



with Clear Duty® Technology

4x2 FASCIA LIGHTS - 4" ECE R65 Class 2 Certified

EMPSA05(xx)-(x) - Quick Mount, Screw Mount, & Stud Mount

TECHNICAL SPECIFICATIONS

Y

d Mount	Dimensions (From Mounting Surface)			
	4" Screw Mount:		4.53"L x 1.50"H x 0.43"D	
	4" Stud, Threaded Mount:		4.07"L x 1.50"H x 0.43"D	
	4" Quick Mount:		4.07"L x 1.50"H x 0.47"D	
	Input Voltage:		9-32Vdc	
	4" CURRENT CONSUMPTION (Amps)			
	12.8Vdc		25.6Vdc	
	Peak	Average	Peak	Average
Red	0.95	0.48	0.48	0.24
Amber, White	1.15	0.6	0.6	0.3
Blue	1.6	0.8	0.8	0.4

⚠ WARNING

- HIGH CURRENT interconnects must be properly terminated. Poor crimp quality can cause heat build-up and fire. Follow crimp connector manufacturer instructions.
- DO NOT install this product or route any wires in the Air Bag Deployment Zone. Refer to vehicle Owner's Manual for deployment zones.
- Unit may become hot to touch during normal operation.
- Failure to properly install connectors, fuses or wiring may cause vehicle failure or fire.
- Installation must only be performed by trained technician. Installer must determine vehicle wiring configuration and proper integration of system.
- Use proper wire gauge. All power wires connecting to positive (+) or negative (-) battery terminal or local chassis ground (-) must be sized to supply at least 125% of max. current and properly fused at power source.
- Install protective grommets when routing wire through firewall or metal.

⚠ WARNING

This product contains high intensity LED devices.
To prevent eye damage, DO NOT stare into the light beam at close range.

NOTICE:

Installers and users must comply with all applicable federal, state and local laws regarding use and installation of warning devices.

Improper use or installation may void warranty coverage.

To review our Limited Warranty Statement & Return Policy for this or any SoundOff Signal product, visit our website at www.soundoffsignal.com/tech-services/returns/.

If you have questions regarding this product, contact **Technical Services**, Monday - Friday, 8 a.m. to 5 p.m. ET at 1.800.338.7337 (press #4).

Questions or comments that do not require immediate attention may be emailed to techservices@soundoffsignal.com.

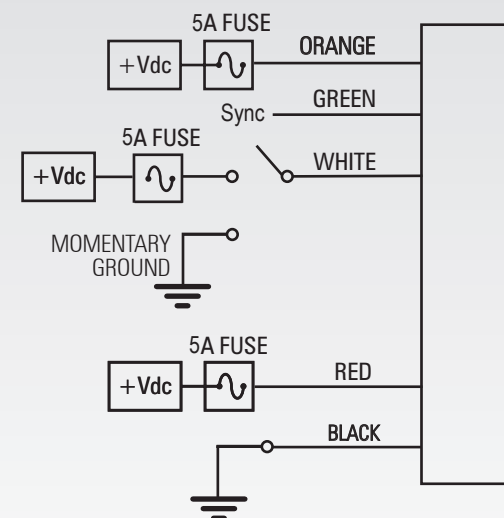
WIRE HOOK-UP TABLE

WIRE COLOR:	FUNCTION:
RED	Power (Color 1) By Day
BLACK	Ground
GREEN**	Sync2 *
WHITE to GROUND	Setup Wire (See pg. 8*)
WHITE to POWER	By Night Function Wire
ORANGE	Power (Color 2) By Day

** To sync multiple mPower lights, connect the Green wire from each light together.

* Will NOT work w/ other sync products such as Ghost, LED3, & 4 wire Intersector w/external flasher.

*Will Work with Sync 2 products nFORCE Secondary Lights, nFORCE FIT and 5 wire Intersector Lights.



