

TOMAR ELECTRONICS

Strobecom II

Model EMIT3 Emitter Installation & Operation(REV 00)

ATTENTION

THE STROBECOM II SYSTEM IS DESIGNED TO AID IN THE TRANSIT OF DESIGNATED VEHICLES THROUGH THE TRAFFIC CONTROL SYSTEM, TO THEIR DESTINATIONS.

IT IS IMPERATIVE THAT THE DRIVERS OF EACH TYPE OF VEHICLE THAT USES THE STROBECOM II SYSTEM BE MADE AWARE OF THE RESPONSE HE CAN EXPECT FROM THE TRAFFIC CONTROL SYSTEM.

IT IS THE RESPONSIBILITY OF THE CUSTOMER TO CONFIGURE THE SYSTEM'S RESPONSE TO EACH VEHICLE TYPE AND TO EDUCATE EACH DRIVER TO EXPECT THE APPROPRIATE RESPONSE FROM THE SYSTEM.

AT NO TIME SHOULD A DRIVER OF A VEHICLE EXPECT THAT HE IS GUARANTEED TO RECEIVE PROTECTED RIGHT-OF-WAY THROUGH TRAFFIC INTERSECTIONS. DRIVERS OF VEHICLES THAT WILL OPERATE OUTSIDE OF THE NORMAL TRAFFIC LAWS AND CONVENTIONS MUST ALWAYS TAKE RESPONSIBILITY FOR ENSURING THE SAFE PASSAGE OF HIS VEHICLE THROUGH AN INTERSECTION REGARDLESS OF THE OPERATION OR NON-OPERATION OF THE STROBECOM II SYSTEM.

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January 2009

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Strobecom II – Model EMIT3 Emitter Install Instructions

1 MODEL EMIT3 EMITTER DESCRIPTION

The Model EMIT3 emitter is mounted on a vehicle and transmits an infrared signal to suitably equipped intersections, via optical pulses. The EMIT3 includes continuous diagnostic monitoring to ensure its proper operation.

The EMIT3 emitter is modular, consisting of the EMIT3-xx-HOUS, RECT-37SWP-C Lamp, EMIT3-CABLE, and EMIT3-SWITCH. The RECT-37SWP-C is the only component that requires routine maintenance and is easily field replaceable.

The RECT-37SWP-C consists of a xenon arc tube mounted in a metallized, polycarbonate reflector and then linear vibration welded to an optically clear polycarbonate cover creating a hermetically sealed assembly.

The EMIT3-xx-HOUS is a black, glass-filled, UV-stabilized polycarbonate shell. The RECT-37SWP-C is secured into the EMIT3-xx-HOUS with four stainless steel screws. Optionally, a RECT-37-VLF visible light filter can be fitted over the lamp, rendering the operating emitter signal virtually invisible.

The EMIT3-xx-HOUS contains a power supply that is completely encapsulated in polyurethane, and is equipped with automotive waterproof connectors to ensure a long, stable, life even in the most adverse environmental conditions. The power supply is RFI filtered, polarity protected, and damage proof from mis-wiring during installation.

The EMIT3 is ordered from the factory to emit either a high priority or low priority optical signal. Model EMIT3-HI emits a high priority signal and EMIT3-LO emits a low priority signal.

The EMIT3-CABLE connects the EMIT3 lamp and housing assembly to the EMIT3-SWITCH, an optional customer supplied door or parking brake switch, and the vehicles electrical power. The EMIT3-CABLE is equipped with a mating sealed connector for attaching to the EMIT3-xx-HOUS assembly.

The EMIT3-SWITCH provides a method of turning the EMIT3 emitter on and off and includes an LED that provides positive visual feedback that the EMIT3 is on AND operating normally.

2 EMIT3 EMITTER INSTALLATION

REFER TO TOMAR DRAWING #13266 (ATTACHED) FOR EMITTER INSTALLATION AND WIRING PICTORIAL DETAILS.

For optimum range and best performance, mount the EMIT3 emitter on top, or near the top, of the vehicle so that its signal is most likely to be seen over the tops of other vehicles in front.

