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**WORK INSTRUCTIONS FOR INSTALLING THE MHCT400CXE BALLAST (I4009460)
AS A REPLACEMENT IN: XLS 180-series , XLS 300-series XENON ILLUMINATORS**

PREVIOUSLY USING BALLASTS:

I3000148 – 180 watt – Warner 70-223201

I3000120 – 180 watt – Excelitas-Perkin Elmer PS175-2

I3000147 – 180 watt – Excelitas-Perkin-Elmer Y1898

I3000097 – 300 watt – Warner 70-223221

I3000147 – 300 watt – Excelitas-Perkin-Elmer PS300-12

WARNINGS

The MHCT400CXE Ballast (I4009460) is a UNIVERSAL BALLAST and therefore must be pre-set for the installation into which it will be installed.

Incorrect settings of the amperage jumpers PRIOR to the unit being powered on for the first time after installation may result in lamp damage and/or explosion; therefore all power-on operations must be performed with the COVER ON and operators are to wear eye protection when installing and testing the ballast.

Replacement units will be shipped pre-set and tested; the above warnings serve as an additional check prior to field installation.

The use of an MHCT400CXE Ballast (I4009460) requires the additional installation of an EMI Gasket as instructed herein.

Persons installing replacement ballast must be familiar with common electrical medical device safe wiring practices.

The installer assumes all responsibility for confirming correct installation per these instructions and ensuring the device is conformant to all original specifications and safety regulations.

Work on the illuminator from the REAR for ease of references in this instruction.

**XLS/ELITE
OLD
BALLAST
REMOVAL**

Disconnect power cord.

Remove top cover.

Retain screws to reinstall top cover.

Make sure power cord is disconnected and discharge capacitor as follows:

EXERCISE CAUTION:

Ensure power is off and unit is disconnected from power feed.

Discharge the ballast capacitor by shorting the lamp power pins safely by holding the INSULATED PORTION of an insulated screwdriver, where metal part of screwdriver is to make a momentary contact with both pins on the ballast.

Compare the Kit Model Number on the underside of the Ballast against the Product Model Number on the rear placard and confirm using Attachment 1 that the correct Ballast has been supplied for your installation. If this is incorrect, contact Sunoptic Technologies Customer Service for assistance.

Remove wire assemblies connecting the ballast pins N and L from the front power switch and discard them.

Remove large white wires connecting ballast with the lamp and discard them.

Disconnect green ground wire from ballast pin E which will be reconnected to the replacement ballast later.

Disconnect the accessory power wires (red and black) on the ballast that lead through the ferrite to the fan and hour meter and clip-off the connectors for later splicing.

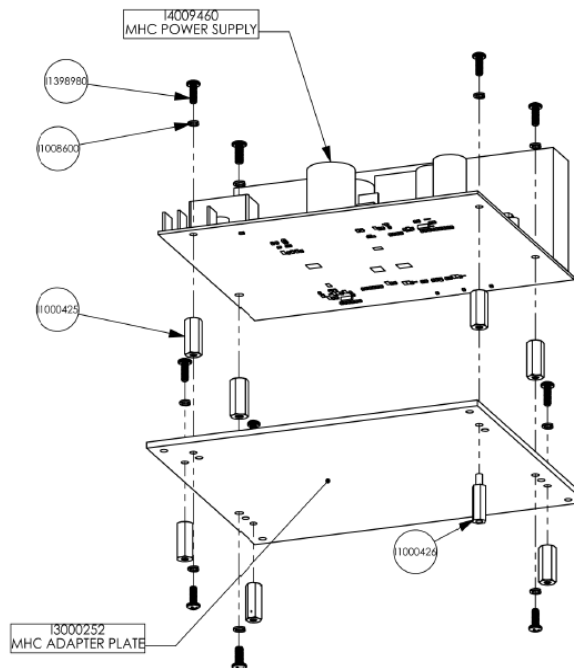
Remove the ballast from the housing and save mounting screws to install the replacement ballast later.

