

WHELEN[®]

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Installation Guide: Model ISP188 Intelligent Strobe Power Supply

Safety First

This document provides all the necessary information to allow your Whelen product to be properly and safely installed. Before beginning the installation and/or operation of your new product, the installation technician and operator must read this manual completely. Important information is contained herein that could prevent serious injury or damage.

- **Proper installation of this product requires the installer to have a good understanding of automotive electronics, systems and procedures.**
- **If mounting this product requires drilling holes, the installer MUST be sure that no vehicle components or other vital parts could be damaged by the drilling process. Check both sides of the mounting surface before drilling begins. Also de-burr any holes and remove any metal shards or remnants. Install grommets into all wire passage holes.**
- **If this manual states that this product may be mounted with suction cups, magnets, tape or Velcro[®], clean the mounting surface with a 50/50 mix of isopropyl alcohol and water and dry thoroughly.**
- **Do not install this product or route any wires in the deployment area of your air bag. Equipment mounted or located in the air bag deployment area will damage or reduce the effectiveness of the air bag, or become a projectile that could cause serious personal injury or death. Refer to your vehicle owner's manual for the air bag deployment area. The User/Installer assumes full responsibility to determine proper mounting location, based on providing ultimate safety to all passengers inside the vehicle.**
- **For this product to operate at optimum efficiency, a good electrical connection to chassis ground must be made. The recommended procedure requires the product ground wire to be connected directly to the NEGATIVE (-) battery post.**
- **If this product uses a remote device to activate or control this product, make sure that this control is located in an area that allows both the vehicle and the control to be operated safely in any driving condition.**
- **Do not attempt to activate or control this device in a hazardous driving situation.**
- **It is recommended that these instructions be stored in a safe place and referred to when performing maintenance and/or reinstallation of this product.**
- **FAILURE TO FOLLOW THESE SAFETY PRECAUTIONS AND INSTRUCTIONS COULD RESULT IN DAMAGE TO THE PRODUCT OR VEHICLE AND/OR SERIOUS INJURY TO YOU AND YOUR PASSENGERS!**

For warranty information regarding this product, visit www.whelen.com/warranty

Selecting a Mounting Location . . .

The logical choice for a mounting area would be a trunk or similar compartment. However, due to the wide variety of vehicles onto which the ISP188 can be installed, this is not always possible. The following guidelines will help the installer select an acceptable alternative:

- A) The unit should be mounted on a metal surface to aid heat dissipation. Be sure that this surface is not one that either generates or is exposed to excessive heat during normal operation of the vehicle.
- B) Do not select a location where the power supply will be exposed to potential damage from any unsecured or loose equipment in the vehicle.
- C) Be sure the area selected will not allow the ISP188 to be exposed to water!
- D) When routing the wires, it is important to choose a path that will keep these wires away from excessive heat and from any vehicle equipment that could compromise the integrity of the wires (ex. trunk lids, door jams, etc.).
- E) Be sure your mounting location does not block the cooling fan in the rear of the unit. (See last page)

WARNING: All customer supplied wires that connect to the positive terminal of the battery must be sized to supply at least 125% of the maximum operating current and FUSED at the battery to carry that load. DO NOT USE CIRCUIT BREAKERS WITH THIS PRODUCT!

WARNING: When extending the communication wires (BLUE & GREY), use either the Whelen 25ft cable (P/N 46-9641638-250) or similar "twisted pair" wires!

CAUTION: Permanent mounting of this product will require drilling. It is absolutely necessary to make sure that no other vehicle components could be damaged by this process. Check both sides of the mounting surface before starting. If damage is likely, select a different mounting location.

Operating Instructions . . .

The ISP188 has been designed to emulate the operations of four existing Whelen power supplies:

The UPS-188C (Alternating Pairs) - ALT 2X2X4
The DOT-188C (Simultaneous Pairs) - SIMUL 2X2X4
The DOT-188MN (Simultaneous) - SIMUL 2X2X4
The BL188C - B-LINK

Selecting the desired operational mode is accomplished by configuring dip switches #1, #2 #3 & #8, located on the front panel of the power supply. The use of Dip Switches #4 & #5 is explained in the "Hi/Low Power" section. The following section will explain how to place the ISP188 into each of these respective modes, as well as outline the operational procedures for each mode.

Section 1: Emulation Modes . . .

Applying +12VDC to the control wires indicated in each mode (using customer supplied switches) will cause the results indicated. For a listing of the available flash patterns refer to Section 2: Flash Patterns.

