QTLS

12V or 24V AC Power Supply - 150W–1500W



- Single power supply ranging from 150W to 1500W
- Designed for indoor applications
- Focuses on providing the quietest, most efficient, safest, versatile, and longest-lasting power supply in the industry
- Comes standard with five taps for fine-tuning voltage adjustments at the transformer
- UL listed for surface or recess mounting
- Suitable for installation into a 2"x4" stud wall
- Can be installed in any thickness of drywall
- Provides reliable and consistent power supply for indoor lighting applications

1	2	3	4	5	6	7	8	9
PRODUCT	WATTAGE	PRIMARY VOLTAGE	SECONDARY VOLTAGE	NUMBER OF BREAKERS	BREAKER AMPERAGE	CHOKE	COLOR	OPTIONS
QTLS								

Sample Part Number: **QTLS-150W-120-24V-1-10-CK-S-BK-PL**

1 PRODUCT

QTLS

2 WATTAGE

150W
300W
500W
600W
750W
900W
1050W
1200W
1350W
1500W

3 PRIMARY VOLTAGE

120	60Hz
230	50/60Hz
277	60Hz

230 & 277 not standard, call factory for pricing

4 SECONDARY VOLTAGE

12V
24V
120V
5.5V

5.5V & 120V not standard, call factory for pricing

5 NUMBER OF BREAKERS

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

6 BREAKER AMPERAGE

5
10
12.5
15
20
25

7 CHOKE

CK-S	150W-300W
CK-L	500W-750W
CK-XL	900W-1500W

8 COLOR

WH	White (Standard)
BK	Black Powder Coat Finish

9 OPTIONS

N/A	
PL	Plenum Rated

PRODUCT INFORMATION

- UL 2108 & 1598 listed
- Surface, ceiling or wall mount
- Recessed wall mount type IC
- Suitable for use in insulated space — zero clearance
- Suitable for use in closets with clothes in direct contact
- Inherently protected type IC for supply connections use wire rated for at least 75˚C
- Suitable for indoor use only
- Suitable for damp locations
- Use dimmers rated for magnetic low voltage load
- Complies with N.E.C. article 411
- Isolation toroidal transformer
- 50/60 cycle A.C. only
- 10 Year Warranty

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QTLS

12V or 24V AC Power Supply - 150W–1500W

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
350	98	62	39	24
400	86	54	34	
450	76	48	30	
500	69	43		
550	63	39		
600	57	36		

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				

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
350	207	130	82	52
400	182	114	72	
450	161	101	64	
500	145	91		
550	132	83		
600	121	76		

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
350	87	55	34	22
400	76	48	30	
450	68	43	27	
500	61	38		
550	55	35		
600	51	32		

SECONDARY TAP 4, 28V				
Load (W)	8 AWG	10 AWG	12 AWG	14 AWG
50	2217	1393	876	552
100	1108	697	438	276
150	739	464	292	184
200	554	348	219	138
250	443	279	175	110
300	369	232	146	92
350	317	199	125	79
400	277	174	110	
450	246	155	97	
500	222	139		
550	202	127		
600	185	116		

SECONDARY TAP 4, 26V				
Load (W)	8 AWG	10 AWG	12 AWG	14 AWG
50	1309	823	517	326
100	655	412	259	163
150	436	274	172	109
200	327	206	129	81
250	262	165	103	65
300	218	137	86	54
350	187	118	74	47
400	164	103	65	
450	145	91	57	
500	131	82		
550	119	75		
600	109	69		

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, 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		

SECONDARY TAP 4, 14V				
Load (W)	8 AWG	10 AWG	12 AWG	14 AWG
20	1385	871	548	345
35	792	498	313	197
50	554	348	219	138
75	369	232	146	92
100	277	174	110	69
150	185	116	73	46
200	139	87	55	
240	115	73	46	
300	92	58		

SECONDARY TAP 4, 13V				
Load (W)	8 AWG	10 AWG	12 AWG	14 AWG
20	818	514	323	204
35	468	294	185	116
50	327	206	129	81
75	218	137	86	54
100	164	103	65	41
150	109	69	43	27
200	82	51	32	
240	68	43	27	
300	55	34		

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12V or 24V AC Power Supply - 150W–1500W

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24V SYSTEM

No Dimming - use primary tap #1

SECONDARY TAP 5, 30V				
Load (W)	8 AWG	10 AWG	12 AWG	14 AWG
50	2981	1874	1178	742
100	1490	937	589	371
150	994	625	393	247
200	745	468	295	185
250	596	375	236	148
300	497	312	196	124
350	426	268	168	106
400	373	234	147	
450	331	208	131	
500	298	187		
550	271	170		
600	248	156		

With Dimming - use primary tap #2

SECONDARY TAP 5, 28V				
Load (W)	8 AWG	10 AWG	12 AWG	14 AWG
50	2010	1264	794	500
100	1005	632	397	250
150	670	421	265	167
200	503	316	199	125
250	402	253	159	100
300	335	211	132	83
350	287	181	113	71
400	251	158	99	
450	223	140	88	
500	201	126		
550	183	115		
600	168	105		

12V SYSTEM

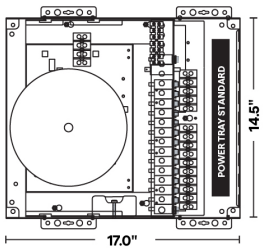
No Dimming - use primary tap #1

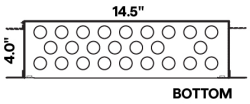
SECONDARY TAP 5, 15V				
Load (W)	8 AWG	10 AWG	12 AWG	14 AWG
20	1863	1171	736	464
35	1065	669	421	265
50	745	468	295	185
75	497	312	196	124
100	373	234	147	93
150	248	156	98	62
200	186	117	74	
240	155	98	61	
300	124	78		

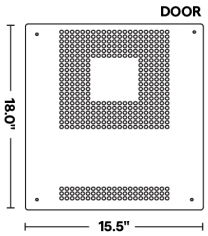
With Dimming - use primary tap #2

SECONDARY TAP 5, 14V				
Load (W)	8 AWG	10 AWG	12 AWG	14 AWG
20	1256	790	497	313
35	718	451	284	179
50	503	316	199	125
75	335	211	132	83
100	251	158	99	63
150	168	105	66	42
200	126	79	50	
240	105	66	41	
300	84	53		

1 PRODUCT - DIMENSIONS







2 TECHNICAL INFORMATION

Wattage	Max Load (Watts)	PSC Efficiency	Max PSC Rating (Watts)	Max PSC Rating (VA)	Max Prim Amps @ 120V	Max Prim Amps @ 277V
QTLS-150	150W	92%	162	175	1.5 A	0.7 A
QTLS-300	300W	93%	321	347	2.9 A	1.3 A
QTLS-500	500W	93%	535	578	4.8 A	2.1 A
QTLS-600	600W	95%	630	680	5.7 A	2.5 A
QTLS-750	750W	95%	788	851	7.1 A	3.1 A
QTLS-900	900W	96%	936	1011	8.5 A	3.7 A
QTLS-1050	1050W	96%	1092	1180	9.9 A	4.3 A
QTLS-1200	1200W	96%	1248	1348	11.3 A	4.9 A
QTLS-1350	1350W	96%	1405	1518	12.7 A	5.5 A
QTLS-1500	1500W	96%	1560	1685	14 A	6.1 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

HOUSING

- 18-gauge welded steel enclosure: 14.5"W X 17.0"L X 4.0"D
- Door: 18.0"W X 15.5"L
- Color: white powder coating (standard)

MULTI-VOLT & TAPS

- Tap Options (in order from TAP1 to TAP5):
  - 12V: 11, 12, 13, 14, 15V
  - 24V: 22, 24, 26, 28, 30V

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Specification subject to change. Rev-11-12-26

QTLS

12V or 24V AC Power Supply - 150W–1500W

- Knockouts: 25

- AC inputs may be connected to one (1) of the primary taps of the PSC
- No derating required for incandescent and halogen loads
- 50% derating required for LED retrofit loads
- The advantage is that loads at varying distances from the PSC can be tapped on different taps to recover voltage drop, allowing you to get the correct voltage at your load and produce between 85%-100% light output. (See QTL Voltage drop Calculator)
- Secondary Circuit Protection: 1-15 magnetic circuit breakers.
- Class 1 compliant to N.E.C.

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.

8 COLOR

Black Powder Coat Finish

White (Standard)

COMPATIBLE WIRING ACCESSORIES

Q-mini-J

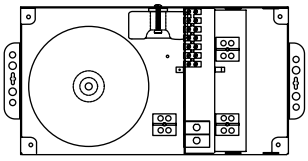


UL Listed, miniature junction box, DRY/DMP (WET rated with silicone)

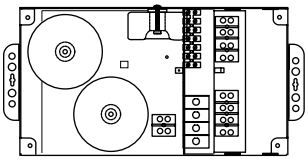
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QTMS/QTMD/QTLS/QTLD/QTLT/QTLQ

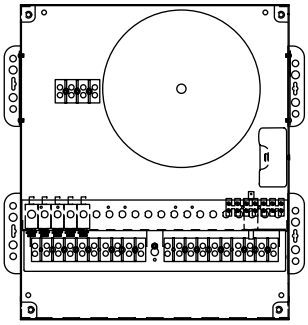
Installation Instructions



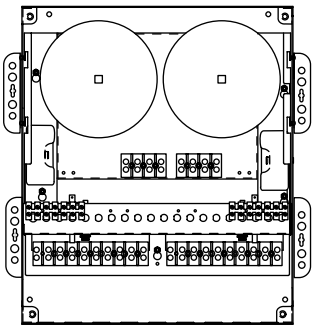
QTMS



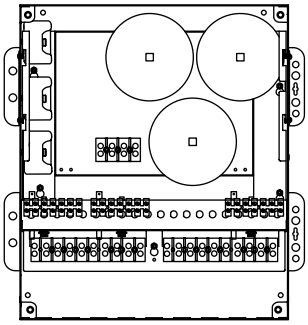
QTMD



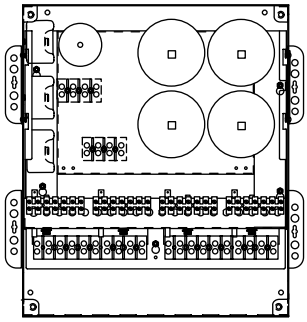
QTLS



QTLD



QTLT



QTLQ

⚠ 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.

Must be installed by licensed electrician.

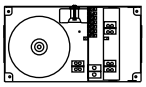
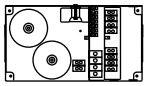
- Wear rubber shoes and work on a sturdy wooden or fiberglass ladder.
- This power supply must be installed according to the National Electric Code and local codes and ordinances.
- This power supply is to be installed and serviced only by an licensed electricians.
- This power supply is to be installed 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.
- Do not install in wet locations.

