

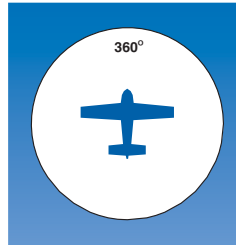
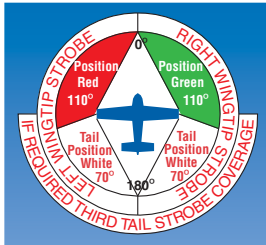
LIGHTING CATALOG FOR **LSA / EXPERIMENTAL AIRCRAFT**



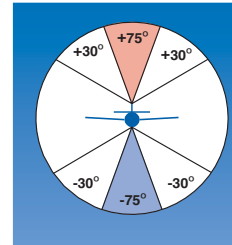
Lighting Regulations

- ASTM Spec F2245-07, section A2 (LSA to be flown at night) must be met:
 - A2.6 Required Equipment
 - A2.6.2 Position lights as specified in A2.7.2
 - A2.6.3 An aviation red or aviation white anti-collision light system specified in A2.7.3
- A2.7.3.6 Minimum Effective Intensities for Anti-Collision Lights
Each Anti-Collision Light effective intensity must equal or exceed the applicable values in the following table.

ANGLE ABOVE OR BELOW THE HORIZONTAL PLANE	EFFECTIVE INTENSITY (CANDELES)
0° to 5°	400
5° to 10°	240
10° to 20°	80
20° to 30°	40
30° to 75°	20



An approved anti-collision strobe light system must project light 360° around the aircraft's vertical axis. One or more strobe lights can be used.



An approved anti-collision strobe light system must project light + or - 30° above and below the horizontal plane of the aircraft. One or more strobe lights can be used. The + or - 75° projected light is required since July 18, 1977.

LIGHTING INSTALLATION LOCATIONS

Wingtip: The major difference in systems is the location of the strobe power supplies which can be mounted locally, one in each wingtip, or a single power supply can be mounted in the fuselage. Installation time can be greatly reduced if done in conjunction with an annual or one hundred-hour inspection. Properly installed power supplies and cabling are necessary for the safe operation of Whelen or any light systems.

Fuselage: Fuselage mounted units can be either self-contained with the power supply and lighthouse as one unit, or remote lighthouses run off a separate power supply. To meet the field of coverage, one must be on the top of the fuselage and one on the bottom.

Vertical Fin: Finally, if applicable, a single anti-collision light can be mounted on the vertical stabilizer. It can be either a self-contained or remote lighthouse depending on the aircraft.



VERTICAL FIN

One anti-collision strobe light mounted on the vertical fin will meet the minimum requirements on most aircraft. A half red and half white lens is recommended.



WINGTIP

Two wingtip strobe lights that protrude beyond the wingtip.



ENCLOSED WINGTIP

Enclosed wingtip anti-collision strobe lights, require a third strobe light on the tail or vertical fin, to fill in the required light envelope. This is an approved anti-collision system.



FUSELAGE

In a fuselage mounted anti-collision strobe light system, a minimum of two strobe lights are necessary to get the required vertical coverage. This is an approved anti-collision system.

LIGHTING TECHNOLOGY GLOSSARY

Halogen Lamp:

A halogen lamp is an incandescent lamp with a tungsten filament contained within an inert gas.



Strobe Tube: Strobe light consist of a tube containing an inert gas, such as Xenon. Capacitors inside the light are charged up to a relatively high voltage, roughly 300 volts for small strobes, then discharged via a trigger to create a bright burst of light.



LED: Led's are solid state devices. These products operate on a square wavelength which creates higher visibility with longer on time. LED's lifespan far outlive that of conventional halogen and strobe units.





Q. HOW DO YOU CHOOSE A LIGHTING PACKAGE?

A. CONSIDER WINGTIP OPTIONS:

- Enclosed wingtip lighting configuration

- A forward position light and anti-collision light are required.
- Also a rear tail position light and anti-collision light will be required to comply with ASTM specifications for night flight operations.

- End of wingtip light configuration

- An all inclusive position, tail and anti-collision light may be utilized for compliance with the ASTM specifications for night flight operations.

ADDITIONAL CONSIDERATIONS:

- Landing & Recognition light options

- Mounting locations (wingtip, cowling, landing gear)?
- Size and shape restrictions (circular, rectangular or square, depth).

