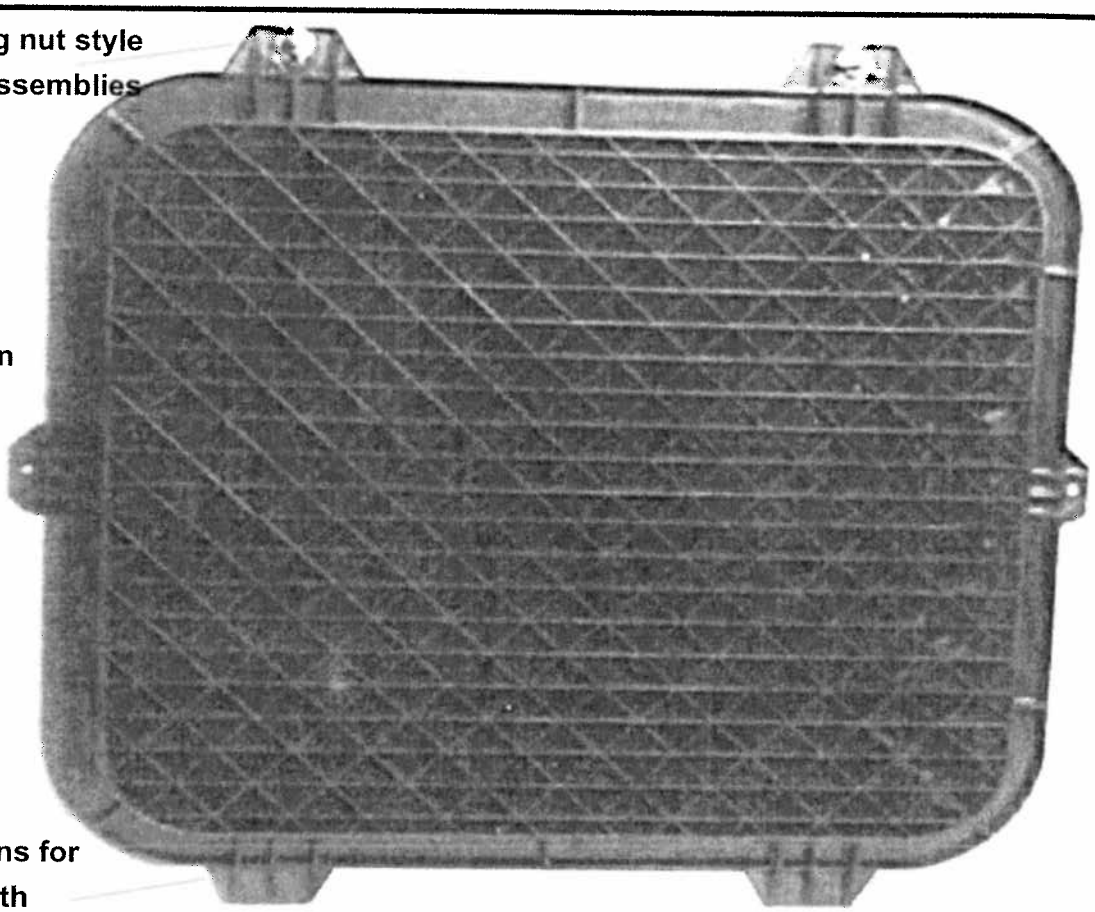
Pedestrian Signals (16")



All external hardware is stainless steel

Features:

- > **Invertable design:** Door is attached using stainless steel ball pins for easy door removal and may swing from either end of the body (for left or right of door mounting).
- > **One style universal maintenance housing** will fit any mounting application!
- > Lens and Gasket mounted to door with four stainless steel tabs and screws using threaded brass inserts in door — **NOT glued to the door!**
- > **Rotatable sockets** (for proper lamp orientation) are standard
- > **Multiple Body options:** Die cast aluminum, Polycarbonate
- > **Multiple Door options:**

  Black Polycarbonate w/integral "Z" style protectors

  Black Polycarbonate, open style

  Black Die cast aluminum, open style

LED rdy with open door, term block

Options: Traffic Parts, Inc.

1. Body Configuration

N=Body not drilled
C=Drilled for clamdoor mounting
P=Drilled for top/bottom pipe mount
B=Drilled for both with plugs
(Universal maintenance housing)

2. Message Configuration

N=Body + Door only
(No lens,gasket,reflector,sockets)

Conf	Hand	Man
1	Incand*	Incand*
2	LED**	Incand*
3	LED**	LED**
A	LED Side by Side (Hand/Man),ILook	
F	LED Overlap,H/M,Cntdown,I-Look	

*Lamps not included (use 60,67,69w)
**LED=Socket mount LED module

3. Lens Type

N=None (LED ready) G=Glass

4. Body/Hardware Color/Matl

Aluminum Body Options:
Y=Yellow B=Gloss Blk F=Flat Blk
G=Dk Grn L=Light Grn Z=Bronze
A=Aluminum X=Special
Polycarbonate Body Options:
P=Yellow Q=Black R=Dk Green

5. Terminal Block Type

2=5 position, 20a
3=5 position, 30a
N=None

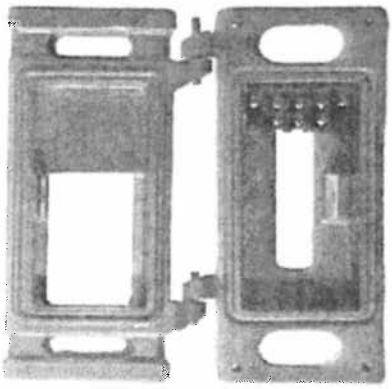
6. Mounting Hardware

N=None
2=Clamdoor 2 Mount (3 pos block)
3=Clamdoor 3 Mount (10 pos block)

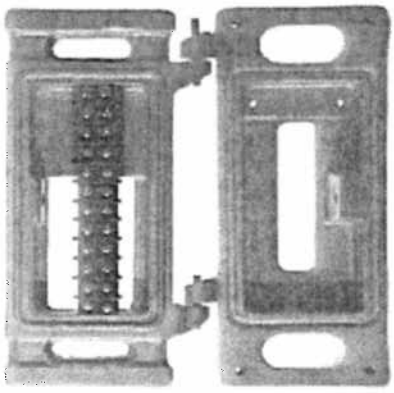
7. Visor/Door (All Black)

All visors are 6" AL tunnel, black

Door	w/o Visor	w/ Visor
Z-crate, PC	N	T
Open, PC	P	X
Open, AL	Q	Y



Clamdoor 2 Mounting



Clamdoor 3 Mounting

SSPED	-	C	N	N	-	Y	2	N	-	N			-				-				-				
Option Category →		1	2	3		4	5	6		7	8	9		10	11	12		13	14	15		16	17	18	19

