

Doran Universal Exterior Light Monitor UBM-00

Instructions for Installation and Use

Monitor and Light Installation

The Doran UBM-00 is a fully electronic Exterior Light Monitor designed for use with incandescent, halogen, Light Emitting Diode (LED) constant burn and strobing lights. In order to work with the large differences in current draw between the incandescent versus the LED lights, it is necessary to “calibrate” the monitor for the lights installed.

Preferred Wiring -- Wire the unit with no more than two (2) lights in parallel and both lights must be of same type and manufacturer. Typically, the two (2) 7” stop/tail lights should be wired in parallel and the two (2) 4” stop/tail lights should be wired in parallel.

Alternate Wiring -- Sometimes buses are wired with a 7” and 4” stop/tail in parallel for the right and left sides. **If wired in this manner, the monitor may be unable to detect a failure of only one of the paralleled lights**, but it will detect a failure of both.

Calibrate unit after installation and after each lamp replacement.

Calibration

To self calibrate the monitor, ALL monitored lights must be in working order.

For faster calibration, the operator may turn on as many exterior lights as possible at the start of the procedure. The operator will be required to activate these lights during the calibration procedure. Operator may begin with the tail/head lights on, hazard lights (for the turn signals), and the amber warning lights flashing (door closed).

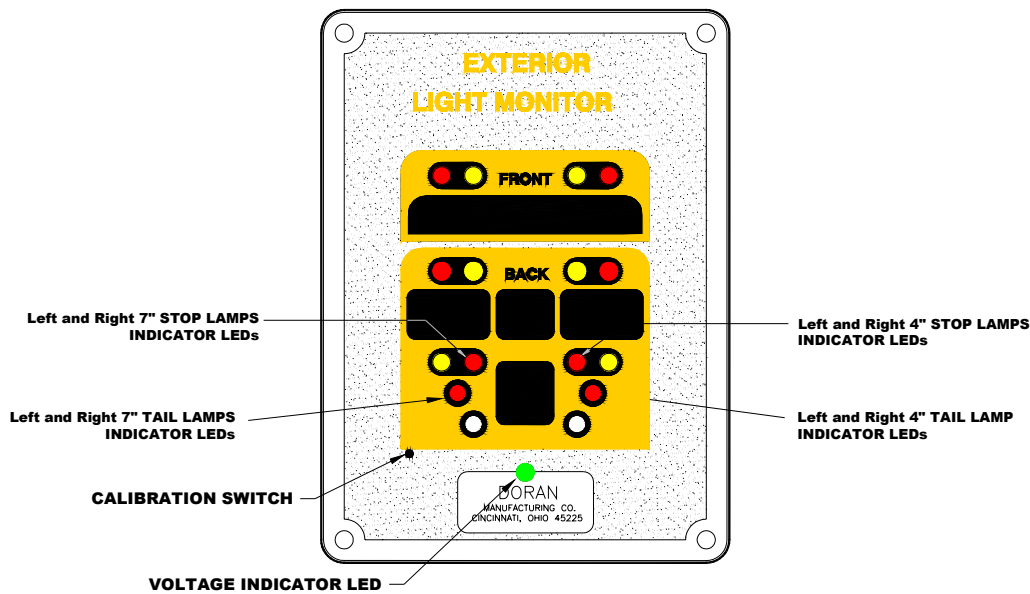
1. Turn on ignition and start engine – Engine is running to assure proper voltage for operation and calibration. The GREEN LED voltage indicator at the bottom center of the monitor **MUST BE ILLUMINATED** indicating the voltage is within limits for proper operation. Before beginning calibration, allow time for the voltage to stabilize to its normal running voltage. After cranking the engine the battery voltage may be lower than normal. Allow time for the battery to recharge.
2. When the ignition is turned on, all LED’s on monitor will be enabled for a few seconds to verify that all LED’s are working.
3. To enter the calibration mode, press and hold the calibrate button through the face plate hole for longer than two (2) seconds. This button/hole may be found located at the bottom left corner of the bus image on the monitor face plate. The first light to calibrate will begin flashing when the unit enters calibration mode. You may use an object such as an allen wrench or paper clip to activate the switch.
4. The unit will begin calibrating each light in a sequence. Each light tested must be active at the time of the calibration. As each light is calibrated, the matching monitor LED will flash. Operator shall activate (if not active) the bus light corresponding to the flashing LED. The sequence is as follows:
 - a. Left turn signal – switch on

- b. Right turn signal – switch on
 - c. Stop lights (left, then right side 7” will flash) – press brake pedal
 - d. Tail light (left, then right side 4” will flash) – switch on (brakes off)
 - e. Backup lights – press brake/clutch and engage reverse
 - f. Each Amber warning light – switch on with door closed
 - g. Each Red warning light – open door
5. Calibrated lights are indicated by the corresponding LED staying illuminated on the monitor. The unit continues to loop through the sequence flashing the un-calibrated lights until all lights are calibrated.
 6. When all LED’s are illuminated, turn off ignition to complete the calibration.

