Solera
SOLAR LIGHTING

MODULAR SOLAR DECORATIVE LIGHT
INSTALL INSTRUCTIONS

i-SERIES

PRIOR TO INSTALLATION, PLEASE READ THE ENTIRE INSTALLATION INSTRUCTIONS

CAUTION — THIS MANUAL CONTAINS IMPORTANT INSTRUCTIONS THAT SHALL BE FOLLOWED DURING INSTALLATION, OPERATION AND MAINTENANCE OF THE UNIT. INSTALLATION REQUIRES BASIC KNOWLEDGE OF SOLAR LIGHTING; IF NOT QUALIFIED, DO NOT ATTEMPT INSTALLATION AND CONTACT A QUALIFIED PERSONNEL.

CAUTION — INSTALLATIONS SHALL COMPLY WITH ANY LOCAL RULES AND REGULATIONS AND BE PERFORMED BY A QUALIFIED PROFESSIONAL.

CAUTION — THIS EQUIPMENT IS MOUNTED TO THE GROUND WHERE FAILURE TO SECURE PROPERLY COULD LEAD TO PROPERTY DAMAGE OR INJURY. MAKE SURE TO FOLLOW LOCAL AND REGIONAL REGULATIONS REGARDING SOIL CONDITIONS, WIND, SNOW LOADING AND OTHER MECHANICAL OR STRUCTURAL ISSUES.

CAUTION — EPA & WEIGHT – THE SL-MD1 FULLY-ASSEMBLED FIXTURE WEIGHS 111 LBS AND HAS AN EPA OF 9.0 FT². TWO-PERSON INSTALLATION AND A LIFT OR BUCKET TRUCK ARE REQUIRED. CONFIRM THAT THE POLE, TENON ADAPTER, AND FOUNDATION ARE RATED FOR THESE VALUES IN YOUR SITE WIND ZONE BEFORE LIFTING.

PRODUCT INFORMATION

MODEL	SL-MD1-OG-0300654DB1
LIGHT OUTPUT	UP TO 3,000 LUMENS
DIMENSIONS	59.3 IN H × 58.6 IN REACH × 22.0 IN SHADE DIAMETER (TYPICAL INSTALLATION)
LED RATED LIFE	100,000 HRS (L70)
BATTERY	$LiFePO_4$ / 47 AH / 600 WH
SOLAR PANEL	(2) × 55W MONOCRYSTALLINE (FACTORY "2X50PANEL" MODULE)
OPERATION	OFF-GRID. 4G BI-DIRECTIONAL CELLULAR CONNECTIVITY FOR MONITORING AND CONTROL OF THE LIGHT. PROGRAMMABLE WITH MOTION SENSOR AND TIMER.
CCT	ADJUSTABLE 3000K / 4000K / 5000K
MATERIAL	MULTIPLE
CHARGING TIME	6 HOURS OF FULL SUN
OPTICS	T5 OPTICS STANDARD (T2, T3, T4 AVAILABLE)
INGRESS PROTECTION	IP65
WEIGHT / EPA	111 LBS / EPA 9.0 FT²
TENON REQUIREMENT	2-3/8 IN TENON
BATTERY TEMP	CHARGING −4°F TO 140°F DISCHARGING −40°F TO 140°F

