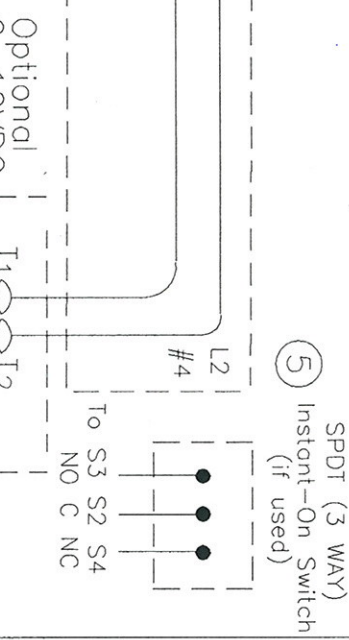
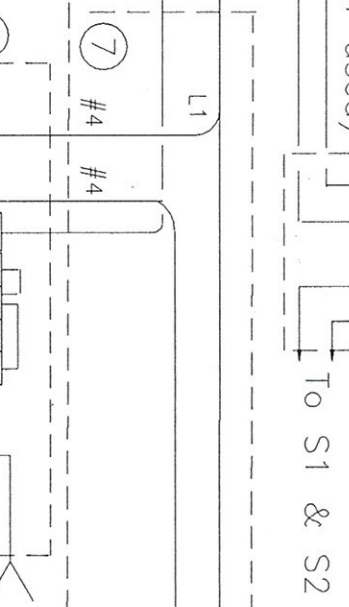
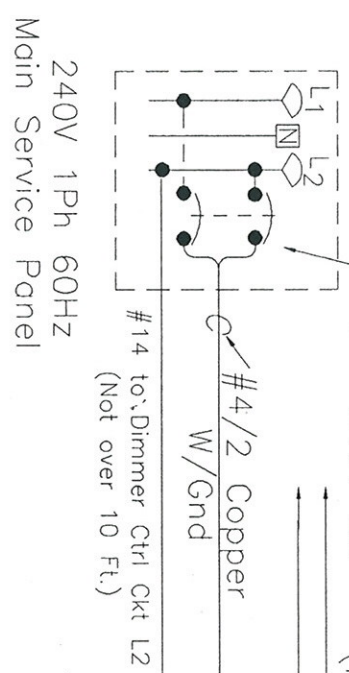


REVISIONS		
ZONE	REV	DATE

80A-2PCB

To 10A
240V CB
④ Timer
Switch
(if used)

SPDT (3 WAY)
Instant-On Switch
(if used)



IMPORTANT NOTES:

1. Be Sure All Equipment Is Grounded And Wired In Accordance To Electrical Codes.
2. Mount Dimmer With At Least 6" Free Air On All Sides, Especially The Top & Bottom.
3. Maximum Load On SCR Output Circuit Is 16800 Watts (70 Amps) - Check With Amprobe.
4. **Timer Switch Contacts Must Be Isolated From 240V Motor Leads.** Remove Jumper S1 to S2 If Timer/Clock Switch Is Used.
5. Remove Jumper From S2 to S4 If Instant-On Switch Is Used.
6. Branch Circuit Load Distribution Fuse/CB Box
7. Wiring Trough
8. If Optional External 0-10VDC Used, Dimmer Control Potentiometer Must Be Unplugged.
9. With Power Off, Hold Lug Secure While Tightening Lug Screws to Wires. Lugs Must Be Tight To Wires & SCR Assy. But Do Not Twist Or Bend Lugs. Retighten Lugs After Warm Up.

Kalglo Light Dimmer
70 Amps Output Load on SCR Max.
Check Current With Amprobe
Total Dimmer Load Not To Exceed 16.8KW.

⑥ Load Dist. Panel
Typ. 20A-2PCB

⑨ Typical 240V Branch
Circuit 4 Ckts Max.

QTY	FSCM	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SPECIFICATION

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:	
FRACTIONS ±	ANGLES ±
DECIMALS ±	
.xxx ±	

CONTRACT NO.		APPROVALS		DATE		SIZE		FSCM NO.		DWG. NO.		SHEET	
		DRAWN	RBM	7/1/03			A			840159		1	1
		CHECKED	RBM	7/1/03									
		ISSUED	RBM	7/1/03									

LCED-24168 WIRING DIAGRAM

KALGLO ELECTRONICS CO. INC.