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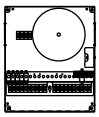
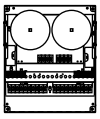
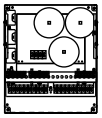
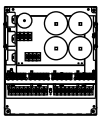
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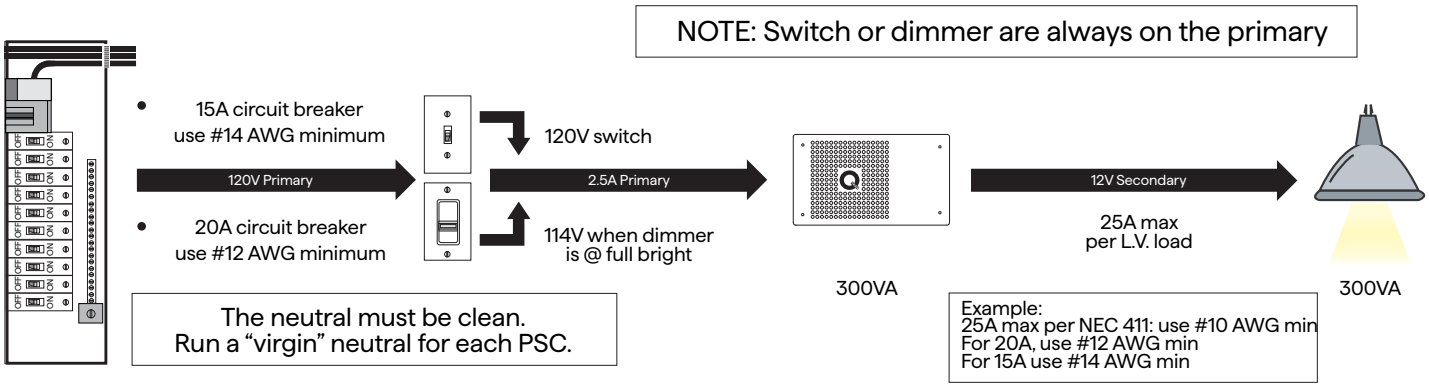
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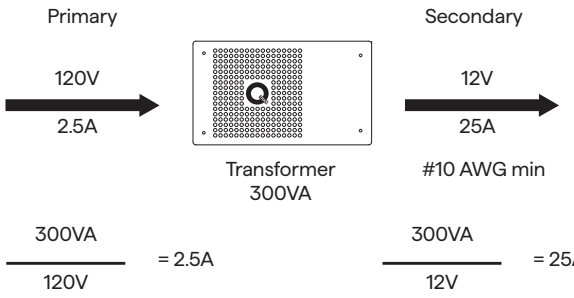
QTMS/QTMD/QTLS/QTLD/QTLT/QTLQ

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

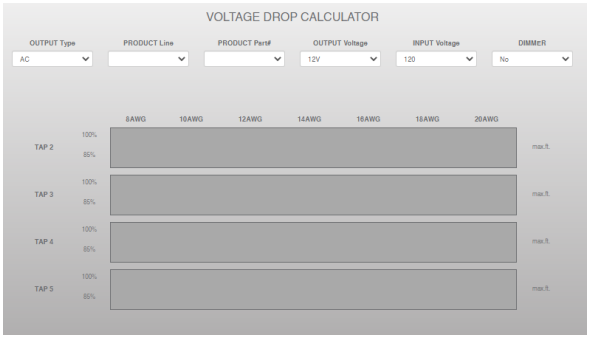
Both primary and secondary wiring to be Class 1 per NEC unless Class 2 option is ordered

Secondary Breaker Amperage

Secondary Circuit Breaker	L.V. Gauge	Max Load 12V	Max Load 24V
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

QTMS/QTMD/QTLS/QTLD/QTLT/QTLQ

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.

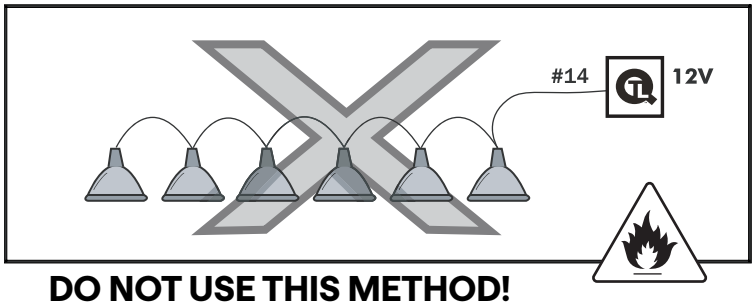
3 Key Points you must know:
1 - The voltage of the lamp specified
2 - The amperage rating of the product
3 - The maximum wire gauge that can be terminated at the load. A number 6 or 8 gauge wire, for instance, can not be terminated on most L.V. products.

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.

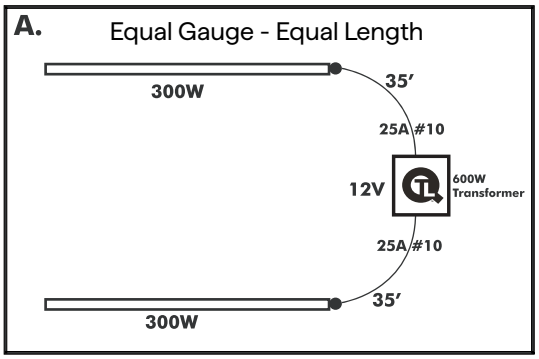


Diagram B.

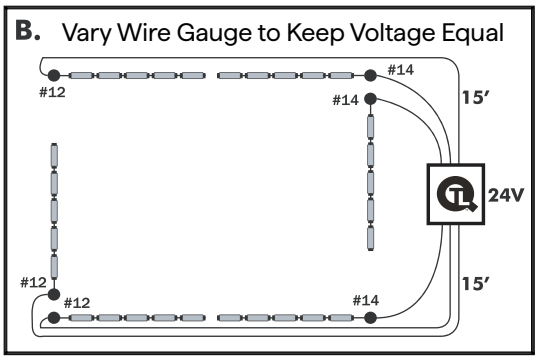


Diagram C.

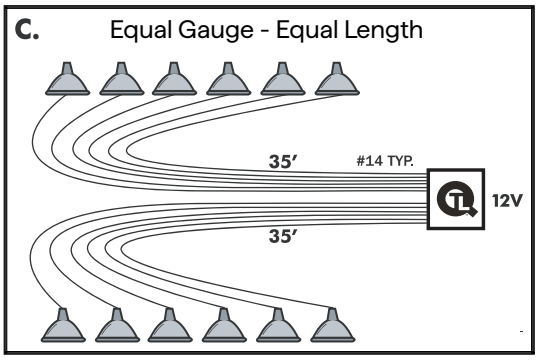
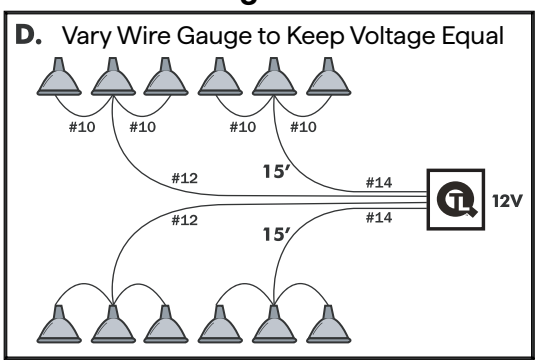


Diagram D.



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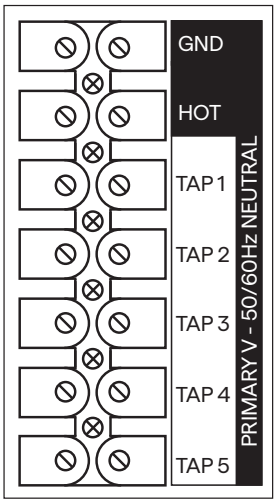
QTMS/QTMD/QTLS/QTLD/QTLT/QTLQ

Installation Instructions

Field Wiring Made Simple

PRIMARY

Line Voltage



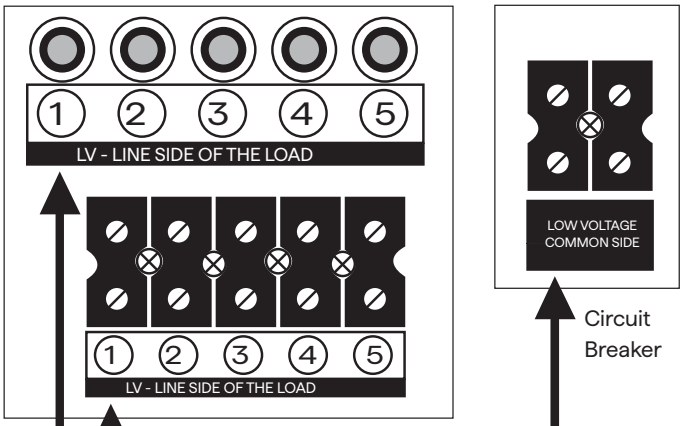
Land Ground

Land Hot

Land Neutral on one tap. Chose either tap 1,2,3,4, or 5

SECONDARY

Low Voltage



Circuit Breaker

Repeat step 1 & 2 for every new lead connection.

1. Connect line side or "hot" side of the low voltage connection.

2. Connect common side to one of the voltage taps beginning with 12V. Then "Bump" up the voltage if you require more output due to voltage drop.

	Nominal	Voltage
Tap1	11V	22V
Tap2	12V	24V
Tap3	13V	26V
Tap4	14V	28V
Tap5	15V	30V

For longer runs you may need to go to a higher tap and or larger wire gauge on secondary side. See QTL's voltage drop calculator.

Must test all voltage readings with a True RMS Voltage Meter when controlled by a dimmer.

L.V. Secondary feeds go to a 85 AMP rated terminal block. Each terminal is UL listed to have the following capacity:	6 4 4 2	#14 #12 #10 # 8

Voltage Drop

Example: The contractor is running a dimmed 300W load at 12V (25A) with a 120V input. The remote QTL transformer is 50' away from the load, and 10 gauge wire will be used.

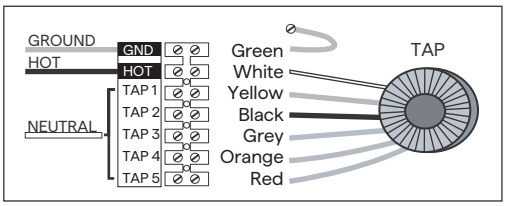
Please note: the four most common areas of voltage loss (dimmer, load, wire length, wire gauge).

