Q6S

12V or 24V AC Power Supply - 50W-300W



- Surface mount power supply center capable of mounting in all 6 planes
- Available from 50W-300W in 12 or 24V

1 PRODUCT	2 WATTAGE	3 PRIMARY VOLTAGE	4 SECONDARY VOLTAGE	5 NUMBER OF BREAKERS	6 BREAKER AMPERAGE	7 CHOKE	8 COLOR
Q6S						CK-S	

Sample Part Number: **Q6S-100DT-277-24V-2-10-CK-S-WH**

1 PRODUCT

Q6S

2 WATTAGE

50DT
100DT
150DT
300DT

3 PRIMARY VOLTAGE

120 60Hz
277 60Hz

4 SECONDARY VOLTAGE

12V
24V

5 NUMBER OF BREAKERS

1
2
3

6 BREAKER AMPERAGE

5
10
12.5
15
20
25

7 CHOKE

CK-S 50W-300W

Choke not required from 50W-100W

8 COLOR

WH White (Standard)
BK Black Powder Coat Finish

PRODUCT INFORMATION

- For indoor use only
- Suitable for damp locations
- Surface mount any position
- Dimmer, if used, must be magnetic low voltage dimmer
- For supply connections use wires rated for at least 90°C
- Certified to UL 2108
- 10 year warranty

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Q6S

12V or 24V AC Power Supply - 50W-300W

VOLTAGE DROP CHART

Distances shown reflect a 5% voltage drop (95% of rated voltage delivered) — the maximum recommended run.

24V SYSTEM

No Dimming - use primary tap #1

SECONDARY TAP 2, 24V				
Load (W)	8 AWG	10 AWG	12 AWG	14 AWG
50	688	432	272	171
100	344	216	136	86
150	229	144	91	57
200	172	108	68	43
250	138	86	54	34
300	115	72	45	29

With Dimming - use primary tap #2

SECONDARY TAP 2, 22V				
Load (W)	8 AWG	10 AWG	12 AWG	14 AWG
TAP 2 NOT RECOMMENDED FOR USE WITH DIMMER				

12V SYSTEM

No Dimming - use primary tap #1

SECONDARY TAP 2, 12V				
Load (W)	8 AWG	10 AWG	12 AWG	14 AWG
20	430	270	170	107
35	246	154	97	61
50	172	108	68	43
75	115	72	45	29
100	86	54	34	21
150	57	36	23	14
200	43	27	17	
240	36	23	14	
300	29	18		

With Dimming - use primary tap #2

SECONDARY TAP 2, 11V				
Load (W)	8 AWG	10 AWG	12 AWG	14 AWG
TAP 2 NOT RECOMMENDED FOR USE WITH DIMMER				

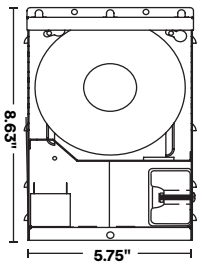
SECONDARY TAP 3, 26V				
Load (W)	8 AWG	10 AWG	12 AWG	14 AWG
50	1452	913	574	361
100	726	456	287	181
150	484	304	191	120
200	363	228	143	90
250	290	183	115	72
300	242	152	96	60

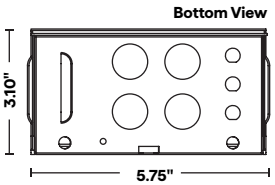
SECONDARY TAP 3, 24V				
Load (W)	8 AWG	10 AWG	12 AWG	14 AWG
50	608	383	240	151
100	304	191	120	76
150	203	128	80	50
200	152	96	60	38
250	122	77	48	30
300	101	64	40	25

SECONDARY TAP 3, 13V				
Load (W)	8 AWG	10 AWG	12 AWG	14 AWG
20	908	571	359	226
35	519	326	205	129
50	363	228	143	90
75	242	152	96	60
100	182	114	72	45
150	121	76	48	30
200	91	57	36	
240	76	48	30	
300	61	38		

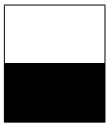
SECONDARY TAP 3, 12V				
Load (W)	8 AWG	10 AWG	12 AWG	14 AWG
20	380	239	150	95
35	217	137	86	54
50	152	96	60	38
75	101	64	40	25
100	76	48	30	19
150	51	32	20	13
200	38	24	15	
240	32	20	13	
300	25	16		