BETHLEHEM, PA., 18017

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:
FRACTIONS ±
DECIMALS ±
.xxx ±
ANGLES ±
MATERIAL
FINISH
NEXT ASSY
USED ON
APPLICATION

DO NOT SCALE DRAWING



ELECTRONICS CO., INC.

5911 Colony Drive / Bethlehem, PA 18017-9348

Tel. 610-837-0700 / Fax 610-837-7978 / Internet: <http://www.kalglo.com> / E-mail: kalglo@kalglo.com

Transient Voltage Surge Protectors • Power Line Filters • Electric Infrared Heaters • Automatic Solid-State Temperature Controllers
High Wattage Light Dimmers • AC Power Controls • Alarm Systems • Motor Speed Controls • Load Limiting Devices

INSTALLATION INSTRUCTIONS FOR KALGLO "E" SERIES SINGLE PHASE DIMMERS

IMPORTANT NOTES

1. **DO NOT** install convenience outlets on dimmer branch circuits. This can damage the dimmer and is a violation of the electrical code.
2. **LIGHTNING** can damage electronic equipment such as this dimmer. It is recommended that a lightning protection device such as KALGLO'S PLA-175/1ph be installed in your electric service entrance panel.
3. **TIME CLOCKS** - If you are going to install a time clock, **THE TIME CLOCK MOTOR CONNECTIONS MUST BE ISOLATED FROM THE TIME CLOCK SWITCH CONNECTIONS.** Refer to the illustration on the back of this page. Remove the jumper on S1S2 (if there is a jumper on S1S2) when using a time clock.