INSTALLATION NOTES

1. THE PERFORMANCE OF SOLAR LIGHTS WILL DEPEND ON THE ENVIRONMENT, SETUP, MAINTENANCE AND OTHER FACTORS. THE OUTPUT MAY HAVE TO BE ADJUSTED TO LOWER LEVELS UNDER CERTAIN CONDITIONS. SOLAR LIGHTS ARE GENERALLY NOT DESIGNED TO OPERATE AT FULL POWER ALL NIGHT.
2. THE BATTERY ON SOLAR LIGHTS WILL DETERIORATE IF THE PRODUCT IS IN STORAGE FOR AN EXTENDED PERIOD OF TIME. TYPICALLY, THE BATTERY WILL MAINTAIN GOOD PERFORMANCE FOR 3-6 MONTHS AFTER PURCHASE. IF THE LIGHT IS STORED LONGER THAN 6 MONTHS, THEN THE LIGHT WILL NEED TO BE RECHARGED.
3. THE SOLAR PANEL ON THE LIGHT FIXTURE ALSO ACTS AS A PHOTOCELL. IF THERE IS A LIGHT SHINING ON THE SOLAR PANEL DURING NIGHT-TIME HOURS, THE LIGHT WILL NOT OPERATE.
4. SOLAR LIGHTS WILL OPERATE UNDER MANY CONDITIONS BUT MAY NOT OPERATE AS DESIRED UNDER ADVERSE CONDITIONS. IN SOME CASES, THE POWER OUTPUT MAY NEED TO BE REDUCED DURING WINTER MONTHS.
5. GENERALLY, THE SOLAR PANELS ARE MOUNTED FACING SOUTH AND INCLINED AT A 45 DEGREE ANGLE. THIS WILL TYPICALLY YIELD THE BEST RESULTS AND ALLOW THE RAIN TO CLEAN THE SOLAR PANELS. HOWEVER, IF SOLAR PANELS ARE NOT CLEAN, THEY WILL NOT CHARGE THE SYSTEM PROPERLY. FOR ADDITIONAL INFORMATION, PLEASE SEE THE SOLAR BEST PRACTICES GUIDE ON THE SOLERA WEBSITE UNDER RESOURCES / MARKETING MATERIALS. IN RARE OCCASIONS, SOLAR PANELS WILL NEED TO BE CLEANED WITH WATER AND A NON-ABRASIVE CLOTH.
6. IT IS NECESSARY TO CHECK CONDITION OF THE MOUNTING POLE OR STRUCTURE AS WELL AS THE CONDITION AND TIGHTNESS OF ALL BOLTS, BRACKETS, ETC. AT ROUTINE INTERVALS. THIS WILL DEPEND ON THE TYPE OF INSTALLATION AND THE CONDITIONS AT THE SITE AND IS THE RESPONSIBILITY OF THE INSTALLER OR SITE MAINTENANCE.
7. SOLAR LIGHTS MAY NOT BE FULLY CHARGED WHEN FIRST INSTALLED. PLEASE ALLOW 2-3 DAYS OF OPERATION FOR THE LIGHT TO START OPERATING NORMALLY.
8. SOLAR LIGHTS COME PROGRAMMED WITH THE DEFAULT PROGRAM. THIS HAS 2 HOURS AT 80% CONSTANT FOLLOWED BY SENSOR MODE FOR THE REST OF THE NIGHT. IN SENSOR MODE, THE FIXTURE OPERATES AT 20% LIGHT OUTPUT WHEN NO MOTION IS DETECTED. WHEN MOTION IS DETECTED, THE OUTPUT INCREASES TO 80% AND REMAINS AT THAT LEVEL UNTIL NO MOTION IS DETECTED FOR 1 MINUTE. IF ALTERNATE SETTINGS ARE REQUIRED, PLEASE CONTACT TECH SUPPORT.
9. SOLAR LIGHTS ARE HEAVY AND HAVE A LARGE EFFECTIVE PROJECTED AREA (EPA). IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT THE POLE OR SELECTED MOUNTING STRUCTURE IS APPROPRIATE FOR THE LIGHT FIXTURES SELECTED, WIND ZONE, AND ANY OTHER ENVIRONMENTAL OR SITE-SPECIFIC FACTORS. THE SL-MD1 WEIGHS 111 LBS AND HAS AN EPA OF 9.0 FT^2 — VERIFY THESE AGAINST YOUR POLE'S WIND-ZONE RATING BEFORE INSTALLATION.

MAINTENANCE NOTES

THE MAINTENANCE INTERVAL WILL DEPEND ON THE ENVIRONMENT AND SITE-SPECIFIC FACTORS.

1. THE LIGHTS SHOULD BE CHECKED AND CLEANED AT LEAST ONCE PER YEAR.
2. THE SOLAR PANEL SHOULD BE CLEANED OF DUST AND DEBRIS USING WATER AND A NON-ABRASIVE CLOTH.
3. CHECK ALL MOUNTING BOLTS TO ENSURE THEY ARE PROPERLY INSTALLED AND TIGHT.
4. CONFIRM THAT THE POLE, TENON ADAPTER, AND/OR MOUNTING STRUCTURE ARE IN GOOD CONDITION.
5. ENSURE THAT THE FOUNDATION OR MOUNTING SURFACE IS IN GOOD CONDITION.

CONTENTS

THIS PRODUCT IS SHIPPED IN MULTIPLE BOXES. A TYPICAL SL-MD1 SHIPMENT CONTAINS:

BOX 1 — DECORATIVE LIGHT HEAD — SL-C-MD1-T3, FIXTURE W/ AL-101 LIGHT ENGINE + FACTORY WHIP CABLE

BOX 2 — (2) 55W SOLAR PANELS — SL-C-2X50PANEL-SF, SOLAR PANEL SET W/ SLIP-FITTER

BOX 3 — LIGHT HEAD ARM (GOOSE NECK) — SL-C-GN1

BOX 4 — FIXTURE ARM + TENON MOUNT — SL-C-PTM3, MOUNTING POLE ASSEMBLY (W/ FACTORY PULL-WIRE PRE-INSTALLED)

BOX 5 — 600W BATTERY + ENCLOSURE — SL-C-BATBOX-3, BATTERY BOX (W/ 600 WH $LiFePO_4$ BATTERY AND 4G IOT MODULE MOUNTED ON TOP)

TOOLS AND MATERIALS NEEDED

NOTE: DUE TO THE SIZE AND WEIGHT OF THIS PRODUCT (111 LBS TOTAL), TWO-PERSON INSTALLATION IS REQUIRED. A LIFT OR BUCKET TRUCK IS REQUIRED FOR POLE-TOP MOUNTING.