1 PRODUCT - DIMENSIONS





8 COLOR



White (Standard)

Black Powder Coat Finish

2 TECHNICAL INFORMATION

Size	Max Load (Watts)	PSC Efficiency	Max PSC Rating (Watts)	Max PSC Rating (VA)	Max Prim. Amps @ 120V	Max Prim. Amps @ 277V
50DT	50W	92%	54	58	0.5 A	0.2 A
100DT	100W	92%	108	115	1.0 A	0.4 A
150DT	150W	92%	163	173	1.4 A	0.62 A
300DT	300W	92%	324	345	2.9 A	1.2 A

Secondary Breaker Amperage

Amps	Max 12V Load	Max 24V Load	Wire Color
5	60W	120W	Orange
10	120W	240W	Red
12.5	150W	300W	Yellow
15	180W	360W	Yellow
20	240W	480W	Blue
25	300W	600W	Violet

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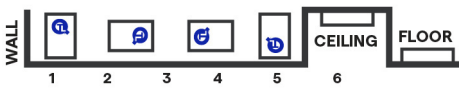
Specification subject to change. **Rev-09-15-26**

Q6S

12V or 24V AC Power Supply - 50W-300W

MOUNTING

- 6 plane surface mount
- Rod suspension (Two - 1/4" threaded rods)



HOUSING

- 18 gauge welded steel enclosure: 8.63"L x 5.75"W x 3.10"D
- Knockouts: 5
- Color: white powder coating (standard)
- (2)1/4" threaded rods (rods not included)

SECONDARY CIRCUIT

- Up to three (3) magnetic circuit breaker
- Amps: 5A, 10A, 12.5A, 15A, 20A, 25A
- NOTE: Breakers are sized to the feed load per N.E.C. Article 411 (not to exceed 25 amps per load). All wiring by the electrical contractor must be Class 1 compliant to N.E.C.

TOROIDAL TRANSFORMER - DUAL TAP (DT)

- (2) Primary taps: 12VAC, 13VAC or 24VAC, 26VAC
- AC inputs may be connected to one (1) of the primary taps
- No derating required for incandescent and halogen loads
- 50% derating required for LED retrofit loads
- The advantage is that the PSC can be tapped to recover voltage drop and produce between 85%-100% light output
- See Voltage Drop Calculator on website

TOROIDAL CHOKE

- QTL's standard choke, or "debuzzing coil" reduces noise when dimming and helps negate in-rush current that is prevalent with LED loads. It allows for quiet operation and eliminates nuisance tripping. Choke is standard.
- NOTE: Suspension rods are purchased separately and not from QTL, Inc.

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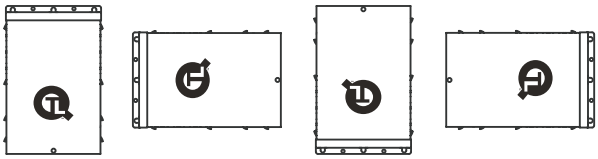
Q6S/Q6M

Installation Instructions

Mounting Options

1 **MOUNT** unit in any of the following configurations:
Do not recess. If you need a recessed unit, you need to order our QT series.

Surface Wall



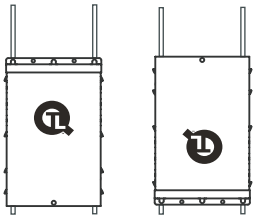
Surface Ceiling



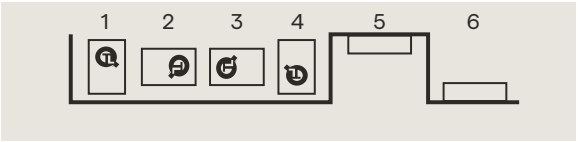
Surface Floor



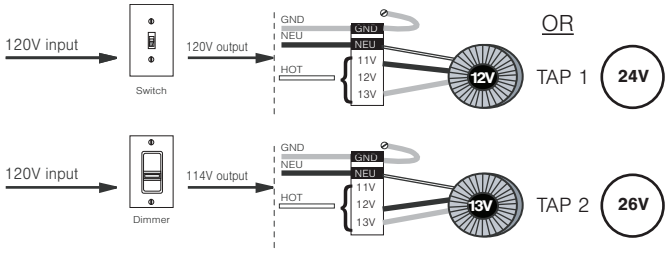
Rod Suspension



NOTE: Rods not included.