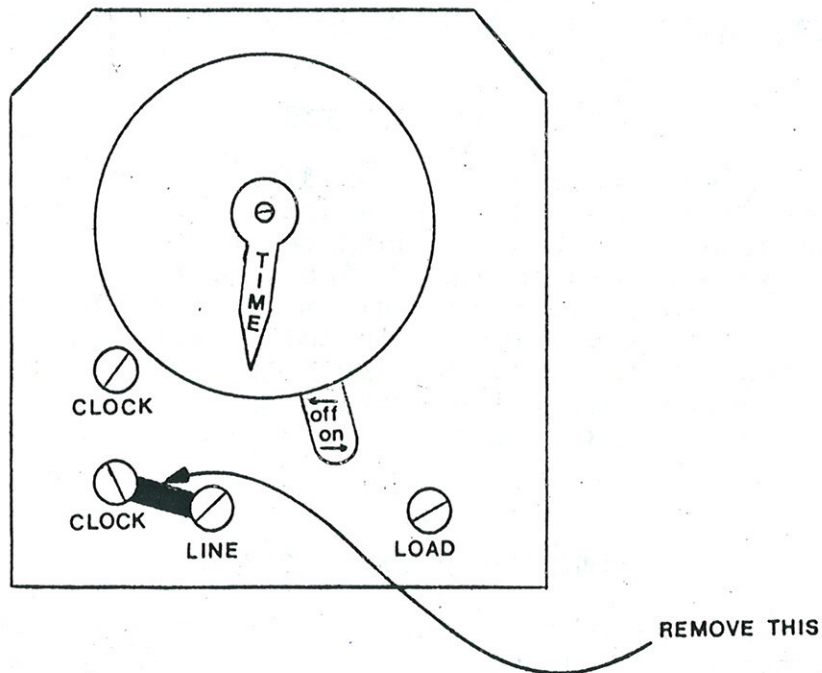
INSTALLATION INSTRUCTIONS

1. Remove the dimmer from the carton and check for shipping damage.
2. This dimmer should be mounted in a separate utility room or in an area away from excessive dust, dust with water, or where a corrosive atmosphere exists. Surface mount dimmer (do not recess in a wall) and allow 6" minimum of air clearance on all sides for proper ventilation. Do not mount in direct line of any heating equipment or where direct sunshine may overheat the dimmer.
3. With no electrical connections to the dimmer, "hot test" all wiring by connecting the branch circuits directly to the line voltage. Check current with an amprobe to be sure that no SCR assembly output circuit exceeds 80% of the maximum load rating. Be sure that all grounds are connected. If any faults exist, locate and clear them before making any connections to the dimmer. Failure to do this step can damage the dimmer.
4. Wire the dimmer per wiring diagram. When tightening wires to lugs L1, T1, etc., hold each lug firmly to avoid turning and loosening the lug on the SCR.
5. Double check wiring. Replace cover and knob. With intensity control in CCW position, energize the circuit. Be sure that the time clock (if used) is on. Turn intensity control CW until lights start to come on. With the dimmer operating, tap the dimmer gently with a screwdriver handle to check for loose connections. Lights will flicker if any exist. Turn intensity control fully CW. After one hour operation on full, de-energize dimmer and re-tighten all high current lugs while unit is still warm. Set the dimmer to the desired light level and set time clock (if used) as required.

(See reverse)

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840073 02/2002

ILLUSTRATION OF TIME CLOCK HAVING ISOLATED CONTACT



1. Connect hot wires to contact marked "clock".
2. Remove buss bar between "clock" and "line" terminals - this isolates the contacts.
3. Connect terminals marked "line" and "load" to S1S2 terminals - **there should be no AC power line voltage applied to S1S2.**
4. If no time clock is used, jumper S1S2.

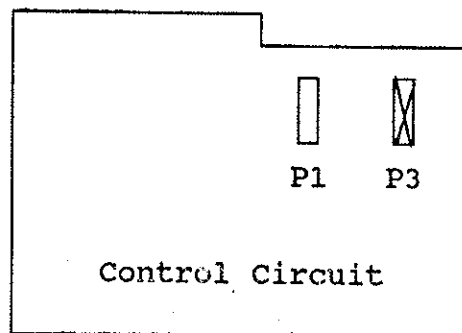
SPDT INSTANT-ON SWITCH EXPLANATION

When S2S4 makes, S2S3 breaks - instant-on is OFF.
When S2S4 breaks, S2S3 makes - instant-on is ON.

NOTE: Instant-on works only when S1S2 is closed. If the time clock has the lights off, you must either turn the time clock on or have a separate SPST switch across S1S2 turned on in order to use the instant-on feature.

**INSTRUCTIONS FOR CONNECTING A 0-10VDC PROPORTIONAL CONTROL SIGNAL
WHEN USING THE DIMMER WITH AN AUTOMATED CONTROL
(OPTIONAL)**

This LCEB/LCEBD model dimmer can be controlled by an external 0-10VDC proportional control signal voltage instead of the dimmer's potentiometer. To utilize this option, unplug the intensity control potentiometer (orange, blue, brown wired connector) from the main control circuit board. **IMPORTANT: FAILING TO UNPLUG THE INTENSITY CONTROL POTENTIOMETER COULD RESULT IN DAMAGE TO THE DIMMER WHEN THE EXTERNAL DC VOLTAGE IS APPLIED.** Remove the wirenuts from the (+) blue and (-) brown pigtail wires. Observing polarity, connect a 0-10VDC proportional control signal voltage to the (+) blue and (-) brown pigtail wires. Set the control signal voltage to 10 volts DC. The lights should be on full. As you lower the control signal voltage, the lights will dim and go out around 1 volt. If necessary, the low end intensity trimpot P1 (see Fig.1) on the main control circuit board can be adjusted to set the control range for 0-10VDC. Decrease the control signal voltage to approximately 1 volt DC. Turn P1 trimpot clockwise until the lights just start to come on. At this point you will have full range dimmer control with a 0-10VDC proportional control signal voltage input.



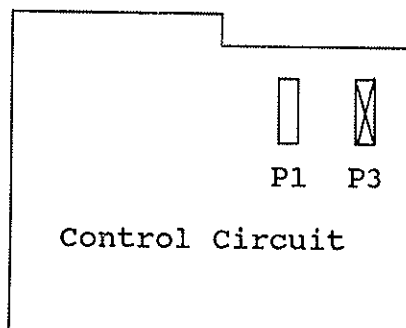
Adjust P1 only.
Do not adjust P3!