3MM METRIC ALLEN WRENCH

6MM METRIC ALLEN WRENCH (TYPICALLY INCLUDED)

8MM METRIC ALLEN WRENCH

WIRE CUTTERS / STRIPPERS

#2 PHILIPS SCREWDRIVER

ELECTRICAL TAPE

TORQUE WRENCH (RECOMMENDED FOR TENON SET-SCREWS AND GOOSE NECK TO PEDESTRIAN LAMP FASTENERS)

PRE-INSTALLATION CHECKLIST

1. SELECT A LOCATION THAT RECEIVES PLENTY OF DIRECT, UNOBSTRUCTED SUNLIGHT. AVOID AREAS WITH SHADING FROM BUILDINGS, TREES OR OTHER OBJECTS.
2. SELECT A LOCATION WHERE ARTIFICIAL LIGHT DOES NOT SHINE ON THE SOLAR PANEL AT NIGHT.
3. CHECK THAT THE CCT SELECTION IS IN THE DESIRED POSITION. (SEE CCT ADJUSTMENT INSTRUCTIONS)
4. CONFIRM THAT THE POLE OR STRUCTURE WILL SUPPORT THE WEIGHT (111 LBS) AND EPA (9.0 FT^2) OF THE LIGHT.
5. CONFIRM THAT THE POLE OR STRUCTURE HAS A 2-3/8 IN TENON TO MOUNT THE LIGHT.
6. IF ANY ACCESSORIES SUCH AS SHIELDS OR OPTIONAL OPTICS NEED TO BE INSTALLED, PLEASE INSTALL BEFORE MOUNTING THE LIGHT. (SEE INSTRUCTIONS FOR SHIELD OR OPTIC INSTALLATION)

FOR 4G MODULE OPERATION, SEE INSTRUCTIONS FOR SOLERA CONNECT
WHEN THE 4G OPTION IS SELECTED, THE DECORATIVE LIGHT WILL SHIP WITH A PRE-CONFIGURED 4G IOT MODULE PRE-INSTALLED ON THE TOP SIDE OF THE BATTERY BOX, WITH SIM CARD ALREADY PROVISIONED.

PRE-INSTALLATION PREPARATION

THE SL-MD1 CAN EASILY BE MODIFIED OR ADJUSTED TO MEET THE SPECIFIC SITE REQUIREMENTS. PLEASE ADJUST THE CCT TO THE DESIRED LEVEL PRIOR TO INSTALLATION. (SEE CCT ADJUSTMENT BELOW) THE LENSES CAN BE CHANGED FROM TYPE 5 (STANDARD ON THE SL-MD1) TO TYPE 2, 3, OR 4 OPTICS. (SEE LENS CHANGE INSTRUCTIONS)

CCT ADJUSTMENT

THE SL-MD1 IS EASILY ADJUSTED TO 3000K, 4000K OR 5000K OUTPUT BY A SWITCH.

1. PERFORM THIS OPERATION IN A CLEAN AND DRY ENVIRONMENT. (PREFERABLY ON THE BENCH, BEFORE INSTALLING THE LIGHT)
2. USE A 3MM ALLEN WRENCH TO LOOSEN 4 SCREWS, AND THEN OPEN DRIVER COMPARTMENT. (SEE FIGURE 1)
3. ADJUST THE 3-POSITION SWITCH TO THE DESIRED CCT. (SEE FIGURE 2)
4. ENSURE THAT ALL WIRES AND CONNECTORS ARE SAFELY POSITIONED TO CLOSE THE DOOR.
5. CLOSE DRIVER COMPARTMENT DOOR AND CONFIRM THAT THE GASKET IS IN PLACE ALL THE WAY AROUND THE COMPARTMENT. TIGHTEN ALL 4 SCREWS SECURELY.

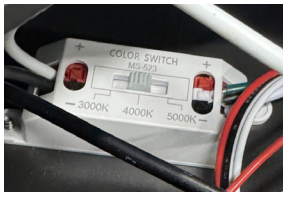

FIG 2

FIG 1

BATTERY REPLACEMENT

THE SL-MD1 BATTERY IS A LIFEPO4 600 WH / 47 AH MODULE WEIGHING APPROXIMATELY 11.4 LBS.

1. OPEN THE BATTERY BOX (ENCLOSURE) — PRESS THE LATCH BUTTON AND ROTATE THE HANDLE.
2. DISCONNECT BATTERY. (LEVER CONNECTOR — SEE FIGURE 3)
3. REMOVE BATTERY RETAINER. (2 SCREWS)
4. INSTALL NEW BATTERY. (SEE FINAL WIRING & POWER-UP SECTION)
5. REINSTALL BATTERY RETAINER.
6. RE-CONNECT BATTERY.