2 **CONNECT PRIMARY**
(For detailed look of primary, see Diagram A)
NOTE: Voltages are fixed and can only be changed at the factory. Voltages come in 120V, 230V or 277V.



3 **VOLTAGE DROP**

- To minimize voltage drop the proper gauge wire must be pulled between the QTL power supply and the load.
- QTL offers a free voltage drop calculator on our website (www.QTL.lighting) or you can download our free voltage drop app for iPhone, iPad or android devices (click link on our site).
- Below is a quick reference chart of minimum acceptable wire gauges.(QTL urges each installer to view our full calculator.)

Secondary Breaker Amperage			
Secondary Circuit Breaker	* L.V. Gauge	Max Load 12V	Max Load 24V
2.5A	14 AWG	-	60W
4 A	14 AWG	60W	100W
5 A	14 AWG	120W	120W

* L.V. = wiring per NEC - wire must be sized to be equal to or greater than shown.

4 **CONNECT SECONDARY**
(For detailed look at secondary, see Diagram B)

Connect low voltage fixtures in one of the following methods:

Diagram A.

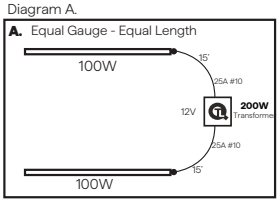


Diagram B.

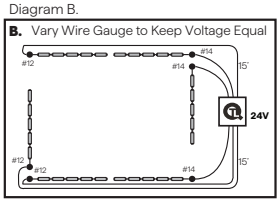


Diagram C.

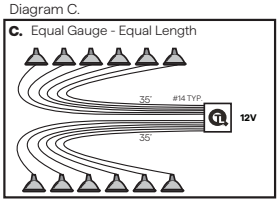
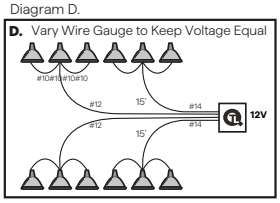
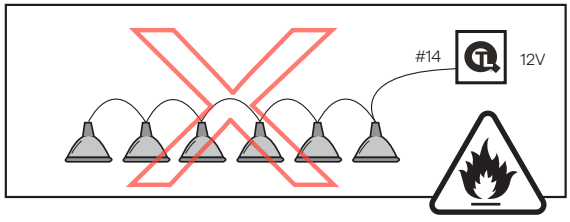


Diagram D.



DO NOT USE THIS METHOD TO WIRE YOUR LOW-VOLTAGE FIXTURES!



5 **BEFORE INSTALLING DOOR**
Please make sure the output voltage at the lamps is between 11.4–12 volts for a 12V system or 22.8–24 volts for a 24V system. Check this voltage with a true RMS volt meter & take voltage reading at the lamps.