ALT. 2X2X4 Mode (Default Configuration) . . .

Dip Switches

The dip switch configuration for UPS188C-mode is:

Dip Switch 1 - OFF Dip Switch 3 - OFF
Dip Switch 2 - OFF Dip Switch 8 - OFF

Control Wires

Control Wire #1 = Outlets 1 & 2 Enabled
Control Wire #2 = Outlets 3 & 4 Enabled
Control Wire #3 = 5, 6, 7 & 8 Enabled

SIM 2X2X4 Mode . . .

Dip Switches

The dip switch configuration for DOT-188C mode is:

Dip Switch 1 - ON Dip Switch 3 - OFF
Dip Switch 2 - OFF Dip Switch 8 - OFF

Control Wires

Control Wire #1 = Outlets 1 & 3 Enabled
Control Wire #2 = Outlets 5 & 7 Enabled
Control Wire #3 = 2, 4, 6 & 8 Enabled

SIM 2X2X4MN Mode . . .

Dip Switches

The dip switch configuration for DOT188MN Mode:

Dip Switch 1 - OFF Dip Switch 3 - OFF
Dip Switch 2 - ON Dip Switch 8 - OFF

Control Wires

Control Wire #1 = Outlets 2 & 4 Enabled
Control Wire #2 = Outlets 6 & 8 Enabled
Control Wire #3 = Outlets 1, 3, 5 & 7 Enabled

ALT 2X2X2X2 Mode . . .

Dip Switches

The dip switch configuration for ALT 2X2X2X2 Mode:

Dip Switch 1 - ON Dip Switch 3 - OFF
Dip Switch 2 - ON Dip Switch 8 - OFF

Control Wires

Control Wire #1 = Outlets 1 & 2 Enabled
Control Wire #2 = Outlets 3 & 4 Enabled
Control Wire #3 = Outlets 5 & 6 Enabled
Control Wire #4 = Outlets 7 & 8 Enabled

NOTE: If Hi/Lo is to be used turn on dip switch 6 and use the pattern 4 control wire.

SIM 2X2X2X2 Mode . . .

Dip Switches

The dip switch configuration for SIM 2X2X2X2 Mode:

Dip Switch 1 - OFF Dip Switch 3 - ON
Dip Switch 2 - OFF Dip Switch 8 - OFF

Control Wires

Control Wire #1 = Outlets 1 & 3 Enabled
Control Wire #2 = Outlets 2 & 4 Enabled
Control Wire #3 = Outlets 5 & 7 Enabled
Control Wire #4 = Outlets 6 & 8 Enabled

NOTE: If Hi/Low is to be used turn on dip switch 6 and use the pattern 4 control wire.

BL188C Mode . . .

When the ISP188 is configured to emulate the BL188C, it is important to understand that the connections and operational procedures used are quite different from any of the other modes.

Dip Switches

BL188C emulation is accomplished by placing Dip Switch 8 in the ON position. At this point, the remaining Dip Switches (1 thru 3) are used to configure the address of the ISP188 for use in a B-LINK system. The addressing properties function as follows:

To Configure Address 1

Dip Switch 1 - ON
Dip Switch 2 - OFF
Dip Switch 3 - OFF

To Configure Address 2

Dip Switch 1 - OFF
Dip Switch 2 - ON
Dip Switch 3 - OFF

To Configure Address 3

Dip Switch 1 - OFF
Dip Switch 2 - OFF
Dip Switch 3 - ON

Control Wires

In this configuration, control wires 1, 2, 3 & 4 are not used to enable outlets or control Hi/Low power activation, as with the previous modes. Outlet control and Hi/Low power activation is handled by the B-LINK Multi-Purpose Controller.

Section 2: Flash Patterns

The ISP188 can generate any of 16 available flash patterns simply activating the 4 Pattern Control wires, either individually or in combination. Table 1 on Page 3 outlines all of the available patterns and the wire activations needed to produce them.

Section 3: Hi/Low Power

Hi/Low power activation and functionality can be configured in any of 4 available modes, depending upon how Dip Switches 4 & 5 are positioned. Table 2 on Page 3 outlines each of the 4 configurations and their attributes.

NOTE: In BL188C emulation mode, Hi/Low power activation is controlled with the B-LINK Multi-Purpose Controller.

