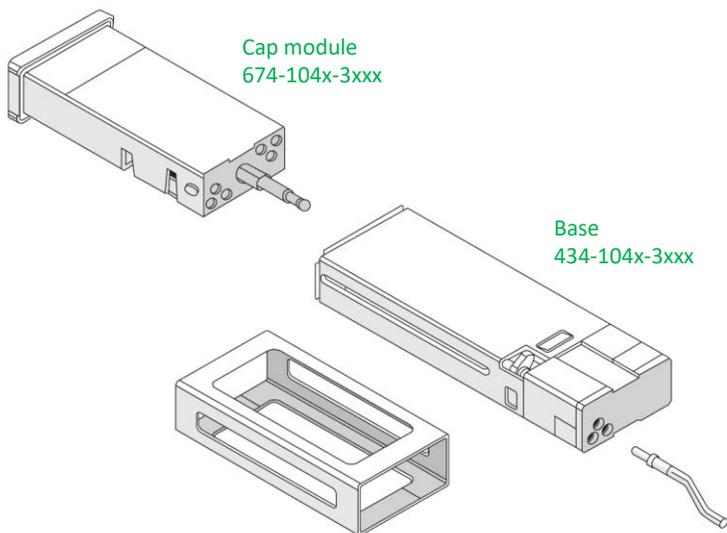
	434-3000 (LED)	434-2000 (incand.)	434-1000 (incand.)
Korry P/N	434-674-1043-3xxx	434-674-1033-3xxx	434-674-1009-1xxx
Boeing P/N	N/A	S231T301-2xxx	S231T301-1xxx

Matrix Units

	434-3000 (LED)	434-2000 (incand.)	434-1000 (incand.)
Korry P/N	434-674-1042-3019	434-674-1032-2019	434-674-1007-1019
Boeing P/N	N/A	S231T301-2014	S231T301-1014
Korry P/N	434-674-1042-3020	434-674-1032-2020	N/A
Boeing P/N	N/A	S231T301-2105	N/A

Example: P/N 434-674-1041-3001 (Boeing P/N S231T300-3001) matches the configuration of P/N 434-674-1031-2001 (Boeing P/N S231T300-2001) and of P/N 434-674-1005-1001 (Boeing P/N S231T300-1001).

Part numbering of Chromalux 434-3000 subassemblies



Cap module assembly

For the LED cap module P/N, you simply delete the initial 434- from the 434-674-104x-3xxx complete assembly P/N. Within each configuration type, an LED cap module with -3xxx dash number replaces the cap, drawer, and circuit module assembly for the corresponding incandescent versions (-2xxx and -1xxx). If you need to order separate caps, drawers, or circuit modules to spare existing incandescent units, consult the Component Maintenance Manual or call us at 425-297-9700.

Base

Within each configuration type, the 434-3000 bases are interchangeable with the 434-2000 and 434-1000 bases. The -3xxx dash number for the base corresponds to the -3xxx dash number for the complete assembly part number.

Mounting sleeve

Mounting sleeves are interchangeable for units in all three series and are available in two lengths to mount units on single wall and double-wall front panels:

Long sleeve for single-wall front panel 0.032-0.125 inch thick (0.81-3.18 mm) 434-072-001

Short sleeve for double-wall front panel 0.95 inch thick (24.13 mm) 434-072-002

Exception:
434-674-1042-3019 matrix unit takes 434-056-000 sleeves (short).

434-674-1042-3020 matrix unit takes 434-056-001 sleeves (long).



Retrofitting LED lighting into incandescent units

A simple drop-in retrofit lets you upgrade incandescent Chromalux 434 switches to LED lighting. Power conditioning and dimming functions are integrated into the switch and indicator modules, so there's no need to modify aircraft power or wiring.

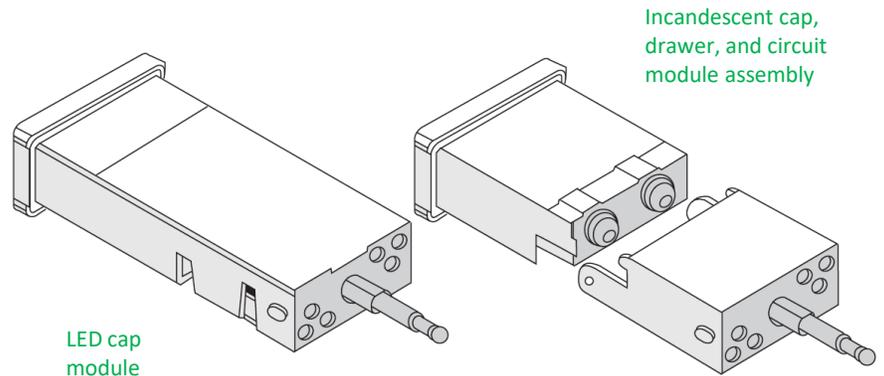
An LED retrofit involves either replacing the switch assembly or swapping out the cap and circuit modules. Both are line maintenance procedures that do not affect the existing housing assembly attached to the front panel. Consult the CMM for specific instructions.

Swapping out the cap and circuit modules requires more time than replacing the entire switch assembly, but allows you to keep the existing master module.

For details on ordering the correct part numbers, see the 434 part numbering guide on the previous pages.

Chromalux 434 indicator caps

The LED cap module (left) has the same fit as the incandescent assembly (right) and easily replaces it.



Upgrading an incandescent Chromalux 434 indicator requires dropping in a one-piece LED cap module in place of the incandescent cap, drawer, and circuit module assembly. The existing base and mounting sleeve do not need replacement.



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The information and data given are typical for the equipment described. However, any individual item is subject to change without any notice