FIG 3

LENS CHANGE INSTRUCTIONS

THE SL-MD1 IS GENERALLY EQUIPPED WITH TYPE 5 OPTIC LENSES WHEN SHIPPED (THE DECORATIVE-FIXTURE DEFAULT). THESE LENSES CAN BE REPLACED WITH TYPE 2, TYPE 3, OR TYPE 4 OPTIC LENSES. LENSES CAN BE PURCHASED SEPARATELY.

NOTE: THE SL-MD1 PEDESTRIAN LAMP CONTAINS A SINGLE AL-101 LED MODULE (192 LEDS).

1. PERFORM THIS OPERATION IN A CLEAN AND DRY ENVIRONMENT. (PREFERABLY ON THE BENCH, BEFORE INSTALLING THE LIGHT)
2. CLEAN THE LENS AND FIXTURE WITH WATER AND A SOFT CLOTH. (NOT NECESSARY IF INSTALLING ON A NEW LIGHT)
3. USING A #2 PHILIPS SCREWDRIVER, REMOVE THE 8 SCREWS AROUND THE LENS. (SEE FIGURE 4)
4. REMOVE THE OLD LENS.
5. ENSURE THAT THE GASKET IS CORRECTLY POSITIONED. (SEE FIGURE 5)
6. INSTALL THE NEW LENS ENSURING THAT THE ARROW IS POINTING AWAY FROM THE POLE, AND THAT THE GASKET IS SEATED PROPERLY AROUND THE ENTIRE LENS. (SEE FIGURE 6)
7. REINSTALL THE 8 SCREWS.

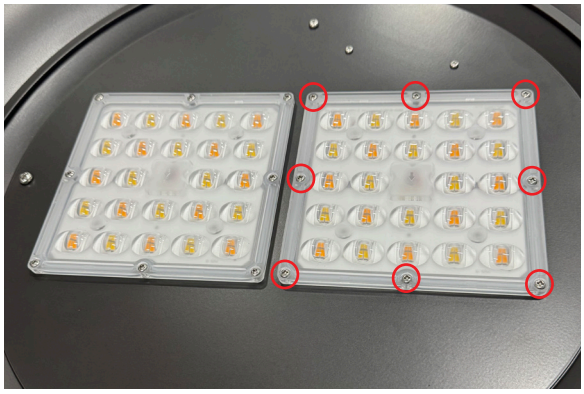

FIG 4

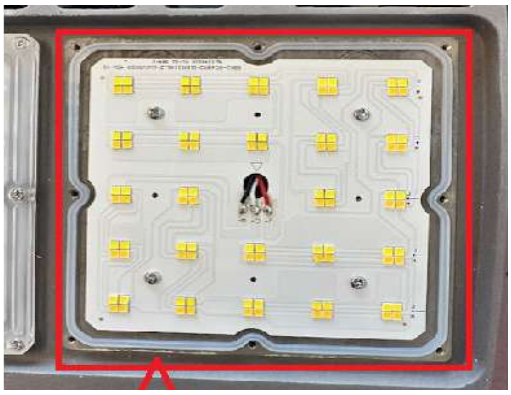

FIG 5

FIG 6

INSTALLATION INSTRUCTIONS

NOTE: DUE TO THE SIZE AND WEIGHT OF THIS PRODUCT (111 LBS TOTAL), TWO-PERSON INSTALLATION IS REQUIRED. A LIFT OR BUCKET TRUCK IS REQUIRED FOR POLE-TOP MOUNTING.

PREPARATION

1. INSTALLATION SHOULD ONLY BE CARRIED OUT BY QUALIFIED PERSONNEL UNDER SAFE CONDITIONS.
2. READ ENTIRE INSTRUCTIONS BEFORE INSTALLATION. ENSURE THAT ALL ITEMS LISTED IN THE PRE-INSTALLATION CHECKLIST HAVE BEEN COMPLETED OR ACCOUNTED FOR.
3. PLEASE CONFIRM THAT THE CCT IS SET, AND THAT THE APPROPRIATE LENSES AND/OR SHIELDING HAS BEEN INSTALLED ON THE LIGHT FIXTURE PRIOR TO INSTALLATION.
4. INSPECT EACH CARTON FOR SHIPPING DAMAGE BEFORE BEGINNING.

GROUND SUB-ASSEMBLY (DECORATIVE LIGHT HEAD, LIGHT HEAD ARM, FIXTURE ARM/TENON MOUNT AND BATTERY/ENCLOSURE)

NOTE: PERFORM STEPS 1–6 ON THE GROUND IN A CLEAN, LEVEL AREA. ASSEMBLING THE PEDESTRIAN LAMP, GOOSE NECK TUBE, PTM3, AND BATTERY BOX AT GROUND LEVEL BEFORE LIFTING IS STRONGLY RECOMMENDED FOR SAFETY, GIVEN THE SIZE AND WEIGHT OF THE SL-MD1.