Disposition the ballast and dispose according to applicable electrical waste regulations for your jurisdiction.

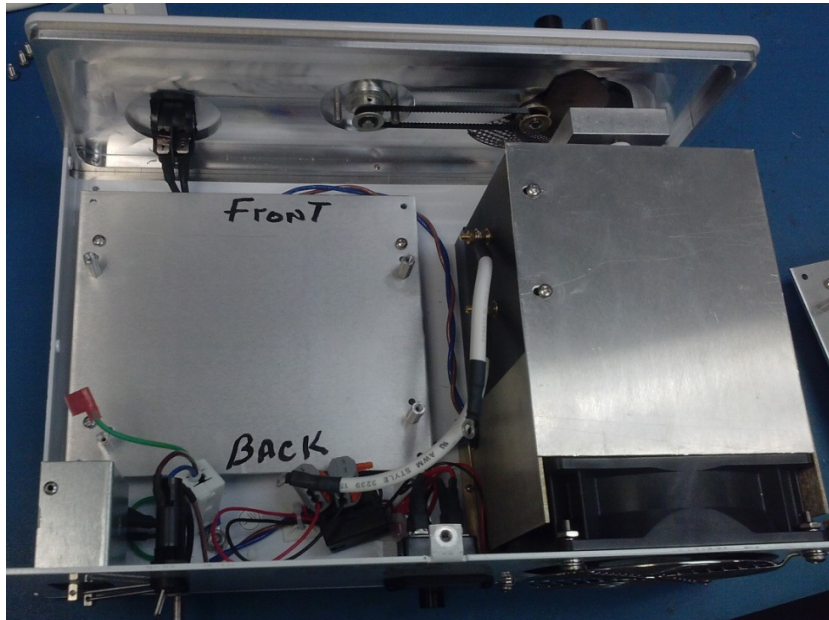
XLS/ELITE NEW BALLAST INSTALLATION

Install ballast plate in to the LS housing using saved mounting screws per schematic:

MHC POWER SUPPLY ASSEMBLY



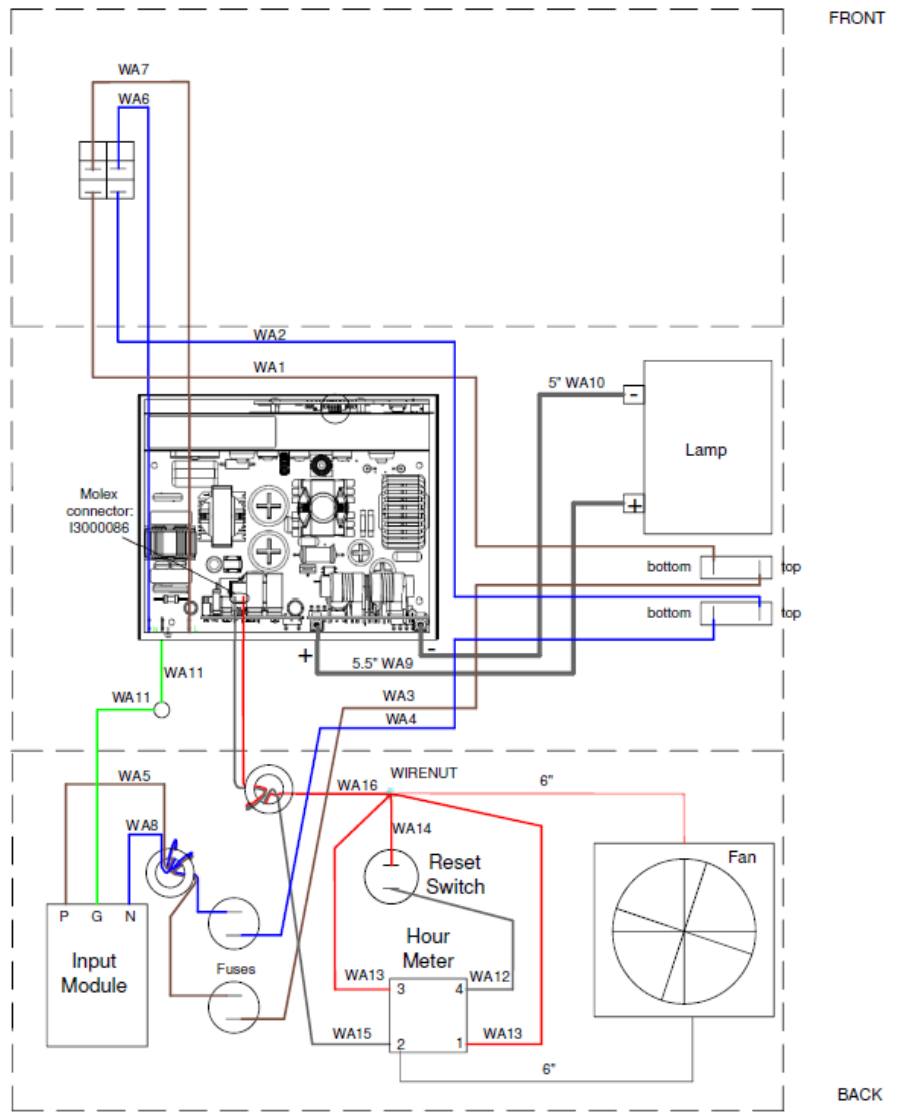
Note "FRONT" and "BACK" markers on the plate as on next picture where the ballast is removed to aid in seeing the wire routing and plate orientation within the illuminator.