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N/LEOTEK H/M/C INSTALLED

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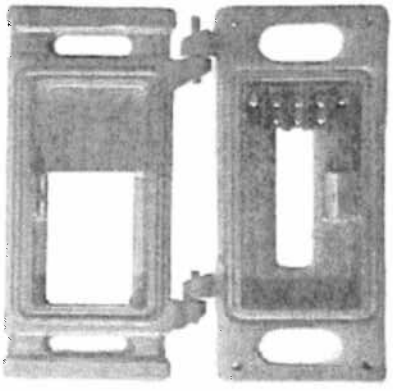
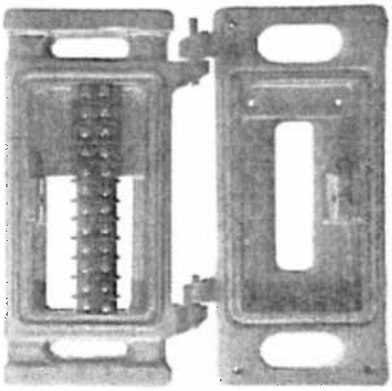
Door	w/o Visor	w/ Visor
Z-crate, PC	N	T
Open, PC	P	X
Open, AL	Q	Y

X PC DOOR + Z CRATE



Clamdoor 2 Mounting



Clamdoor 3 Mounting

	-				-				-				-				-				-				
SSPED	-	P	N	N	-	Y	2	N	-	N			-				-				-				
Option Category →		1	2	3		4	5	6		7	8	9		10	11	12		13	14	15		16	17	18	19

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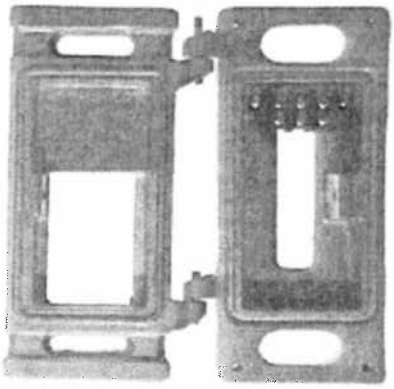
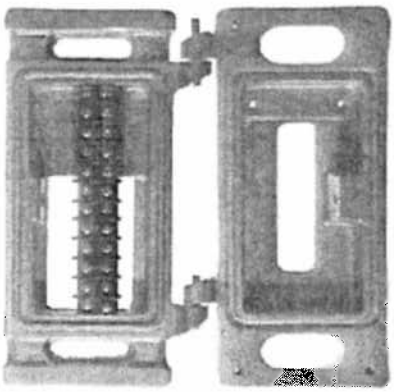


Clamdoor 2 Mounting



Clamdoor 3 Mounting

Q

SSPED	-	C	N	N	-	P	2	N	-	N			-				-				-				-			
Option Category →		1	2	3		4	5	6		7	8	9		10	11	12		13	14	15		16	17	18	19				

Options: | Traffic Parts, Inc.

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2	LED**	Incand*
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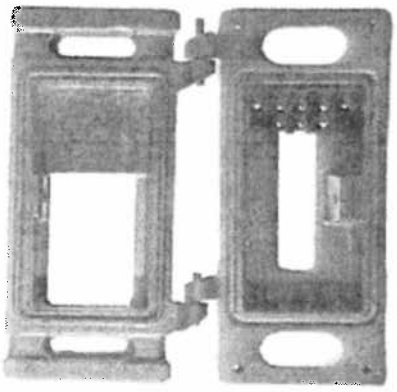
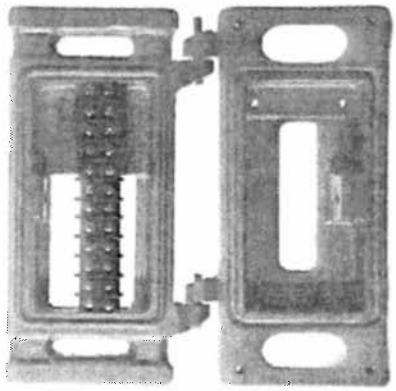


Clamdoor 2 Mounting



Clamdoor 3 Mounting

SSPED	-	P	N	N	-	P	2	N	-	N			-				-				-				
Option Category →		1	2	3		4	5	6		7	8	9		10	11	12		13	14	15		16	17	18	19

LEOTEK®
LITE-ON GROUP

Project
Type
Catalog No.

LED 16" Pedestrian Signal Module SPC
Superior Performance Countdown Series

Leading the LED Industry Since 1992

With over 7,000,000 units installed globally

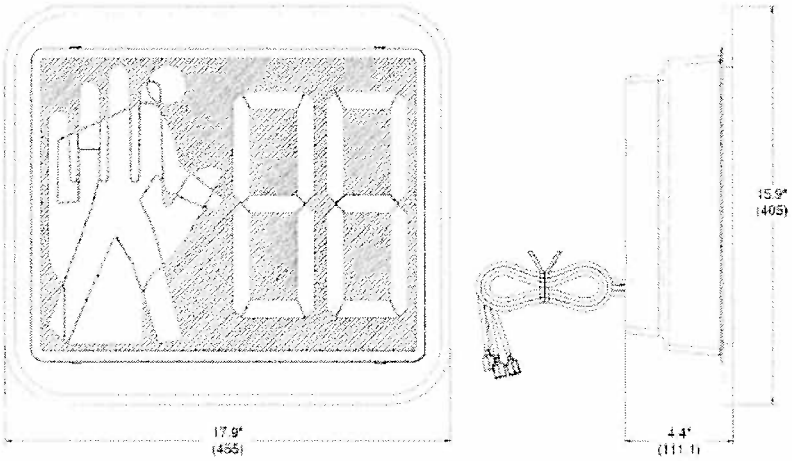
SPC Series

Superior Performance and Reliability

- Intertek ETL verified
- Easy installation into existing signal housings
- Internal conflict monitor prevents simultaneous walk/don't walk indications
- Hand/person monitoring to accommodate up to 8 units connected in parallel
- Patented innovative incandescent optical technology
- Wider viewing angle and enhanced uniformity
- Maintains 70% of the initial lumen intensity after 100,000 hours of operation
- Robust hard-coated and UV-stabilized polycarbonate lens for increased longevity against the elements
- Excellent moisture and dust resistance through complete gasket sealing
- Utilizes constant current source to maintain consistent light output
- Superior thermal management
- Rugged one-piece housing design
- Greater safety and reliability provided by utilizing multiple independent power supplies
- 5-year limited warranty

Mechanical Dimensions [in(mm)]

SPC Digit Height 9"