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Installation Instructions

Selecting the Right Tap

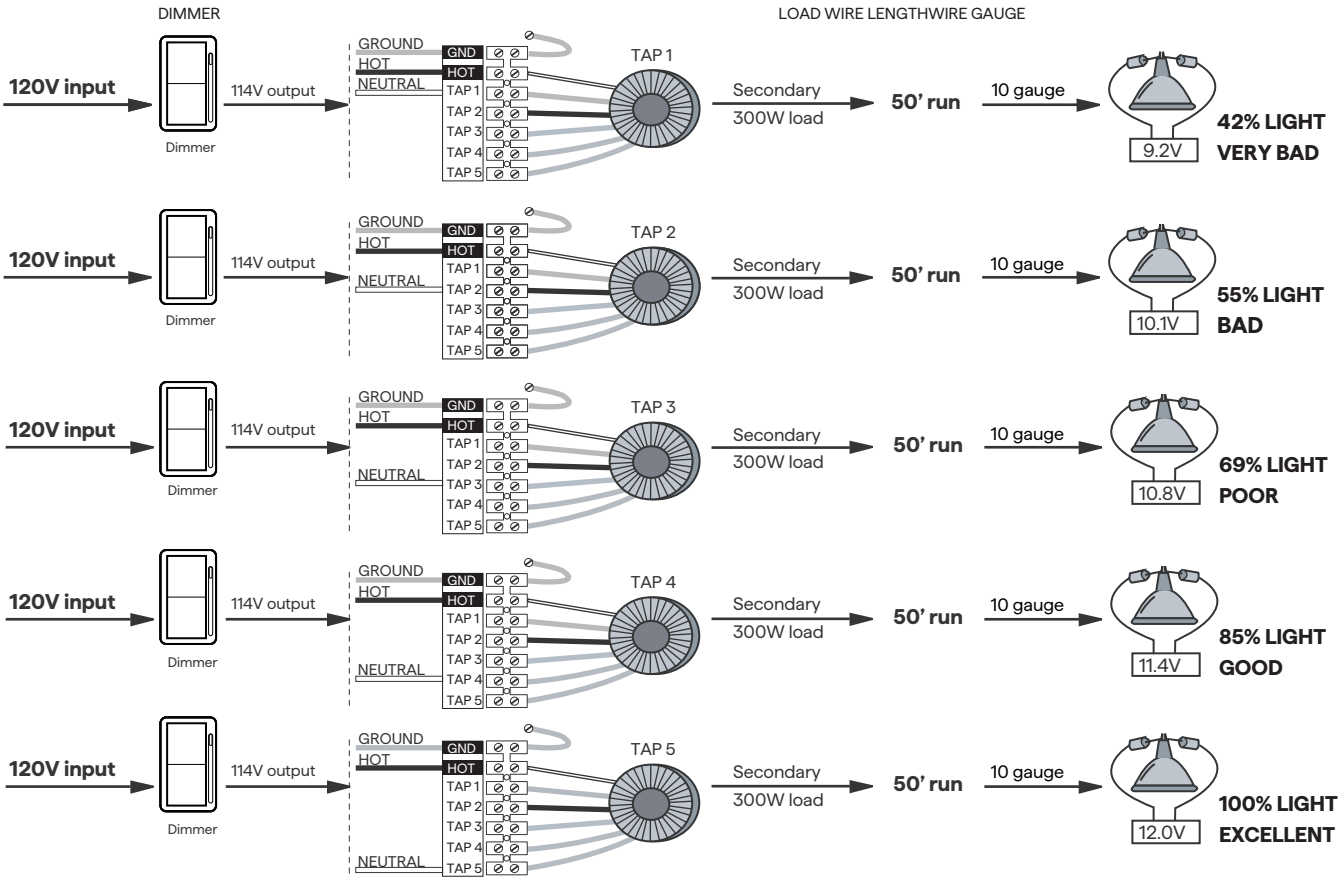


Conclusion:
With a simple field adjustment, the contractor was able to recover his voltage drop and light output by switching from Tap 1 to Tap 5.

12V Lamp Operating at 10V = 50 % Light Output!

Rating	Excellent	Good	Poor	Bad	Very Bad
Light Output	100%	85%	69%	57%	47%
Lamp Volts	24.0V	22.8V	21.6V	20.4V	19.2V
Voltage Drop	0%	-5%	-10%	-15%	-20%
Lamp Volts	12.0V	11.4V	10.8V	10.2V	9.6V
Light Output	100%	85%	69%	57%	47%
Rating	Excellent	Good	Poor	Bad	Very Bad

The Impact of Voltage Drop on Light Output



*** Use True RMS (Root Means Squared) Volt Meter when a dimmer is used.**

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NEC Article 411 & UL Listing

Article 411
Lighting Systems Operating at 30V or Less

411.1 Scope. This article covers lighting systems operating at 30 volts or less and their associated components.

411.2 Definition

Lighting Systems Operating at 30V or Less. A lighting system consisting of an isolating power supply, the low voltage luminaires, and associated equipment that are all identified for the use. The output circuits of power supply are rated for not more than 25 amps and operate at 30V (42.4V peak) or less under all load conditions.

411.3 Listing Required. Lighting systems operating at 30V or less shall comply with 411.3(A) and 411.3(B).

(A) Listed System. Lighting systems operating at 30V or less shall be listed as a complete system. The luminaires, power supply, and luminaire fittings (including the exposed bare conductors) of an exposed bare conductor lighting system shall be listed for the use as part of the same indentified lighting system.

(B) Assembly of Listed Parts. A lighting system assembled from the following parts shall be permitted:
1. Low-voltage luminaires
2. Low-voltage luminaire power supply
3. Class 2 power supply
4. Low-voltage luminaire fitting
5. Cord (secondary circuit) for which the luminaires and power supply are listed for use
6. Cable, conductors in conduit, or other fixed wiring method for the secondary circuit.

The luminaires, power supply, and luminaire fittings (including the exposed bare conductors) of an exposed bare conductor lighting system shall be listed for use as part of the same identified lighting system.

4111.4 Specific Location Requirements

(A) Walls, Floors, and Ceilings. Conductors concealed or extended through a wall, floor, or ceiling shall be in accordance with (1) or (2):
1. Installed using any or the wiring methods specified in chapter 3
2. Installed using wiring supplied by a listed Class 2 power source and installed in accordance with 725.130

(B) Pools, Spas, Fountains, and Similar Locations. Lighting systems shall be installed not less than 3m (10ft) horizontally from the nearest edge of the water, unless permitted by Article 680.

411.5 Secondary Circuits

(A) Grounding. Secondary circuits shall not be grounded.

(B) Isolation. The secondary circuit shall be insulated from the branch circuit by an isolating transformer.

(C) Bare Conductors. Exposed bare conductors and current-carrying parts shall be permitted for indoor installations only. Bare conductors shall not be installed less than 2.1m (7ft) above the finished floor, unless specifically listed for a lower installation height.

(D) Insulated Conductors. Exposed insulated secondary circuit conductors shall be of the type, and installed as, described in (1), (2), or (3):
1. Class 2 cable supplied by a class 2 power source and installed in accordance with Part I and III or Article 725.
2. Conductors, cord, or cable of the listed system and installed not less than 2.1m (7ft) above the finished floor unless the system is specifically listed for a lower installation height.
3. Wiring methods described in Chapter 3.

411.6 Branch Circuit. Lighting systems operating at 30V or less shall be supplied from a maximum 20amps branch circuit.

411.7 Hazardous (Classified) Locations. Where installed in hazardous (classified) locations, these systems shall conform with Article 500 through 517 in addition to this article.

QTL, is UL listed as a low-voltage luminaire power supply.

See page 27 (QTL NEC Chart for additional information)

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QTMS/QTMD/QTLS/QTLD/QTLT/QTLQ

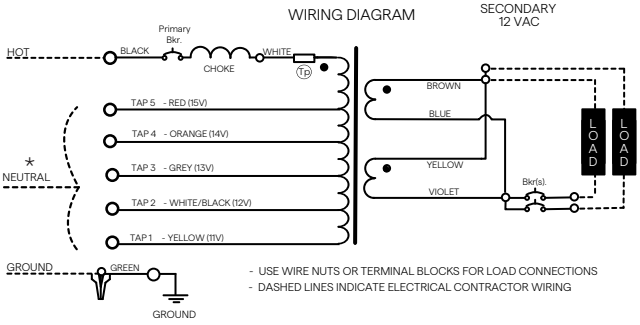
Installation Instructions

Factory Wiring Diagram

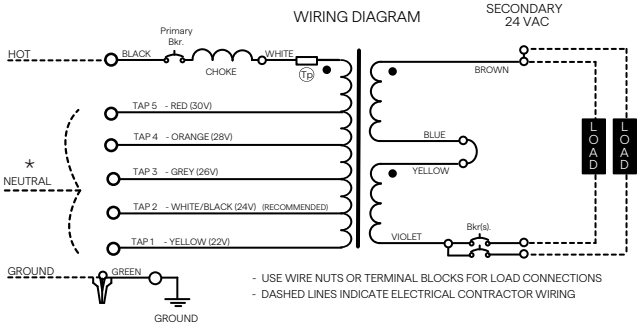
Under 900W * The neutral must be clean. Run a "Virgin" neutral for each PSC.

120V AC, 60Hz Standard
100V AC - 277V AC, 50Hz (Optional)

12V WIRING DIAGRAM



24V WIRING DIAGRAM



AMP	12V	24V
10A	120W	240W
15A	180W	360W
20A	240W	450W
25A	300W	600W

NOTE: Changing secondary voltage will require changing secondary circuit breakers.

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

NOTE: Wires may be solid or striped

12 → 24

If transformer is wired from the factory for 12 volts, for 24 volt secondary wiring: Disconnect all jumper wires from terminal block. Use one jumper to connect theyellow and blue wire. 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 transformer is wired from the factory for 24 volts, for 12 volt secondary wiring: Disconnect the jumper between the blue and yellow wire. Put one jumper between the brown and yellow wire which becomes the common side of the load and connect a jumper between the blue and violet wire which becomes the line side of the load. Please refer to the wiring diagrams on this page.

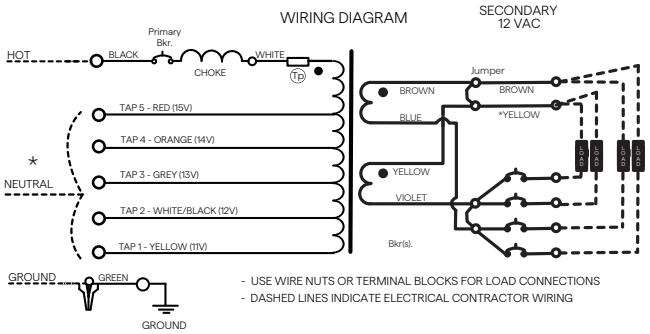
Legend

- Tp — Auto reset thermal circuit breaker mounted to core of toroid
- Hydraulic magnetic manual reset circuit breakers (see page 18)
- Choke or inductor on primary to reduce inrush current.
- Terminal block connection
- Polarity

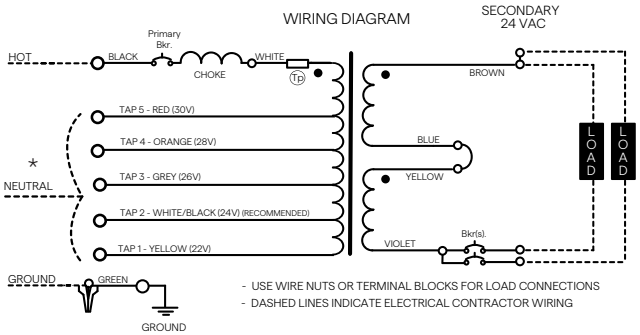
Over 900W * The neutral must be clean. Run a "Virgin" neutral for each PSC.

120V AC, 60Hz Standard
100V AC - 277V AC, 50Hz (Optional)

12V WIRING DIAGRAM



24V WIRING DIAGRAM



AMP	12V	24V
10A	120W	240W
15A	180W	360W
20A	240W	450W
25A	300W	600W

NOTE: Changing secondary voltage will require changing secondary circuit breakers.

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

NOTE: Wires may be solid or striped

12 → 24

If transformer is wired from the factory for 12 volts, for 24 volt secondary wiring: Disconnect all jumper wires from terminal block. Use one jumper to connect the yellow and blue wire. Remove yellow wire between inner block and LV common block. The brown wire now becomes the common side of the load and the violet
wire should be connected to the secondarycircuit breaker which is the line side of the load. Please refer to the wiring diagrams on this page.

