

GUIDANCE SIGNS

AGSF

FAA Incandescent Airfield Guidance Sign



Compliance with Standards

FAA: L-858Y, L-858R, L-858L, and L-858B
AC 150/5345-44 (Current Edition). ETL Certified.

Uses

FAA L-858Y(L)

Direction, Destination, and Boundary (Informational Sign)

FAA L-858R(L)

Mandatory Sign

FAA L-858L(L)

Runway/Taxiway Location Sign: These signs are designed to guide pilots to a particular point on the field, identify holding positions, identify taxiway and runway intersections, and prohibit aircraft entry into designated areas.

FAA L-858B(L)

Runway Distance Remaining Sign: The L-858B is used at 1,000-foot intervals adjacent to the runway edge in order to provide runway distance remaining information to pilots during takeoff and landing operations.

Sign Legends

Type	Purpose	Legend Color	Background Color
L-858Y	Direction, Destination & Boundary	Black	Yellow
L-858R	Mandatory Sign	White with Black Outline	Red
L-858L	Runway/Taxiway Location	Yellow	Black
L-858B	Runway Distance Remaining	White	Black

Features

- Unique illumination system creates a highly uniform distribution of light, eliminating hot spots and shadows, resulting in a much more readable sign and improved visibility, leading to safer runways and taxiways
- Unlike conventional signs, ADB SAFEGATE guidance signs are more uniformly illuminated and brighter, providing optimal pilot visibility under all weather conditions regardless of the type of aircraft being operated
- Low-energy/long-life halogen lamps are 48 W with a rated lamp life of 1,500 hours and an actual lamp life in excess of 6,000 hours, leading to a reduction of ongoing maintenance costs and periodic relamping expenses
- Lamps are the same as used on F-Range in-pavement lights, minimizing spare parts needs
- Uses fewer legs than conventional signs and 50% fewer anchor bolts per leg. Number of legs = N + 1, with N being the number of modules.
- One of the lowest installation costs in the industry. Reduced number of legs and two-hole flanges minimize installation labor.
- Thinnest sign width of all the major sign manufacturers (9.39 inches) minimizes size of concrete pad required.
- Sign is shipped pre-assembled with mounting hardware and tethers (when supplied) and is ready for installation upon arrival.
- No need to open sign for common maintenance activities. Lamps can be replaced from the top without tools.
- Unique low volt/amp, high power factor active ballast for outstanding energy-efficient operation on tungsten-halogen Style 2 and 3 signs. Same electronics used for both Style 2 and 3 signs.
- Sign color legible at night from more than 800 feet
- Distortion-free flat legend panels
- Retroreflective sheeting is used on all legend panels to increase visibility. Aircraft lights will illuminate sign face if lamp out occurs.
- Modular construction allows for easy panel replacement
- Multi-length continuous legend panels available
- Panel dividers not required for contiguous messages. Panel dividers normally used only on sign message arrays.
- Bolted structure allows easy field repairs and refurbishing, reducing repair costs for damaged and aging signs
- Corrosion-resistant sign construction requires minimal maintenance (aluminum housing and stainless steel hardware)

GUIDANCE SIGNS

AGSF

- Legend and blank acrylic sign panels are easily removable and interchangeable
- Backup lamp option available; lamps switch on automatically (Style 2 & 3 signs)
- Optional lamps-out indicator is visible even if power is off
- Optional high-wind speed sign is available for those locations where wind speed is higher than FAA specification value. Any sign can be converted to a high-wind speed version

Operating Conditions

Class	Operating Temperature Range	Humidity	Wind Velocities*
2	-40 °F to +131 °F (-40 °C to +55 °C)	0 to 100%	225 mph

Notes

- * ADB Safegate Mode 2 signs withstand wind velocities up to 225 mph. ADB Safegate Mode 3 (high wind) signs withstand wind velocities up to 327 mph.

Dimensions

Sign Heights						
Type	Sign Size No.	Sign Face Height in (cm)	Legend Height in (cm)	Sign Style No.	Sign Class No.	Overall Mounting Height in (cm)
L-858Y/R/L	1 1	18 (45.7)	12 (30.5)	2,3,5 2,3,5	1,2 1,2	29.7 (75.5)
L-858Y/R/L	2 2	24 (61)	15 (38.1)	2,3,5 2,3,5	1,2 1,2	35.7 (90.8)
L-858Y/R/L	3 3	30 (76.2)	18 (45.7)	2,3,5 2,3,5	1,2 1,2	41.7 (106)
L-858B	4 4	48 (122)	40 (101.6)	2,3,5 2,3,5	1,2 1,2	58.2 (147.8)
L-858B	5 5	30 (76.2)	25 (63.5)	2,3,5 2,3,5	1,2 1,2	41.7 (106)

Sign Lengths - Inches (Centimeters)				
Size No.	1 Module	2 Module	3 Module	4 Module
1	29.4 (75)	58.6 (149)	87.9 (223)	117.2 (298)
2	35.9 (91)	71.6 (182)	107.4 (273)	143.2 (364)
3	42.4 (108)	84.6 (215)	126.9 (323)	169.2 (430)
4	47.9 (122)	N/A	N/A	N/A
5	42.4 (108)	N/A	N/A	N/A

- Sign depth is 9.39 in (23.85 cm).
- See our website www.adbsafegate.com for additional dimension and in stallation information.