By Day Function:

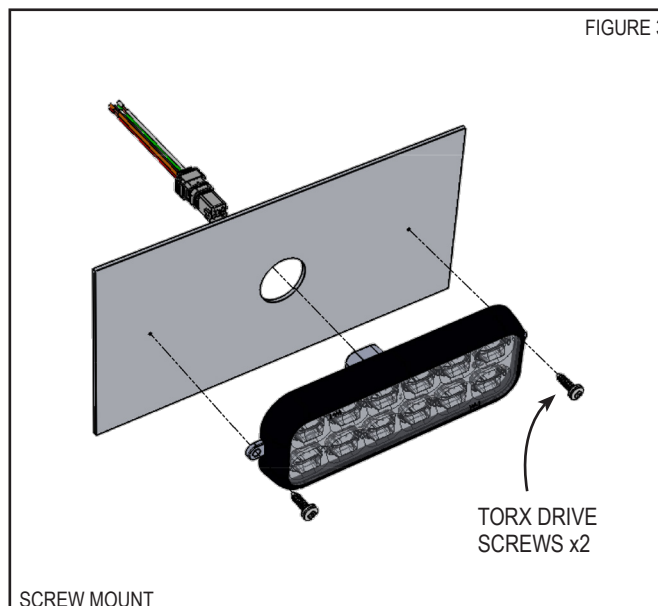
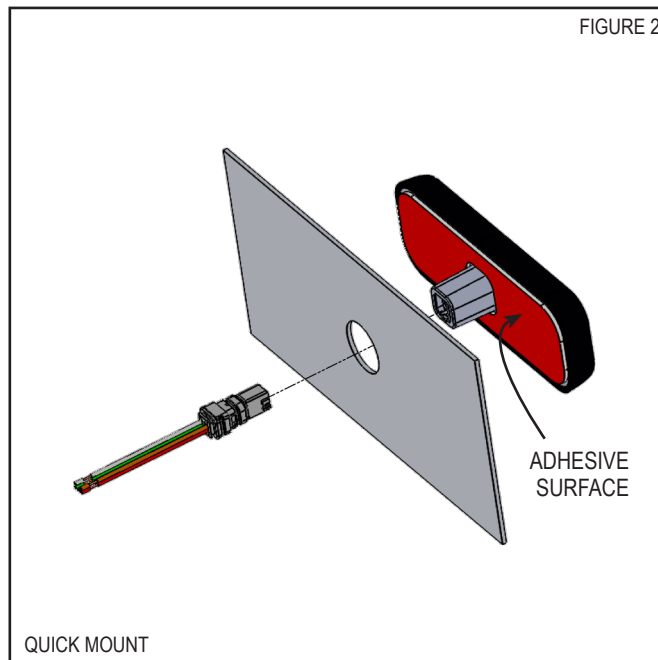
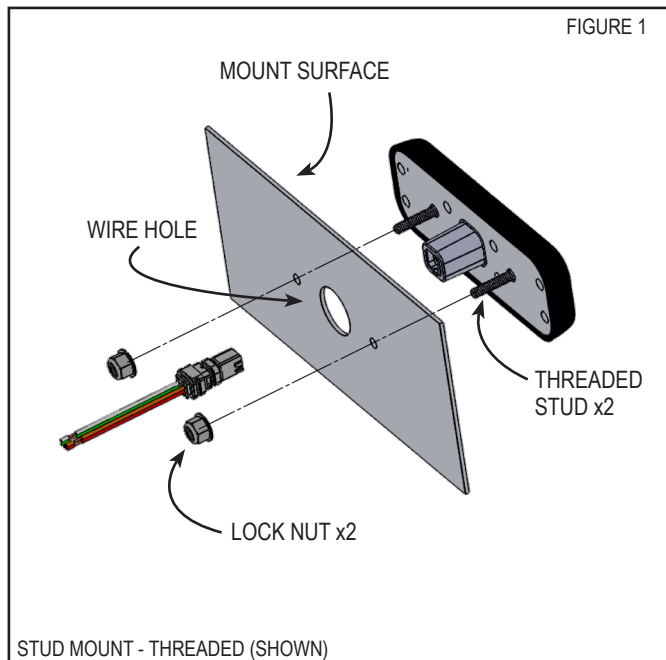
Standard Intensity for day time use. Apply +Vdc to RED and/or ORANGE wires.

By Night Function:

Reduced Intensity for night time use. Apply +Vdc to WHITE wire with power applied to RED and/or ORANGE wires.

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INSTALLATION:

Stud Mount (Figure 1)

1. Pre-Drill per stud mount pattern indicated on page 7 or per the supplied mounting template.
2. Clean the surface, as required.
3. Deburr hole, as required.
4. Make wire connections and feed wire through the drilled wire hole.
5. Install light, inserting 2 studs into the 2 drilled holes.
6. Install 2 lock nuts onto studs behind mount surface. After the nut makes full contact with the mounting surface, hand tighten 1/8th turn (torque no more than 15 in-lbs.)



