

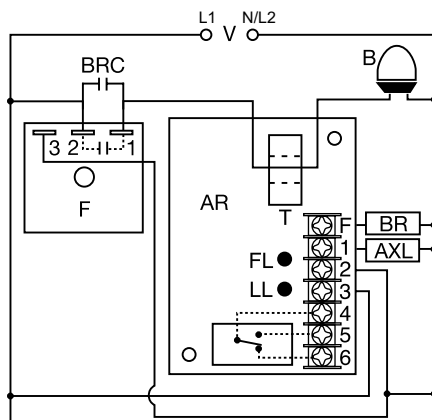
FB9L

Universal Lamp Alarm Relay

CE



Wiring Diagram



V = Voltage
B = Beacon
F = Flasher
BRC = Flasher Bypass Relay Contacts
T = Toroid
AR = FB Alarm Relay
BR = Bypass Relay Coil
FL = Flasher Failure LED
LL = Lamp Failure LED
AXL = Lamp Alarm Relay Coil

NOTE: Flasher module may be located on either the line or load side of the toroidal sensor.

Description

The FB9L is a universal lamp alarm relay designed to sense the failure of flashing LED beacon lamps. It will monitor the operation of one to eight beacons connected to a single flasher and/or auxiliary modules and the operation of the flasher. The FB9L output relay energizes when one or more lamps fail. All monitored lamps must be the same wattage and voltage. The 0.5A solid-state output energizes when a flasher failure is sensed.

Operation

When a LED beacon lamp fails, the FB9L senses a decrease in current flow. After a 10s lamp failure trip delay, the isolated SPDT (4-5-6) and non-isolated SPNO (3-1) relay contacts energize. These contacts are used to indicate a beacon failure has occurred. The "L" onboard LED indicator flashes green during the trip delay and glows red after the output relay energizes. Connected to a site monitoring system, it provides remote beacon monitoring required by FAA-AC No: 150/5345-43E.

The FB9L also monitors the operation of the flasher. If the flasher remains in the ON or OFF condition for more than 6s the solid-state output energizes and the "F" flasher failure, onboard LED glows red. This output is normally used to energize an external flasher bypass relay. The contacts of the bypass relay are used to route voltage around the failed flasher and to indicate an alarm condition.

Note: In a single flasher, single beacon system, if the beacon lamp fails, zero current flow is detected. This will cause the flasher failure output to energize after 6s and then the beacon failure outputs after 10s. This is normal operation and can be expected anytime zero current is flowing through the monitored conductor.

Features & Benefits

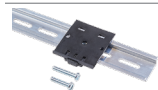
FEATURES	BENEFITS
Self calibrating	Saves time at installation. No fine adjustment required.
Failsafe beacon monitoring	Alarm monitors for failed LED lamps in addition to flasher function
Number of beacons monitored is switch selectable for up to 8	User selection allows quick set up and easy adaption to multiple applications
Universal voltage 120 to 230VAC	Meets wide application requirements
Isolated, 10A, SPDT alarm output contacts	Provides remote beacon monitoring when connected to a site monitoring system, which is required by the FAA

Accessories



C103PM (AL) DIN Rail

35 mm aluminum DIN rail available in a 36 in. (91.4 cm) length.



P1023-20 DIN Rail Adapter

Allows module to be mounted on a 35 mm DIN type rail with two #10 screws.

FB9L

Specifications

Sensors

Calibration Range (total all Lamps)	150mA - 8.0A
Absolute Max Current (total all Lamps)	15A max. (may not calibrate above 8A)
Single Lamp Current	150mA - 8.0A (total all lamps ≤ 8.0A)

Trip Delay

Flasher Failure Fixed at 6s; -0/+40%

Lamp Failure Fixed at 10s; -0/+40%

Input

Input Voltage/Tolerance 120 to 230VAC / ±15%

AC Line Frequency 50/60Hz

Output

Line Voltage Output (SPNO) 5A @ 240VAC or 30VDC resistive;
1/4 hp @ 125VAC; 1/2 hp @ 250VAC

Isolated Alarm Output (SPDT) 10A @ 240VAC or 30VDC resistive;
1/4 hp @ 125VAC; 1/2 hp @ 250VAC

Solid-State Line

Voltage Output (F) 0.5A steady; 5A inrush

Mechanical

Mounting One #10 (M5 x 0.8) screw

Dimensions **H** 76.7 mm (3"); **W** 50.8 mm (2");
D 41.7 mm (1.64")

Termination IP20 screw terminals for up to 14 AWG
(2.45 mm²) wire or two 16 AWG (1.3 mm²) wires

LEDs

Power/Timing/Lamp Failure
(Bi-color) Glows red when one or more lamps fail

Flasher Failure (Red) Glows red when the flasher fails

Protection

Circuitry Encapsulated

Environmental

Operating/Storage
Temperature -40° to 60°C / -40° to 85°C

Weight ≈ 3.9 oz (111 g)

FAA-AC No. 150/5345-43E

Indicator Table

L	Green	Input ON & Calibrated
L	Green Flashing	Trip Delay
L	Red	Lamp Failure
L	Red/Green Flashing	Calibrating
L	Red Flashing	Not Calibrated
F	Red	Flasher Failure