- Strobe and power supply mounting locations

- Wingtip (requires power supplies adjacent to each lighthouse).
- Cabin of aircraft (Single power supply to operate all lighthouse assemblies).

- Cable kit selections

- What is the distance from your strobe tube to your power supply?
- How many light assemblies do you need to connect?

ALL NON-FAA APPROVED PARTS IN THIS CATALOG ARE SIGNIFIED BY A (—) IN THE APPROVAL COLUMN. PARTS WITHOUT FAA APPROVAL MAY STILL BE PURCHASED, HOWEVER, INSTALLATION OF THESE PARTS ON U.S. TYPE CERTIFICATED PRODUCTS WILL REQUIRE FAA APPROVALS.



STANDARD WINGTIP



ENCLOSED WINGTIP

Systems Recommendations

-APPROVED FOR NIGHT FLIGHT



**MAKERS OF AVIATION,
AUTOMOTIVE AND INDUSTRIAL
SAFETY LIGHTING SINCE 1953.
WHELEN AVIATION WARNING
PRODUCTS ARE ALL DESIGNED,
ASSEMBLED, TESTED AND
MANUFACTURED IN THE UNITED
STATES OF AMERICA.**

FOR AIRCRAFT WITH STANDARD WINGTIPS

The most widely used system on the market, this provides all the components for anti-collision and position lights without the need for a taillight. The power supply is mounted in the fuselage and shielded cable is run to the strobe lights. The following is recommended:

QUANTITY	MODEL#	PART#	DESCRIPTION	LIST PRICE
1 each	HDACF	01-0770028-05	Power supply	548.00
1 each	9034001	01-0790340-01	Wingtip strobe/LED position light, 14 VDC	493.00
1 each	9034002	01-0790340-02	Wingtip strobe/LED position light, 14 VDC	493.00
Note: Model A600PG1 and A600PR1 can replace Model 903400 for a LED solution				
1 each	HD60	01-0750206-00	Installation package	150.00

FOR AIRCRAFT WITH ENCLOSED WINGTIP FAIRINGS

If the position and strobe lights are mounted under a clear fairing, a third tail strobe is required. The following is recommended:

QUANTITY	MODEL#	PART#	DESCRIPTION	LIST PRICE
1 each	HDACF	01-0770028-05	Power supply	548.00
1 each	7111001	01-0771110-01	LED Wingtip light, 14 VDC, green	375.00
1 each	7111002	01-0771110-02	LED Wingtip light, 14 VDC, red	375.00
1 each	A500AV14	01-0770024-00	Tail position/strobe light assembly	279.00
1 each	HDT390	01-0750205-00	Installation package	200.00
Note: Model A650PG14/A650PR14 can replace Model 711100() for a strobe/halogen solution				



MicroBurst™ Series LED Wingtip & Tail lighting

MICROBURST III - FORWARD & REAR FACING WINGTIP NAVIGATION LIGHT

Weight 0.21 lbs. (95gm)
Dimensions 1.5" (38mm) exp. H x 1.6" (41mm) W x 4.6 (116mm) L
Available Colors . . . Red, Green
Current Draw 0.45 amps @ 14 VDC

MODEL#	PART#	DESCRIPTION	LENSES	APPROVALS	LIST PRICE
MB3R	01-0771507-020	Forward facing wingtip nav, with CometFlash® 180° LED-Strobe and rear facing white nav	Polycarbonate	-	399.00
MB3G	01-0771507-010				

MICROBURST II - FORWARD FACING WINGTIP NAVIGATION LIGHT

Weight 0.20 lbs. (90gm)
Dimensions 1.5" (38mm) exp. H x 1.6" (41mm) W x 4.6 (116mm) L
Available Colors . . . Red, Green
Current Draw 0.40 amps @ 14 VDC

MODEL#	PART#	DESCRIPTION	LENSES	APPROVALS	LIST PRICE
MB2R	01-0771519-020	Forward facing wingtip nav, with CometFlash 180° LED-Strobe	Polycarbonate	-	299.00
MB2G	01-0771519-010				

MICROBURST I - NAVIGATION TAILLIGHT

Weight 0.15 lbs. (68gm)
Dimensions 1.7" (43mm) H x 1.5 (38mm) Dia.
Available Colors . . . White
Current Draw 0.45 amps @ 14 VDC

MODEL#	PART#	DESCRIPTION	LENSES	APPROVALS	LIST PRICE
MB1	01-0771490-000	Nav taillight with CometFlash 180° LED-Strobe. Utilizes same mounting as all Whelen Legacy assemblies	Polycarbonate	-	199.00



MicroBurst Highlights

- Low current, long life, and light weight
- Self-contained (no external power supply needed)
 - Synchronizable
 - Replaceable lenses are aerodynamic

VERTEX™ SERIES LED ANTI-COLLISION LIGHT ASSEMBLY

Dimensions 1" (25mm) H x 1-5/8" (41mm) Dia.