DO NOT USE POWER TOOLS TO TIGHTEN

Quick Mount (Figure 2)

1. Pre-Drill per quick mount pattern indicated on page 8 (Wire hole only.)
2. Deburr hole as required.
3. Clean surface with supplied alcohol wipe.
4. Make wire connection and feed wire through the drilled wire hole.
5. Remove adhesive backer and align light into desired position. Apply to surface and hold firmly for 30 seconds. **CAUTION! APPLY UNIFORM PRESSURE ACROSS FULL FACE OF LIGHT.**



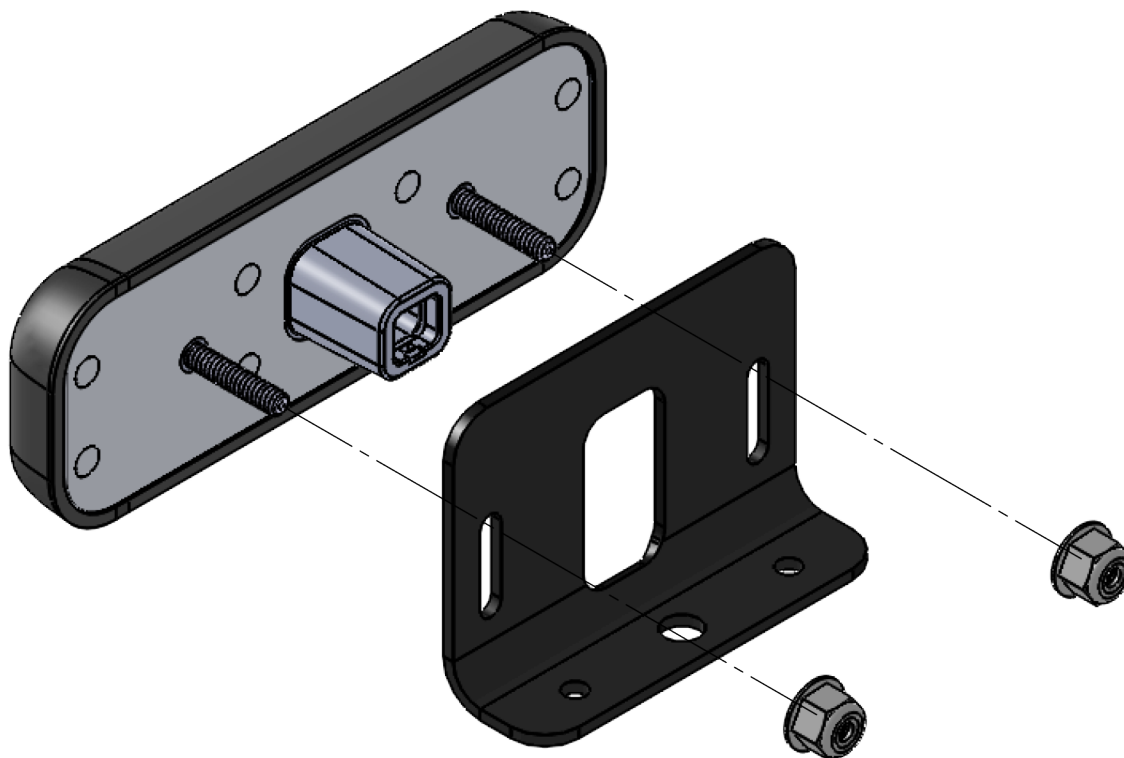
DO NOT USE POWER TOOLS TO TIGHTEN

Screw Mount (Figure 3)

1. Pre-Drill per screw mount pattern indicated on page 8 or page 11.
2. Deburr and clean the surface, as required.
3. Make wire connections and feed the wire through the drilled wire hole.
4. Install light with 2x Torx drive screws and hand tighten only until mount surface and light are flush.