SPC Series

ETL Intertek
RoHS Compliant
ISO 9001 Registered

LEOTEK
LITE-ON GROUP

LED 16" Pedestrian Signal Module SPC
Superior Performance Countdown Series

Model Specifications and Ordering Options

LED Color/Type	● Portland Orange/AlInGaP	○ Lunar White/InGaN
Operating Temperature: -40°F to 165°F (-40°C to 74°C)		Total Harmonic Distortion (THD): < 20%
Operating Voltage: 80 - 135Vac		Turn-On/Turn-Off Time: < 75msec
Power Factor: > 0.90		Turn-Off Voltage: > 35Vac

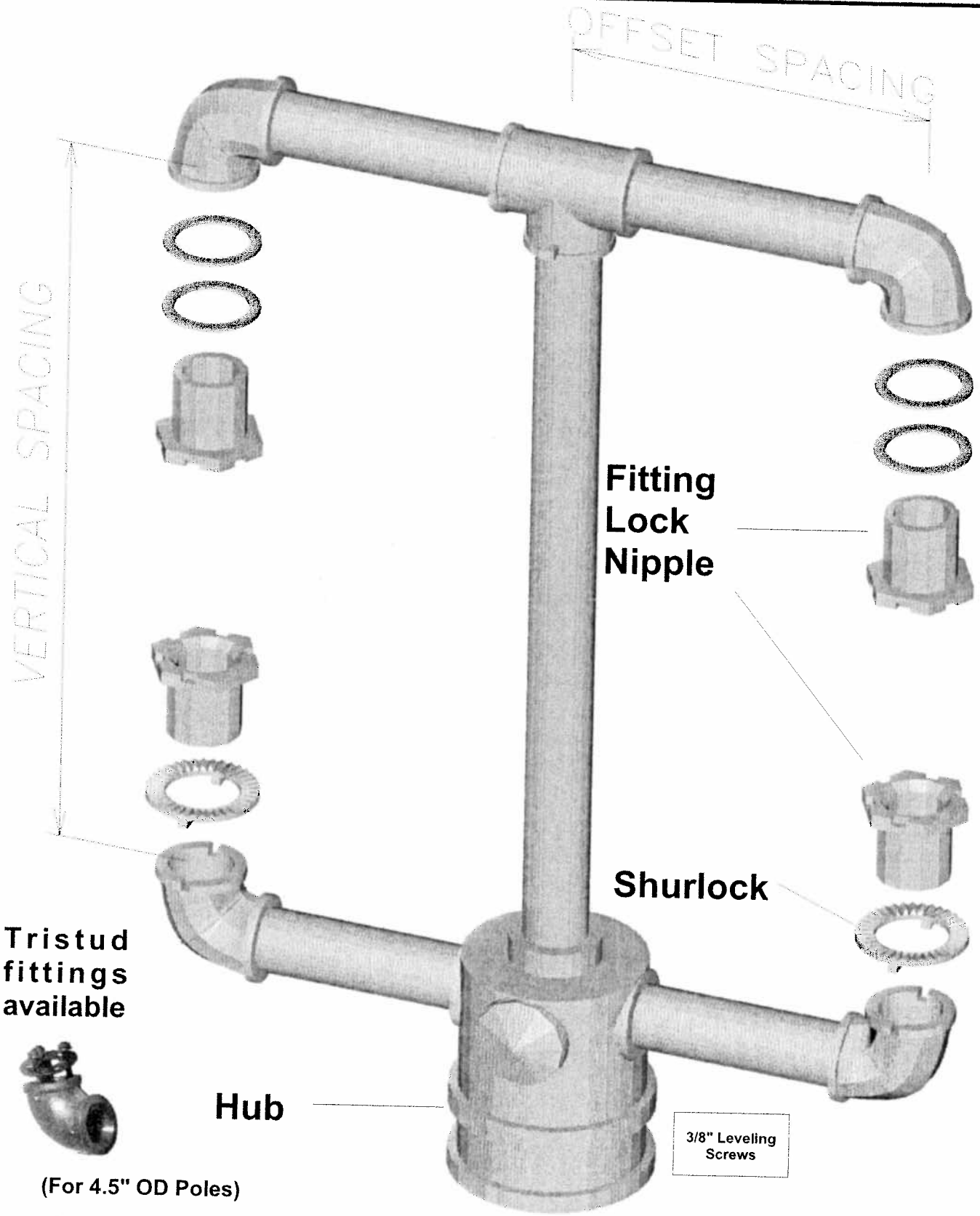
Model Number	Description	Wattage Drawn	Standard
16-inch Incandescent Look Dual Pedestrian Countdown			
TSL-PED-16-SPC-V1*	Full Symbol	Portland Orange Hand – 8.3W Lunar White Man – 8.9W Portland Orange Countdown –5.1W	ITE PTCSI-LED Signal Modules - Aug 4, 2010/ETL[1]

Please note:
*-SW includes an optional on/off toggle switch allowing users the option to turn on/off the countdown digits.
*-DS includes an accessible dip-switch for the user selectable options.
[1]Intertek ETL verified

Standard Conformance

- FCC Compliant for Electrical Noise
- MIL-STD-810F Moisture Resistant
- MIL-STD-883 Mechanical Vibration
- MUTCD Compliant
- NEMA TS2 Section 2.1.6, 2.1.8, Transient Voltage Protection over 2000V
- Exceeds ITE/NEMA Transient Suppression Specification
- Fully Compatible for Preemption

Post Top Framework Multiway



Tristud fittings available

(For 4.5" OD Poles)

Options: Traffic Parts, Inc.

1. # of Directions

1=1-Way Side 2=Two Way
V=Two Way Variable
(different signals on each side)
3=90° Three Way 4=Four Way
5=120° Three Way 6=Cluster

2. Color

Y=Yellow B=Gloss Blk F=Flat Blk
G=Dk Grn L=Light Grn Z=Bronze
X=Special N=None (natural finish)

3. Hub Material

Material	1 row SS	2 row SS
Iron	F	X
Aluminum	A	Y
Brass	B	Z

4. Offset Spacing

1=10.5" (8" & 12" Signals)
2=14.5" (Single Section Ped)
3=8.5" (Spanner/monostud tops)
X=Special

5. Vertical Spacing

1=40 1/2" (Std 3-sec 12" Signal)
2=30" (Std 3-sec 8" Signal)
3=16" (Std Single Sec Ped)
4=27" (Std 2-sec 12" Ped)
5=20" (Std 2-sec 9" Ped)
6=67 1/2" (Std 5-sec 12" Signal)
X=Special

6. Top/Center Pipe

Y=Framework top/centerpipe
N=Framework top/no centerpipe
X=No top assy/centerpipe/sig closures
M=Monstud cast spanner/no centerpipe
S=Steel spanner top/no cp/sig closures
A=Alum spanner top/no cp/sig closures

Nipples & Fittings

7. Nipple Material

F=Iron
A=Aluminum

8. Fitting Material

F=Iron
A=Aluminum
G=Galvanized, Hot Dip

9. Shurlock Method

Shurlock location ->		Bot only	Top & Bot
Separate Ring	Plastic	1	A
	Alum	2	B
	Bronze	3	C
Integral to fitting		4	D

