

Old world craftsmanship...today's technology®

Take the CAST Lighting challenge . . .

Compare features, performance
and price . . . then decide.



CCTL1C



CNL1CB



CDL1CB



CNO1CB

CBA1CB



CWW1CB



CSA1CB



CCH1CB
CCH2CB



CMU1CB
CMU2CB



CWL16
CWLWFL
CWLWFLLEAD



CBL1CB

The CAST Bullet (CBL1CB)

- ◆ Lifetime warranty on solid bronze body and stake
- ◆ Pre-wired with 25 ft. No-Ox® marine grade tin-coated wire
- ◆ Stainless steel internal components
- ◆ Internal heat shield to prolong socket life
- ◆ Soldered and crimped connections
- ◆ Seamless knuckle for 180° adjustment
- ◆ Fixture Record Tag for system maintenance
- ◆ Convex lens to minimize mineral build up



Ask about our one-day hands-on seminars to jump start your new landscape lighting business.

www.cast-lighting.com - 800-914-CAST

The CAST System of Landscape Lighting Installation

A tested and proven system used successfully by thousands of landscape professionals

The CAST System at a Glance

A combination of durable, well engineered products and fool-proof methods that work together for the highest possible system integrity.

The CAST system achieves the best possible system integrity by providing tools and support for the various stages of the project: planning, installation, testing, voltage adjustment, documentation and maintenance.

Planning

Simple to use and accurate – forms and tools for successful planning.

Customized worksheets and planning guides assist the designer in calculating and selecting system components. Accurate formulas predict voltage loss and aide the designer in the selection of wire gauge and transformer type.



CAST provides both online and printed forms for accurate calculations.

Installation

A wiring method to ensure even distribution of voltage and corrosion-proof wire connections.

The installation phase of the system relies upon the following CAST product features:

- Solid bronze or copper fixtures prewired with tin-coated No-Ox® marine grade wire
- Spider Splice® junctions
- No-Ox® home run wire
- Transformers designed for quick and secure connections

Using these products, the designer lays out the installation with Spider Splice® junctions positioned near fixture locations. Each junction accommodates up to 6 fixture wires. Since each fixture is pre-wired with a 25 ft. wire the distances from Spider Splices® to fixtures are equal and the voltage losses will be identical. This ensures all fixtures on a single Spider Splice® will receive the same voltage. The only splices in the field are in the protected Spider Splice® junctions.

Testing and Voltage Adjustment

Accurate voltage measurement – the number one priority.

After splices have been made, all home run wires are connected to the 12 volt tap of the transformer and the system is powered up. The extra large terminal blocks in CAST transformers allow the connection of all home run wires.

The installer then tests the voltage using the testing wires in each Spider Splice®. From these measurements voltage drops are noted and home run wires are shifted to the correct voltage taps.



Spider Splice® junctions provide an ideal testing point.

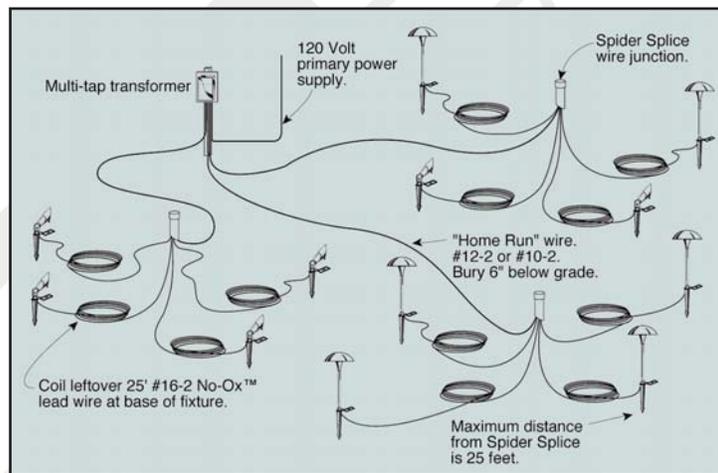
Documentation and Maintenance

Accurate and permanent documentation of system information – essential for proper system maintenance.

After the fixtures have been adjusted and aimed, the installer uses a center punch to record system information on the CAST Fixture Record Tags. These stainless steel tags are included with all CAST staked fixtures.

The tags provide a permanent record of lamp type and wattage, wire run number and off-grade fixture location. This information is essential for future maintenance of the system.

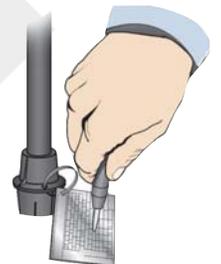
Finally, forms on the inside lids of CAST transformers provide places to record information on each wire run including location, amp reading and voltage tap.



The CAST Spider Splice® wiring method ensures equal distribution of voltage to all fixtures.



CAST Fixture Record Tags allow the installer to record vital system information. (Patent pending.)



Learn the CAST System of Installation at a full-day hands-on seminar or purchase a copy of the CAST Landscape Lighting Training Manual.

To learn more about CAST Lighting, go to www.cast-lighting.com or call 800•914•CAST



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Master Series
CM1500SSMT



Journeyman & Export Series



Power Pro Series



Features

Resin Sealed Toroid Core – Not laminated EI type. Toroid cores run cooler, are 8-10% more efficient, are lighter and produce no noise.

"Full Load" Common Configuration (Patent Pending) – Extra common tap allows 100% use of transformers' capacity – a CAST exclusive. (On Master Series.)

Wide Selection of Voltages and Wattages – Models available up to 1500 watts with taps of 12v to 22v. Export models offer 220v or 240v at 50/60Hz.

All Voltage Taps accept Full Load – The entire transformer load can be connected to a single voltage tap – a CAST exclusive.