Available Colors . . . Red, White

Current Draw 0.3 amps



MODEL#	PART#	DESCRIPTION	LENSES	APPROVALS	LIST PRICE
VTX609R	N/A	Red Anti-collision	polycarbonate	-	123.00
VTX609C	N/A	Clear Anti-collision		-	123.00

Position/Anti-Collision Lighting

- FAA APPROVED

71110 SERIES STROBE ANTI-COLLISION/LED POSITION LIGHT ASSEMBLY

71110 Series is a Wingtip mounted strobe Anti-Collision/Position light assembly utilizing LEDs for the Forward Position lights. The LEDs provide a significant reduction in current draw over conventional position light bulbs. The strobe light lens assembly is radio shielded for maximum EMI/RFI protection. Direct replacement (exact footprint) for the Whelen model A650PG/PR series without replacing the current strobe power supply. Navigation light portion is wired with flying leads.

Weight 14 VDC 0.45 lbs. (204gm)
28 VDC 0.50 lbs. (227gm)

Dimensions Exposed Height: 2.70" (69mm) 1.78" (45.21mm) x 3.88" (98.55mm)

Available Colors . . . Aviation Red, Aviation Green

Current Draw 0.25 amps @ 14 VDC or 28 VDC



MODEL#	PART#	DESCRIPTION	LENSES	APPROVALS	LIST PRICE
7111001	01-0771110-01	Position Green, 14 VDC	Clear RFI coated glass: strobe Clear polycarbonate: navigation lights	FAA TSO-C96a Class II / TSO-C30c Type II	375.00
7111002	01-0771110-02	Position Red, 14 VDC		FAA TSO-C96a Class II / TSO-C30c Type I	
7111003	01-0771110-03	Position Green, 28 VDC		FAA TSO-C96a Class II / TSO-C30c Type II	
7111004	01-0771110-04	Position Red, 28 VDC		FAA TSO-C96a Class II / TSO-C30c Type I	

90340 SERIES STROBE ANTI-COLLISION/LED POSITION LIGHT ASSEMBLY

90340 Series is an all inclusive wingtip mounted strobe Anti-Collision/Position light assembly utilizing LEDs for both the Forward & Tail Position lights, eliminating the need for a tail mounted position light. The LEDs provide a significant reduction in current draw over conventional position light bulbs. The strobe light lens assembly is radio shielded for maximum EMI/RFI protection. Direct replacement (exact footprint) for the Whelen Model A600PG/PR series without replacing the current strobe power supply. Single set of flying leads operates both Forward & Tail Nav on 28 VDC version, and one set each of flying leads for the Forward & Tail Nav on the 14 VDC version.

Weight 14VDC 0.60lbs. (272gm) / 28VDC 0.65lbs. (295gm)

Dimensions Exposed Height: 2.70" (69mm) x 1.87" (47.49mm)
W x 5.69" (144.52mm) L

Available Colors . . . Aviation Red, Aviation Green

Current Draw 0.5 amps @ 14 VDC / .25 amps @ 28 VDC



MODEL#	PART#	DESCRIPTION	LENSES	APPROVALS	LIST PRICE
9034001	01-0790340-01	Position Green	Clear RFI coated glass on strobe. Clear polycarbonate on navigation lights	FAA TSO-C96a Class II / TSO-C30c Types II & III	436.00
9034002	01-0790340-02	Position Red		FAA TSO-C96a Class II / TSO-C30c Types I & III	

71554 SERIES

71554 Series in our newest LED Tail Position Light. Exact footprint for Whelen models A555A and 71011 taillights. Available in horizontal or vertical mount. Models -01 and -02 come with flying leads.