1. **TAKE OUT THE DECORATIVE LIGHT HEAD FROM THE OUTER CARTON** REMOVE THE SL-MD1 DECORATIVE LIGHT HEAD (FIXTURE W/ INTEGRATED AL-101 LIGHT ENGINE) FROM ITS OUTER CARTON. VERIFY THAT THE FACTORY WHIP CABLE IS INTACT AND THE MOUNTING FLANGE HARDWARE IS PRESENT. (SEE FIGURE 9)
2. **TAKE OUT THE LIGHT HEAD ARM FROM THE OUTER CARTON** REMOVE THE LIGHT HEAD ARM FROM THE OUTER CARTON AND LAY IT NEXT TO THE DECORATIVE LIGHT HEAD, ORIENTED FOR ASSEMBLY. (SEE FIGURE 10)

FIG 9

FIG 10

INSTALLATION INSTRUCTIONS

3. **FEED THE CABLE WIRE THROUGH THE LIGHT HEAD ARM** ROUTE THE FACTORY CABLE WHIP FROM THE DECORATIVE LIGHT HEAD THROUGH THE LIGHT HEAD ARM, ENTERING AT THE CURVED (LAMP-SIDE) END AND EXITING NEAR THE STRAIGHT (POLE-SIDE) END. (SEE FIGURE 11)

CAUTION — CABLE WIRE SHOULD NOT GO ALL THE WAY THROUGH TO THE BOTTOM END OF THE GOOSE NECK TUBE. LEAVE A WORKING LENGTH OF CABLE EXITING THE SIDE OF THE TUBE NEAR THE POLE-SIDE END SO IT CAN BE FED INTO THE PTM3 IN STEP 5.

FIG 11

4. **LOCK THE LIGHT HEAD ARM TO THE DECORATIVE LIGHT HEAD** SECURE THE LIGHT HEAD ARM TO THE DECORATIVE LIGHT HEAD USING THE FASTENERS ON THE TOP OF THE DECORATIVE LIGHT HEAD. (SEE FIGURES 12 AND 13)

   POSITION THE LIGHT HEAD ARM SO ITS CURVED END ALIGNS WITH THE MOUNTING COLLAR ON TOP OF THE DECORATIVE LIGHT HEAD.

   ALIGN THE FACTORY CABLE WHIP SO IT ROUTES CLEANLY INTO THE LIGHT HEAD ARM WITHOUT ANY PINCH POINTS.

   TIGHTEN ALL FASTENERS ON THE TOP OF THE DECORATIVE LIGHT HEAD SECURELY, CONFIRMING THE LIGHT HEAD ARM IS LOCKED IN PLACE AND THE CABLE IS NOT PINCHED AT THE JOINT.

FIG 12

FIG 13

INSTALLATION INSTRUCTIONS

5. **ROUTE THE CABLE THROUGH THE FIXTURE ARM (PTM3)** TAKE THE FIXTURE ARM (PTM3) OUT OF ITS CARTON AND USE THE FACTORY-INSTALLED LEADING WIRE (PULL-WIRE) INSIDE THE FIXTURE ARM (PTM3) TO LEAD THE LIGHT HEAD ARM CABLE FROM THE BOTTOM OF THE PTM3 UP TO THE TOP HOLE OPENING. (WHERE THE BATTERY BOX WILL BE MOUNTED) (SEE FIGURES 14 AND 15)

   POSITION THE PTM3 NEXT TO THE DECORATIVE LIGHT HEAD / LIGHT HEAD ARM SUB-ASSEMBLY.

   ATTACH THE FREE END OF THE CABLE (EXITING THE LIGHT HEAD ARM) TO THE FACTORY LEADING WIRE INSIDE THE PTM3.

   GENTLY PULL THE LEADING WIRE SO THE CABLE TRAVELS FROM THE BOTTOM OF THE PTM3 (LIGHT FIXTURE ARM SIDE) UP TO THE TOP HOLE OPENING (BATTERY-BOX SIDE).

   LEAVE SUFFICIENT CABLE SLACK AT THE TOP HOLE OPENING TO MAKE TERMINATIONS INSIDE THE BATTERY BOX.

CAUTION — DO NOT YANK THE LEADING WIRE. FEED SLOWLY TO AVOID STRIPPING CONDUCTOR INSULATION AGAINST THE PTM3 GROMMETS.

FIG 14

FIG 15

6. **MOUNT THE BATTERY BOX (WITH 4G IOT MODULE ON TOP) TO THE PTM3** THE BATTERY BOX SHIPS WITH THE 4G IOT MODULE ALREADY INSTALLED ON ITS TOP SIDE. MOUNT THE BATTERY BOX TO THE PTM3 USING THE FACTORY-SUPPLIED BRACKET. (SEE FIGURES 16 AND 17)

   IDENTIFY THE ORIENTATION OF THE BATTERY BOX — THE 4G IOT MODULE SHOULD BE ON THE TOP SIDE (CELLULAR ANTENNA FACING UP).

   POSITION THE BATTERY BOX CLOSE TO THE PTM3 IN THE PROPER ORIENTATION, ALIGNING THE CABLE-GLAND INLETS WITH THE CABLES EXITING THE PTM3.