24 → 12

If transformer is wired from the factory for 24 volts, for 12 volt secondary wiring: Disconnect the jumper between the blue and yellow wire. Put one jumper between the brown and yellow wire which becomes the common side of the load and connect a jumper between the blue and violet wire which becomes the line side of the load.
* Add second wire (same size) from the LV common block to inner block with yellow leads. Please refer to the wiring diagrams on this page.

Legend

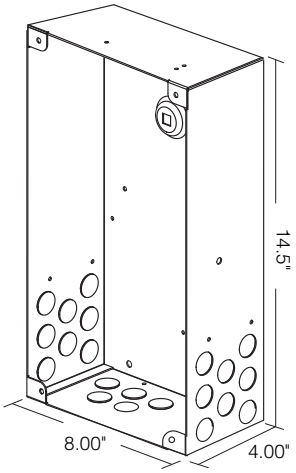
- Tp — Auto reset thermal circuit breaker mounted to core of toroid
- Hydraulic magnetic manual reset circuit breakers (see page 18)
- Choke or inductor on primary to reduce inrush current.
- Terminal block connection
- Polarity

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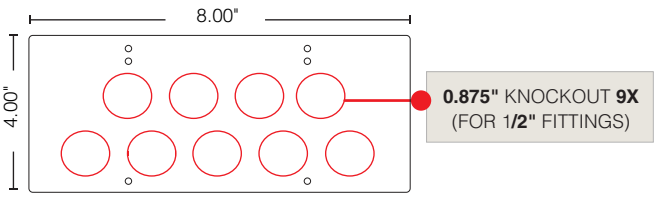
QTMS/QTMD/QTLS/QTLD/QTLT/QTLQ

Installation Instructions

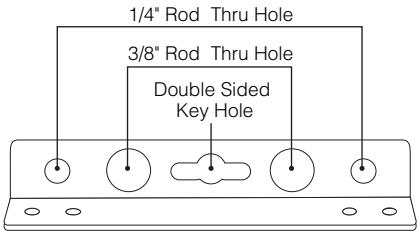
QTM Housing



ISOMETRIC VIEW

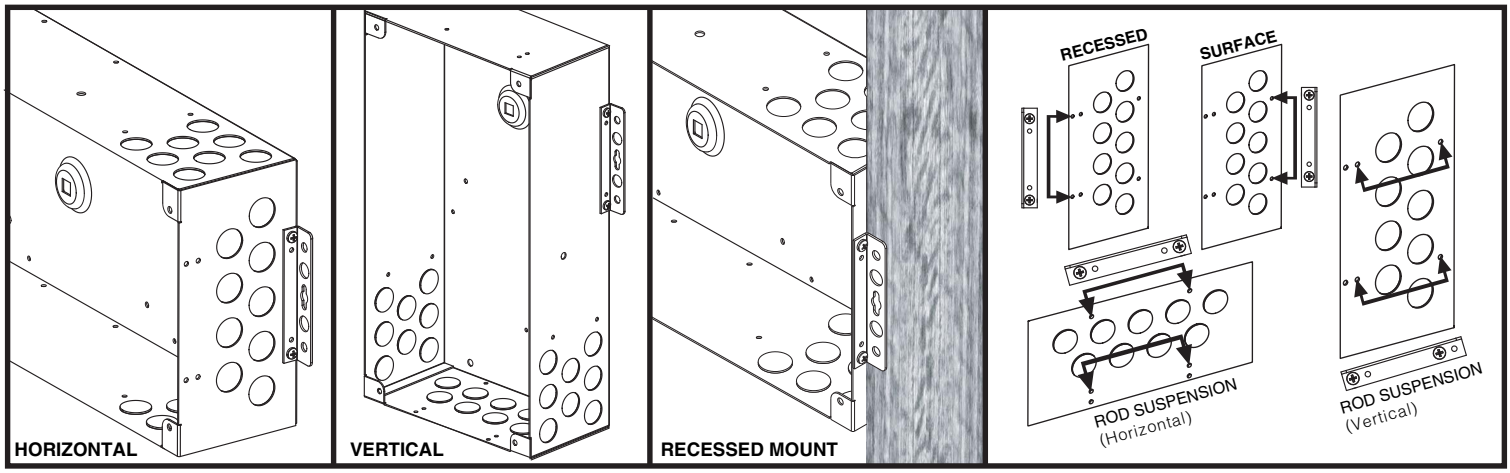


BOTTOM VIEW

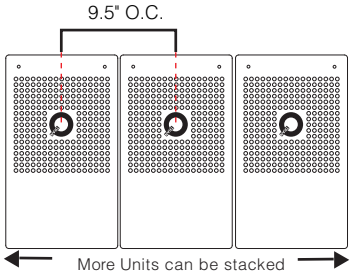


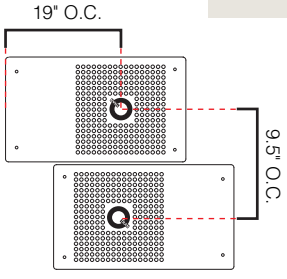
NOTE: Bracket can also be mounted (Top & Bottom) for Vertical Mounts.

Mounting Options



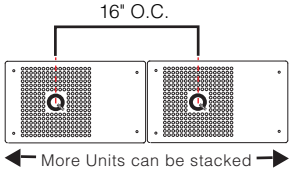
SURFACE SPACING



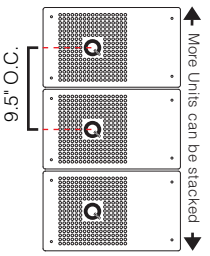




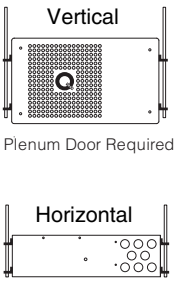
NOTE: Surface Mounting can be done on six different planes.



SURFACE STACKING



ROD SUSPENSION



NOTE: Rods not included.

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

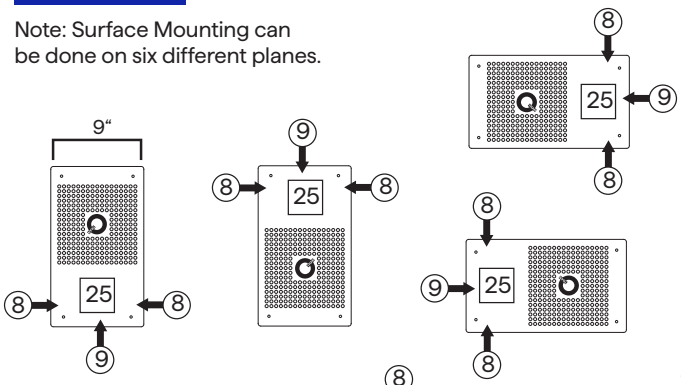
QTMS/QTMD/QTLS/QTLD/QTLT/QTLQ

Installation Instructions

QTM Housing Mounting

Surface Wall

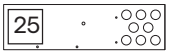
Note: Surface Mounting can be done on six different planes.



Surface Ceiling

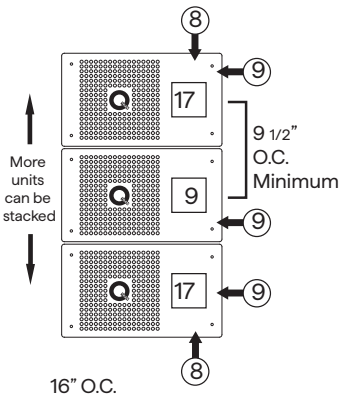


Plenum Door Required

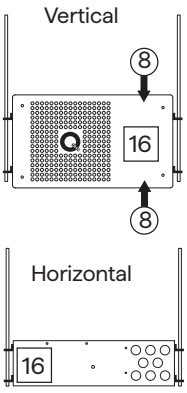


Surface Floor

Surface Stacking

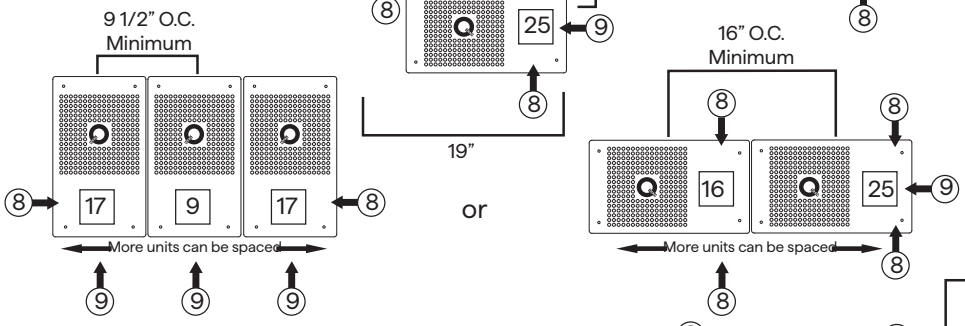


Rod Suspension

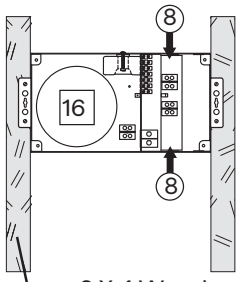


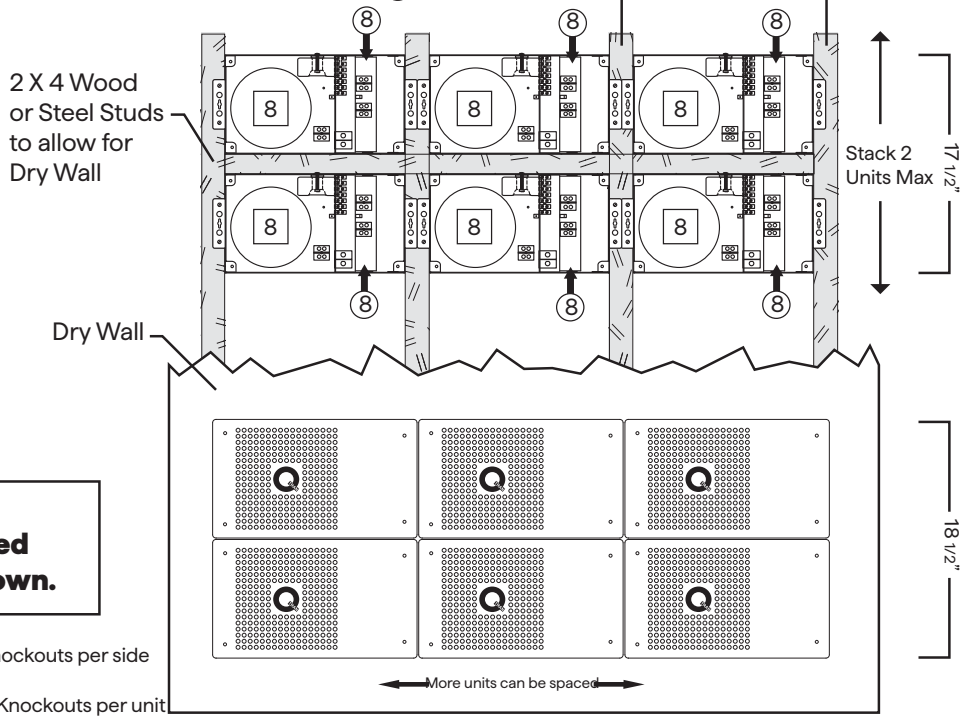
Plenum Door Required

Surface Spacing



Recessed Wall





Note: knockouts are located where ← (#) are shown.