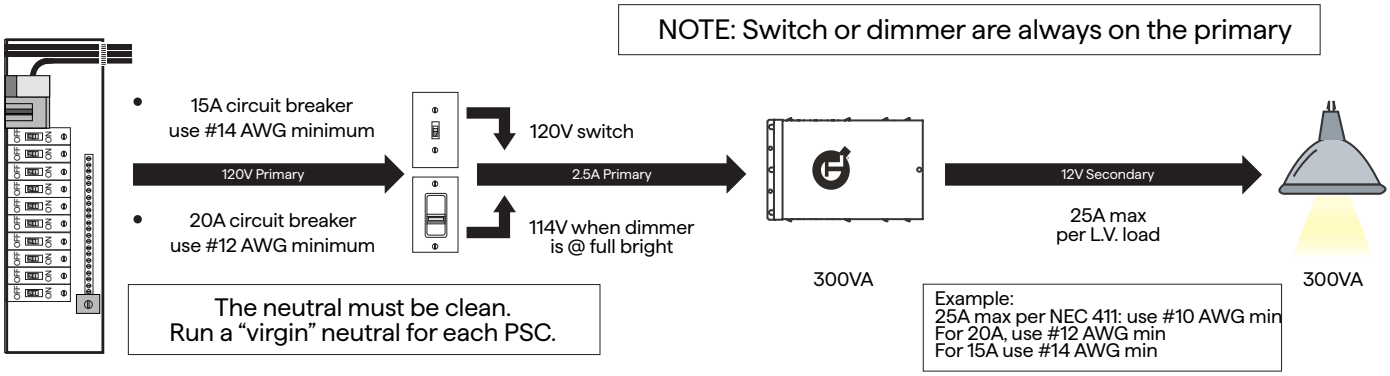
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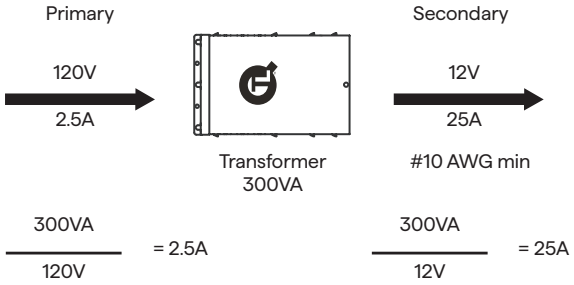
Q6S/Q6M

Installation Instructions

Rough In Wiring



Low Voltage Runs = High Amps



When the voltage goes down by a factor of 10 (120V to 12V) the amperage goes up by a factor of 10 (2.5A to 25A)

Please note amperage may increase with higher taps.

Keep Runs Short! Get The Tap Right!

Get The Wire Gauge Right

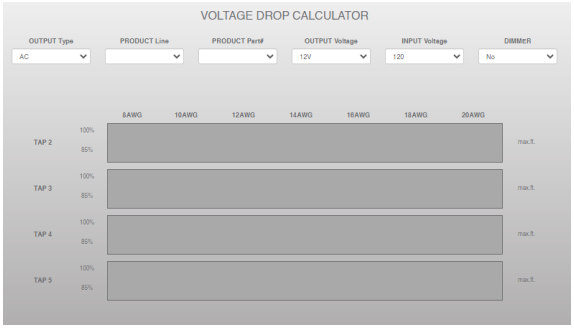
Both primary and secondary wiring to be Class 1 per NEC unless Class 2 option is ordered

Secondary Breaker Amperage

Secondary Circuit Breaker	L.V. Gauge	Max Load 12V	Max Load 24V
5A	14 AWG	60W	120W
10A	14 AWG	120W	240W
15A	14 AWG	180W	360W
20A	12 AWG	240W	480W
25A	10 AWG	300W	600W

L.V. = Class 1 wiring per NEC - wire must be sized to be equal to or greater than shown.

Download our Voltage Drop Calculator at: www.QTL.lighting



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Specification subject to change. Rev-07-02-26

Q6S/Q6M

Installation Instructions

Rough In Wiring

Equalizing Voltage Drop

When installing multiple fixtures or loads from a single remote PSC, it is important to have approimately the same voltage at each lamp. Many installations require different length runs to the loads which may require different wire gauges to equalize the voltage. It is important to have approximately the same voltage at each lamp so the light output appears to be the same. Use QTL's Voltage Drop Calculator to easily determine the correct wire gauge.

3 Key Points you must know:

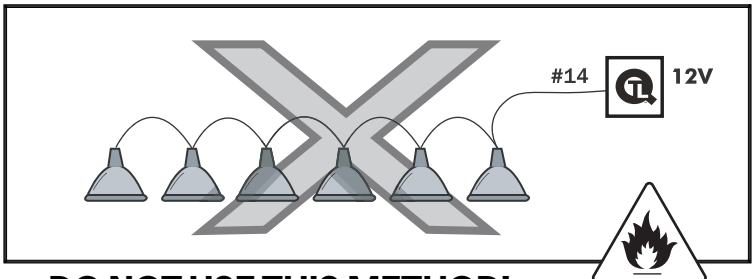
1 - The voltage of the lamp specified
2 - The amperage rating of the product
3 - The maximum wire gauge that can be terminated at the load. A number 6 or 8 gauge wire, for instance, can not be terminated on most L.V. products.