   LOOSEN THE CABLE-GLAND NUTS; REMOVE AND SLIDE THE NUT AND SEAL ASIDE IF NECESSARY.

   FEED THE LIGHT HEAD ARM CABLE (EXITING THE TOP HOLE OF THE PTM3) THROUGH THE LABELED "LAMP ENGINE" CABLE GLAND ON THE BATTERY BOX.

   FEED THE SOLAR-PANEL CABLE (WHICH WILL BE INSTALLED IN STEP 8) THROUGH THE LABELED "SOLAR PANEL" CABLE GLAND.

INSTALLATION INSTRUCTIONS

ALIGN THE MOUNTING BRACKETS AND SECURE THE BATTERY BOX FIRMLY TO THE PTM3 USING THE PROVIDED HARDWARE.

TIGHTEN THE NUTS ON BOTH CABLE GLANDS.

CAUTION — CONFIRM EACH CABLE ENTERS THE CORRECT GLAND (SOLAR PANEL VS. LAMP ENGINE). REVERSING THEM WILL RESULT IN INCORRECT TERMINATIONS INSIDE THE BATTERY BOX.

FIG 16

FIG 17

7. **POLE-TOP MOUNTING OF SUB-ASSEMBLY**

VISUALLY INSPECT THE ENTIRE GROUND SUB-ASSEMBLY (DECORATIVE LIGHT HEAD + LIGHT HEAD ARM + FIXTURE ARM (PTM3) + BATTERY BOX) FOR TIGHT FASTENERS AND PROPER CABLE ROUTING BEFORE LIFTING.

CONFIRM THAT THE POLE SPEC IS APPROPRIATE FOR THE SL-MD1 (111 LBS, EPA 9.0 FT², 2-3/8 IN TENON).

CONFIRM THAT THE TENON ADAPTER (IF USED) IS WELL SECURED AND IN GOOD CONDITION.

USING A LIFT OR BUCKET TRUCK, RAISE THE SUB-ASSEMBLY INTO POSITION WITH AT LEAST TWO PEOPLE.

PLACE THE PTM3 ONTO THE 2-3/8 IN TENON AND ADJUST THE ORIENTATION OF THE GOOSE NECK TO THE APPROPRIATE DIRECTION.

FIRMLY TIGHTEN THE MOUNTING SET-SCREWS AT THE BOTTOM OF THE PTM3 SO THAT THEY FIRMLY ANCHOR THE PTM3 TO THE TENON.

INSTALLATION INSTRUCTIONS

8. **SOLAR PANEL INSTALLATION** TAKE OUT THE SOLAR PANEL SET ((2) × 55W MONOCRYSTALLINE PANELS, 38.5 LB TOTAL ARRAY) AND INSTALL ON TOP OF THE MOUNTING POLE, THEN COMPLETE THE SOLAR PANEL AND BATTERY CONNECTION TO THE SOLAR CONTROLLER INSIDE THE BATTERY BOX.

   ENSURE THAT THE SOLAR PANEL CABLE IS EXITING THE TOP OF THE PTM3 (OR ROUTED FOR CONNECTION THROUGH THE "SOLAR PANEL" GLAND OF THE BATTERY BOX).

   RAISE THE SOLAR PANEL ARRAY INTO POSITION ABOVE THE PTM3.

   ALIGN THE CONNECTORS AND FIRMLY PUSH THEM TOGETHER. TIGHTEN THE LOCK NUT FIRMLY.

   LOWER THE SLIP-FITTER ONTO THE TENON AT THE TOP OF THE PTM3 WHILE ENSURING THAT THE WIRE DOES NOT GET PINCHED BETWEEN THE TWO COMPONENTS.

   ADJUST THE ORIENTATION OF THE SOLAR PANELS (TYPICALLY FACING SOUTH), THEN FIRMLY TIGHTEN THE 4 MOUNTING BOLTS.

   ADJUST THE TILT OF THE SOLAR PANELS USING THE LARGE BOLT IN THE CENTER OF THE KNUCKLE ON THE SLIP-FITTER (TARGET ~45° INCLINATION). ONCE ADJUSTED, LOCK IN PLACE BY FIRMLY TIGHTENING THE BOLT.

9. **FINAL WIRING & POWER-UP** OPEN THE BATTERY-BOX DOOR. THE DECORATIVE LIGHT HEAD (4-CONDUCTOR) CABLE, THE BATTERY LEADS, AND THE SOLAR-PANEL LEADS ALL CONVERGE ON THE FACTORY-SUPPLIED LEVER CONNECTORS AT THE SOLAR CONTROLLER. FOLLOW THE CABLE-COLOR AND LABEL INFORMATION BELOW TO MAKE EACH CONNECTION:

   RED BATTERY WIRE TO RED WIRE ON 4-CONDUCTOR CABLE

   BLACK BATTERY WIRE TO GREEN WIRE ON 4-CONDUCTOR CABLE

   SOLAR PANEL BLACK WIRE TO BLACK WIRE ON 4-CONDUCTOR CABLE

   SOLAR PANEL WHITE WIRE TO WHITE WIRE ON 4-CONDUCTOR CABLE

   PV: SOLAR PANEL WIRES

   BAT: BATTERY WIRES

   LED: LIGHT HEAD WIRES

CAUTION — ALWAYS OBSERVE POLARITY. A REVERSED BATTERY CONNECTION CAN DAMAGE THE MPPT SOLAR CONTROLLER AND VOID THE WARRANTY.