Drill a ½" hole through the surface to which the emitter will be mounted. The mounting surface should be strong enough to adequately support the emitter and retain the emitter in case of a vehicle accident.

Mounting the emitter to an inadequate surface could allow the emitter to become loose in an accident and possibly impact a vehicle passenger, causing injury. IT IS THE INSTALLERS RESPONSIBILITY TO INSURE THE EMITTER IS SECURED ADEQUATELY.

If mounted outside the vehicle, drill a 1-1/4" hole to allow the model EMIT3-CABLE to pass into the vehicle.

Secure the emitter using the supplied 7/16" stainless steel hardware. Point the emitter in the direction of forward vehicle travel and aim the emitter up just a few degrees to point at the detectors mounted in the intersections.

Engage the EMIT3-CABLE connector to the mating connector on the EMIT3 emitter. This connector is waterproof and can be operated outside the vehicle if desired. Be sure to adequately secure the EMIT3-CABLE.

Run the other end of the EMIT3-CABLE through the vehicle to the location where the EMIT3-SWITCH will be located. If the EMIT3-CABLE penetrates any vehicle panels, take care to protect the cable from abrasion of the insulation.

Mount the EMIT3-SWITCH bracket in a location visible to the operator, using the supplied hardware.

Snap the rocker switch into the EMIT3-SWITCH bracket.

Following Tomar drawing 13266, included with this document, connect the EMIT3-CABLE to the EMIT3-SWITCH as shown.

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Disconnect the vehicle battery and make the final power connections from the EMIT3-CABLE, the included 10-amp fuse, and the vehicles door or parking brake switch (customer supplied), to the vehicles electrical system.

Reconnect the battery and operate the EMIT3-SWITCH to the ON position.

Observe the emitter lamp for flashing, and verify that the indicator LED on the EMIT3-SWITCH is ON steady.

Activate the vehicle door or parking brake, and verify that the emitter stops flashing. The LED in the EMIT3-SWITCH should blink at a slow .5 Hz rate to indicate the EMIT3 has been disabled.

Return the EMIT3-SWITCH to the OFF position. Installation is complete.

If the LED in the EMIT3-SWITCH flashes at a fast 2 Hz rate during testing, refer to Section 5. — EMIT3 Emitter Troubleshooting for assistance.

3. EMIT3 EMITTER OPERATION

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PASSAGE OF HIS VEHICLE THROUGH AN INTERSECTION REGARDLESS OF THE OPERATION OR NON-OPERATIONS OF THE STROBECOM II SYSTEM.

Activate the EMIT3 emitter by operating the EMIT3-SWITCH to the ON position. The LED on the EMIT3-SWITCH should display a steady condition indicating the emitter is operating properly.

If the EMIT3-SWITCH is in the ON position but the LED on the EMIT3-SWITCH blinks slowly at a .5 Hz rate, the emitter may be in cutoff mode because the vehicle door is open or the parking brake is set. Once the door is closed or brake released, the EMIT3 should operate.

If the LED on the EMIT3-SWITCH begins to flash rapidly at a 2 Hz rate, the emitter lamp is getting old and is missing flashes. The emitter may be left on, but the driver should understand that the intersection may not give the vehicle the expected response. The emitter should be serviced as soon as possible.

After activation of the emitter and verification of a steady burning indicator, no further operator intervention is required. The emitter will continuously emit the vehicle's programmed code during the vehicle's travel.

4. EMIT3 EMITTER MAINTENANCE

The EMIT3 emitter should be inspected for proper operation at the beginning of every vehicle shift.

Visually confirm the solid illumination of the LED on the EMIT3-SWITCH and if possible the flashing of the emitter lamp.

Monthly, the emitter lamp should be visually inspected. Any arc lamp that is blackened over more than 30% of its length should be replaced.

If the LED on the EMIT3-SWITCH flashes quickly at a 2Hz rate, indicating a lamp that is beginning to misfire due to age, the emitter system should be taken out of service and the emitter lamp replaced immediately.