Section 4: Diagnostix™ (Optional)

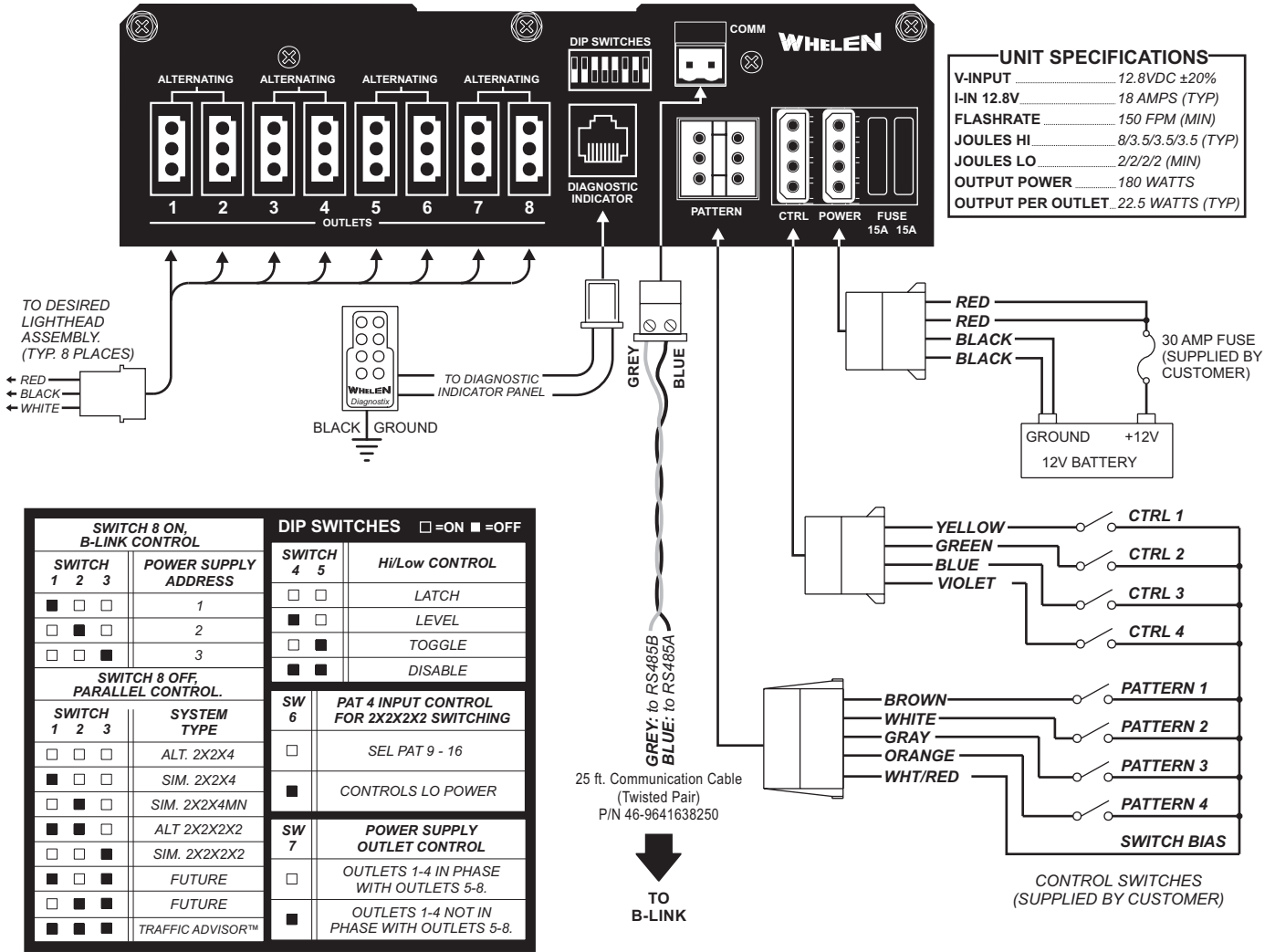
The optional Diagnostix display allows the operator to confirm proper operation of not only the 8 outlets on the ISP188, but of the strobe light and strobe cable connected to these outlets as well. Each LED indicator on the Diagnostix display, provides diagnostic information for one outlet. For example; LED #1 monitors Outlet #1, etc. The LEDs appearance indicates the condition of it's corresponding outlet. Refer to Table 3 on Page 3.

Section 5: Phasing

When you turn dip switch 7 on, you will cause outlets 1-4 to drift slowly in and out of sync with outlets 5-8. Lights will work as described in each mode. The result will be a more eye catching or random flash pattern.