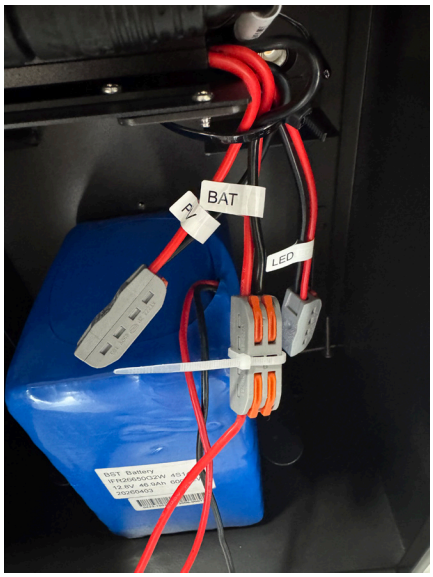

FIG 18

10. **FINAL CHECK & POWER-UP**

   VISUALLY INSPECT THE ENTIRE FIXTURE.

   DOUBLE CHECK THAT ALL MOUNTING BOLTS ARE TIGHT.

   CONFIRM THE CABLE GLANDS ON THE BATTERY BOX ARE TIGHTENED & THE DOOR GASKET IS FULLY SEATED.

   CLOSE AND LATCH THE BATTERY-BOX DOOR.

   ALLOW 2–3 DAYS OF DAYLIGHT EXPOSURE FOR THE SYSTEM TO CHARGE AND BEGIN OPERATING NORMALLY.

OPERATING NOTES

PLEASE NOTE BELOW IN REFERENCE TO THE CHARGE LED AND SENSOR WINDOW. THE CHARGE LED WILL OPERATE AS FOLLOWS:

1. FAST BLINK – BOOST CHARGING. BATTERY LEVEL IS LOW, SOME FUNCTIONALITY WILL BE LIMITED UNTIL BATTERY RECHARGES.
2. SLOW BLINK – CHARGING. NORMAL CHARGING STATE.
3. SOLID – BATTERY HAS REACHED MAXIMUM CHARGE.

THE LIGHTS WILL COME ON AT DUSK, BASED ON THE LIGHT LEVEL DETECTED BY THE SOLAR PANELS. THE LED PANEL WILL TURN OFF AT DAWN, AS THE LIGHT LEVEL DETECTED BY THE SOLAR PANELS INCREASES. THERE IS A STANDARD 1-MINUTE SENSOR DWELL TIME WHEN THE LIGHT IS OPERATING IN SENSOR MODE.

NOTE: FOR 4G-ENABLED UNITS, ALL OPERATIONAL SETTINGS (GROUPS, SCHEDULES, DIMMING PROFILES, ALARM THRESHOLDS) CAN BE CONFIGURED REMOTELY THROUGH SOLERA CONNECT. SEE THE SOLERA CONNECT DOCUMENTATION FOR APP AND PORTAL SETUP.

TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE	RECOMMENDED ACTION
LIGHT DOES NOT COME ON AT DUSK	SOLAR PANEL EXPOSED TO ARTIFICIAL NIGHT-TIME LIGHT; BATTERY DEEPLY DISCHARGED; SENSOR OBSTRUCTED	REPOSITION TO AVOID STRAY LIGHT; ALLOW 2–3 DAYS FOR RECHARGE; CLEAR OBSTRUCTION FROM SENSOR WINDOW
LIGHT FLICKERS OR SHUTS OFF MID-NIGHT	BATTERY LOW; OUTPUT SET TOO HIGH FOR SITE CONDITIONS; LOOSE TERMINAL	VERIFY CHARGE LED STATUS; CONTACT TECH SUPPORT TO LOWER OUTPUT PROFILE; RE-SEAT LEVER-CONNECTOR TERMINATIONS (FIGURE 17)
CHARGE LED — FAST BLINK, PERSISTENT	BOOST CHARGING DUE TO LOW BATTERY; INSUFFICIENT DAILY SOLAR HARVEST	VERIFY PANEL ORIENTATION (SOUTH-FACING, ~45°); CLEAN PANELS; CHECK FOR SHADING OR STRAY NIGHT-TIME LIGHT ON PANELS
CHARGE LED — OFF ENTIRELY	NO BATTERY CONNECTION; TRIPPED BMS PROTECTION	INSPECT LEVER-CONNECTOR TERMINATIONS; VERIFY POLARITY; IF UNRESOLVED, CONTACT TECH SUPPORT
OUTPUT NOTICEABLY REDUCED (WINTER)	REDUCED SOLAR HARVEST IN WINTER MONTHS	EXPECTED BEHAVIOR; CONSIDER LOWERING SCHEDULED OUTPUT VIA SOLERA CONNECT (4G UNITS)
SOLAR PANEL FACE DIRTY / STREAKED	DUST, POLLEN, SALT SPRAY, BIRD DROPPINGS	CLEAN WITH WATER AND A NON-ABRASIVE CLOTH
WATER INSIDE BATTERY BOX	CABLE-GLAND NUT LOOSE; DOOR GASKET DISPLACED	RE-TIGHTEN GLAND NUTS; VERIFY DOOR-GASKET SEATING; REPLACE GASKET IF DAMAGED
4G UNIT NOT REPORTING TO SOLERA CONNECT	SIM NOT ACTIVATED; CELLULAR OUTAGE; ANTENNA OBSTRUCTED (4G IOT MODULE ON TOP SIDE OF BATTERY BOX)	CONFIRM WITH TECH SUPPORT THAT SIM IS PROVISIONED; RE-POWER FIXTURE; ENSURE NO METAL OBSTRUCTION ABOVE THE IOT ANTENNA; IF PERSISTENT, CONTACT SUPPORT