Install the replacement ballast on to the plate per previous schematic orienting the ballast heatsink to the FRONT of the cabinet as shown.

XLS/ELITE WIRE CONNECTIONS

Refer to this schematic closely before proceeding:



POWER FEED:

Install Blue WA6 (for N) and Brown WA7 (for L) from the Ballast terminals N and L respectively and to the front power switch and route under the ballast and away from all moving parts.

Reconnect the Green Ground Wire WA11 to the ballast at the GROUND indicator thereupon.

LAMP POWER LEADS:

Install new lamp power leads (thick white wires) indicated as WA9 and WA10 as shown in the picture. Ensure LAMP + on the ballast connects to the rear/back orientation of the lamp terminal and the ballast LAMP – connects to the front lamp orientation of the lamp terminal as shown below.

REVERSAL OF LAMP LEADS MAY DAMAGE BALLAST AND LAMPS !

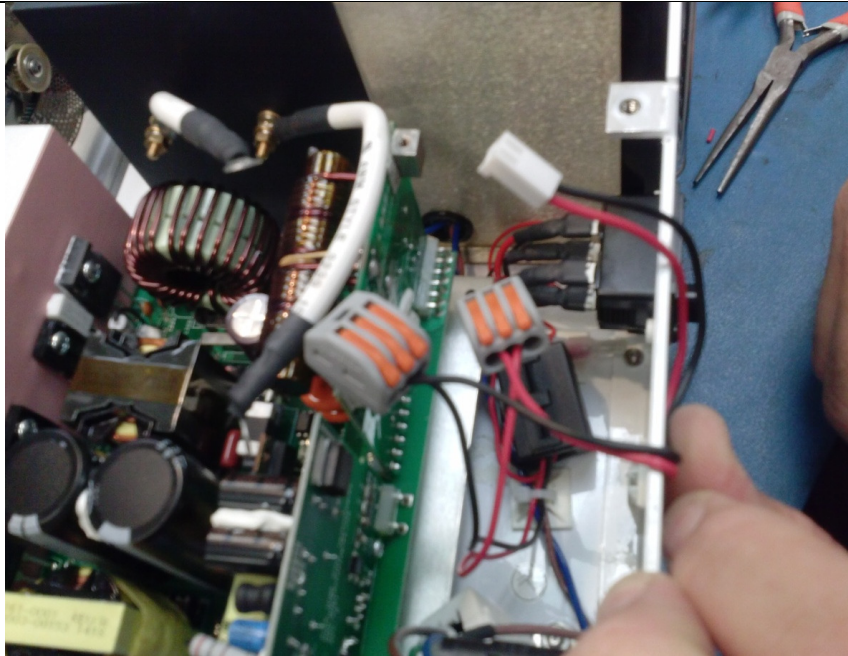
FRONT OF ILLUMINATOR / LAMP HOUSING



REAR OF ILLUMINATOR / LAMP HOUSING

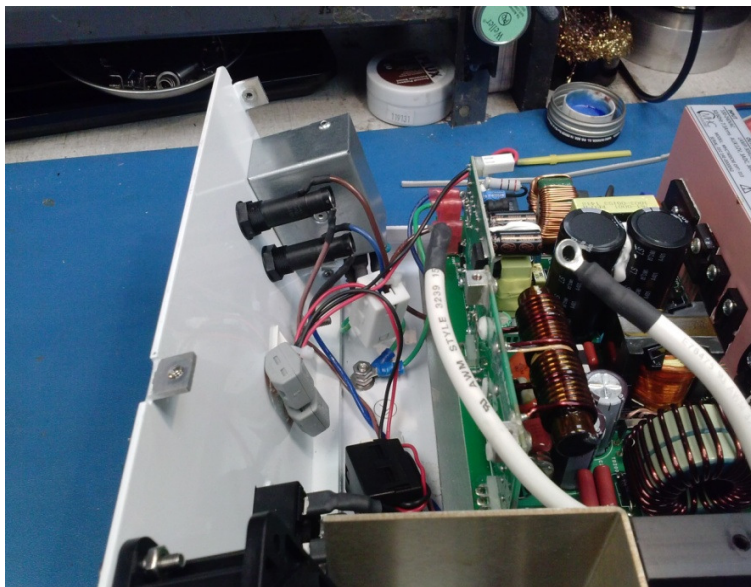
ACCESSORY LEADS: FAN AND HOUR METER