Weight 0.14 lbs. (64gm)

Dimensions Exp. Height: 1.4" (35.56mm) x 1.59" (40.38mm) W x 2.07" (52.57mm) L

Available Colors . . . Aviation White

Current Draw 0.13 amps @ 28 VDC



MODEL#	PART#	DESCRIPTION	LENSES	APPROVALS	LIST PRICE
7155401	01-0771554-11	Horizontal mount, 14 VDC	Clear Hardcoated Polycarbonate	FAA TSO-C30c Type III	275.00
7155402	01-0771554-12	Vertical mount, 14 VDC		FAA TSO-C30c Type III	275.00

A500A SERIES COMBINATION STROBE/TAIL NAVIGATION LIGHT

A500A Series Combination Strobe/Tail Navigation Light is used when the wingtip anti-collision lights are mounted in an enclosure and can't provide 360° of strobe coverage. It is a direct replacement for the standard tail position light. Available in a radio-shielded version. Voltage (14 or 28) and mounting (horizontal or vertical) must be specified when ordering.

Weight 0.3 lbs. (136gm)

Dimensions 1.7" (43mm H x 1.5" (38mm) Dia.

Available Colors . . . Aviation White

Current Draw 14 VDC



MODEL#	PART#	DESCRIPTION	LENSES	APPROVALS	LIST PRICE
A500AV14	01-0770024-00	Vertical mount, 14 VDC	Glass	FAA/PMA, FAA TSO-C30b	279.00
A500AH14	01-0770024-02	Horizontal mount, 14 VDC		FAA/PMA, FAA TSO-C30b	
A500AVD1	01-0770024-04	Vertical mount, radio-shielded, 14 VDC		FAA/PMA, FAA TSO-C30b	347.00
A500AHD1	01-0770024-06	Horizontal mount, radio-shielded, 14 VDC		FAA/PMA, FAA TSO-C30b	

Power Supplies

Q. How do you choose a power supply, and what is cometflash®?

A. The power supply needed depends on the application, and the mounting location. Model HDACF Series is a fuselage mounted power supply that will power two or three lights. Model A490ATSC Series is designed for installation adjacent to the strobe lighthouse and will power one light assembly. Model A490TCF Series is the most economical power supply when adding only one light. It mounts adjacent to the strobe lighthouse assembly (not legal for light output with Red strobe light). Most other Whelen power supplies are application specific, contact factory for details. Unless otherwise noted, all power supplies are CometFlash. Whelen Engineering is proud to have introduced the CometFlash CF, a major advancement in the field of safety lighting. By pulsing the flash tube four times in rapid succession, the effective "on-time" of the strobe is increased from 2/1000 of a second to 4/10 of a second. This increases your airplane's visibility. The development of the CometFlash reflects Whelen's dedication to safety.

**WHELEN ENGINEERING
 IS PROUD TO HAVE
 INTRODUCED THE
 COMETFLASH® CF, A
 MAJOR ADVANCEMENT
 IN THE FIELD OF
 SAFETY LIGHTING.**

STROBE POWER SUPPLY (NSN 6210-14456688)

Model HDACF series provides simultaneous flashing, alternate flashing or both. It will operate one, two or three strobe lighthoods. Operating the wingtip strobes in the alternating mode will provide an accumulated 42 joules of power to each light. When in the simultaneous mode, the accumulated power to each light is 21 joules. In the three light mode, the wingtips will flash simultaneous at an accumulated 21 joules each, they alternate with a third light operating at an accumulated 42 joules. On the trigger selector outlet, a switch mounted in place of the jumper will allow wingtip outlets 2 & 3 to be turned off, while the tail outlet 1 will remain on. This function is commonly used when the third light is for ground operations. This power supply will operate from 10 to 30 VDC.

Weight 2.1 lbs. (953gm)
Dimensions 2.37" (60mm) H x 5.0" (127mm) W x 5.50" (140mm) L
Current Draw 7.0 amps @ 14 VDC / 3.5 amps @ 28 VDC



MODEL#	PART#	DESCRIPTION	APPROVALS	LIST PRICE
HDACF	01-0770028-05	A413AHDACF power supply	FAA/PMA	548.00

A490ATSC STROBE POWER SUPPLY

Model A490ATSC operates one strobe lighthouse. Its compact size allows mounting in the wingtip and/or the tail, adjacent to the lighthouse. It produces an accumulated 34 joules of power and can be equipped to flash simultaneously with up to 5 other like units by connecting an 18 gauge wire between outlet 3 on the input power connector. This power supply will operate from 10 to 30 VDC.