← (#) = Number of available Knockouts per side

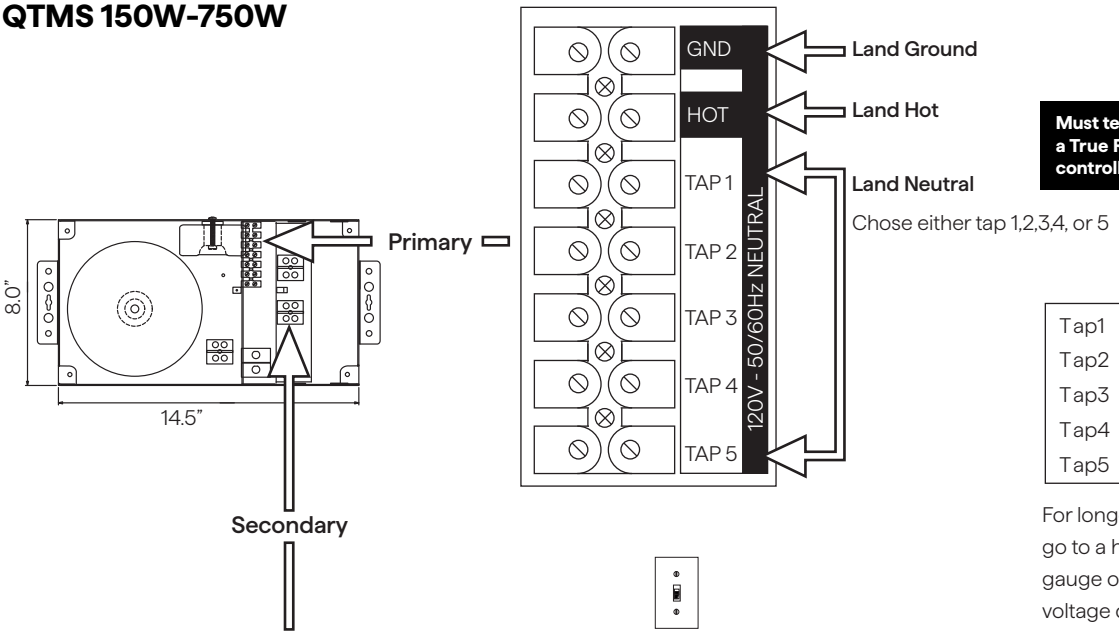
[#] = Total number of available Knockouts per unit

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QTMS/QTMD/QTLS/QTLD/QTLT/QTLQ

Installation Instructions

QTMS 150W-750W



Primary

Line Voltage

Must test all voltage readings with a True RMS Voltage Meter when controlled by a dimmer.

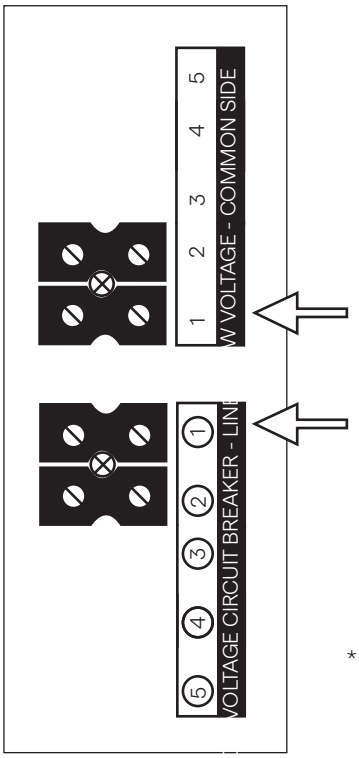
	Nominal	Voltage
Tap1	11V	22V
Tap2	12V	24V
Tap3	13V	26V
Tap4	14V	28V
Tap5	15V	30V

For longer runs you may need to go to a higher tap & or larger wire gauge on secondary side. See QTL's voltage drop calculator.

1 Control Zone

Secondary

Low Voltage



Step 1.
Connect common side to one of the low voltage terminal blocks.

Step 2.
Connect line side or "hot" side of the low voltage connection. Start with position # 1.

* Repeat step 1 & 2 for every new lead connection.

L.V. Secondary feeds go to a 85 AMP rated terminal block. Each terminal is UL listed to have the following capacity:	6	#14
	4	#12
	4	#10
	2	# 8

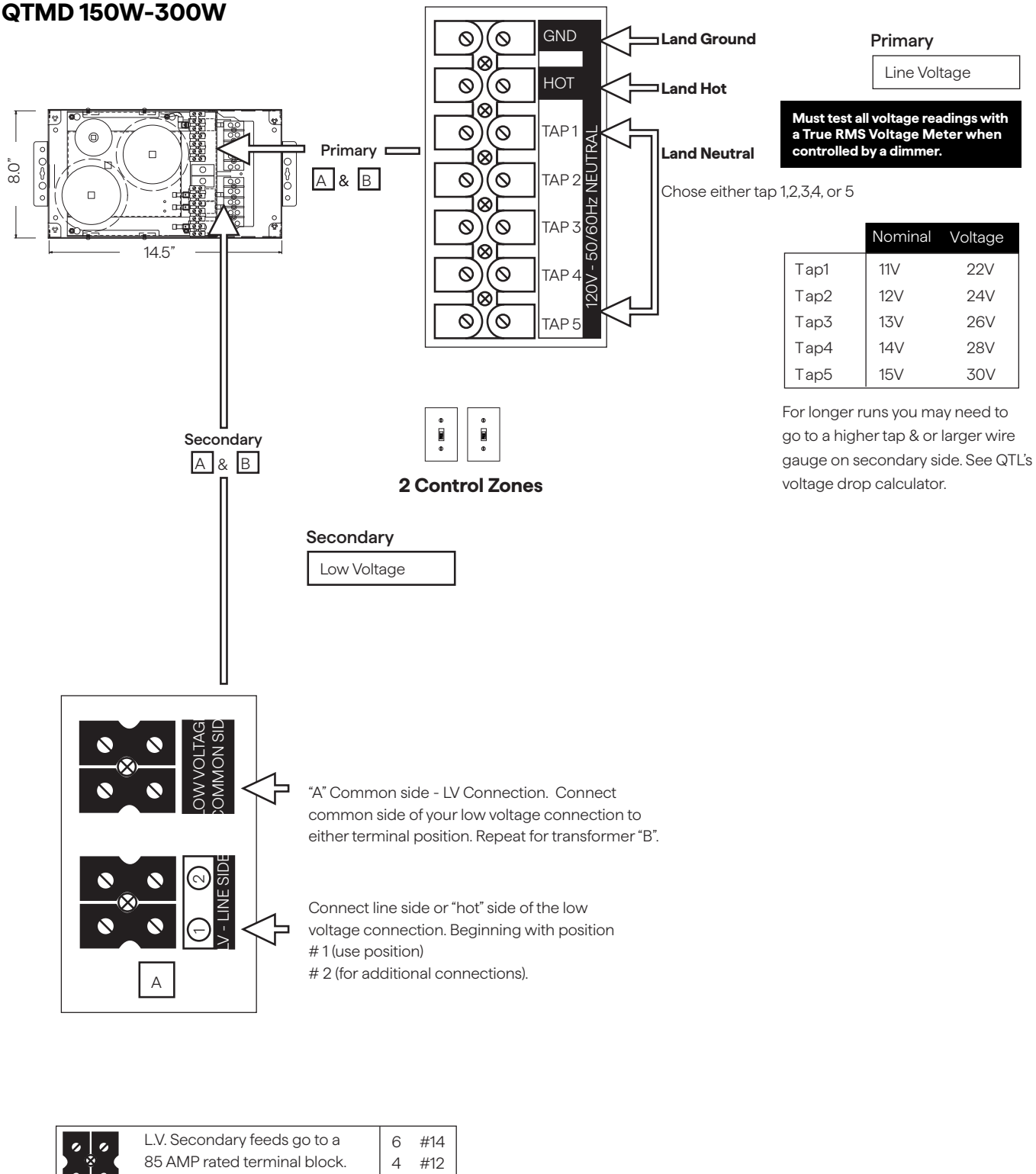
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Specification subject to change. Rev-07-02-26

QTMS/QTMD/QTLS/QTLD/QTLT/QTLQ

Installation Instructions

QTMD 150W-300W



	Nominal	Voltage
Tap1	11V	22V
Tap2	12V	24V
Tap3	13V	26V
Tap4	14V	28V
Tap5	15V	30V

For longer runs you may need to go to a higher tap & or larger wire gauge on secondary side. See QTL's voltage drop calculator.

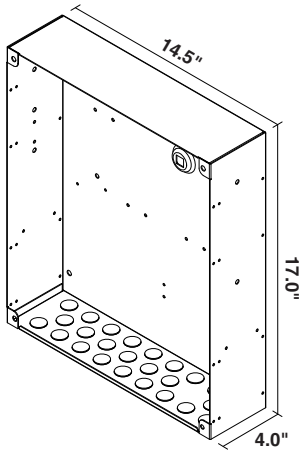
L.V. Secondary feeds go to a 85 AMP rated terminal block. Each terminal is UL listed to have the following capacity:	6	#14
	4	#12
	4	#10
	2	# 8

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QTMS/QTMD/QTLS/QTLD/QTLT/QTLQ

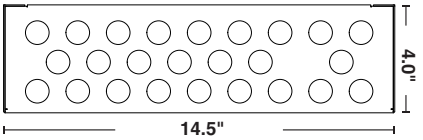
Installation Instructions

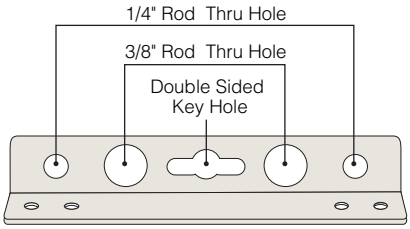
QTL Housing



BOTTOM

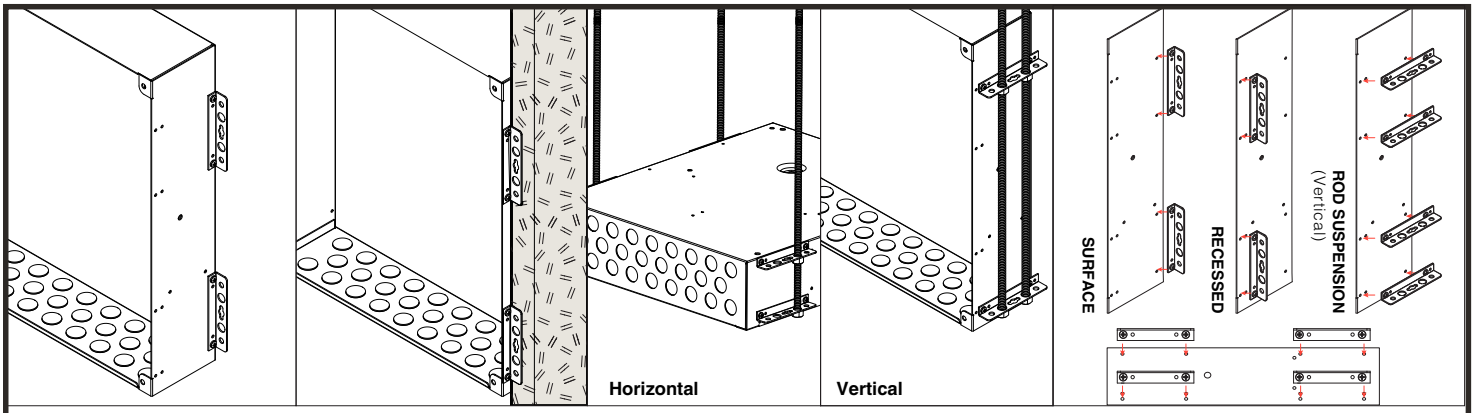
25 Knockouts of 0.875" Hole for 1/2" fitting





NOTE: Bracket can also be mounted (Top & Bottom) for Vertical Mounts.