10. Fitting Set Screws

N=No Set Screws Y=With Set Screws

11. Fitting Lock Nipple

F=1 5/8" Lock Nipple, Iron
A=1 5/8" Lock Nipple, Alum
B=1 5/8" Lock Nipple, Brass
N=All Thread with Nut, Iron
T=Tri-Stud (Alum fittings only)
S=Tri-Stud, SS washer

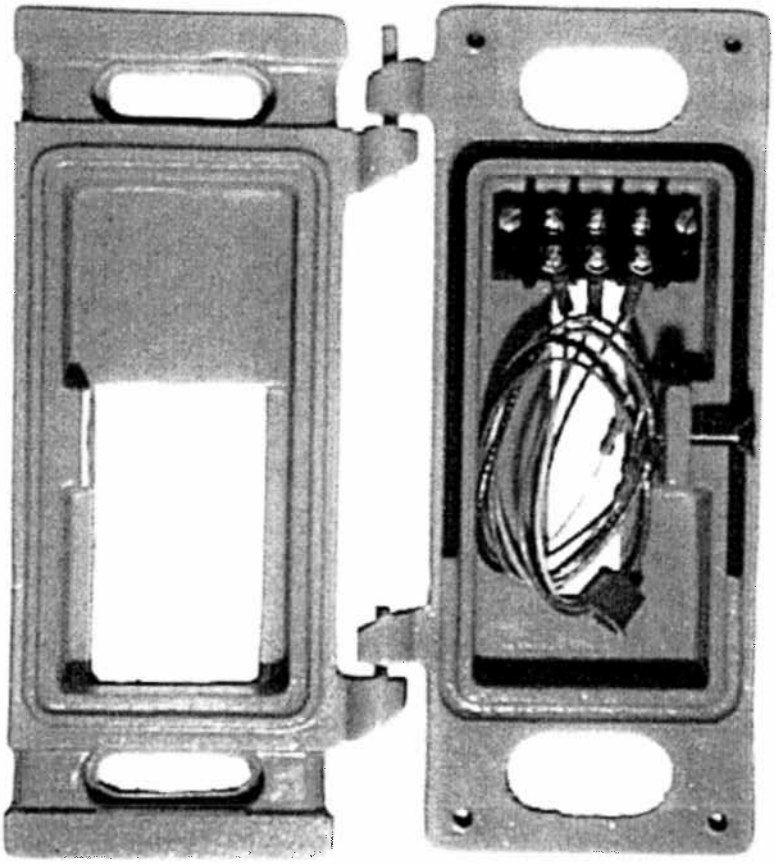
12. Fitting Type

1=Elbow Top, Elbow Bottom
2=Elbow Top, Tee Bottom
3=Tee Top, Tee Bottom
4=Cross Top, Cross Bottom

13. Fitting Closures

P=Plastic A=Aluminum

POSTM	-	2	Y	A	-	2	3	Y	-	A	A	D	-	Y	A	1	-	P			-				
Option Category →		1	2	3		4	5	6		7	8	9		10	11	12		13	14	15		16	17	18	19



Part # 1292

Clam-Door 2 Mounting

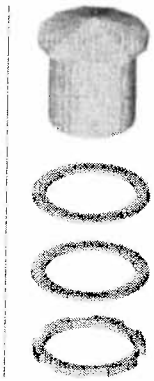
3 position block

(Specify Color)

Item #	Description	Qty
4273	Hex Head Self Tapping Screw, #10 – 32 X 5/8 with washer, plated.	2 ea
5180	Flat Washer, 1/4", stainless.	4 ea
5580	Sponge Gasket, 1/4" X 1/4" with adhesive back.	1 ft
5913	Clam Shell Mount Casting with stainless roll pin hinges only	1 ea
6009	Terminal Block, 3 position 30A.	1 ea
6010	Flat Socket Head Screw, 5/16-18 X 1 1/4", stainless	1 ea
6011	Sponge Gasket, 1/8" thk X 3/16" wide.	1 ft
7204	Hex Bolt with captive washer, 1/4"-20 X 7/8", stainless	4 ea
7791	Wire Assy for Clam Door 24", white-blus-orange, 1/2" plug	1

Post Top One Way

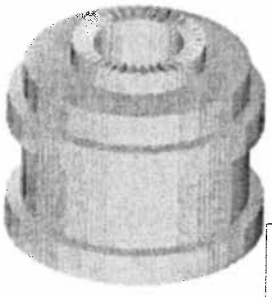
Top Closure



Alum closure w/lock ring

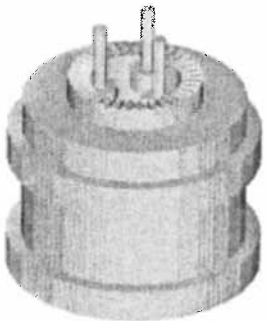
Molded plastic closure

Lock Nipple



3/8" Leveling Screws

Threaded Hub



Tristud Hub

(For 3.5", 4.5" OD Poles)

1. Color

Y=Yellow B=Gloss Blk F=Flat Blk
G=Dk Grn L=Light Grn Z=Bronze
X=Special N=None (natural finish)

2. Top Closure

1=Plastic 2=Alum N=None

3. Hub Material/Set Screws

# rows 3/8" set screws->	1	2
Iron	F	X
Alum	A	Y
Brass	B	Z

4. Hub Configuration

C=Center Mount, Threaded,
No Side Ports
P=Center Mount, Threaded,
4 Side ports w/plastic closures
A=Center Mount, Threaded,
4 Side ports w/alum closures
B=Center Mount, Threaded,
4 Side ports w/no closures
F=Offset Mount, Threaded,
No Side Ports
T=Center Mount, Tri-Stud,
No Side Ports (alum only)
2=Center Mount, Tri-Stud, 3.5" OD,
No Side Ports (alum only)