Weight 1.7 lbs. (771gm)
Dimensions 3.06" (78mm) H x 3.12" (79mm) W x 5.0" (127mm) L
Current Draw 4.0 amps @ 14 VDC / 2.0 amps @ 28 VDC



MODEL#	PART#	DESCRIPTION	APPROVALS	LIST PRICE
A490ATSC	01-0770062-03	A490ATSCF power supply	FAA/PMA	559.00

A490TCF SERIES STROBE POWER SUPPLIES (NSN 6130-10071195)

A490TCF series operates one strobe lighthouse. It is our most compact unit and can be mounted in the wingtip and/or the tail adjacent to the lighthouse. It produces an accumulated 19 joules of power. It will only meet 400 CP when used with the A470A-W. This unit cannot be synchronized. This power supply operates from 10 to 30 VDC (not approved for use with red strobe light).

Weight 1.2 lbs. (544gm)
Dimensions 2.38" (60mm) H x 3.12" (79mm) W x 5.0" (127mm) L
Current Draw 1.7 amps @ 14 VDC; 0.85 amps @ 28 VDC



MODEL#	PART#	DESCRIPTION	APPROVALS	LIST PRICE
A490TCF	01-0770006-08	Standard unit, 20" leads, amp connectors	FAA/PMA	422.00
A490TCFM	01-0770006-14	20" leads, Molex connectors		435.00
7000615	01-0770006-15	20" leads, no connectors		



Parmetheus™ Series

PARMETHEUS SERIES PAR-36 SUPER-LED® LIGHTING

Parmetheus PAR-36 Super-LED lights are a drop-in replacement for outdated halogen or HID lamps. The weight is virtually identical to the previous PAR-36 lamps. First FAA/PMA approved PAR-36 Super-LED for aviation applications. And available in Landing and Taxi versions. **Replacement Outer Lens: 68-3971486A30**

Weight 0.6 lbs. (272gm)
Dimensions 4.38" Round x 1.75" Face to Screw terminal
Available Colors White LED
Current Draw 6 Amps @ 28 VDC / 1.2 Amps @ 14 VDC

MODEL#	PART#	DESCRIPTION	LENSES	APPROVALS	LIST PRICE
PLED1L	01-0771424-10	Landing (Spot Light, 10°)	Clear Hardcoated Polycarbonate	FAA/PMA	325.00
PLED1T	01-0771424-15	Taxi (Spreader Optic, 40°)			

PARMETHEUS SERIES PAR-46 SUPER-LED LIGHTING

Parmetheus PAR-46 Super-LED lights are a drop-in replacement for outdated halogen or HID lamps. The weight is virtually identical to the previous PAR-46 lamps. Whelen TIR™ (Total Internal Reflector) technology, combining spot and flood optical combination, resulting in superior intensity and effectiveness. Available in Landing versions. **Replacement Outer Lens: 68-3971577A30**

Weight 0.6 lbs. (272gm)
Dimensions 5.65" Round x 2.25" Face to Screw terminal
Available Colors White LED
Current Draw 1.3 Amps @ 28 VDC / 2.6 Amps @ 14 VDC

MODEL#	PART#	DESCRIPTION	LENSES	APPROVALS	LIST PRICE
PLED461L	01-0790623-10	Landing (Spot Light, 10° Horizontal and 10° Vertical)	Clear Hardcoated Polycarbonate	FAA/PMA	375.00

Parmetheus Highlights

- Moisture resistant providing stable light output for thousands of trouble-free operating hours.
- Power wiring attaches to brass screw terminals.
 - Assembly design includes clocking notch.
- Polycarbonate, replaceable, hard-coated outer lens.
 - Metal, heat dissipating coated housing.
- Low current and lightweight.

Landing, Taxi & Recognition Lights

M2® LIGHTING

M2 Super-LEDs provide unmatched high intensity lighting as well as low current consumption. The rear gasket insures that the lighthouse and optional flange do not make contact with the aircraft's surface. The lens and reflector are a sealed assembly, therefore mounting screws are placed outside of the lens reflector assembly, eliminating water infiltration. The unique lens shape is completely illuminated with patented Linear-LED designed reflector assembly. Updated design allows for ease of installation. **Features multiple flash patterns for recognition functions.**

Dimensions 2-1/2" (64mm) H, x 4" (102mm) W, x 1" (24mm) D

Available Colors White LED

Current Draw 0.45 amps



MODEL#	PART#	DESCRIPTION	LENSES	APPROVALS	LIST PRICE
71685	01-0771685-01	Landing Spot Light	Clear Polycarbonate	-	Contact Company

71125 SERIES LED RECOGNITION LIGHT

71125 series LED Recognition lights are designed to provide supplemental lighting for a wide variety of aircraft applications. Low current draw, low heat, long life and no EMI/RFI. Perfect for vibration prone areas. Several different beam spreads available. Designed to replace the Whelen A775 series. Item ships with flying leads. Version with an integrated MS connector also available. Can be used in conjunction with 71115 Flasher control assembly. Contact your OEM for installation information.