Electrical Supply

Informational, mandatory and location signs are available in three sizes. The runway distance remaining signs are available in two sizes. The signs are connected to a series circuit using the appropriately-sized 50 or 60 Hz L-830 isolation transformer(s).

Sign Size No.	Quartz Halogen, 6.6 A, 48 W Lamps Required
1	1 per Module
2	2 per Module
3	2 per Module
4	4 only
5	2 only

Sign Load & Transformer Requirements

In the table below, the number for the total VA load imposed on the CCR represents the actual load imposed on the regulator and accounts for power factor and load imposed by the L-830 transformer.

Low VA Halogen Lamps					
Sign Size	No. of Modules	Transformer	No. of Lamps	Sign Power Factor	Volt Amp VA Load
48 Watt Lamps—Style 2, 3-Step Signs (4.8 - 6.6 A)					
1	1	100 W	1	0.98	106
1	2	200 W	2	0.99	155
1	3	300 W	3	0.98	202
1	4	300 W	4	0.99	250
2, 3	1	200 W	2	0.99	155
2, 3	2	300 W	4	0.99	250
2, 3	3	500 W	6	0.98	340
2, 3	4	300 W (2)	8	0.97	450
4	1	300 W	4	0.99	250
5	1	200 W	2	0.99	155

Low VA Halogen Lamps					
Sign Size	No. of Modules	Transformer	No. of Lamps	Sign Power Factor	Volt Amp VA Load
48 Watt Lamps—Style 3, 5-Step Signs (2.8 - 6.6 A)					
1	1	200 W	1	0.97	105
1	2	300 W	2	0.98	145
1	3	500 W	3	0.98	190
1	4	500 W	4	0.98	233
2, 3	1	300 W	2	0.98	145
2, 3	2	500 W	4	0.98	233
2, 3	3	500 & 300 W	6	0.98	350
2, 3	4	500 W (2)	8	0.97	440
4	1	500 W	4	0.98	233
5	1	300 W	2	0.98	145

Low VA Halogen Lamps					
Sign Size	No. of Modules	Transformer	No. of Lamps	Sign Power Factor	Volt Amp VA Load
48 Watt Lamps —Style 5 Signs (5.5 A)					
1	1	45 W*	1	0.99	48
1	2	100W	2	0.99	96
1	3	200 W	3	0.99	144
1	4	200 W	4	0.99	192
2, 3	1	100 W	2	0.99	96
2, 3	2	200 W	4	0.99	192
2, 3	3	300 W	6	1.00	288
2, 3	4	500 W	8	0.98	384
4	1	200 W	4	0.99	192
5	1	100 W	2	0.99	96

Notes

* Substitute 65 W transformer when implementing an LED retrofit kit.

Construction

Corrosion-resistant sign construction requires minimal maintenance.

- Aluminum housing
- Acrylic sign legend panels
- Stainless steel hardware
- Retroreflective sheeting
- Translucent plastic panel dividers used between multi-module legend panels

GUIDANCE SIGNS

AGSF

LED and Halogen Sign Comparison Table

Sign Size	Style	No. of Modules	Isolation Transformer Size Required	LED Max. CCR VA Load ¹	Tungsten Halogen Max CCR VA Load ¹	Energy Savings
2,3	Style 2 (3-step)	3	500 W for T-H 100 W for LED	100	340	71%
1	Style 3 (5-step)	4	500 W for T-H 150 W for LED	100	233	57%

Notes

¹ CCR Load includes both sign and isolation transformer load.

L-858 Sign LED Retrofit Kits for ADB Safegate Signs

Application

A retrofit kit is available to convert any existing ADB SAFEGATE FAA incandescent tungsten-halogen or fluorescent sign to an LED light source. The kit is available for all FAA Types: L-858Y, L-858R, L-858L and L-858B; all Sizes: Size 1 through 5; and all module lengths: up to 4 modules. Retrofitting a sign is fast and easy. It typically takes 20 minutes to retrofit a 2-module sign. The retrofit process converts the sign to the same type as an existing ADB SAFEGATE ETL-Certified sign.

Reduced Maintenance Costs

An LED sign virtually eliminates runway shutdowns due to the long life LED light source. It eliminates re-lamping expenses and reduces on-going maintenance costs. The LED optical design also creates a highly uniform distribution of light, eliminating hot spots and shadows. Also, the sign provides for improved safety because there is only a low, regulated DC voltage inside sign.