(Fig. 1)

LOW END INTENSITY ADJUSTMENT FOR LCED/LCEBD MODEL DIMMERS

Your Kalglo light dimmer has been tested and calibrated at the factory so the low end intensity adjustment is usually not needed. However, if you need to adjust the low end setting for any reason, turn the dimmer intensity control knob counter-clockwise to minimum. Using a small screwdriver, turn P1 trimpot (see Fig.1) clockwise to increase the low end light intensity or counter-clockwise to decrease the low end light intensity, whichever is necessary.

Also, for light intensity balancing between two dimmers in a master/slave configuration, it may be necessary to adjust the low end trimpot P1 (see Fig.1) in one of the dimmers. Check to see if balancing is needed after the two dimmers are connected as master/slave. Turn the master dimmer intensity control knob fully counter-clockwise. The bulbs on the master dimmer should go completely off. If not, turn P1 trimpot on the master dimmer counter-clockwise until the bulbs on the master dimmer do go completely off. Now turn the master dimmer intensity control knob clockwise until the light level of the bulbs is just barely visible. If the light intensity of the bulbs on the slave dimmer is not the same as the light intensity of the bulbs on the master dimmer, turn P1 trimpot on the slave dimmer, clockwise to increase or counter-clockwise to decrease, until the intensities of all bulbs are equal. This will ensure a consistent light level from both dimmers and both dimmers will turn the lights completely off.



Adjust P1 only.
Do not adjust P3!

(Fig.1)

**INSTRUCTIONS FOR CONNECTING A MASTER DIMMER WITH A SLAVE DIMMER
TO CONTROL A LARGER LOAD FROM ONE DIMMER CONTROL KNOB
(OPTIONAL)**

1. Mount both the master and slave dimmers and connect all power wiring and branch circuits as per applicable wiring diagrams and national and local electrical codes.
2. Dimmers should be mounted side-by-side with at least 6" clearance between them. This space is required for ventilation.
3. **IMPORTANT:** Test both dimmers by themselves to ensure proper operation before attempting to master-slave "gang" them together. If a time clock is used, only one is needed to control both dimmers (connected to the master dimmer), so keep the jumper across S1 & S2 on the slave when testing it independently of the master dimmer. Also, if an instant-on switch is used, only one is necessary (also connected to the master dimmer). The jumpers between S1 & S2 and between S2 & S4 in the slave can remain in place when the slave dimmer is connected to the master dimmer.
4. Be sure that power is off in master and slave units before proceeding.
5. **IMPORTANT:** In the slave dimmer(s) only, disable the control potentiometer (orange, blue, brown wired connector) by unplugging the intensity control potentiometer in each slave dimmer. Failing to unplug the potentiometer in the slave dimmer(s) could result in damage to the master or slave dimmer(s).
6. In each dimmer, remove the wirenuts from the (+) blue and (-) brown pigtail wires. Referring to the master-slave interconnection drawing on back of this page, connect the control signal wiring pigtails together between master and slave units as follows:

Using #18/2 twisted pair shielded cable, wirenut one end to the blue and brown pigtail wires on the applicable master unit control circuit. Then wirenut the other end of the color coded two conductor cable to the corresponding blue and brown wires in the slave unit(s). Be sure to observe correct polarity: (+) blue to (+) blue and (-) brown to (-) brown. This two conductor cable should not be more than ten feet long to prevent unnecessary noise pickup. Be sure no loose wires or whiskers are exposed which could short to the metal enclosure.
7. Double check all of the above connections. Then turn on power and re-test the units. Both dimmers should dim up and down smoothly in synchronism as the master potentiometer is adjusted. The time clock and instant-on switch connected to the master dimmer will also control the slave dimmer, as mentioned in paragraph 3. above. Any problems, re-check connections and/or contact the Kalglo factory.
8. Replace covers and place documentation on file for reference. You might want to remove the knob on the slave dimmer or tape over it to show the intensity control has been disabled.