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90° METAL BRACKET
MULTI-MOUNT

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INSTALLATION:

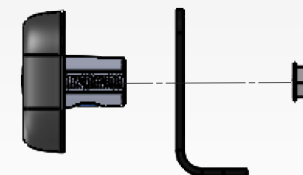
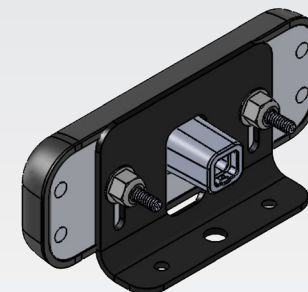
90° Metal Bracket

1. Pre-drill mount holes as required (bracket holes and spacing are indicated on page 7).
2. Place bracket onto desired vehicle's surface and secure with screws (not provided.)
3. Install bracket onto mpower® stud mount, threaded light, as indicated. Wire passes through center hole.
4. Install bracket onto mpower® stud mount, threaded light, as indicated. Wire passed through rear relief.
5. Install the 2 lock nuts onto mpower® stud mount, threaded light. Hand tighten until final adjustment.
6. Adjust angle of light to desired direction and tighten 2 lock nuts until secure.
7. After the lock nuts make full contact with the mounting surface, hand tighten 1/8th turn (torque no more than 15 in-lbs.)



**DO NOT USE POWER
TOOLS TO TIGHTEN**

8. Make wire connections.





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OVER-VOLTAGE PROTECTION

When an over-voltage condition is detected, the module will flash an over-voltage warning pattern of 50mS ON/950mS OFF to alert of the over-voltage condition and protect the electronics from damage due to heat/voltage.

THERMAL COMPENSATION PROTECTION

The LED module is designed to provide maximum power output while providing protection to the electronic components by reducing the output power at extreme temperatures.

SYNC 2

Synchronizing the flashing of multiple light modules is accomplished by connecting the Green wires of different light modules together. Up to 24 light modules can be connected for synchronized flashing. All light module flash patterns must be set to the same flash pattern # to ensure proper operation. Refer to the Sequence Type section in Set-Up Table (page 8) to setup light modules to flash in alternate or simultaneous flash pattern. NOTE: **Will NOT** work with non-Sync 2 products such as Ghost and LED3. **WILL WORK** with Sync 2 products nFORCE Secondary Lights, nFORCE FIT, mpower and 5 wire Intersector Lights.

FLASH PATTERNS	
PATTERN #	SINGLE COLOR
1	ECE Single
2	ECE Dual
3	ECE Triple

FUNCTION TABLES

Changing the function table is only enabled when the LED module is in primary flashing mode. The functional operation of the LED module can be changed while applying +V to the Red wire with the black wire connected to ground. When the light is flashing, momentarily connect the White wire to ground for >4S and <5S (light will go steady high, steady low, off, steady high, steady low) then release. The function table will now advance to the next table (table 1 to table 2, table 2 to table 3, table 3 to table 4, or table 4 to table 1). Repeat above process until required function table is active.

FUNCTION TABLE 1				
WIRE			LIGHT	
RED	ORANGE	WHITE	SINGLE	SPLIT
X			FLASH	FLASH COLOR 1
	X		FLASH LOW POWER	FLASH COLOR 2
X	X		FLASH LOW POWER	FLASH DUAL
		X	NO OP	NO OP
X		X	FLASH LOW POWER	FLASH COLOR 1 LOW POWER
	X	X	FLASH LOW POWER	FLASH COLOR 2 LOW POWER
X	X	X	FLASH LOW POWER	FLASH DUAL LOW POWER

FUNCTION TABLE 2				
WIRE			LIGHT	
RED	ORANGE	WHITE	SINGLE	SLIT
X			FLASH	FLASH COLOR 1
	X		CRUISE	CRUISE COLOR 1
X	X		FLASH	FLASH COLOR 1
		X	NO OP	NO OP
X		X	FLASH LOW POWER	FLASH COLOR 1 LOW POWER
	X	X	CRUISE	CRUISE COLOR 1
X	X	X	FLASH LOW POWER	FLASH COLOR 1 LOW POWER

FUNCTION TABLE 3				
WIRE			LIGHT	
RED	ORANGE	WHITE	SINGLE	SPLIT
X			FLASH	FLASH COLOR 1
	X		STEADY	STEADY COLOR 2
X	X		STEADY	FLASH COLOR 1 / STEADY COLOR 2
		X	NO OP	NO OP
X		X	CRUISE	FLASH COLOR 1 LOW POWER
	X	X	STEADY	STEADY COLOR 2
X	X	X	STEADY	FLASH COLOR 1 LOW POWER / STEADY COLOR 2

NOTE: Color swap feature works for split color lights



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SIMULTANEOUS/ALTERNATE

This function can only be changed when the LED module is in primary flashing mode and only has an effect when at least 2 LED modules have the green sync wire connected together. When the light is flashing, momentarily connect the white wire to ground for >3S and <4S (light will go steady high, steady low, off, steady high) then release. The light module will switch between applicable phases each time this sequence is done. To have light modules flash simultaneously, both light modules need to be set to the same sequence type (Set-Up Table). To have light modules flash alternately, the light modules need to be set to different sequence types (Set-Up Table).