Diagram A - For 12V track, rail, or cable system that is rated for 25A requires a minimum of #10 gauge wire. Runs should be approximately the same length.

Diagram B - For LV cove lighting, the VDC might show you to vary the wire gauge to equalize the voltage at the lamp. Running the same gauge wire to all runs may be wrong.

Diagram C - For recessed or mono point fixtures powered from a single PSC, it is a recommended that all secondary runs be the same length and the same gauge; EQUAL LENGTH - EQUAL GAUGE. All surplus wire must not be coiled but made into a long loop.

Diagram D - For commerical installations requiring conduit, this diagram shows an alternate wiring method. Also applicable to residential installations.



DO NOT USE THIS METHOD!

Must go back to the PSC as shown in example C or D.

Diagram A.

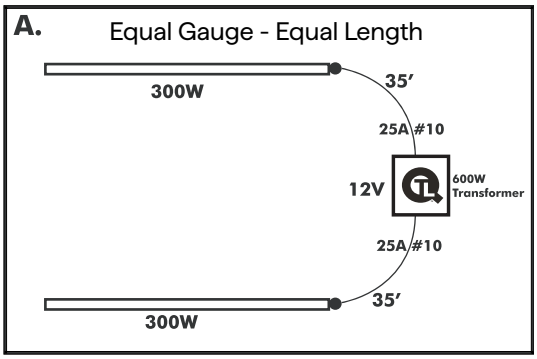


Diagram B.

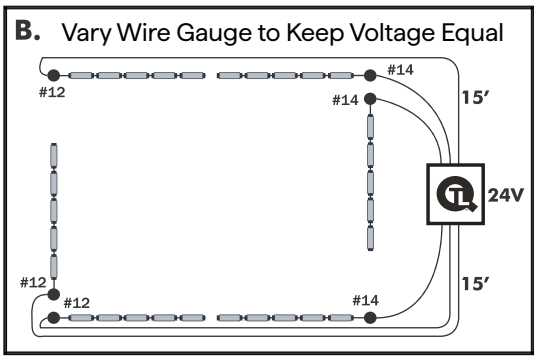


Diagram C.

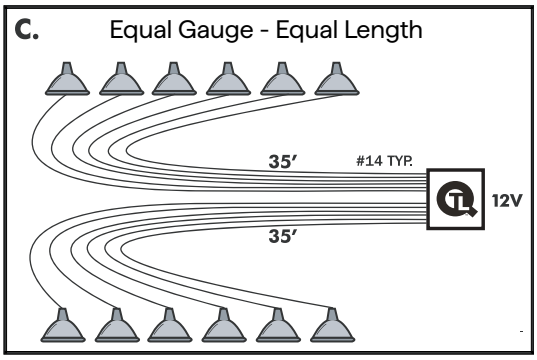
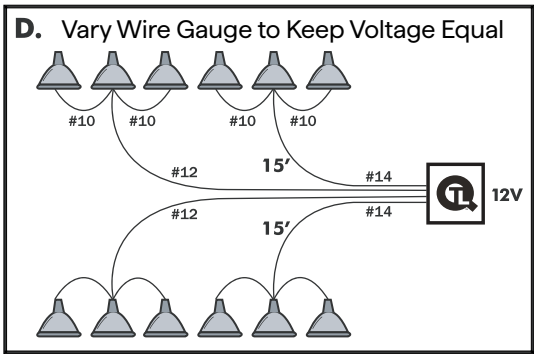


Diagram D.



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Q6S/Q6M

Installation Instructions

Connecting and Configuring

A PRIMARY (Input Wires)

- Input voltage is fixed and can only be changed at the factory. Input voltage is indicated on side of the housing.

B SECONDARY (Output Wires)

- Secondary Circuit Breakers
- Secondary Common
- DO NOT EXCEED TOTAL AMPS OF SECONDARY CIRCUIT BREAKERS
- Output voltage is wired as ordered (12V or 24V) but can be changed by a licensed electrician.