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5. EMIT3 EMITTER TROUBLESHOOTING

When a report of system failure is received from the field, the Strobecom II system must be analyzed and the source of the failure repaired. The major components of the Strobecom II system have self-diagnostic functions that aid in troubleshooting.

The EMIT3 emitter is equipped with a monitoring system that continuously checks for the proper operation of the emitter lamp.

Troubleshooting the emitter is required when the status indicator located on the emitter control switch is flashing.

An indicator flashing quickly at a 2Hz rate indicates that the emitter lamp is reaching end of life and is beginning to miss flashes. Immediately replace the emitter lamp.

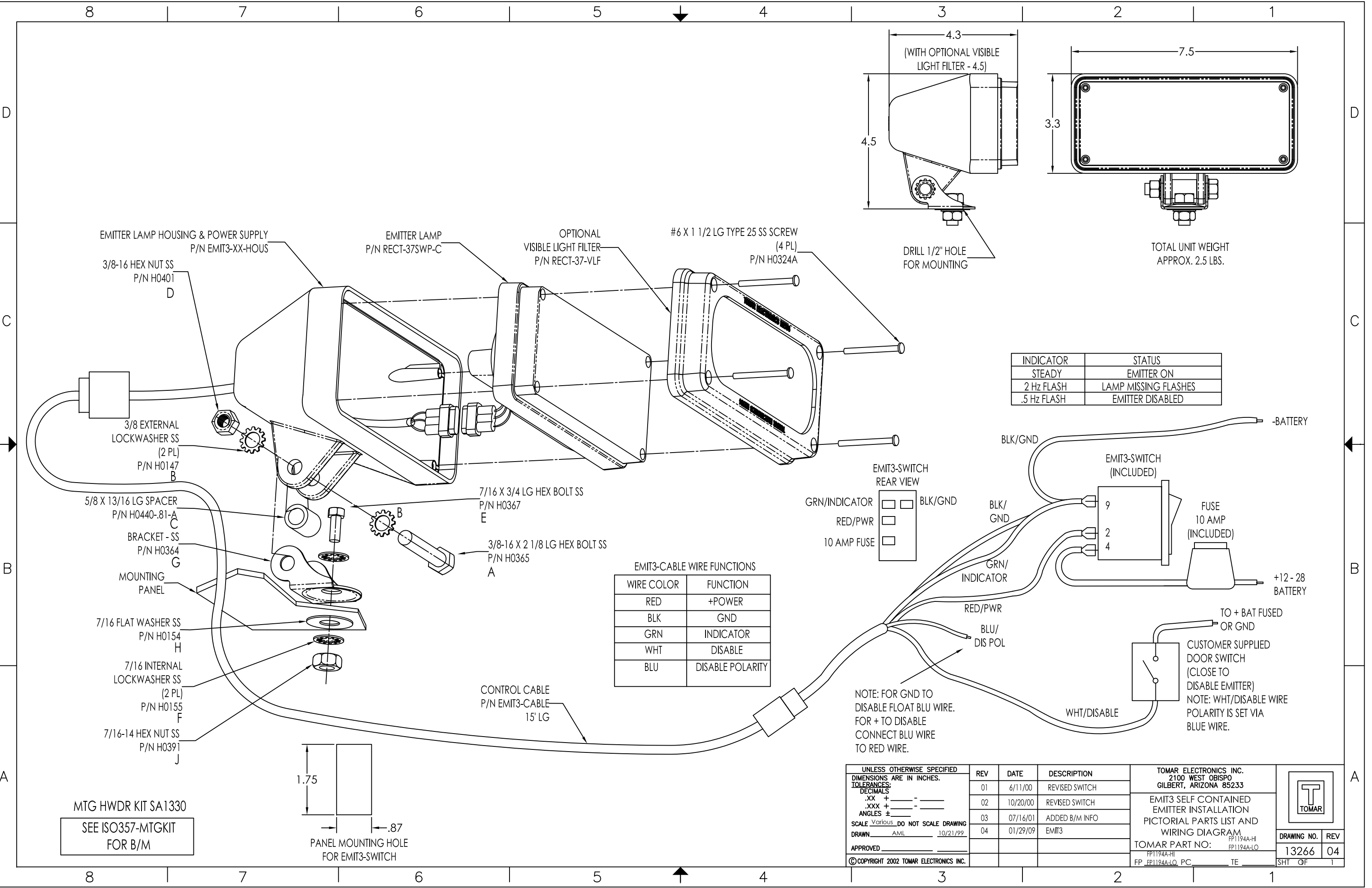
THE EMITTER LAMP IS UNRELIABLE AND MAY NOT INITIATE PREEMPTION IN THIS CONDITION AND SHOULD BE SERVICED IMMEDIATELY.