ADVANCE PATTERN

Flash pattern can only be changed when the LED module is in primary flashing mode. When the light is flashing, momentarily connect the white wire to ground for >250mS and <1S (light will go steady high) then release. The flash pattern will advance to the next pattern. If the light module was at the last pattern, the pattern will reset to the 1st pattern.

BACKUP PATTERN

This function is only valid when the LED module is in primary flashing mode. When the light is flashing, momentarily connect the white wire to ground for >1S and < 2S (light will go steady high, steady low) then release. The flash pattern will backup to the previous pattern. If the light module was at the first pattern, the pattern will change to the last pattern on the list.

PATTERN RESET

This function is only valid when the LED module is in primary flashing mode. When the light is flashing, momentarily connect the white wire to ground for >5S and <6S (light will go steady high, steady low, off, steady high, steady low, off) then release. The flash pattern will reset to the 1st pattern in the list.

FACTORY RESET

This function is only valid when the LED module is in primary flashing mode. When the light is flashing, momentarily connect the white wire to ground for >6S and <7S (light will go steady high, steady low, off, steady high, steady low, off, steady high) then release. The LED module will reset to: pattern=1, Function Table=1, Simultaneous.

SETUP TABLE			
SECONDS		USER INTERFACE	
FROM	TO	VISUAL FEEDBACK	ACTION TAKEN
0	1	STEADY-HIGH (60%)	FORWARD ONE PATTERN
1	2	STEADY-LOW (30%)	BACKWARD ONE PATTERN
2	3	OFF	COLOR SWAP (OFF OR ON) (NOT APPLICABLE FOR SINGLE COLOR LIGHT)
3	4	STEADY - HIGH (60%)	SEQUENCE TYPE: SIMULTANEOUS OR ALTERNATE
4	5	STEADY - LOW (30%)	SEE FUNCTION TABLE
5	6	OFF	RESET TO PATTERN 1
6	7	STEADY-HIGH (60%)	FACTORY RESET (PATTERN 1, COLOR SWAP: OFF, SIMULTANEOUS) SEPARATE COLOR CONTROL: OFF
If held longer than 7 seconds, the light will go back to flashing the current pattern and no action will be taken.			





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REMOTE MODE: FOR USE WITH bluePRINT® SYSTEM ONLY

Connecting the Green with Black wire to ground before applying power to the Red and/or Red/White wires will place the LED module into remote mode. The light output color can then be directly controlled by the enable wires (Red = Color 1, Red/White = Color 2.)

For Cruise mode or Low Power control of the LED module, the signal to the control wires must be 100 +/- 2Hz using the duty cycle inputs listed below to produce the light output.

Cruise Mode Duty Cycle (@ 100Hz)	
Input	Light Output
40%	OFF
50%	5%
60%	10%

Low Power Flash D.C. (@ 100Hz)	
Input	Light Output
70%	30%
80%	40%
90%	50%

4x2 mpower® Secondary LED Light Remote Mode Functionality			
WIRE		LIGHT	
RED	ORANGE	SINGLE	SPLIT
CRUISE	*	CRUISE COLOR 1	CRUISE COLOR 1 (TOP)
FLASH	*	FLASH COLOR 1	FLASH COLOR 1 (TOP)
STEADY	*	STEADY COLOR 1	STEADY COLOR 1 (TOP)
*	CRUISE	NO OP	CRUISE COLOR 2 (BOTTOM)
*	FLASH	NO OP	FLASH COLOR 2 (BOTTOM)
*	STEADY	NO OP	STEADY COLOR 2 (BOTTOM)