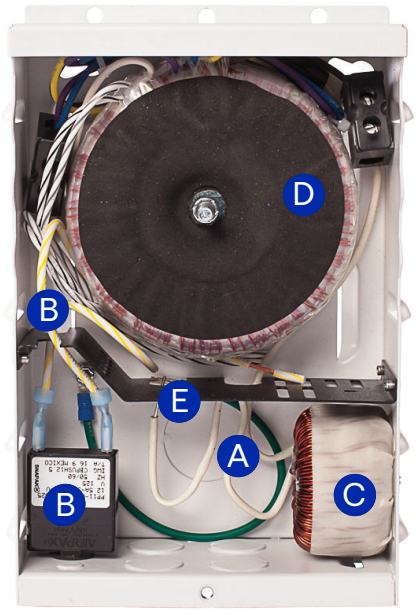
C CHOKE

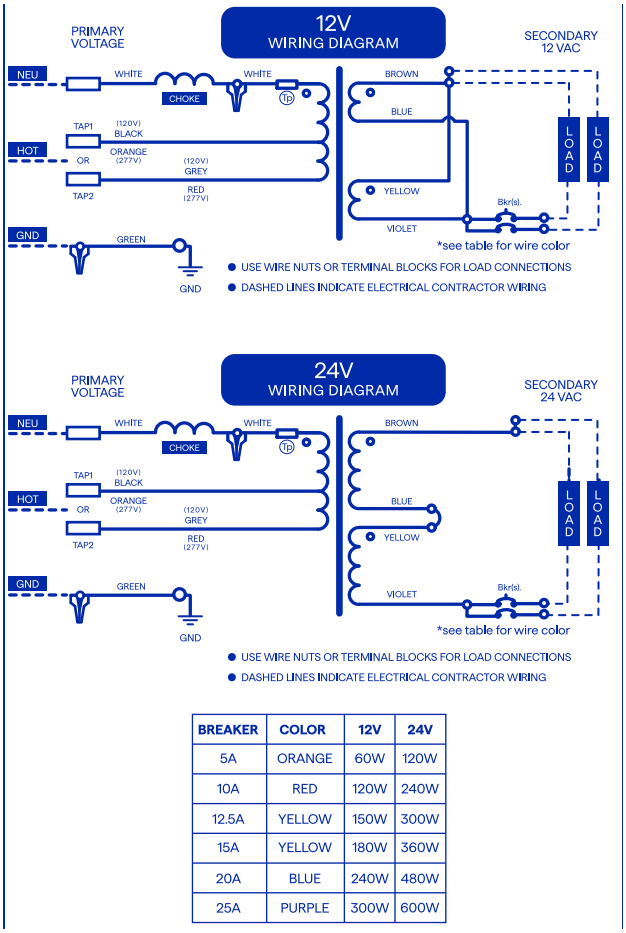
- Standard on all units

D TRANSFORMER

- Small – 50W - 300W
- Medium – 500W - 750W
- Large – 900W - 1800W

E DIVIDER





BREAKER	COLOR	12V	24V
5A	ORANGE	60W	120W
10A	RED	120W	240W
12.5A	YELLOW	150W	300W
15A	YELLOW	180W	360W
20A	BLUE	240W	480W
25A	PURPLE	300W	600W

NOTE: Wires may be solid or striped

12 → 24

If a transformer is wired from the factory for 12V, for 24V secondary wiring: Disconnect the blue and yellow wires from terminal blocks and connect together with wire nut. The brown wire now becomes the common side of the load, and the violet wire should be connected to the secondary circuit breaker, which is the line side of the load. Please refer to the wiring diagrams on this page.

24 → 12

If a transformer is wired from the factory for 24V, for 12V secondary wiring: Disconnect the blue and yellow wires from terminal block. Connect yellow and brown wire into terminal block, which becomes the common side of the load. Connect blue and violet wires into terminal block, which should be connected to the secondary circuit breaker(s) which becomes the line side of the load Please refer to the wiring diagrams on this page.

Tp Auto reset thermal circuit breaker mounted to core of toroid Hydraulic magnetic manual reset circuit breakers

Choke or inductor on primary to reduce inrush current.

Terminal block connection Polarity

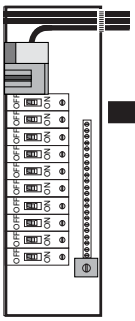
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Q6S/Q6M

Installation Instructions

Troubleshooting and Warnings

Note: To properly assist you with any trouble shooting support, please fill out your information on the lines provided.