Operation

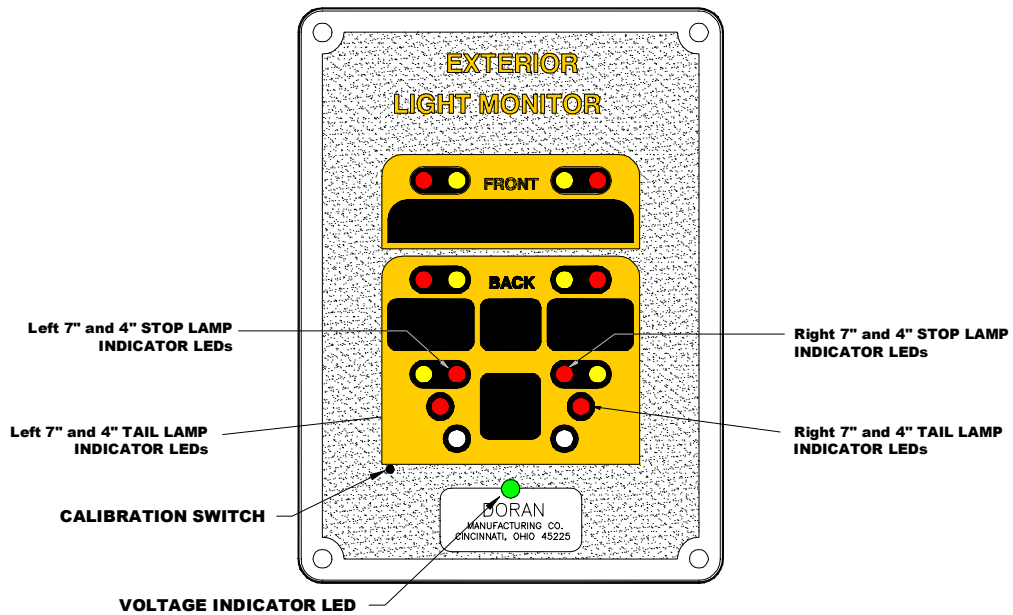
The GREEN LED at the bottom center of the monitor MUST BE ILLUMINATED indicating the voltage is within limits for proper operation. With the GREEN LED on, a lighted LED on the monitor display indicates the corresponding bus lamp/light circuit is drawing current. If the monitor LED does not illuminate when the corresponding bus light should be active, this/these bus lights should be checked for proper operation.

See the illustrations for the definition of the brake/stop and tail light indicators.