If the EMIT3-SWITCH is activated but the LED indicator does not illuminate, or the emitter does not generate a signal, check the following items.

- 1) Check the 10-amp fuse.
- 2) If the 10-amp fuse is OK, measure the voltage to the RED wire of the EMIT3-CABLE. With the EMIT-SWITCH in the ON position, vehicle battery voltage should be applied.
- 3) Check all wiring for damage.
- 4) If all above fail replace the EMIT3-xx-HOUS containing the power supply with a known good unit. Return the defective EMIT3-xx-HOUS to Tomar Electronics, Inc. for service.

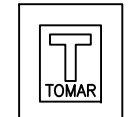
If the EMIT3-SWITCH is activated and the LED on the EMIT3-SWITCH flashes slowly at a .5 Hz rate, check the following items:

- 1) Check the door or parking brake cut-out switch for proper operation.
- 2) Check the wiring to the door or Parking brake switch.

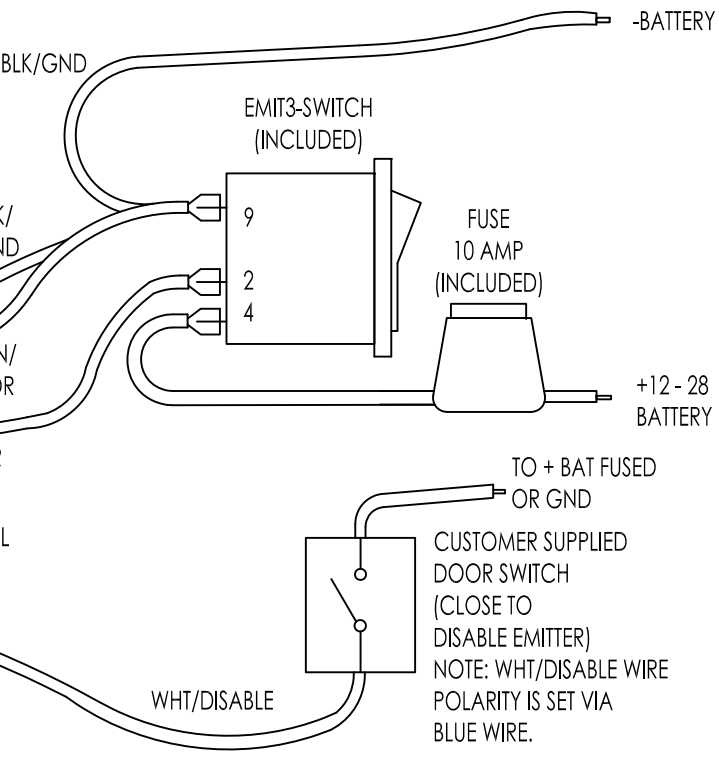
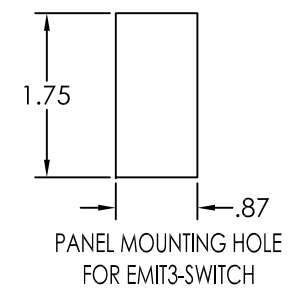