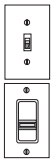


Lighting Panel

Primary

Wire gauge _____

Switch

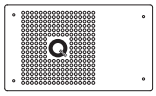


Dimmer

Circle one

Primary

Wire gauge _____



Power Supply Center

Model number _____

Secondary

Wire length _____

Wire gauge _____

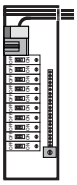


Load

Watts per run _____

Total watts _____

1 Panel Adjustments



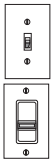
Primary feed circuit breaker

Manufacturer:

Model number:

Amperage:

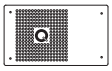
2 Dimmer or Switch Adjustments



Manufacturer:

Model number:

3 Transformer Adjustments



- Primary circuit breaker
- Secondary circuit breaker

4 Load Adjustments



⚠ WARNING

Risk of Fire / Electric Shock



Transformer should be installed by a Licensed electrician in accordance with the N.E.C. and all local codes in force.

Wear rubber shoes and work on a sturdy wooden or fiberglass ladder.

This power supply must be installed according to the National Electric Code and local codes and ordinances.

This power supply is to be installed and serviced only by an licensed electricians.

This power supply is to be installed so that it is not likely to be contacted by people.

To avoid a hazard to children, account for all parts and destroy all packaging materials.

This power supply is to be installed and serviced only by an licensed electrician.

Do not install in wet locations.

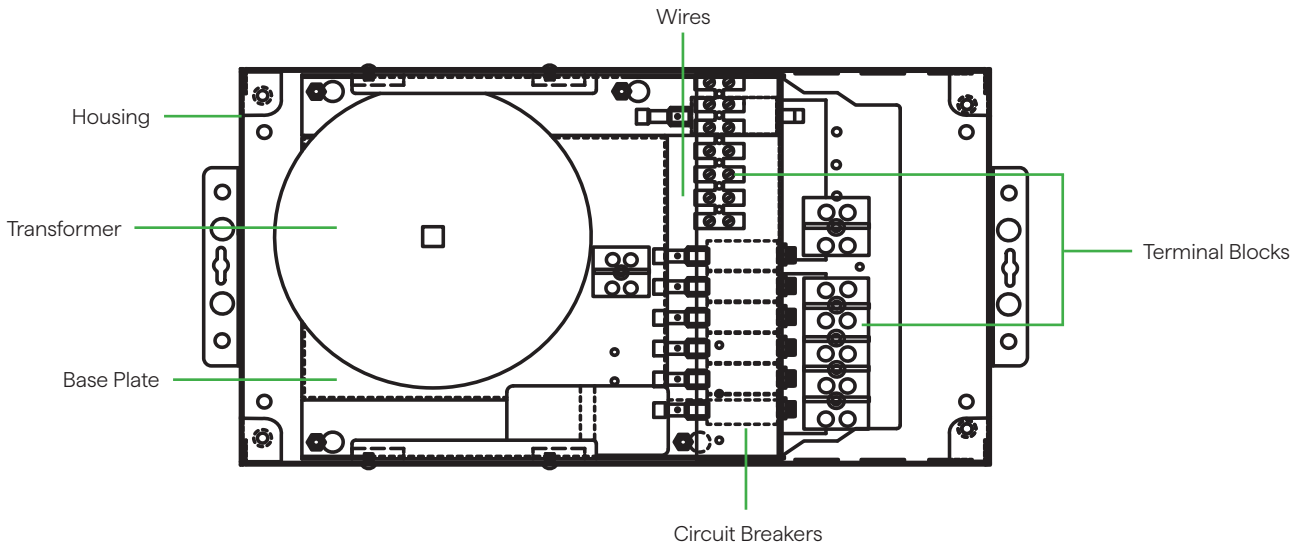
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MATERIAL RECYCLING

AC INDOOR - QTM, Q6, QTL, QJB

You may be done with your products, but chances are they still have more to give. Follow these instructions to break down and sort recyclable components. Check with local recycling collection to ensure they accept the materials listed below.

Additionally, Q-Tran offers a Takeback Program. Contact factory for information.



7

Terminal Blocks

E

Wires
Transformer
Circuit Breaker

40

Housing
Base Plate

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