5. Lock Nipple (1 5/8")

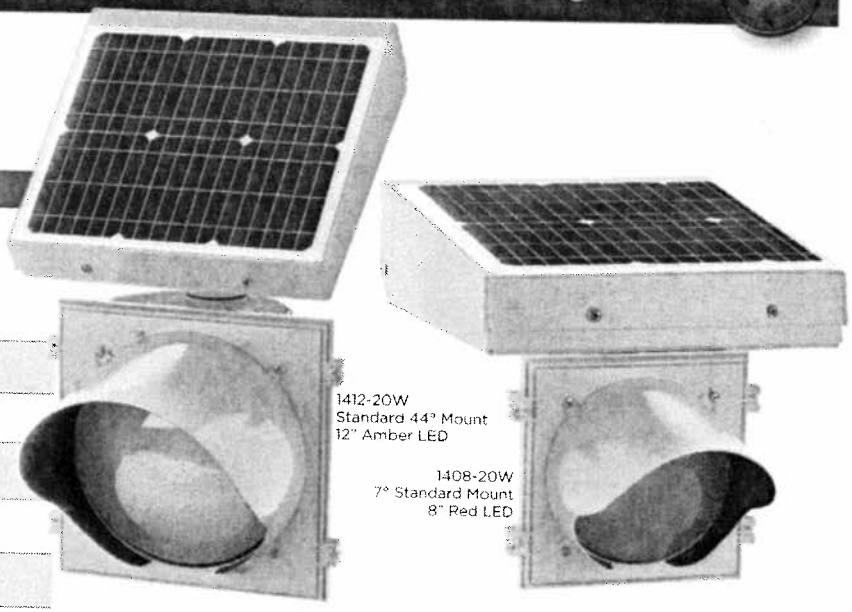
F=Locknipple, Iron X=None
A=Locknipple, Alum
B=Locknipple, Brass
N=All Thread with Nut, Iron
T=Tristud,Pltd hardware
S=Tristud, SS hardware

POST1	-	1	1	A	-	P	A	
Option Category →		*1*	*2*	*3*		*4*	*5*	*6*

JSF TECHNOLOGIES
SOLAR TRAFFIC SOLUTIONS
www.JSFTech.com sales@JSFTech.com 1-800-990-2454

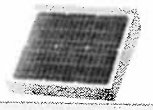
FL-1400-20W 24-Hour Flashing Beacon

FL SERIES



AVAILABLE WITH RED LEDS FOR STOP SIGNS, AMBER LEDS FOR WARNING SIGNS

SELF-CONTAINED 20 WATT SOLAR ENGINE

Solar Panel 	Solar Cell - Monocrystalline Silicon Rated Power (Pmp) 20 Watts Rated Voltage (Vmp) 18 VDC Rated Current (Imp) 1.1 Amps CE and TUV certified
Std. Solar Angle Mount Options	7° (Flat) or 44° (Standard)
Solar Angle Mount Upgrade Options:	67° (Snow Mount)
Standard Battery Bank	AGM 12V, 18 Ah - UL Recognized, field replaceable
Cold Weather Battery Bank Option	AGM 12V, 16 Ah - UL Recognized, field replaceable
Solar Engine Housing Material	A5052 Sheet Aluminum (Enclosure) 6061-T6 Aluminum (Mount)
Solar Engine Dimensions	15.75" x 13.25" X 4.5" (40 x 33.7 x 11.5cm)*

POWER MANAGEMENT

Charged Capacity	Up to 30 days at rated usage (without charging)
Automatic Light Control (ALC)	Various stages of brightness for different solar conditions and battery levels

SYSTEM PROTECTION

Low Voltage Disconnect	9.5 VDC
Over Current Protection	1.8 Amp PTC auto-reset fuse
Self Monitoring	Visual notification of sub-optimal operation

LED BEACON SIGNAL HEAD

Standard Followed	ITE VTCSH-STD 2005
LED Beacon Signal Head Setup	Single Head Pole Top Mounting
Lens Material	UV Stabilized Polycarbonate
LED Housing	100% Polycarbonate
LED Size	8" Diameter (200 mm)* 12" Diameter (300mm)*
LED Housing Dimensions	8" head - 14" x 10" x 6" (35 x 25 x 16 cm)* 12" head - 17" x 14" x 6" (44 x 25 x 17 cm)*
Std. LED Color Options	Amber or Red (custom colors available)

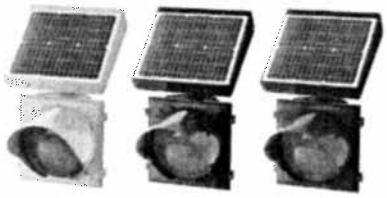
SYSTEM OPTIONS

LED & Solar Engine Housing Colors	Yellow, Black or Green (custom colors available)
Mounting Options	Round Pole Collars: 2.5", 3.5", 5" and 6" Square Wood Post Saddle: 4x4", 6x6" Telespar & U-Channel: 2" Side Mount Bracket: 12", 18" and custom lengths available Custom Mounts Available

SYSTEM OVERVIEW

Compliance	FHWA MUTCD Compliant FCC EMC Class A Verified
Standard (Std.) Operation	Continuous Flashing, 24-hours a day, 365 days a year
Activation Duration	Continuous Flashing from dawn to dusk Continuous Flashing from dusk to dawn Manual ON/OFF Capability (for user-provided switch)
Flash Pattern Options	MUTCD Standard (0.5 seconds ON, 0.5 seconds OFF) JSFT Strobe Energy Efficient Flash Pattern**
Std. Operating Temperature	14°F to + 165°F (-10°C to +74°C)
Cold Weather Upgrade Option	-40°F to +176°F (-40°C to +80°C)
System Voltage	12 VDC
Packaged Dimensions	8" head - 22" x 18" x 16" @ 36 lbs (56 x 46 x 41cm @ 16.3 kg)* 12" head - 24" x 18" x 18" @ 38 lbs (61 x 46 x 46cm @ 17.2 kg)*

SIGNAL HEAD AND SOLAR ENGINE AVAILABLE WITH STANDARD COLOURS; YELLOW, BLACK, OR GREEN. CUSTOM COLOURS ARE ALWAYS AVAILABLE.



SALES
Toll-Free 1.800.990.2454
sales@jsftech.com

SUPPORT
Toll-Free 1.800.990.2454
support@jsftech.com

ADDRESS
6582 Bryn Road,
Victoria, BC V8M 1X6

WARRANTY 5-year Limited Warranty for defects in workmanship and materials (excludes batteries and vandalism)

*All measurements and weights are approximate **50% power consumption of MUTCD

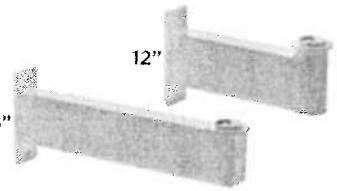
www.JSFTech.com sales@JSFTech.com 1-800-990-2454

JSF TECHNOLOGIES
SOLAR TRAFFIC SOLUTIONS

FL-1400-20W 24-Hour Flashing Beacon

FL SERIES

ROUND COLLARS

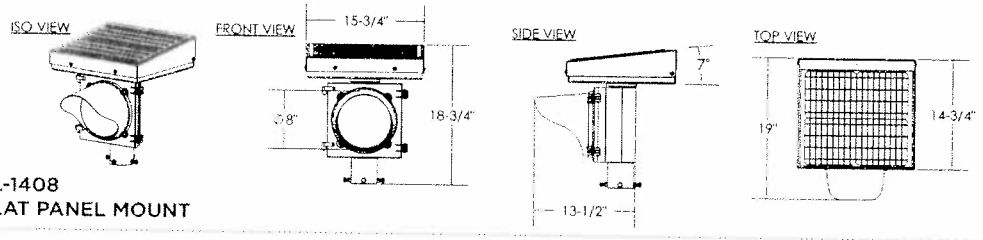


MOUNTING ARMS
(CUSTOM LENGTHS AVAILABLE)