Weight 0.3 lbs. (136gm)

Dimensions 1.95" (50mm) H x 3.25" (83mm)
W x 1.25" (32mm) D OVERALL

Available Colors Aviation White

Current Draw 0.9 amps @ 14 VDC



MODEL#	PART#	DESCRIPTION	LENSES	APPROVALS	LIST PRICE
7112510	01-0771125-10	10 degree beam pattern, 14 VDC	Clear Polycarbonate	-	340.00
7112511	01-0771125-11	20 degree beam pattern, 14 VDC			
7112512	01-0771125-12	90 degree beam pattern, 14 VDC			

71325 SERIES LED RECOGNITION LIGHT

Model 71325 is an LED Recognition/Exterior illumination product. It is an updated version of Model 71092 recognition light (2008 Catalog). Model 71325 exceeds light output of 71092 three fold. Unit ships with 7 inch wires into A447 style pin connector. Optimized for 28 VDC, will operate from 14-28VDC.

Weight 0.17 lbs. (77gm)

Dimensions 2.56" (65mm) W, x 1.38" (35mm) D, x 1.45"
(37mm) H (Center to Center Mounting Holes)

Available Colors Aviation White

Current Draw0.25 amps @ 28 VDC



MODEL#	PART#	DESCRIPTION	LENSES	APPROVALS	LIST PRICE
7132500	01-0271325-00	LED Recognition light	Clear Polycarbonate	-	158.00

Miscellaneous

FF25150 FLASHER

MODEL#	PART#	DESCRIPTION	APPROVALS	LIST PRICE
FFS5150	N/A	Recognition light, flasher module	-	Contact Company



OS INTERIOR LIGHT

MODEL#	PART#	DESCRIPTION	APPROVALS	LIST PRICE
OSCOEDCR	N/A	White interior light with clear lens	-	34.00
OACOEDCR	N/A	White interior light with clear lens and 45° angled chrome-plated bezel		36.00



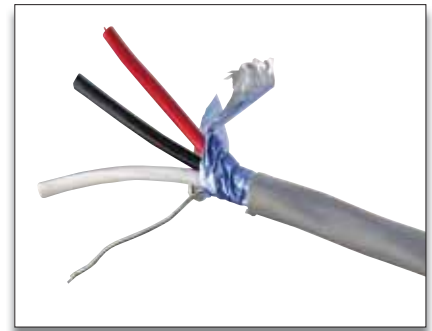
INSTALLATION CABLE KITS (NSN 6080-14330778)

Cable kits include all required connectors for hooking up the strobe light to the power supply. Warning placards and the Installation Service manual is included also. All cable is 16 gauge 3/C shielded. **(Kits do not include switches or breakers)**

Cable diameter 0.275" (7mm)

Weight 0.050 lbs. per linear foot

MODEL#	PART#	DESCRIPTION	APPROVALS	LIST PRICE
HS5	01-0750215-00	5' Cable kit	-	53.00
HT10	01-0750218-00	10' Cable kit		58.00
HS30	01-0750214-00	30' Cable kit		90.00
HD60	01-0750206-00	60' Cable kit NSN		150.00
HDT390	01-0750205-00	90' Cable kit		200.00
HT	01-0750216-00	Install kit only, no cable or connectors		29.00



REPLACEMENT CONNECTOR KITS AND ASSEMBLIES FOR CABLES

MODEL#	PART#	DESCRIPTION	APPROVALS	LIST PRICE
A441	01-0430011-00	3 Position male connector with pins kit	-	8.00
A442	01-0410823-00	3 Position female connector with sockets kit		
A444	02-0230007-00	2 Position male connector with pins ass'y		
A446	02-0230085-00	2 Position female connector with sockets ass'y		
A447	01-0417808-00	4 Position male connector with pins		
A448	01-0417808-01	4 Position female connector with sockets		





51 Winthrop Road
Chester, Connecticut, 06412
860-526-9504 • Fax 860-526-4078
www.whelen.com

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