GUIDANCE SIGNS

AGSF-L

FAA LED Light Bar Airfield Guidance Sign

Compliance with Standards

FAA: L-858Y(L), L-858R(L), L-858L(L) and L-858B(L) AC 150/5345-44 (Current Edition) and the FAA Engineering Brief No. 67. 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.

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

Operating Conditions

Temperature: -40 °F to +131 °F (-40 °C to +55 °C)
Humidity: 0 to 100%
Wind:
- ADB Safegate Mode 2 signs withstand wind velocities up to 225 mph
- ADB Safegate Mode 3 signs withstand wind velocities up to 327 mph

Features

- Unique LED Light Bar design maximizes energy efficiency
- Available Battery Tester provides for quick and easy testing of individual LED Light Bars
- Electrical design uses a minimal number of components which maximizes sign MTBF and greatly simplifies troubleshooting efforts.
- Virtually eliminates runway and taxiway shutdowns due to long-lasting LED light source
- Direct replacement for existing sign
- Creates a highly uniform distribution of light, eliminating hot spots and shadows
- Operates on ferroresonant or thyristor CCRs that are designed in compliance with FAA or IEC requirements
- Operates on all steps of a 3-step or 5-step CCR and on a 5.5 A CCR.
- Eliminates re-lamping expenses and reduces on-going maintenance costs
- Improved safety — low, regulated DC voltage inside sign
- Rugged lightning protection that complies with ANSI/IEEE C62.41-1991 Location Category C2 given in FAA Eng. Brief 67. Category C2 is defined as a 1.2/50µS – 8/20 µS combination wave, with a peak voltage of 10,000 Volts and a peak current of 5,000 A.

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

Electrical Supply

Signs are internally lighted and are connected to a series circuit using the appropriately-sized 50 or 60 Hz L-830/L-831 isolation transformer.

AGSF-L

Packaging Data

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

Description	Gross Weight[1]		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 2, Module 1	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 [2]	100 [2]	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
Size 4, Module 1	122	56	62 × 52 × 13	158 × 132 × 33
Size 5, Module 1	81	37	46 × 46 × 13	117 × 117 × 33

Notes

1 Estimated weight

2 Weights listed are for halogen signs. Contact ADB Safegate for high wind speed sign weights.

Sign Load & Transformer Requirements

In the table to the right, 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 transformer.

Sign Size	No. of Modules	Transformer	Power Factor	Volt Amp VA Load
Style 2, 3-Step LED Signs (4.8 - 6.6 A)				
1	1	65 W	0.83	85
1	2	100 W	0.83	95
1	3	100 W	0.88	95
1	4	100 W	0.91	95
2	1	65 W	0.88	90
2	2	100 W	0.88	95
2	3	100 W	0.91	100
2	4	100 W	0.91	100
3	1	100 W	0.83	95
3	2	100 W	0.91	95
3	3	100 W	0.91	100
3	4	150 W	0.88	115
4	1	100 W	0.84	95
5	1	100 W	0.83	95
Style 3, 5-Step LED Signs (2.8 - 6.6 A)				
1	1	100 W	0.88	75
1	2	150 W	0.88	95
1	3	150 W	0.88	95
1	4	150 W	0.90	100
2	1	150 W	0.88	90
2	2	150 W	0.90	95
2	3	150 W	0.83	100
2	4	150 W	0.85	100
3	1	150 W	0.88	95
3	2	150 W	0.90	100
3	3	150 W	0.83	100
3	4	200 W	0.85	115
4	1	150 W	0.88	95
5	1	150 W	0.83	95
Style 5, Single-Step LED Signs (5.5 A)				
1	1	65 W	0.84	75
1	2	65 W	0.84	85
1	3	100 W	0.88	85
1	4	100 W	0.88	95
2	1	65 W	0.92	75
2	2	100 W	0.89	85
2	3	100 W	0.90	100
2	4	100 W	0.90	100
3	1	65 W	0.84	85
3	2	100 W	0.88	95
3	3	100 W	0.92	100
3	4	100 W	0.92	110
4	1	65 W	0.83	85
5	1	65 W	0.92	85

L-858 Sign LED Retrofit Kits for ADB Safegate Signs

Application

A retrofit kit is available to convert any existing ADB Safegate tungsten-halogen or fluorescent sign to an LED light source. The same retrofit kit can be used to convert signs using LED light tubes (Part No. 48A0408 and 48A0409) to the new LED light bar design. 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 and taxiway 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 3-step, 5-step and 5.5 A dedicated series circuits.

See chart on previous page 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 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

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.

AGSF-L

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	18	12	2,3,5	1,2	29.7
	1	(45.7)	(30.5)	2,3,5	1,2	(75.5)
L-858Y/R/L	2	24	15	2,3,5	1,2	35.7
	2	(61)	(38.1)	2,3,5	1,2	(90.8)
L-858Y/R/L	3	30	18	2,3,5	1,2	41.7
	3	(76.2)	(45.7)	2,3,5	1,2	(106)
L-858B	4	48	40	2,3,5	1,2	58.2
	4	(122)	(101.6)	2,3,5	1,2	(147.8)
L-858B	5	30	25	2,3,5	1,2	41.7
	5	(76.2)	(63.5)	2,3,5	1,2	(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).
- See our website for additional dimension and installation information.

Ordering Code

S X X X - X X X 3 X X 0

Lamp Type
R = LED
S = LED High Wind[1]

Sign Size
1 = Size 1
2 = Size 2
3 = Size 3
4 = Size 4
5 = Size 5

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

Style
7 = LED Style 2, Style 3, and Style 5
A = APS

Face
1 = Single
2 = Double

Total Number of Panels
X = To be determined by the ADB Safegate Sales Department based on legend and module configurations.

3

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[3]
4 = Power through side with ON/OFF switch[3]
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 switch[3]
A = Power through bottom with ON/OFF switch[3]

Tether
0 = No tether[3]
1 = One tether on one end of sign
2 = Two tethers, one on each end
3 = One tether per leg

Notes
- Customer to provide legend information and power connection side. It is important to match power cord exit location with legend side.

[1] Use high wind signs in those locations where actual wind speed exceeds FAA specifications (Mode 3). High wind signs tested to a minimum wind load of 327 mph as recommended by FAA technical paper DOT/FAA/AR - TN00/32: Evaluation of Wind-Loading on Airport Signs. High wind signs require four anchor bolts per floor flange except Size 1, which uses the standard 2-bolt foot.

[2] Cord set coiled up inside side. Customer provides entry hole.

[3] Not ETL Certified.

LED Light Engine Tester 44A7264-1

Battery-powered tester is used during maintenance activities to separately test a single LED light bar. Uses four size D batteries and outputs 350 mA. Output is activated using a momentary switch.

Note: Tester can also be used on all ADB Safegate SB-type LED signs.

Legend Panel Replacement 44A6084 - X X X X

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

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 = Black[1]

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