Using provided Quick Connect block, connect the power accessory leads from the new Ballast installed at J401 by connecting Black WA15 and Red WA16 to the same colors previously snipped off for the Fan and Hour Meter functionality.



Secure the Quick Connect block to the enclosure back using supplied Flat Tie and Plastic Wire Tie and as shown on next picture.

If space is needed for ease of assembly, remove the three screws from the bottom of the rear panel; this will allow a technician to tilt the rear panel back roughly 30 degrees. After the modification is complete and wires secured, reinstall the three screws.



Recheck all connections.

XLS/ELITE NEW BALLAST PRESET CHECK

ENSURE THAT THE CORRECT LAMP WATTAGE IS LISTED ON THE LAMP MODULE THAT IS TO BE USED IN YOUR ILLUMINATOR.

CROSS-CHECK THAT THE JUMPERS ON THE BALLAST PROVIDED MEET THE FOLLOWING TABLE FOR THE SERIES AND MODEL OF ILLUMINATOR YOU ARE WORKING WITH.

IF ANY OF THESE CROSS-CHECKS ARE INCORRECT CONTACT SUNOPTIC TECHNOLOGIES CUSTOMER SERVICE FOR INSTRUCTIONS TO CORRECT THE CONDITION.

JP300 Jumper table

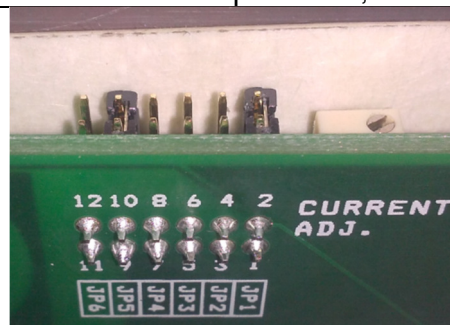
Jumpers Name	JP6	JP5	JP4	JP3	JP2	JP1
XLS 300		IN				IN
XLS 180	IN					IN
Jumper positions non marked mean its jumper is OUT						