INDICATOR	STATUS
STEADY	EMITTER ON
2 Hz FLASH	LAMP MISSING FLASHES
.5 Hz FLASH	EMITTER DISABLED

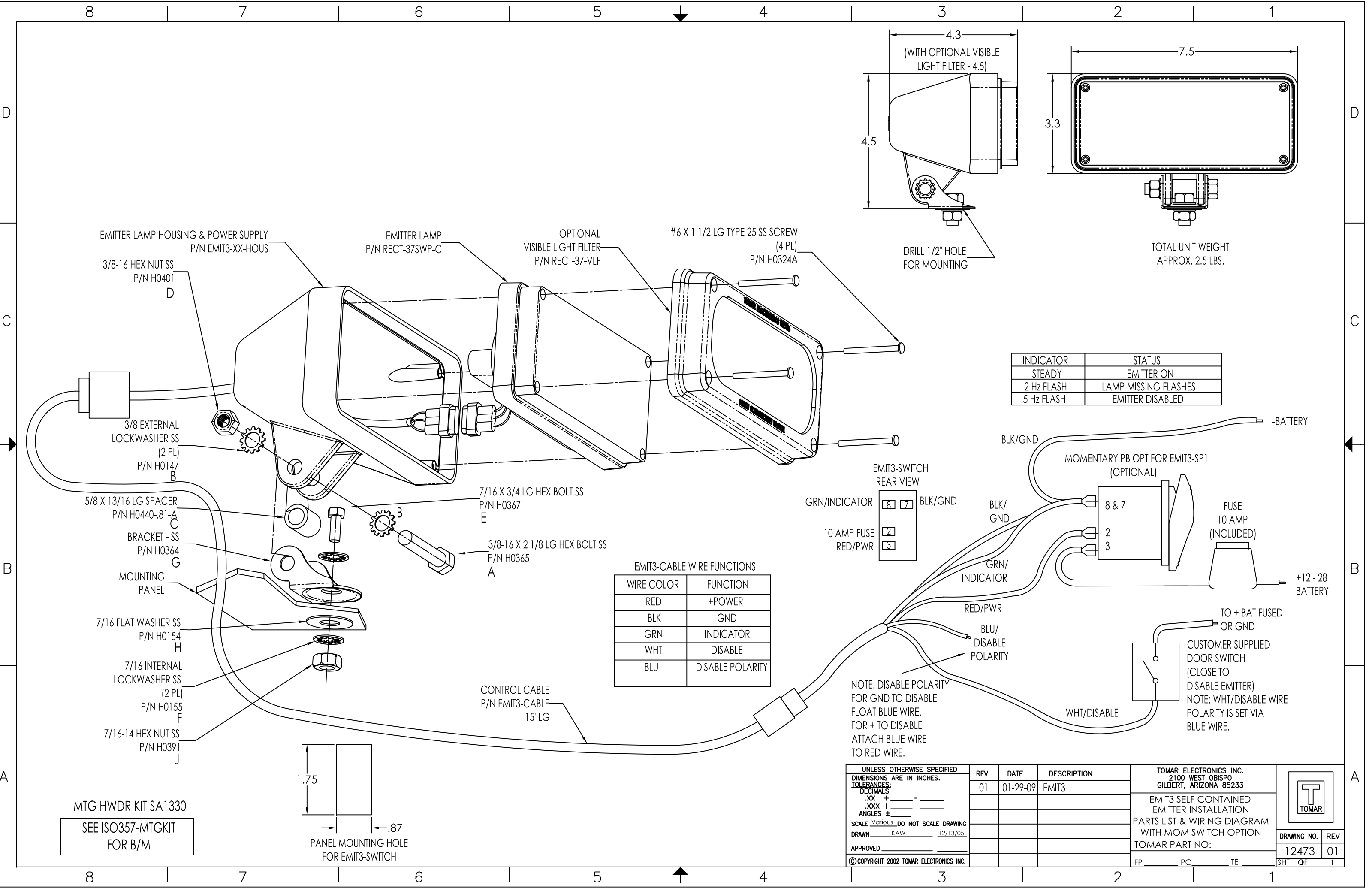
EMIT3-CABLE WIRE FUNCTIONS	
WIRE COLOR	FUNCTION
RED	+POWER
BLK	GND
GRN	INDICATOR
WHT	DISABLE
BLU	DISABLE POLARITY