*Any wire state is valid

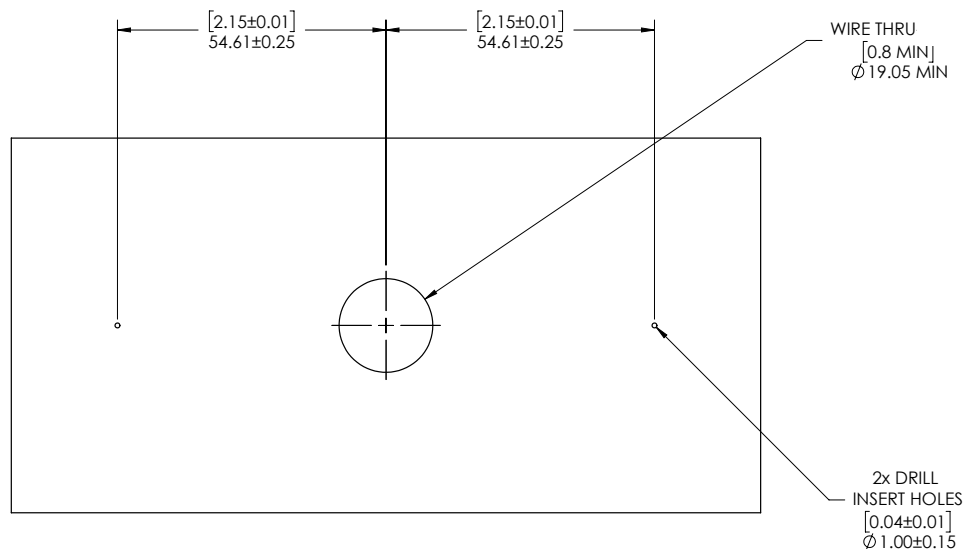
Orange wire is not used for single color lights



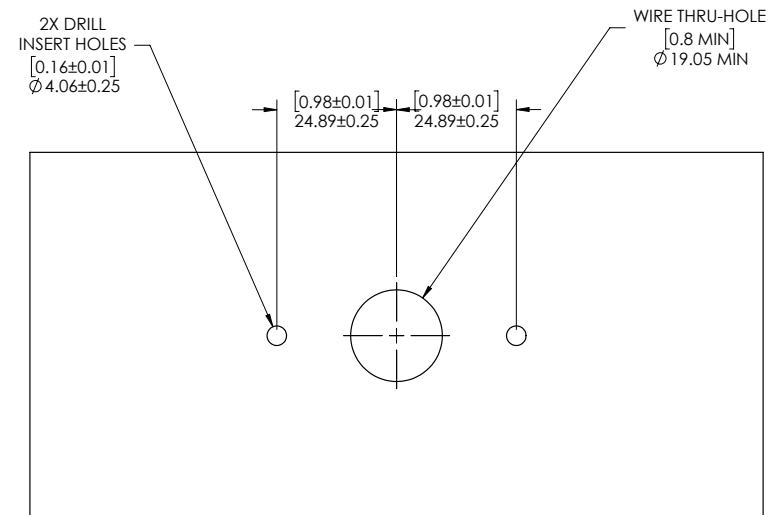
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FASCIA LIGHTS - 4"

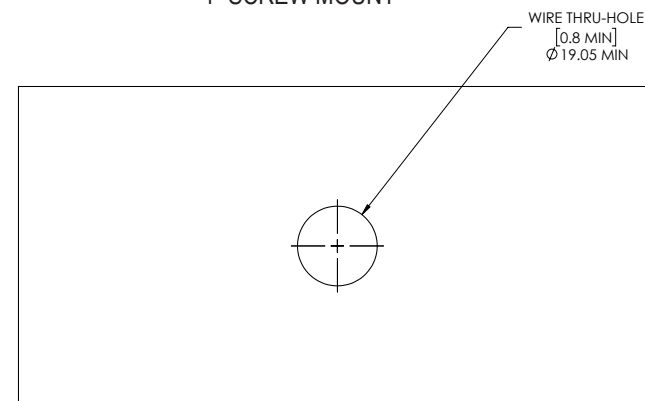
4" SCREW MOUNT



4" THREADED STUD MOUNT



4" SCREW MOUNT



IMPORTANT NOTE:

Due to variations in the printing process and environmental factors, the sizes shown may not be accurate. If this document is used as a cutting template, it is the installers responsibility to confirm the accuracy of the dimensions shown and adjust accordingly.