Energy Savings

An LED sign provides greatly reduced energy consumption compared to existing types of signs. See chart below for more information.

The LED sign operates on ferroresonant or thyristor CCRs that are designed in compliance with FAA requirements. The sign electronics are designed to operate on all steps of a 3-step or 5-step CCR and on a 5.5 A CCR.

Packaging Data

Signs are shipped with L-823 cord set(s), frangible couplings, and floor flanges –ready for installation.

Description	Gross Weight		Carton Dimensions	
	(lb)	(kg)	(in)	(cm)
Size 1, Module 1	46	21	34 × 34 × 13	87 × 86.4 × 33
Size 1, Module 2	78	35	34 × 63 × 13	87 × 160 × 33
Size 1, Module 3	115	52	34 × 92 × 13	87 × 234 × 33
Size 1, Module 4	169	77	34 × 121 × 13	87 × 307 × 33
Size 1, Module 2	71	32	40 × 40 × 13	102 × 102 × 33
Size 2, Module 2	104	47	40 × 76 × 13	102 × 193 × 33
Size 2, Module 3	153	70	40 × 112 × 13	102 × 285 × 33
Size 2, Module 4	220 ¹	100 ¹	40 × 147 × 13	102 × 374 × 33
Size 3, Module 1	81	37	46 × 46 × 13	117 × 117 × 33
Size 3, Module 2	131	60	46 × 89 × 13	117 × 226 × 33
Size 3, Module 3	199	90	46 × 131 × 13	117 × 333 × 33
Size 3, Module 4	252	114	46 × 173 × 13	117 × 440 × 33

¹ Estimated weight

Legend Panel Replacement

Size

- 1 = Size 1
- 2 = Size 2
- 3 = Size 3 and 5
- 4 = Size 4

Number of Modules

- 1 = 1 module
- 2 = 2 modules

Panel Type

- 1 = With legend (retroreflective)
- 2 = Black

Sign Type

- 0 = Standard
- 1 = Hi-Wind

44A6084 - X X X X



LED Sign Retrofit Kit

94A0628 - X X 0

Size

- 1 = Size 1
- 2 = Size 2
- 3 = Size 3
- 4 = Size 4
- 5 = Size 5

Number of Modules

- 1 = 1 module
- 2 = 2 modules
- 3 = 3 modules
- 4 = 4 modules

Legend Panel Divider

44A6173 - X X X

Size

- 1 = Size 1
- 2 = Size 2
- 3 = Size 3 and 5

Paint Coverage

- A = Solid (black only)¹
- C = Clear (paint top only)

Paint Color

- R = Red
- Y = Yellow
- B = Black¹

Notes:

¹ For option A (solid), customer must select option B (black). Option C (clear) can be paired with either red or yellow.

Optional Lamps-Out Indicator Kit

94A0373

Note: Used to add lamps-out indicator on existing tungsten halogen signs.

See LED sign load chart on data sheet 3006 - AGSF-L for sign loading and optimum sign transformer size. Note that the existing larger size transformer, if present, can be reused. Ask for Service Bulletin ALN158 for details on how to retrofit the sign.

Ordering Code

S X X X - X X X X X X

Lamp Type

- H = Halogen
- W = High Wind/Halogen¹

Sign Size

- 1 = Size 1 (1 lamp per module)
- 2 = Size 2 (2 lamps per module)
- 3 = Size 3 (2 lamps per module)
- 4 = Size 4 (4 lamps only)
- 5 = Size 5 (2 lamps only)

Module

- 1 = 1 Module
- 2 = 2 Module
- 3 = 3 Module
- 4 = 4 Module

Style

- 1 = Low VA Halogen Style 2 & 3 (3- & 5-Step)
- 2 = Low VA Halogen Style 5 (5.5 A)

Face

- 1 = Single
- 2 = Double

Total Number of Panels:

X = To be determined by the Sales Department based on legend and module configurations.

Backup Lamps

- 1 = 48 W halogen without backup lamps
- 2 = 48 W halogen with backup lamps

Power

- 1 = Power through leg without ON/OFF switch
- 2 = Power through leg with ON/OFF switch
- 3 = Power through side without ON/OFF switch³
- 4 = Power through side with ON/OFF switch³
- 5 = Customer-provided entry without ON/OFF switch^{2,3}
- 6 = Customer-provided entry with ON/OFF switch^{2,3}
- 9 = Power through bottom without ON/OFF switch³
- A = Power through bottom with ON/OFF switch³

Tether

- 0 = No tether³
- 1 = One tether on one end of sign
- 2 = Two tethers, one on each end
- 3 = One tether per leg

Lamps Out Indicator

- 0 = Without
- 1 = With