ISP188 WIRING DIAGRAM

UNIT SPECIFICATIONS	
V-INPUT	12.8VDC ±20%
I-IN 12.8V	18 AMPS (TYP)
FLASHRATE	150 FPM (MIN)
JOULES HI	8/3.5/3.5/3.5 (TYP)
JOULES LO	2/2/2/2 (MIN)
OUTPUT POWER	180 WATTS
OUTPUT PER OUTLET	22.5 WATTS (TYP)



FLASH PATTERNS: <input type="checkbox"/> = +12VDC	
PATTERN WIRE 1 2 3 4	PATTERN TYPE
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	CometFlash®
<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	TripleFlash™
<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	DoubleFlash
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Rapid Random
<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	Sequential
<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	ModuFlash™
<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	MicroBurst II™
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	MicroBurst III™
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	2X CometFlash®
<input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	2X TripleFlash™
<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	2X DoubleFlash
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1/2 Rapid Random
<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	2X Sequential
<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	2X ModuFlash™
<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	2X MicroBurst II™
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	2X MicroBurst III™
Pattern Wire 1 = BROWN Pattern Wire 2 = WHITE Pattern Wire 3 = GREY Pattern Wire 4 = ORANGE	

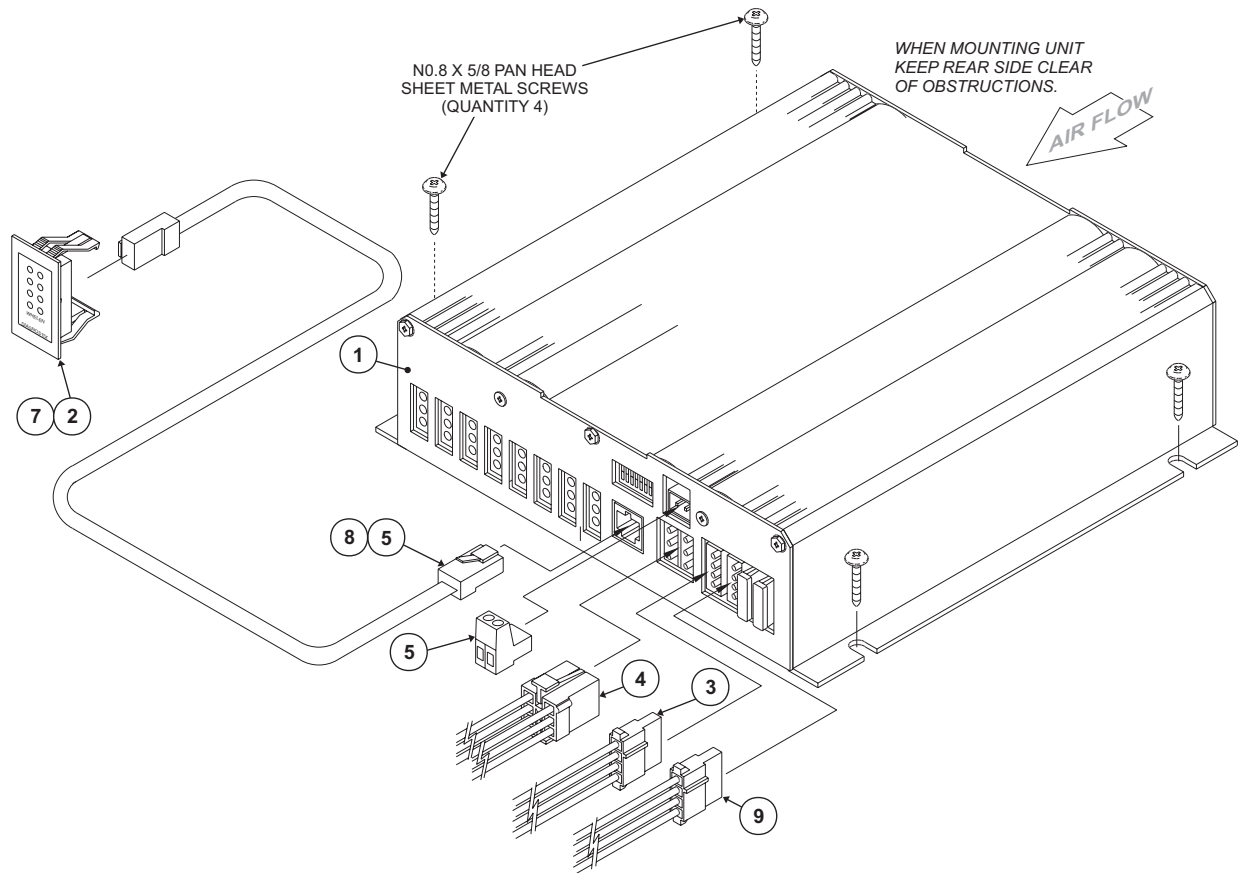
Table 2

IF THE LED IS...	THEN...
OFF	Either the outlet in question is not enabled, or the power supply is not turned on.
ON continuously	The outlet, strobe cable and strobe light in question are functioning properly.
FLASHING rapidly	Either the outlet, strobe cable and/or strobe light in question are malfunctioning. In this condition, further investigation of the components is strongly recommended
ON continuously with a single flash every few seconds	The ISP188 is operating in Lo power mode.