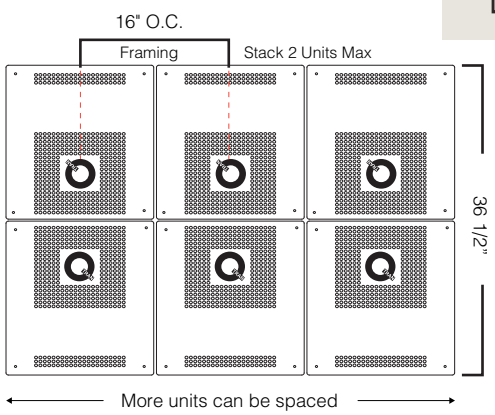
Mounting Options

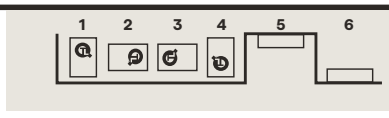


SURFACE MOUNT | **RECESSED MOUNT** | **ROD SUSPENSION MOUNT** (Comes with 4 brackets standard) | **ROD SUSPENSION** (Horizontal)

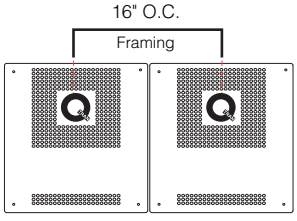
If the housing is installed prior to final construction, install included disposable cover to protect the housing from large debris, damage, and paint overspray. Remove disposable cover and clean out housing before installing electronics.

SURFACE SPACING

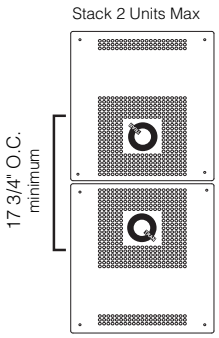




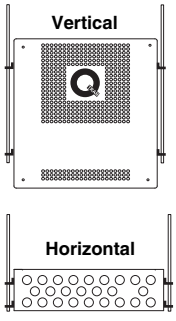
NOTE: Surface Mounting can be done on six different planes.



SURFACE STACKING



ROD SUSPENSION



Plenum Door Required

NOTE: Rods not included.

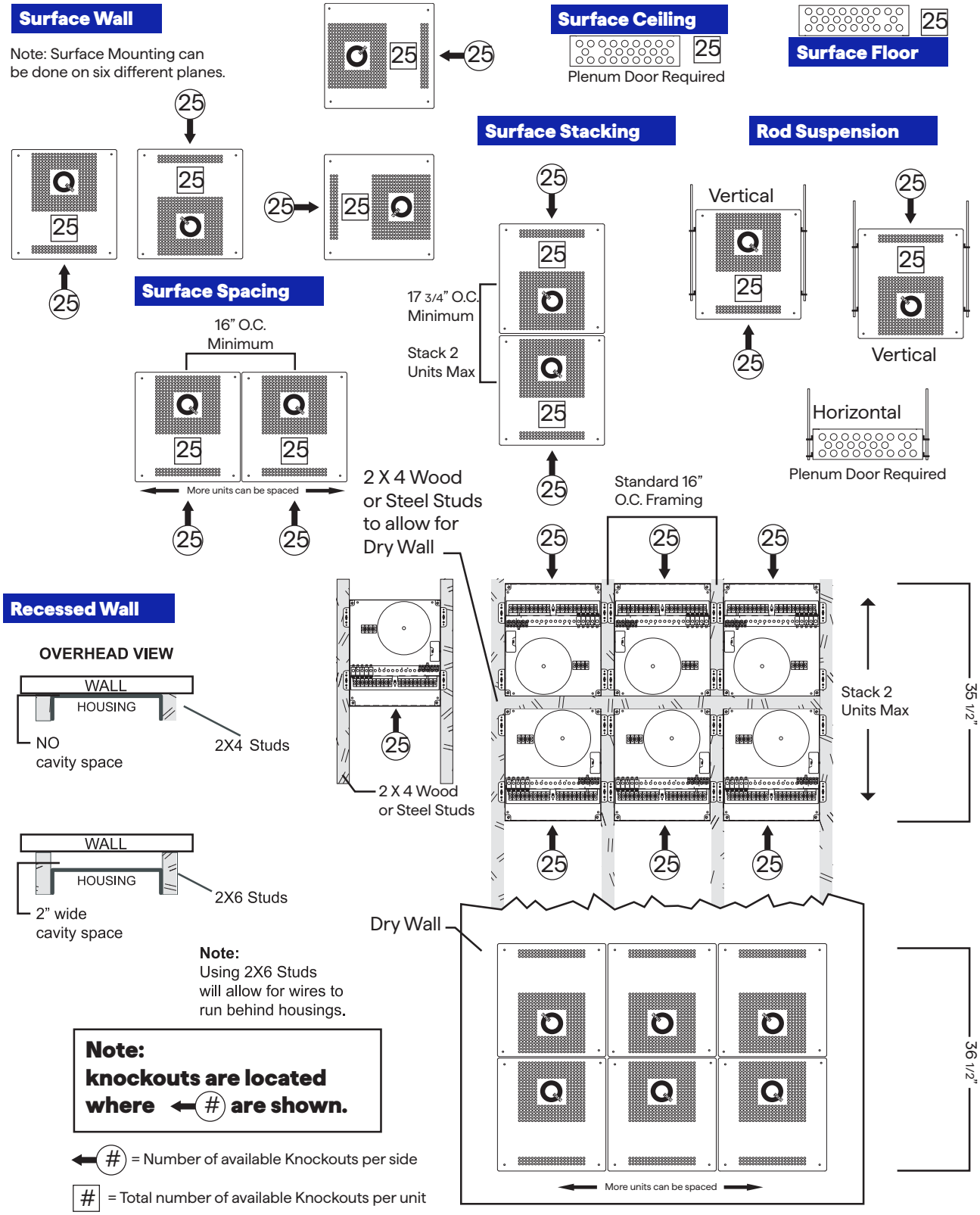
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Specification subject to change. Rev-07-02-26

QTMS/QTMD/QTLS/QTLD/QTLT/QTLQ

Installation Instructions

QTL Housing Mounting



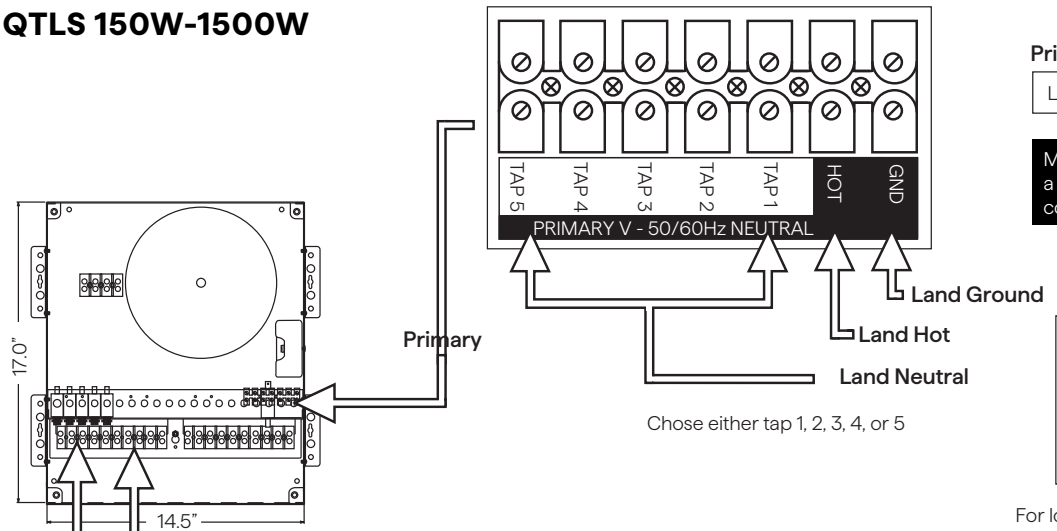
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Specification subject to change. Rev-07-02-26

QTMS/QTMD/QTLS/QTLD/QTLT/QTLQ

Installation Instructions

QTLS 150W-1500W



Chose either tap 1, 2, 3, 4, or 5

Primary

Line Voltage

Must test all voltage readings with a True RMS Voltage Meter when controlled by a dimmer.

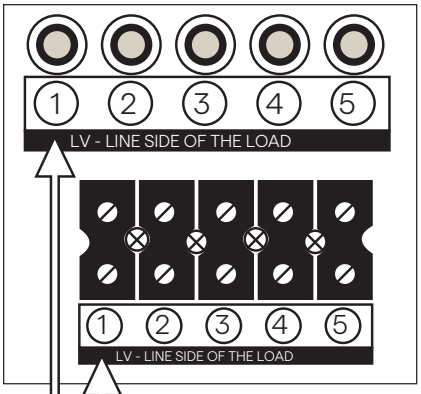
	Nominal	Voltage
Tap1	11V	22V
Tap2	12V	24V
Tap3	13V	26V
Tap4	14V	28V
Tap5	15V	30V

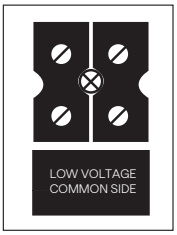
For longer runs you may need to go to a higher tap & or larger wire gauge on secondary side. See QTL's voltage drop calculator.



1 Control Zone

Secondary **Secondary**





Secondary

Low Voltage

Repeat step 1 & 2 for every new lead connection.

2. Connect common side to one of the voltage taps beginning with 12V. Then "Bump" up the voltage if you require more output due to voltage drop.