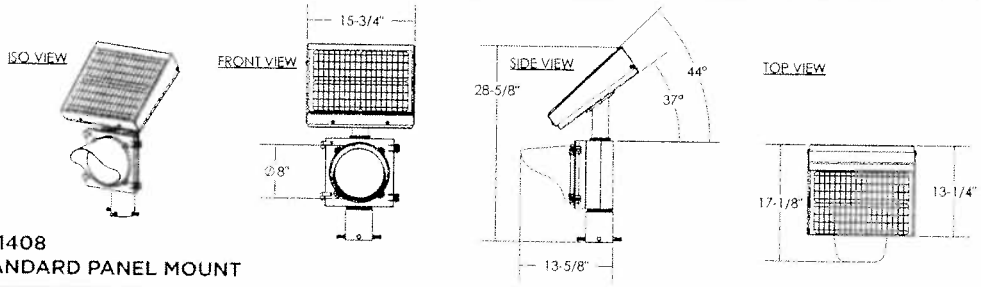
WOOD POSTS

TELESPAR MOUNT

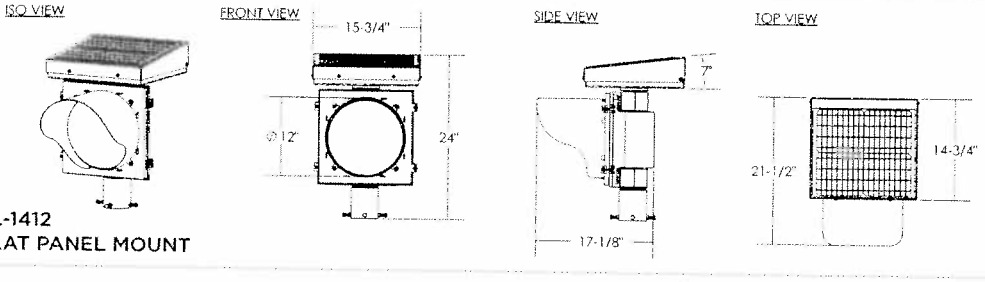
MOUNTING OPTIONS



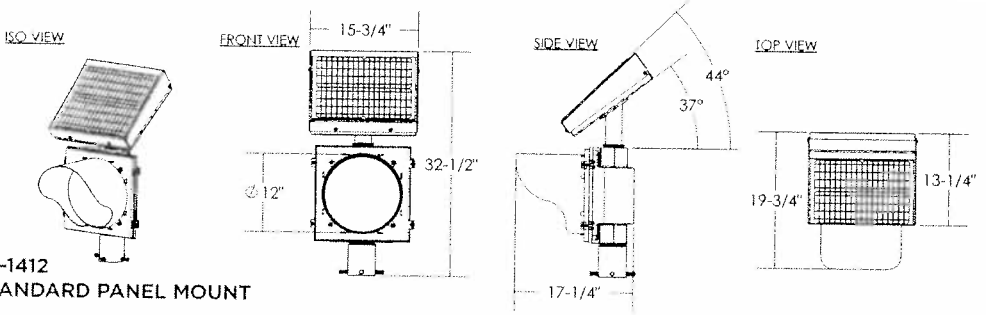
FL-1408
FLAT PANEL MOUNT



FL-1408
STANDARD PANEL MOUNT



FL-1412
FLAT PANEL MOUNT



FL-1412
STANDARD PANEL MOUNT

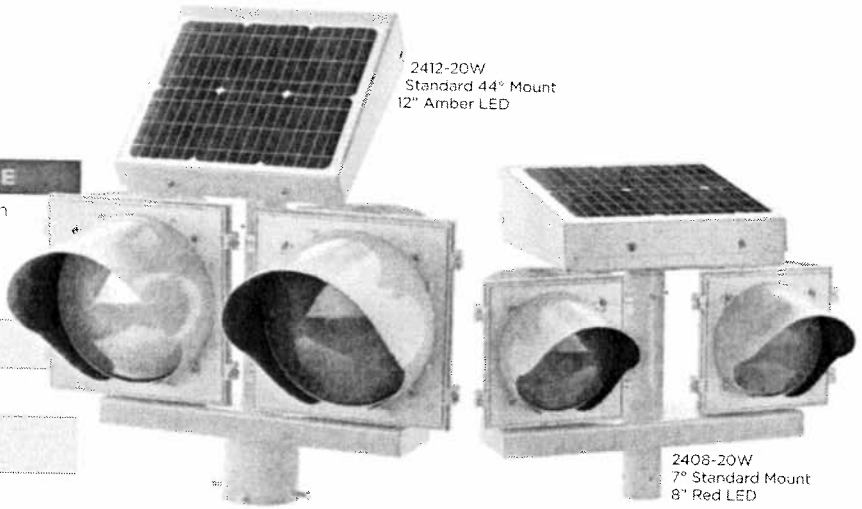
SYSTEM DRAWINGS

JSF TECHNOLOGIES
SOLAR TRAFFIC SOLUTIONS

www.JSFTech.com sales@JSFTech.com 1-800-990-2454

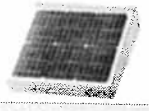
FL-2400-20W 24-Hour Flashing Beacon

FL SERIES



AVAILABLE WITH RED LEDS FOR STOP SIGNS, AMBER LEDS FOR WARNING SIGNS

SELF-CONTAINED 20 WATT SOLAR ENGINE

Solar Panel 	Solar Cell - Monocrystalline Silicon Rated Power (Pmp) 20 Watts Rated Voltage (Vmp) 18 VDC Rated Current (Imp) 1.1 Amps CE and TUV certified
Std. Solar Angle Mount Options	7° (Flat) or 44° (Standard)
Solar Angle Mount Upgrade Options:	67° (Snow Mount)
Standard Battery Bank	AGM 12V, 18 Ah - UL Recognized, field replaceable
Cold Weather Battery Bank Option	AGM 12V, 16 Ah - UL Recognized, field replaceable
Solar Engine Housing Material	A5052 Sheet Aluminum (Enclosure) 6061-T6 Aluminum (Mount)
Solar Engine Dimensions	15.75" x 13.25" x 4.5" (40 x 33.7 x 11.5cm)*

POWER MANAGEMENT

Rated Usage	300 cycles per day, 25 second activation
Charged Capacity	Up to 30 days at rated usage (without charging)
Automatic Light Control (ALC)	Various stages of brightness for different solar conditions and battery levels

SYSTEM PROTECTION

Low Voltage Disconnect	9.5 VDC
Over Current Protection	1.8 Amp PTC auto-reset fuse
Self Monitoring	Visual notification of sub-optimal operation