UL Compliant – Journeyman & Export Series are UL 1838 compliant and "Pool and Spa" rated. Master and Power Pro Series are UL 506 compliant.

No-Ox® Wire – Tin-coated, marine-grade internal wiring rated to 150°C, impervious to corrosion – exceeds UL standards.

Primary and Secondary Magnetic Circuit Breakers – No thermal reset buttons or bus fuses to replace. (Both primary and secondary breakers on Master Series; other series have secondary breakers only.)

Dedicated Wire Testing Loop – For measuring primary load. A convenient and safe testing point that can be used with time clock and photocell in place.

Quick-Connect Photocell and Time Clock Options with Power Bypass Relay – Outlets on the inside panel accommodate CAST manual or digital time clocks and standard or remote photocells – also X-10 compatible. Knockouts on both sides of the transformer give maximum mounting flexibility. To protect these control units, instead of driving the full load of the transformer through these sensitive components, a relay is used sending only a tiny current through the time clock and photo cell, prolonging their life. (On models 900w and above.)

Oversized 125 Amp Terminal Lugs – Each lug accommodates up to (10) #12/2 wires. Lightning fast voltage adjustment between taps.

304 Brushed Stainless Steel Enclosure Inside and Out – (SS models only)

Dropdown Bottom Panel Knockouts accommodate 2" Conduit

2" x 24" PVC Conduit included to House Home Run Wires – (Master Series only)

English/Spanish Installation Manual

16 models to accommodate any project

Master Series™

Capacities: 900W, 1200W, and 1500W – Taps: 12v, 13v, 14v, 15v, 16v, 17v, 18v

Journeyman Series™

Capacities: 300W, 600W, and 900W – Taps: 12v, 13v, 14v, 15v

Power Pro Series™

Capacities: 900W and 1200W – Taps: 12v, 13v, 14v, 15v, 16v, 17v, 18v, 20v, 22v

Export Series™ (220v, 240v, 50/60Hz)

Capacities: 300W, 600W and 900W – Taps: 12v, 13v, 14v, 15v



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Advances in Low Voltage Landscape Lighting Transformers

Introduction

The single most important component of a landscape lighting system is the multi-tap transformer. A properly functioning transformer maximizes lamp life, conserves energy and performs flawlessly year after year. There have been significant improvements in transformer technology in the past few years, however most manufacturers have not implemented these in their popular models. The purpose of this article is to alert the lighting professional to the state-of-the-art in transformer technology as it is used in CAST Lighting transformers.

The Transformer Core

Of the two core designs used in transformers (the older laminated EI type and toroidal), the toroidal core has several advantages. (See box to right.)

All CAST Lighting transformers have toroidal coils.

Internal Wiring – Materials and Sizing

Conforming to UL specs in the design and sizing of internal wiring is important, but these specs fall short in protecting against occasional conditions of overheating and high amperage loads. Melted and shorted internal wiring is a common cause of transformer failure.

The wiring of all CAST transformers exceed UL specifications with use of tin-coated, 150°C rated wire compared to 105°C rated all-copper wire from other manufacturers. CAST also sizes wire to accommodate the full transformer load at each voltage tap.

Circuit Protection

Of the three types of circuit protection (bus fuses, push-type and magnetic breakers), magnetic breakers are the best choice for transformers. They are rugged, can be easily reset, are not prone to tampering and can be used as on/off switches.

All CAST transformers use magnetic circuit breakers on secondary circuits. CAST also uses a breaker on the primary side in it's Master Series.

Voltage Tap Type and Availability

Achieving the correct voltage (10.8 to 12.0 volts) at each fixture relies upon the availability of the correct tap at the transformer. If that tap is missing (some manufacturers skip voltages) then the installer is stuck.

CAST Master Series transformers are the only transformers that include all voltages between 12 and 18 volts. CAST also has the largest terminal blocks that accommodate the greatest number of wires.



Toroidal core – preferred



EI core – not preferred

Advantages of Toroidal vs. EI Laminated Cores

- ◆ **Higher efficiency** (approx. 95% vs 88%)
Less energy expenditure (approx. a 10% difference in the homeowner's electric bill). It also reduces the difference between voltage at the taps under full load and partial load. This means you can use secondary breakers to switch off some of the wire runs without greatly affecting the voltage on the other taps. With the EI laminated cores, switching off wire runs will cause an unacceptable rise in voltage to the other taps.
- ◆ **Runs Cooler** (up to 75°F cooler under full load)
- ◆ **Lighter** (toroidal cores are 1/2 weight of EI cores)
- ◆ **Runs Quieter with No Vibration** (excessive vibration loosens connections leading to burned out wires)

Time Clock and Photocell Outlets Should Not Carry High Amperage Loads

Most transformer manufacturers wire time clock and photocell outlets so the full load of the transformer passes through these sensitive components. This can lead to early time clock or photocell failure. The risk is especially great with higher wattage transformers.

CAST transformers (900w and above) solve this problem by utilizing a power bypass relay. The powered relay sends only a tiny current to the photocell and timer. When one of these components cuts the power, it signals the relay to cut the primary power to the transformer.

Commons Configuration

Traditional transformer design assigns just enough common taps to accommodate 100% of the transformer's capacity. For example, a 1200 watt transformer will have four common taps – each with a 300W capacity (4 x 300 = 1200). What if you have 5 runs of 200 watts each (5 x 200 = 1000)? Since you have only 4 commons, one common will need to carry two wire runs (200 + 200 = 400). This exceeds the 300 watt maximum – you're stuck! You'll need to buy another transformer! CAST Master Series transformers have an extra common to allow the installer to use the full capacity of the transformer – a CAST exclusive. (Patent pending.)

Visit our website to learn about other advances in low voltage lighting technology.