UNLESS OTHERWISE SPECIFIED				TOMAR ELECTRONICS INC.	
DIMENSIONS ARE IN INCHES.				2100 WEST OBISPO	
TOLERANCES:				GILBERT, ARIZONA 85233	
DECIMALS					
.XX + - - -					
.XXX + - - -					
ANGLES ± - - -					
SCALE Various DO NOT SCALE DRAWING				EMIT3 SELF CONTAINED	
DRAWN AML 10/21/99				EMITTER INSTALLATION	
APPROVED _____				PICTORIAL PARTS LIST AND	
© COPYRIGHT 2002 TOMAR ELECTRONICS INC.				WIRING DIAGRAM	
				TOMAR PART NO: FP1194A-HI	
				FP1194A-LO	
				FP_FP1194A-LO_PC TE	
				DRAWING NO. REV	
				13266 04	
				SHT OF 1	

MTG HWDR KIT SA1330
SEE ISO357-MTGKIT
FOR B/M



NOTE: FOR GND TO
DISABLE FLOAT BLU WIRE.
FOR + TO DISABLE
CONNECT BLU WIRE
TO RED WIRE.



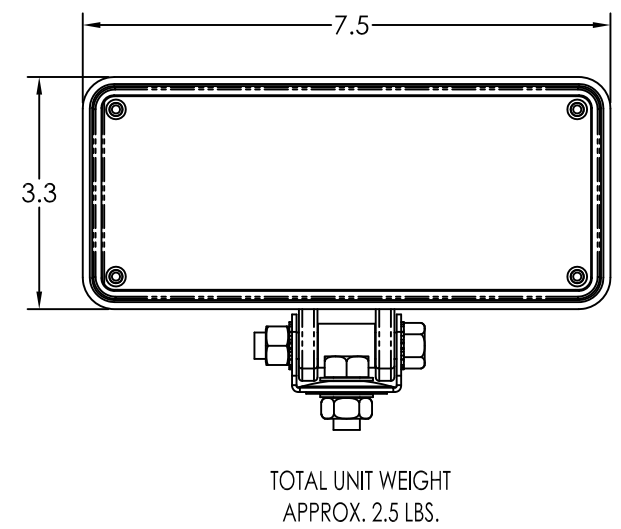
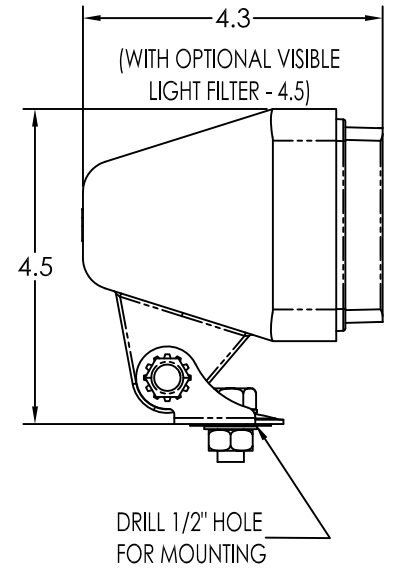
EMITTER LAMP HOUSING & POWER SUPPLY
P/N EMIT3-XX-HOUS