(See reverse)

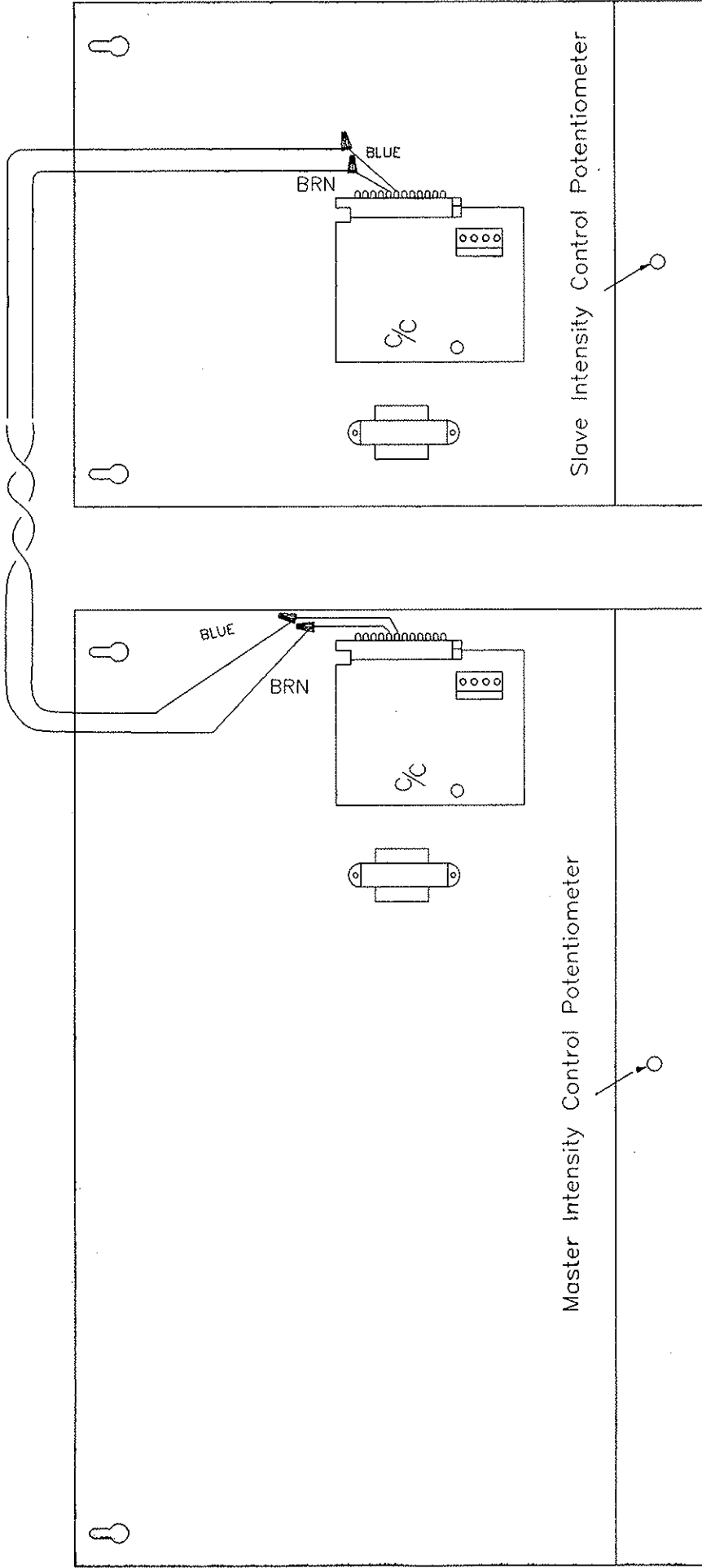
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MASTER-SLAVE INTERCONNECTION WIRING DIAGRAM

NOTES:

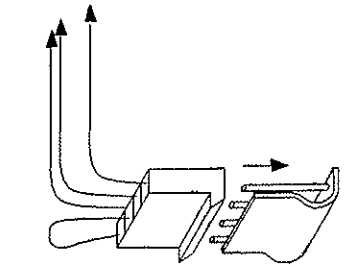
1. Typical master-slave interconnection.
2. Unplug intensity control potentiometer on slave dimmer.

1. #18 Twisted Pair Shielded Cable
(User Supplied)



MASTER DIMMER

SLAVE DIMMER



Orange, Blue, Brown wired connector from potentiometer to circuit board on each dimmer. Unplug on slave dimmer only.

2.