FOR ALL UNRESOLVED ISSUES, CONTACT SOLERA-TS@LED-LLC.COM WITH: MODEL NUMBER, INSTALL DATE, PHOTOS OF THE FIXTURE AND CHARGE LED, AND A DESCRIPTION OF THE ISSUE.

SPECIFICATIONS

LIGHT ENGINE

ENGINE	AL-101
LED	192 LED. 3030 HIGH EFFICACY
MAX. POWER	20W
EFFICACY	160+ LUMENS PER WATT
CRI	70+
MAX. LUMENS	3,000 LUMENS
CCT	3000K, 4000K, 5000K SELECTABLE
CONTROLLER	MPPT CHARGE CONTROLLER
HYBRID OPTION	N/A
4G OPTION	4G MODULE FOR SOLERA CONNECT
STANDARD OPTICS	TYPE 5
OPTICS OPTIONS	TYPE 2, TYPE 3, TYPE 4, TYPE 5
SHIELD OPTIONS	BACK LIGHT SHIELD, FULL CUTOFF SHIELD
RATED LIFE	L70 / 10,000 HOURS

SOLAR PANEL

TYPE	MONOCRYSTALLINE
WATTS	55W PER PANEL
VOLTAGE	12V
ADJUSTABLE	ANGLE AND ROTATION ARE FULLY ADJUSTABLE
CHARGE TIME	6 HOURS
DIMENSIONS	27.1 IN X 19.2 IN X 2.2 IN (NOT INCLUDING SLIP-FITTER)
WEIGHT	38.50 LB
INGRESS PROTECTION	IP65

BATTERY

TYPE	$LiFePO_4$
CHARGING TEMP	-4° TO 140°F
DISCHARGING TEMP	-40° TO 140°F
CHARGING TIME	6 HRS
BATTERY LIFE	30 HRS (BASED ON ENV / PWR SETTINGS)
REPLACEABLE	YES
CHARGE CYCLES	2000+
AMPERE-HOURS	47
WATT HOURS	600
WEIGHT	11.4 LBS
BMS SYSTEM	ONBOARD FULL PROTECTION
SAFETY	UN 38.3

DECORATIVE LIGHT ASSEMBLY

DESCRIPTION	MEDIUM
SOLAR PANEL	2 X 55W
BATTERY	600 WH
LIGHT HEAD	20W / 10,000 LUMENS
EPA	9.0 FT^2
WEIGHT	111 LBS

POLE RECOMMENDATION

THE SL-MD1 REQUIRES A 2-3/8 IN TENON ON TOP. STANDARD SOLERA RPSQ POLES (ANCHOR-BASE AND DIRECT-BURIAL, 20/25/30 FT, 5 IN–6 IN SQUARE STEEL, 7 GA) SHIP WITH A 2.38 IN OD × 4.0 IN LONG TENON THAT MATES DIRECTLY WITH THE SL-MD1 PTM3 — NO ADAPTER REQUIRED. POLES ARE CUSTOM-MADE TO ORDER AND ARE NOT RETURNABLE.

CONTACT INFORMATION

SALES SUPPORT

PLEASE CONTACT YOUR DISTRIBUTOR, REP, OR LED REGIONAL SALES MANAGER.

LIGHT EFFICIENT DESIGN SALES CAN BE REACHED AT (847) 380-3540 AND ASK FOR SALES OR EMAIL: SALES@LED-LLC.COM

TECHNICAL SUPPORT

TECHNICAL SUPPORT IS AVAILABLE, PLEASE EMAIL SOLERA-TS@LED-LLC.COM

PLEASE INCLUDE THE MODEL NUMBER, NUMBER OF LIGHTS, INSTALLATION DATE AND ANY OTHER PERTINENT INFORMATION.