1. Connect line side or "hot" side of the low voltage connection.



L.V. Secondary feeds go to a 85 AMP rated terminal block. Each terminal is UL listed to have the following capacity:

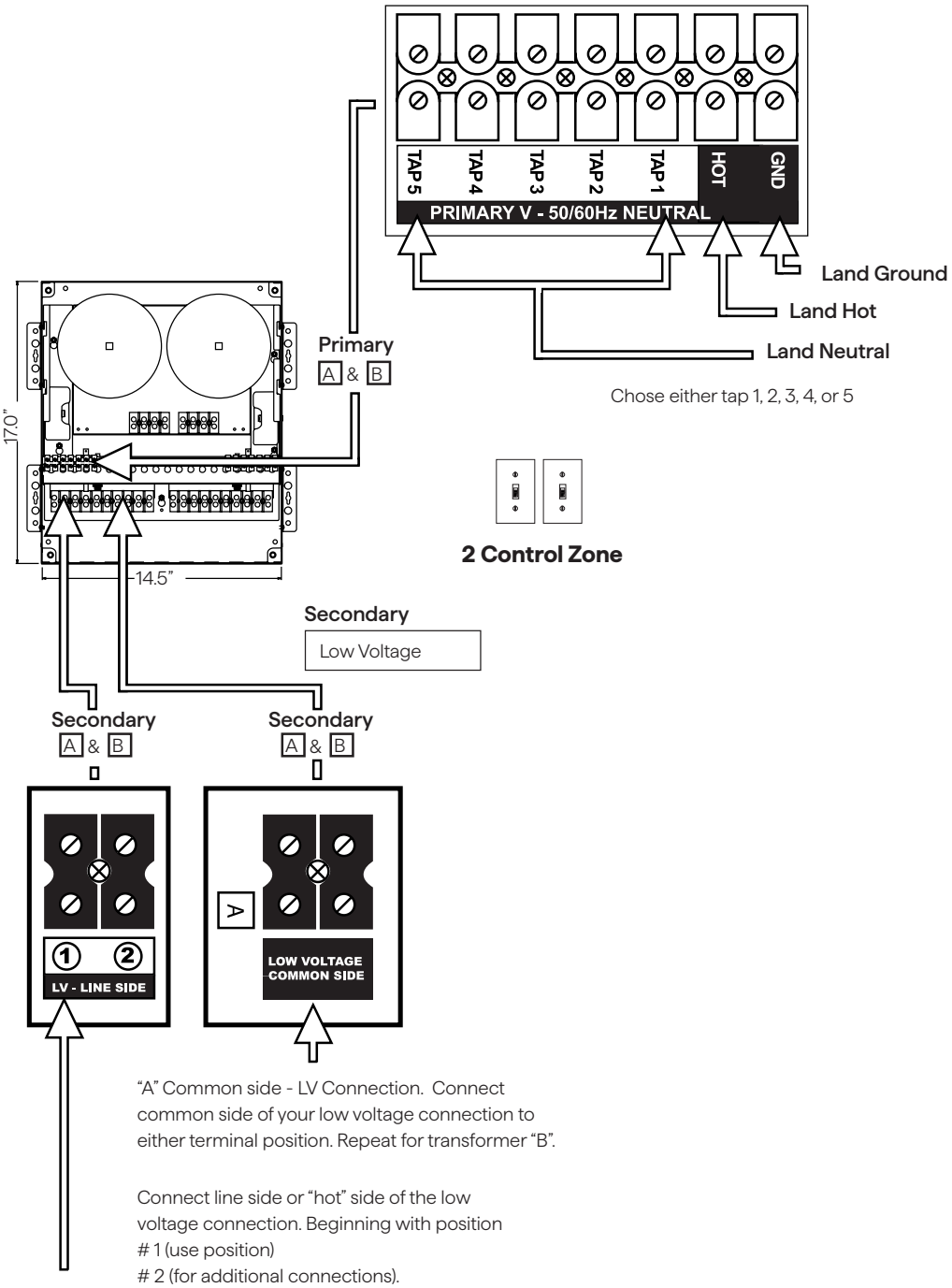
6	#14
4	#12
4	#10
2	# 8

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QTMS/QTMD/QTLS/QTLD/QTLT/QTLQ

Installation Instructions

QTLD 150W-750W



"A" Common side - LV Connection. Connect common side of your low voltage connection to either terminal position. Repeat for transformer "B".

Connect line side or "hot" side of the low voltage connection. Beginning with position
1 (use position)
2 (for additional connections).

Primary

Line Voltage

Must test all voltage readings with a True RMS Voltage Meter when controlled by a dimmer.

	Nominal Voltage	
Tap1	11V	22V
Tap2	12V	24V
Tap3	13V	26V
Tap4	14V	28V
Tap5	15V	30V

For longer runs you may need to go to a higher tap & or larger wire gauge on secondary side. See QTL's voltage drop calculator.

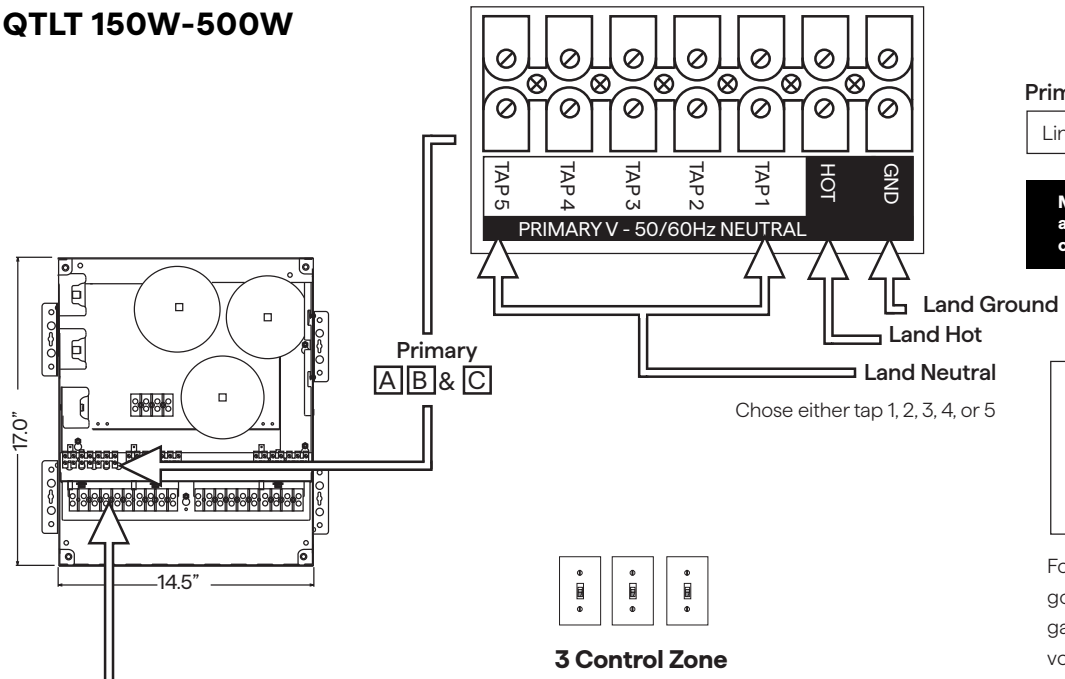
L.V. Secondary feeds go to a 85 AMP rated terminal block. Each terminal is UL listed to have the following capacity:	6	#14
	4	#12
	4	#10
	2	# 8

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QTMS/QTMD/QTLS/QTLD/QTLT/QTLQ

Installation Instructions

QTLT 150W-500W



Chose either tap 1, 2, 3, 4, or 5

Primary

Line Voltage

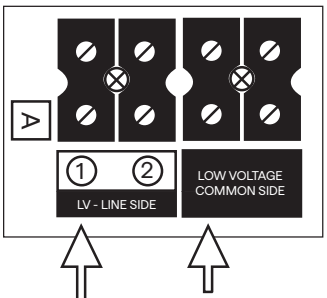
Must test all voltage readings with a True RMS Voltage Meter when controlled by a dimmer.

	Nominal	Voltage
Tap1	11V	22V
Tap2	12V	24V
Tap3	13V	26V
Tap4	14V	28V
Tap5	15V	30V

For longer runs you may need to go to a higher tap & or larger wire gauge on secondary side. See QTL's voltage drop calculator.

3 Control Zone

Secondary
A B & C



Secondary

Low Voltage

"A" Common side - LV Connection. Connect common side of your low voltage connection to either terminal position. Repeat for transformer "B" & "C".

Connect line side or "hot" side of the low voltage connection. Beginning with position
1 (use position)
2 (for additional connections).

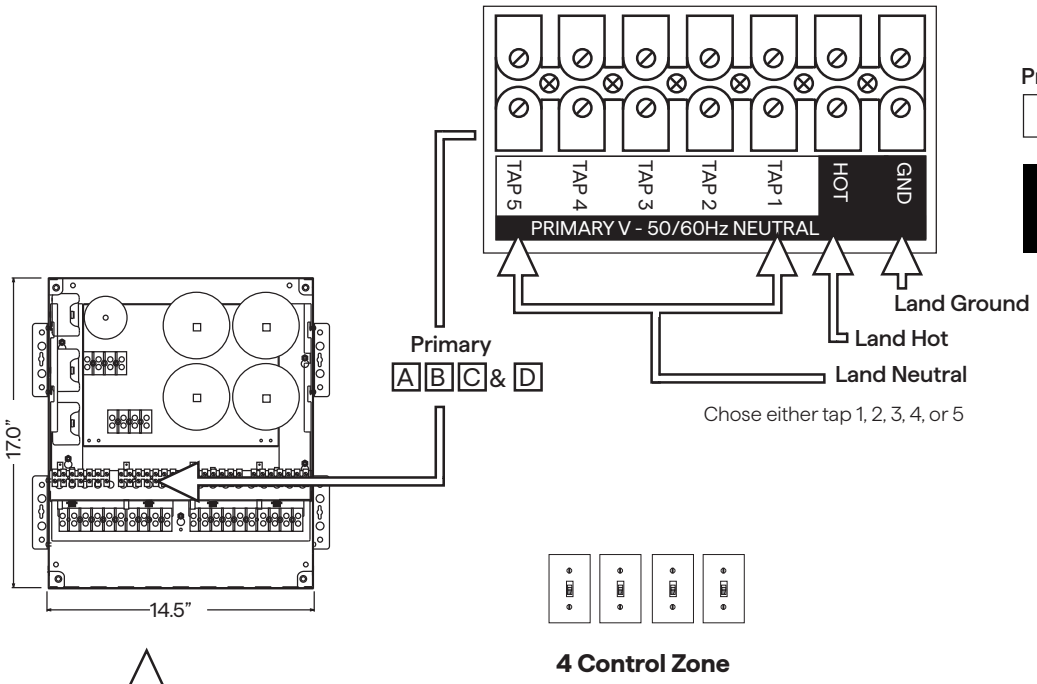
L.V. Secondary feeds go to a 85 AMP rated terminal block. Each terminal is UL listed to have the following capacity:	6	#14
	4	#12
	4	#10
	2	# 8

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QTMS/QTMD/QTLS/QTLD/QTLT/QTLQ

Installation Instructions

QTLQ 150W-300W



Primary

Line Voltage

Must test all voltage readings with a True RMS Voltage Meter when controlled by a dimmer.

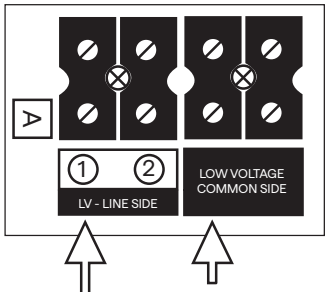
	Nominal Voltage	
Tap1	11V	22V
Tap2	12V	24V
Tap3	13V	26V
Tap4	14V	28V
Tap5	15V	30V

For longer runs you may need to go to a higher tap & or larger wire gauge on secondary side. See QTL's voltage drop calculator.

4 Control Zone

Secondary

A B C & D



Secondary

Low Voltage

"A" Common side - LV Connection. Connect common side of your low voltage connection to either terminal position. Repeat for transformer "B", "C" & "D".

Connect line side or "hot" side of the low voltage connection. Beginning with position
1 (use position)
2 (for additional connections).