LED BEACON SIGNAL HEAD

Standard Followed	ITE VTCSH-STD 2005
LED Beacon Signal Head Setup	Dual Heads Pole Top Mounting
Lens Material	UV stabilized polycarbonate and Abrasion resistant
LED Housing	100% Polycarbonate
LED Size	8" Diameter (200 mm)* 12" Diameter (300mm)*
LED Housing Dimensions	8" head - 14" x 10" x 6" (35 x 25 x 16 cm)* 12" head - 17" x 14" x 6" (44 x 25 x 17 cm)*
Std. LED Color Options	Amber or Red (custom colors available)

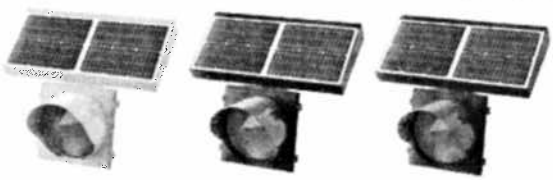
SYSTEM OPTIONS

LED & Solar Engine Housing Colors	Yellow, Black or Green (custom colors available)
Mounting Options	Wood Post Saddle Mount: 4" x 4", 6" x 6" Round Collar Mount: 2.5", 3.5", 4.5", 5" Side Mount Bracket: 18", 36", and 48"

SYSTEM OVERVIEW

Compliance	FHWA MUTCD Compliant FCC EMC Class A Verified
Standard Operation	Continuous Flashing, 24-hours a day, 365 days a year
Activation Duration	Continuous Flashing from dawn to dusk Continuous Flashing from dusk to dawn Manual ON/OFF Capability (for user-provided switch)
Flash Pattern Options	MUTCD Standard (0.5 seconds ON, 0.5 seconds OFF) JSFT Strobe Energy Efficient Flash Pattern** JSFT Wig - Wag Strobe Energy Efficient Flash Pattern** Wig - Wag MUTCD
Std. Operating Temperature	-14°F to +165°F (-10°C to +74°C)
Cold Weather Upgrade Option	-40°F to +176°F (-40°C to +80°C)
System Voltage	12 VDC
Packaged Dimensions	8" head - 35" x 28" x 17" @ 66 lbs (89 x 71 x 43cm @ 30 kg)* 12" head - 35" x 28" x 17" @ 76 lbs (89 x 71 x 43cm @ 34.5 kg)*

SIGNAL HEAD AND SOLAR ENGINE AVAILABLE WITH STANDARD COLOURS: YELLOW, BLACK, OR GREEN. CUSTOM COLOURS ARE ALWAYS AVAILABLE.



SALES
Toll-Free 1.800.990.2454
sales@jsftech.com

SUPPORT
Toll-Free 1.800.990.2454
support@jsftech.com

ADDRESS
6582 Bryn Road,
Victoria, BC V8M 1X6

WARRANTY 5-year Limited Warranty for defects in workmanship and materials (excludes batteries and vandalism)

*All measurements and weights are approximate **50% power consumption of MUTCD

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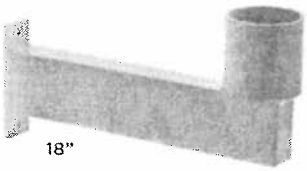
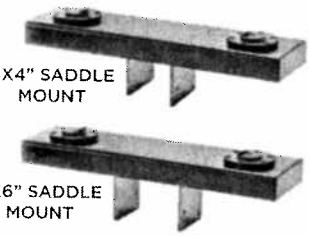
JSF TECHNOLOGIES
SOLAR TRAFFIC SOLUTIONS

FL-2400-20W 24-Hour Flashing Beacon

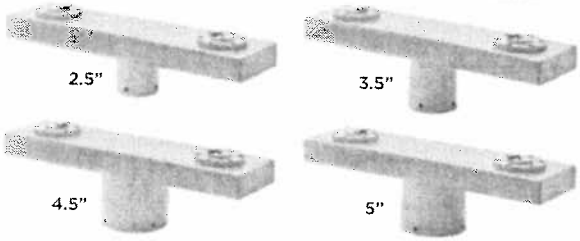
FL SERIES



SIDE MOUNT BRACKET
ALSO AVAILABLE IN 36" & 48"

