

# 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**  
Direction, Destination, and Boundary (Informational Sign)

**FAA L-858R**  
Mandatory Sign

**FAA L-858L**  
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**  
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

### Construction

Corrosion-resistant sign construction requires minimal maintenance.

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

### 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, 48 W with a rated lamp life of 1,500 hours, 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, 50% fewer anchor bolts per leg. Number of legs = N + 1, N = 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)
- Legend and blank acrylic sign panels are easily removable and interchangeable

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- 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 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%	200 mph 300 mph

#### Notes

\* ADB Safegate Mode 2 signs withstand wind velocities up to 200 mph. ADB Safegate Mode 3 (high wind) signs withstand wind velocities up to 300 mph.

### Power 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

### 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 <sup>1</sup>	100 <sup>1</sup>	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

<sup>1</sup> Estimated weight

## Sign 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

**Note:** Sign depth is 9.39 in (23.85 cm).

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### 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
<b>48 Watt Lamps — Style 2, 3-Step Signs (4.8 - 6.6 A)</b>					
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
<b>48 Watt Lamps — Style 3, 5-Step Signs (2.8 - 6.6 A)</b>					
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
<b>48 Watt Lamps — Style 5 Signs (5.5 A)</b>					
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.

**Ordering Code**

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**Lamp Type**

H = Halogen  
W = High Wind/Halogen<sup>1</sup>

**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 switch<sup>3</sup>  
4 = Power through side with ON/OFF switch<sup>3</sup>  
5 = Customer-provided entry without ON/OFF switch<sup>2,3</sup>  
6 = Customer-provided entry with ON/OFF switch<sup>2,3</sup>  
9 = Power through bottom without ON/OFF switch<sup>3</sup>  
A = Power through bottom with ON/OFF switch<sup>3</sup>

**Tether**

0 = No tether<sup>3</sup>  
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

**Sign Ordering Code Notes**

- Customer to provide legend information and power connection side. It is important to match power cord exit location with legend side.
- <sup>1</sup> High wind signs are tested to a minimum wind load of 327 mph for Mode 3 application. High wind signs require four anchor bolts per floor flange except Size 1, which uses the standard 2-bolt foot.
- <sup>2</sup> Cord set coiled up inside sign. Customer provides entry hole.
- <sup>3</sup> Not ETL Certified.

**STD Legend Panel Replacement 44A6084 - X X X 0**

**Size**

1 = Size 1<sup>1</sup>  
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

**Notes:**

- <sup>1</sup> For size 1 standard and high-wind signs use 44A6084-XXX0 standard legend panels.

**HW Legend Panel Replacement 44A7777 - X X X 1**

**Size**

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**

1 = High-Wind

**Notes:**

- For size 1 high-wind signs, use 44A6084-XXX0\_standard legend panels.

**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)<sup>1</sup>  
C = Clear (paint top only)

**Paint Color**

R = Red  
Y = Yellow  
B = Black<sup>1</sup>

**Notes:**

- <sup>1</sup> 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.

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### LED Retrofit Kits for ADB Safegate L-858 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 relamping expenses and reduces ongoing 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 the sign.

#### Energy Savings

An LED sign provides greatly reduced energy consumption compared to existing types of signs. See table 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.

See LED sign load chart on DS-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.

### LED and Halogen Sign Comparison Table

Sign Size	Style	No. of Modules	Isolation Transformer Size Required	LED Max. CCR VA Load <sup>1</sup>	Tungsten Halogen Max CCR VA Load <sup>1</sup>	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

<sup>1</sup> CCR Load includes both sign and isolation transformer load.

### LED Sign Retrofit Kit

#### 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

94A0628 - X X 0