L.V. Secondary feeds go to a 85 AMP rated terminal block. Each terminal is UL listed to have the following capacity:

6	#14
4	#12
4	#10
2	# 8

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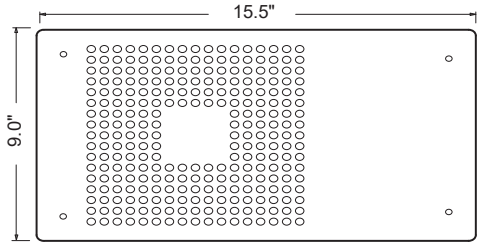
QTMS/QTMD/QTLS/QTLD/QTLT/QTLQ

Installation Instructions

Secondary Tap Option

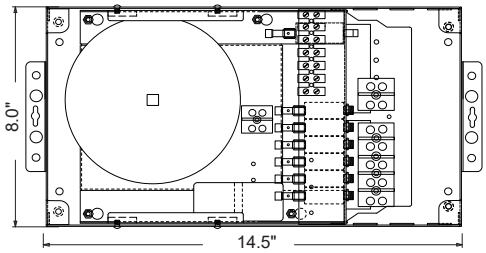
QT Secondary Tap Option

The QT has a secondary tap option which allows the unit to be tapped on the secondary side. The ST option is only available in the QTM housing style as noted in the available models listed in the table below.



Housing

18 gauge welded steel measuring 14.5"W x 8.0"H x 4.0"D with 25 knockouts. Bracket (UMB - Universal Mounting Bracket) included to secure housing to a 2x4 wall stud for recess wall mounting or to surface mount. Door meaures 15.5"W x 9.0"H.



Multi-Volts & Taps

The ST options utilizes two (2) primary taps: a switched or a dimmed tap to compensate for losses when dimming. Four (4) secondary taps provide secondary voltages of: 12V, 13V, 14V, 15V, or 24V, 25V, 26V, and 27V. Loads may be connected to one (1) of the primary taps up to the full watt rating of the PSC. The advantage is that loads at varying distances from the PSC can be tapped to recover voltage drop and produce between 85% - 100% light output. See seperate Voltage Drop Calculator (www.QTL.lighting).

Size	Max Load (Watts)	PSC Efficiency	Max PSC Rating (Watts)	Max PSC Rating (VA)	Max Prim Amps @ 120V	Max Prim Amps @ 277V
QTMD-150	150W	92%	163	200	1.7 A	0.7 A
QTMD-300	300W	93%	322	400	3.4 A	1.5 A
QTMD-500	500W	93%	538	670	5.6 A	2.4 A
QTMD-600	600W	95%	632	800	6.7 A	2.9 A
QTMD-750	750W	95%	789	1000	8.4 A	3.6 A
QTMD-2×150	300W	95%	326	400	3.3 A	1.5 A
QTMD-150/300	450W	95%	484	600	5.3 A	2.2 A
QTMD-2×300	600W	95%	644	800	6.6 A	2.9 A

The ST option is specified in either Options or Options 2

Product	Size[1]	Prim. V	Sec. V	No.	Amp[2]	Choke	Opts[3]	Opts 2[3]
QTMS	**300**	**120**	**12**	**4**	**25**	**CK-S**	**WH**	**ST**

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QTMS/QTMD/QTLS/QTLD/QTLT/QTLQ

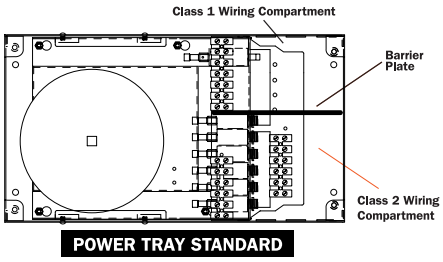
Installation Instructions

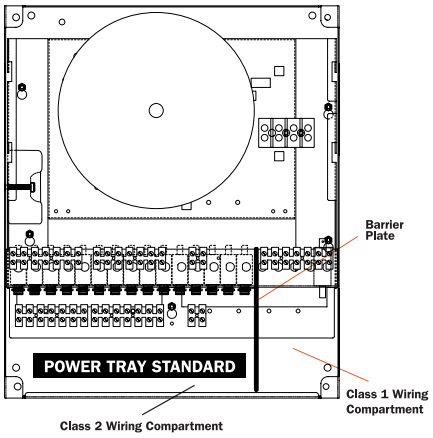
Class 2 and Plenum Rated Options

QT Class 2 Option

The National Electrical Code limits Class 2 wiring to 30V or less. The code further limits 12V to 5A or 60VA and 24V to 4A or 100VA. Most local building codes do allow for Class 2 wiring. Class 2 wiring per the NEC is specified in Article 725.41 and Table 725.61. The benefit to Class 2 wiring is that is does not require a conduit. In some cases this allows for a far simpler installation. The QTL Class 2 PSC's have 4A or 5A circuit breakers dedicated for each wiring run. For example; a 12V, 300W transformer could have six 5A circuit breakers for six seperately run 50W loads (50W lamp load at 12V equals 4.2A).

The NEC requires Class 1 wiring (all wiring above 30V i.e. the primary wiring) be physically seperated from the Class 2 wiring in its own space. The QTL housing is divided into 3 compartments. The first compartment is for the factory components; the second compartment is for the Class 1 primary feed and the third compartment is for the Class 2 low voltage lighting feeds. Each lighting run is terminated to either a 4A (for 24V) or 5A (for 12V) hydraulic magnetic circuit breaker.
Note: A power tray is standard with the Class 2 option.





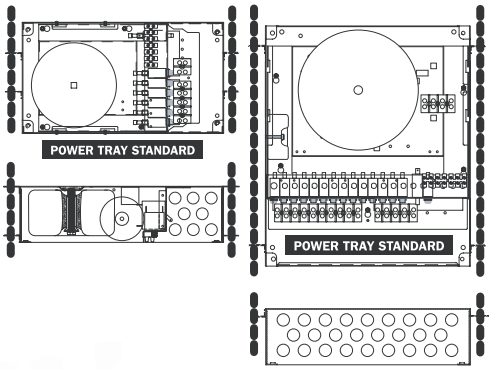
MAX. BREAKERS	
QTM	6
QTL	15

The Class 2 option is specified in either Options or Options 2

Product	Size[1]	Prim. V	Sec. V	No.	Amp[2]	Choke	Opts[3]	Opts 2[3]
QTMS	300	120	12	6	5	CK-S	WH	C2

QT Plenum Rated Option

Plenum Rating is sometimes required for equipment mounted within the ceiling plenum. The basic standard for compliance is for an enclosure to have no holes so smoke cannot exit. The PL option is in compliance with City of Chicago Environmental Air (CCEA) Standards. The QT Plenum option allows for a unique rod suspension. The unit can be suspended parallel or perpendicular to the ceiling plane as shown.
NOTE: A power tray is standard with the plenum rated option.





LISTED c UL us 5F78
LOW VOLTAGE LIGHTING POWER SUPPLY CENTER
• PLENUM RATED - CCEA

The Plenum Rated option is specified in either Options or Options 2

Product	Size[1]	Prim. V	Sec. V	No.	Amp[2]	Choke	Opts[3]	Opts 2[3]
QTMS	300	120	12	6	5	CK-S	WH	PL

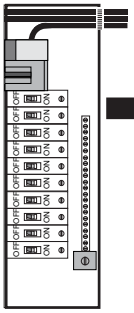
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QTMS/QTMD/QTLS/QTLD/QTLT/QTLQ

Installation Instructions

Troubleshooting and Warnings

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

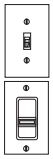


Lighting Panel

Primary

Wire gauge _____

Switch

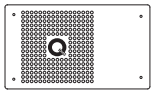


Dimmer

Circle one

Primary

Wire gauge _____



Power Supply Center

Model number _____

Secondary

Wire length _____

Wire gauge _____

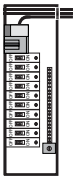


Load

Watts per run _____

Total watts _____

1 Panel Adjustments



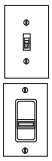
Primary feed circuit breaker

Manufacturer:

Model number:

Amperage:

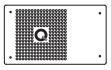
2 Dimmer or Switch Adjustments



Manufacturer:

Model number:

3 Transformer Adjustments



- Primary circuit breaker
- Secondary circuit breaker

4 Load Adjustments



*Impedance is important and used to calculate the maximum short circuit current which is need for sizing, circuit breakers and fuses.

- Impedance is expressed as a percent. This percentage represents the amount of normal rated primary voltage which must be applied to the Transformer to produce full rated load current when the secondary windings is short circuited.
- The Impedance of most ordinary transformers runs between 3% and 6%.
- The maximum short circuited current is limited by the impedance of the transformer
- If the load impedance is too low this will increase the current in the transformer windings. This also reduces the primary impedance that the output sees which increases tube current flow.
- Lower values of impedance will provide a reduction in regulation for a given load. The regulation is the ration of output voltage at a specified load, compared to the output voltage at no load.
- If the load impedance is too high, this reflects a higher than normal impedance in the primary for the output.
- If the transformer has 5 % (.05) impedance, the reciprocal of .05 is 20 and maximum short circuit current is 20 times the full load current.
- If the transformer has 10 % (.1) impedance. The reciprocal of .1 is 10 therefore the maximum short circuit current is 10 times the full load current.

QTL'S TRANSFORMERS HAVE IMPEDANCE IN THE RANGE OF 2 % - 5 %

⚠ 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.

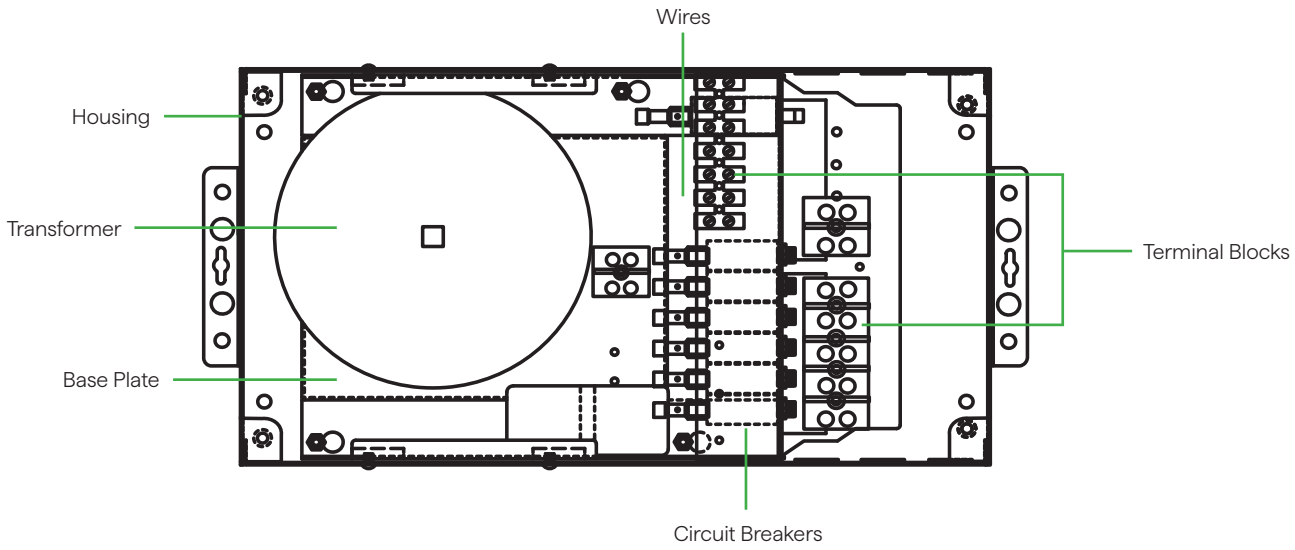
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MATERIAL RECYCLING

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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