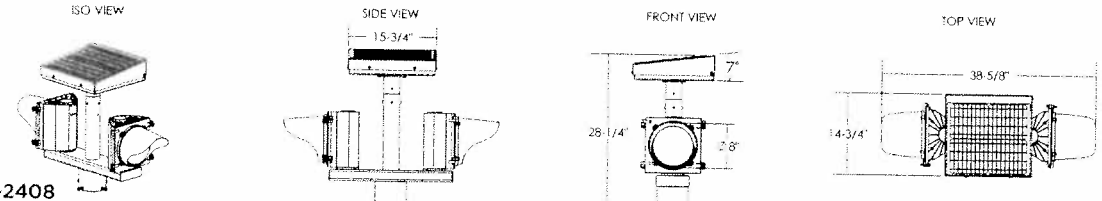


WOOD POST MOUNT

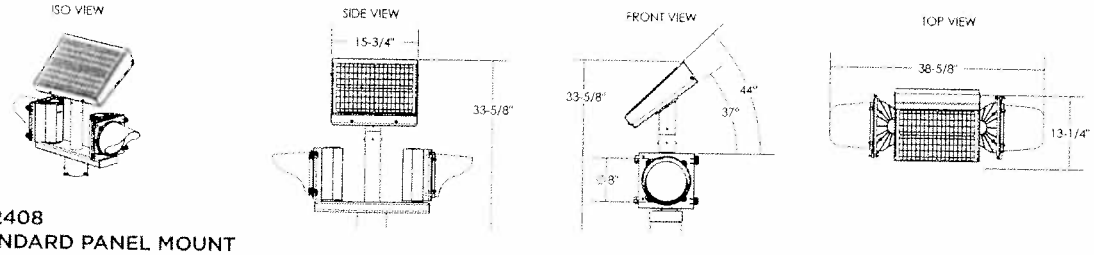


STANDARD ROUND MOUNT

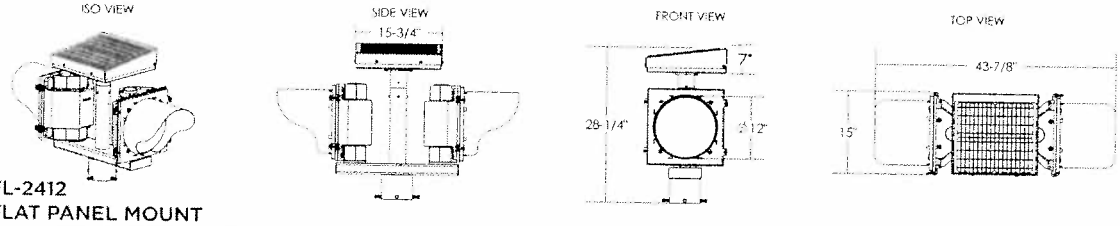
MOUNTING OPTIONS



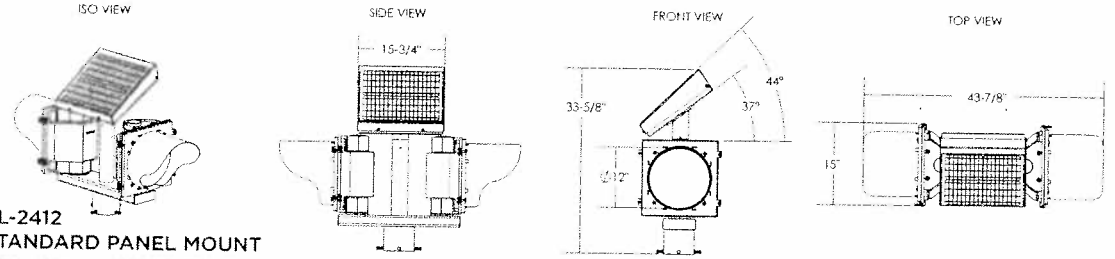
FL-2408
FLAT PANEL MOUNT



FL-2408
STANDARD PANEL MOUNT



FL-2412
FLAT PANEL MOUNT



FL-2412
STANDARD PANEL MOUNT

SYSTEM DRAWINGS

Traffic Signs, Inc.

LED (Light Emitting Diode) Blank Out Signs

1.0 Scope & Background

1.1 This document provides an overview of the technical requirements incorporated by Traffic Signs, Inc. to manufacture safe and reliable signage for use in traffic control.

1.2 LED signs designed and manufactured by Traffic Signs, Inc. are far more reliable than traditionally illuminated signs and require little or no maintenance. LED signs generally use only a small fraction of the power required by earlier generation signs and, are more economical to operate.

LEDs are "solid-state" devices because they are made of semi-conductor material held in a solid form that does not move and are virtually insensitive to movement or vibration of the component. This property, along with wire wrapped connections, helps make our LED signs extremely durable.

2.0 General

2.1 The LED sign shall be capable of displaying the message(s) when energized and be effectively blank when not energized. Signs are available for various MUTCD messages as well as custom messages as required.

3.0 Mechanical

3.1 The sign shall be constructed using weatherproof aluminum housings with outside dimensions 2 7/8" wider and taller than the specified face dimension. The housing shall consist of an 8" deep, .125" thick, extruded aluminum body, and a .063" aluminum back. All corners are TIG (Tungsten Inert Gas) welded to provide a weatherproof seal around the entire housing.

3.2 The door shall be constructed of .125" thick extruded aluminum. Two corners are TIG welded with the other two screwed together to make one side of the door removable for installation of the faceplate and 1/8" nominal polycarbonate lens. The door is fastened to the housing on the left (or bottom) by a full length, .040" x 1 ¼" open

stainless steel hinge. The door shall be held secure onto a 5/32" thick neoprene gasket by stainless steel quarter-turn link locks.
3.3 A three-sided visor made of .063" aluminum shall be fitted to the door to act as a sunshade and improve the visibility of the message.
3.4 All surfaces of the sign shall be etched and primed in accordance to industry standards before receiving two color coats of industrial enamel. Powder Coat, anodize or mill finishes are also available.
3.5 The perimeter of the polycarbonate lens and the inside of the .063 aluminum back shall be sealed by a continuous bead of silicone caulk to prevent moisture intrusion inside the sign.
3.6 All fasteners and hardware shall be corrosion resistant stainless steel. No tools are required for routine maintenance.

4.0 Electrical – Wiring/Control
4.1 Field wires shall carry the control voltage of 120 VAC into the sign and connect to a barrier type terminal block. All terminals shall be clearly marked as to their function.
4.2 A one-amp rated fuse shall be mounted in the primary 120 VAC power line for each power supply.

5.0 Electrical - Power Supply
5.1 A class 2 power supply shall convert 120VAC to 48VDC. The power supply shall be IP67 or better and have a load current rating of 1.2 amperes. Typically, two identical power supplies will be incorporated into each sign. Each supply is capable of handling the full load independently. This provides redundancy and thereby increases reliability of the system.
5.2 Power to LEDs will be delivered through a custom Printed Circuit Board (PCB). The PCB shall be capable of allowing two power supplies to be properly paralleled using diode isolation between positive terminals of the supplies.
5.3 PCB substrate material shall be 0.062" thick G-10 glass laminate of FR-4 grade and comply with UL-94VO flame-retardant specification. The PCB shall limit LED current. Precision current adjustment is incorporated in the PCB to facilitate matching current between different colored strings of series wired LEDs and shall be preset by factory technicians. Connection of the LED series wired strings shall be made by a minimum of five wire wrap turns around a 0.025" square wire wrap pin for maximum reliability.

6.0 LEDs
6.1 All LEDs will be mounted so as to protrude through the faceplate between 0.123 and 0.133 Inches. Mounting clips shall secure the LEDs to the faceplate. The clips shall be a one-piece configuration of black plastic. The LED mounting clip shall have the LED inserted into it and securely align and hold the LED in position perpendicular to the faceplate. Apparent spacing between LEDs shall be uniform. Spacing may vary slightly when measured numerically to compensate for crossing over of two or more messages and for optimal appearance of all symbols. Sign message shall look as symmetrical and attractive as possible.

6.2 LEDs will be wired in series strings of appropriate length depending upon color and forward voltage of the LEDs being used in the string. Because of potential failure from vibration, all connections shall be wire wrapped with a minimum of five turns per MIL-specification, section 217. A four-corner wrap post with five windings of the conductor wire results in 20 paralleled contact zones, thus 20 times the contact as a solder point. This means that the entire contact surface is greater than the cross-section of the wire itself to ensure a secure and permanent connection under all conditions traffic control devices are normally subjected to. All wrap connections shall be made using #26AWG Kynar insulated wire wrap type wire.
6.3 After final testing the entire back side of the LED assembly including PCBs shall be coated with Silicone Conformal Coating. This process gives the completed assembly a protective barrier against moisture and potential corrosion for extended life. Installation of the protective back cover is the last operation prior to the assembly being installed in the sign.

7.0 Environmental

7.1 Operating and storage temperature range shall –40°F to +165°F. Operating and storage humidity range shall be 10 to 90% non-condensing. To maintain the product warranty, stored signs must be carefully and properly stored indoors and in an upright position.

8.0 Electromagnetic Compatibility

8.1 System shall meet FCC part 15-A for radio interference and conducted line noise.

9.0 Reliability

9.1 The LED sign unit utilizes LEDs with 100,000 hour rated life. This assumes no physical damage from external sources such as mechanical impact, fire, lightning strike, etc.