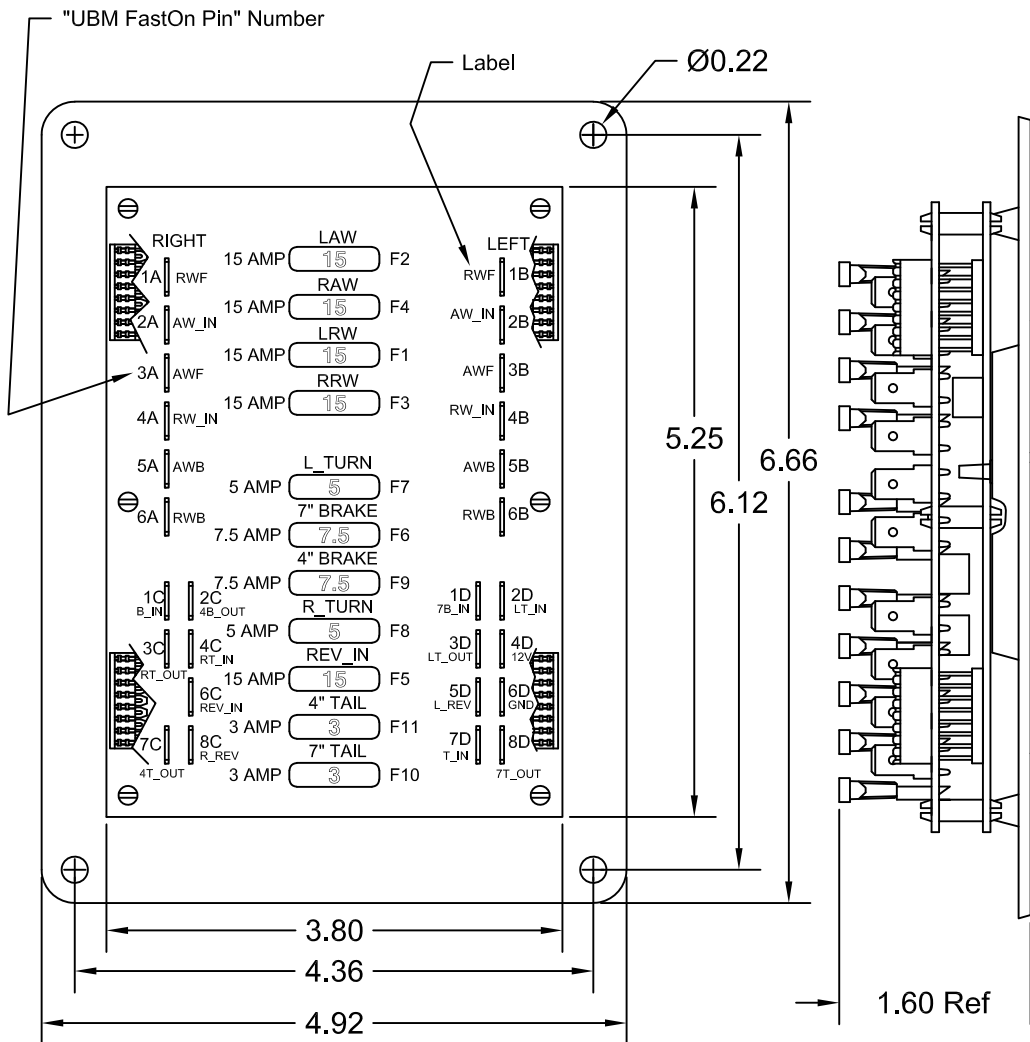
Preferred Wiring Fuse Table

Fuse	Rating	Circuit	Fuse	Rating	Circuit
F1	15 A	Red Warn – Left Input	F7	5 A	Left Directional Input
F2	15 A	Amber Warn – Left Input	F8	5 A	Right Directional Input
F3	15 A	Red Warn – Right Input	F9	7.5 A	4” Stop Out
F4	15 A	Amber Warn – Right Input	F10	3 A	7” Tail Out
F5	15 A	Backup – Input	F11	3 A	4” Tail Out
F6	7.5 A	7” Stop Out			



Alternate Wiring Fuse Table

Fuse	Rating	Circuit	Fuse	Rating	Circuit
F1	15 A	Red Warn – Left Input	F7	5 A	Left Directional Input
F2	15 A	Amber Warn – Left Input	F8	5 A	Right Directional Input
F3	15 A	Red Warn – Right Input	F9	7.5 A	Right Stop
F4	15 A	Amber Warn – Right Input	F10	3 A	Left Tail
F5	15 A	Backup – Input	F11	3 A	Right Tail
F6	7.5 A	Left Stop			



Doran Exterior Light Monitor #UBM-00 - PINOUT

Signal Description	UBM FastOn Pin	Label		
			WARNING LAMPS	
Red Warning - Left Input	4B	RW_IN	L e f t	
Red Warning - Left Front Out	1B	RWF		
Red Warning - Left Back Out	6B	RWB		
Amber Warning - Left Input	2B	AW_IN		
Amber Warning - Left Front Out	3B	AWF		
Amber Warning - Left Back Out	5B	AWB		
Red Warning - Right Input	4A	RW_IN	R i g h t	
Red Warning - Right Front Out	1A	RWF		
Red Warning - Right Back Out	6A	RWB		
Amber Warning - Right Input	2A	AW_IN		
Amber Warning - Right Front Out	3A	AWF		
Amber Warning - Right Back Out	5A	AWB		
Backup - Input	6C	REV_IN	A l t e r n a t e W i r i n g	
Backup - Right Out	8C	R_REV		
Backup - Left out	5D	L_REV		
Right Turn Input	4C	RT_IN		
Right Turn Out	3C	RT_OUT		
Left Turn Input	2D	LT_IN		
Left Turn Out	3D	LT_OUT		
+ Battery	4D	12V		
-- Battery	6D	GND		
Preferred Wiring				
Tail Input	7D	TL_IN		Tail Input
4" Tail Out	7C	4TL_OUT	Right Tail	
7" Tail Out	8D	7TL_OUT	Left Tail	
Stop - Input	1C	BRK_IN	Stop Input	
4" Stop Out	2C	4BRK_OUT	Right Stop	
7" Stop Out	1D	7BRK_OUT	Left Stop	

FUSE ALLOCATION:

Fuse	Rating	Preferred Wiring Circuit	Alternate Wiring Circuit
F1	15 A	Red Warn - Left Input	Red Warn - Left Input
F2	15 A	Amber Warn - Left Input	Amber Warn - Left Input
F3	15 A	Red Warn - Right Input	Red Warn - Right Input
F4	15 A	Amber Warn - Right Input	Amber Warn - Right Input
F5	15 A	Backup - Input	Backup - Input
F6	7.5 A	7" Stop Out	
F7	5 A	Left Directional Input	Left Directional Input
F8	5 A	Right Directional Input	Right Directional Input
F9	7.5 A	7" Tail Out	Right Stop
F10	3 A	4" Tail Out	Left Tail
F11	3 A		Right Tail

REV	DESCRIPTION	DATE	DORAN MANUFACTURING CO.		
1	Modify overall dimensions	9/7/2016	CINCINNATI, OHIO 45225		
2	Added Mounting Hole Dimensions	2/7/2022	PART NAME UBM-00 DIMENSIONS AND PINOUT		
TOLERANCES			DECIMALS .XXX +OR-.005, .XX +OR-.015 FRACTIONS +OR- 1/32, ANGLES +OR- 1/2 DEGREE		
CUSTOMER			SCALE		
DRAWN JPR		DATE 2/2/2004	DRAWING NO.		REV.
APPR DES		DATE 2/7/2022	7287		2