EMITTER LAMP
P/N RECT-37SWP-C

OPTIONAL
VISIBLE LIGHT FILTER
P/N RECT-37-VLF

#6 X 1 1/2 LG TYPE 25 SS SCREW
(4 PL)
P/N H0324A

3/8-16 HEX NUT SS
P/N H0401
D



INDICATOR	STATUS
STEADY	EMITTER ON
2 Hz FLASH	LAMP MISSING FLASHES
.5 Hz FLASH	EMITTER DISABLED

3/8 EXTERNAL
LOCKWASHER SS
(2 PL)
P/N H0147
B

5/8 X 13/16 LG SPACER
P/N H0440-81-A
C

BRACKET - SS
P/N H0364
G

MOUNTING
PANEL

7/16 FLAT WASHER SS
P/N H0154
H

7/16 INTERNAL
LOCKWASHER SS
(2 PL)
P/N H0155
F

7/16-14 HEX NUT SS
P/N H0391
J

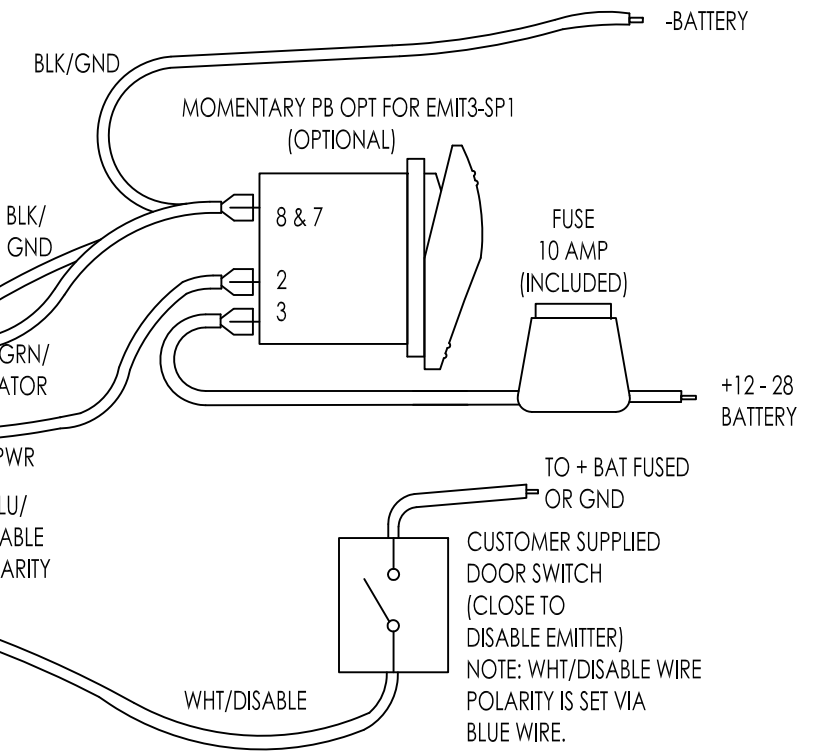
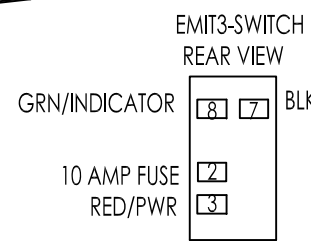
7/16 X 3/4 LG HEX BOLT SS
P/N H0367
E

3/8-16 X 2 1/8 LG HEX BOLT SS
P/N H0365
A

EMIT3-CABLE WIRE FUNCTIONS

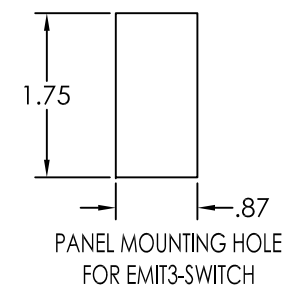
WIRE COLOR	FUNCTION
RED	+POWER
BLK	GND
GRN	INDICATOR
WHT	DISABLE
BLU	DISABLE POLARITY

CONTROL CABLE
P/N EMIT3-CABLE
15' LG



NOTE: DISABLE POLARITY FOR GND TO DISABLE FLOAT BLUE WIRE. FOR + TO DISABLE ATTACH BLUE WIRE TO RED WIRE.

MTG HWDR KIT SA1330
SEE ISO357-MTGKIT FOR B/M



UNLESS OTHERWISE SPECIFIED				TOMAR ELECTRONICS INC.	
DIMENSIONS ARE IN INCHES.				REV	DATE
TOLERANCES:				01	01-29-09
DECIMALS				DESCRIPTION	
.XX + -				EMIT3	
.XXX + -				TOMAR ELECTRONICS INC.	
ANGLES ±				2100 WEST OBISPO	
SCALE Various DO NOT SCALE DRAWING				GILBERT, ARIZONA 85233	
DRAWN KAW 12/13/05				EMIT3 SELF CONTAINED	
APPROVED				EMITTER INSTALLATION	
© COPYRIGHT 2002 TOMAR ELECTRONICS INC.				PARTS LIST & WIRING DIAGRAM	
				WITH MOM SWITCH OPTION	
				TOMAR PART NO:	
				DRAWING NO.	REV
				12473	01
				SHT OF	1