Table 3

Hi/Lo Mode Type	Recommended Switch type	To Enable Lo Power Operation	To Restore Hi Power Operation	Dip Switch 4	Dip Switch 5
Latched	Momentary	Apply +12VDC to VIOLET control wire	Turn all strobe outlets off and then on.	OFF	OFF
Level	Single Pole/Single Throw	Apply +12VDC to VIOLET control wire	Remove +12VDC from VIOLET control wire	ON	OFF
Toggle	Momentary	Apply +12VDC to VIOLET control wire	Apply +12 VDC to VIOLET control wire	OFF	ON
DISABLED	NONE	No Low Power Operation in This Mode	Not Applicable	ON	ON

ISP188 REPLACEMENT PARTS



ISP188 PARTS LIST

ITEM	PART NUMBER	DESCRIPTION
REF	46-9641638250	25' TWISTED PAIR B-LINK CABLE
9	46-0725612-00	POWER CONNECTOR ASSEMBLY
8	02-0241485-25	CABLE ASSY, 8 POS TELEPHONE 25'
7	01-0267643-00	DOT DIAGNOSTIC INDICATOR ASSEMBLY
6	02-0241485-08	CABLE ASSY, 8 POS TELEPHONE 8'
5	39CIJ02523-IJ	2 POS PHOENIX CONNECTOR
4	46-0725945-00	PATTERN CONNECTOR ASSEMBLY
3	46-0725613-00	CONTROL CONNECTOR ASSEMBLY
2	01-0267265-00	UPS DIAGNOSTIC INDICATOR ASSEMBLY
1	01-0662681-00	ISP188 FINAL ASSEMBLY
o	01-0683125-00	ISP188 STROBE POWER SUPPLY

Traffic Advisor Mode...

Dip Switches

The dip switch configuration for Traffic Advisor Mode:

Dip Switch 1 - ON

Dip Switch 2 - ON

Dip Switch 3 - ON

Control Wires

In this configuration, applying +12VDC to the control wires (using customer supplied switches) will have the following results:

Control Wire #1 = LEFT SWEEP

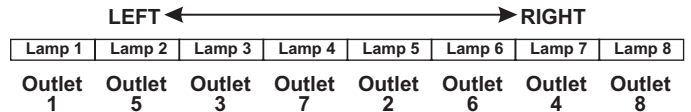
Control Wire #2 = RIGHT SWEEP

Control Wire #3 = ALTERNATING FLASH

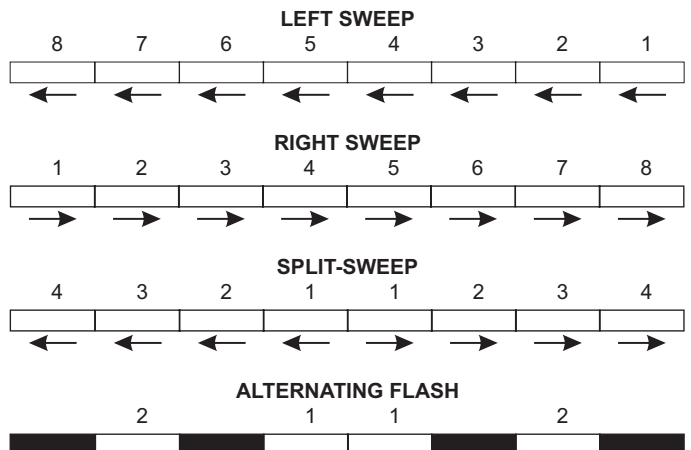
Control Wire #2 & #3 = SPLIT SWEEP

TRAFFIC ADVISOR™

In order for the Traffic Advisor patterns to flash properly, it is necessary for the lamps to be connected to the ISP188 in the following pattern.



The Traffic Advisor (or T/A) mode is comprised of four, traffic control-oriented flash patterns.



The T/A pattern mode is enabled as indicated in table 2.