The jumpers in supplied new ballast assembly on position :

XLS 180 Jumpers JP1, JP6

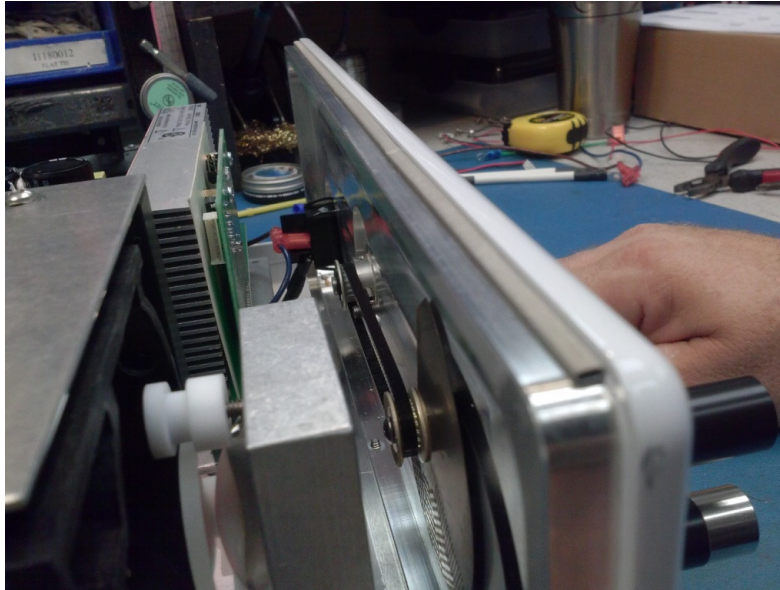


XLS 300 Jumpers JP1, JP5



XLS/ELITE EMI GASKET INSTALLATION

Remove adhesive from EMI gasket (SG060125R-24) and place on the bottom housing front flange to make contact with housing.



XLS/ELITE POWER-UP CHECK

Re-install cover and screw closed and make sure front switch and back power switch are in off position.

Connect the power cord to the rear of the unit.

Place the lamp inside illuminator.

Close the lamp door fully to engage lamp door switch.

Turn back power switch on.

Turn front power switch on.

Turn dimming knob fully counter clock wise.

The light source should be emitting light and back fan running.

If not, turn both power switches off, unplug the device, remove top cover and double check if wiring in the device matches the schematic and photos provided.

APPLICATION CHART

SERIES	ILLUMINATOR REAR PANEL MODEL NUMBER	POSSIBLE FORMER BALLAST	MHC REPLACEMENT
XLS / ELITE - 180 (and Cosmetic Titan-180 using the XLS-180 system)	XLS-180		KIT-XLS-WARNER-MHC-180
	CUDA 180		
	SOLARMAXX 180		
	529180		
	I3680-221	Excelitas (Perkin-Elmer)	
	M794X	PS175-12	
	M794XA	I3000120	
	MW794X		
	MW794XA	Warner Power	
	ASB-XE-175	70-223201	
	I118263	I3000148	
	LUMISTAR LL180		
	XLS-180-IND	Excelitas (Perkin-Elmer)	
	XLS-180-CMP	Y1898	
	X-LS180130506	I3000147	
	X-LS180130513		
	X-LS180130521		
XLS / ELITE - 300	XLS-300		KIT-XLS-WARNER-MHC-300
	SolarMaxx300		
	529300		
	LumiStar LL300		
	89-8740		
	XLS-300-IND	Excelitas (Perkin-Elmer)	
	XLS-300-CMP	PS300-12 (Y1864)	
	X-LS300130411	I3000064	
	X-LS300130418		
	X-LS300130425	Warner Power	
	ELITE300	70-223221	
	ELITE300-IND	I3000097	
	ELITE300-CMP		
	E-LS300130412		
	E-LS300130419		
	E-LS300130426		