



Thomas Research Products

SSL Solutions Faster Than The Speed Of Light®

LED-40W Series— Fixed Output and Dimmable Switch Mode LED Drivers Constant Current & Constant Voltage with Isolation Black Magic Thermal Advantage™ Plastic Housing

Total Power: 40 Watts
Input Voltage: 100-277 Vac
Outputs: Single from 3-114 Vdc
Dry, Damp and Wet Location
IP66 & NEMA4
High Power Factor
UL8750 and Class 2 Compliant, as noted

Electrical Specifications

Input Voltage Range:	100-277 Vac Nom. (90-305 V Min/Max)
Frequency:	50/60 Hz Nom. (47-63 Hz Min/Max)
Power Factor:	>0.90 @ full load, 100V through 277V
Inrush Current:	<20.0 Amps max @ 230 Vac, cold start 25°C
Input Current:	0.40 Amps max
Maximum Power:	40W
Current Accuracy:	± 1% Over input line variation
Load Regulation:	± 3%
THD:	≤ 20% @ full load
Leakage Current:	400 µA Typical
Hold Up Time:	Half Cycle
Protection:	Output Over-Voltage, Output Over-Current, and Output Short Circuit Protection with Auto Recovery

Environmental Specifications

Maximum Case Temp.	90°C
Minimum Starting Temp:	-30°C
Storage Temperature:	-40°C to +85°C
Humidity:	5% to 95%
Cooling:	Convection
Vibration Frequency:	5 to 55 Hz/2g, 30 minutes
MTBF:	482,000 Hours at full load and 40°C ambient conditions per MIL-217F Notice 2
EMC:	FCC 47CFR Part 15 Class B compliant

Ordering Options:

- D: 2-wire dimmable model dims 100% to 10%. Two extra wires included on the output side: +Purple/-Gray. This model is offers 0-10V & Resistance dimming, compatible with most quality 0-10V dimmers. See page 3.
- D3: 3-wire dimmable model dims 100% to 10%. Three extra wires included on the output side: Yellow/Purple/Gray. This model is suitable for potentiometer dimming. See page 3.
- PD: PWM dimmable version dims 100% to 10%. Two extra wires included on the output side: +Purple/-Gray. This model is PWM Dimmable via a positive duty cycle, 200Hz to 1KHz, 0-10V Pulse. See page 4.



IP66

Note:

LED drivers are designed and intended to operate LED loads only. Non-LED loading may be outside the specified design limits of our LED driver, and therefore cannot be covered by any warranty. If you desire to use our LED drivers to operate non-LED loads please contact us to discuss compatibility.

Specifications subject to change without notice.



Constant Current - Product Specifications

Model Number	Output Current (mA ±5%)	Output Voltage Range (Vdc)	Max Output Power (W)	Max Efficiency
LED40W-114-C0350-XX	350	38-114	40	87%
LED40W-100-C0400-XX	400	33-100	40	87%
LED40W-089-C0450-XX	450	30-89	40	87%
LED40W-054-C0700-XX	700	18-54	37.8	86%
LED40W-048-C0830-XX	830	16-48	40	86%
LED40W-045-C0900-XX	900	15-45	40	86%
LED40W-036-C1100-XX	1100	12-36	40	86%
LED40W-030-C1300-XX	1300	10-30	39.0	86%
LED40W-024-C1300-XX	1300	8-24	31.2	86%
LED40W-024-C1400-XX	1400	8-24	33.6	86%
LED40W-024-C1670-XX	1670	8-24	40	86%
LED40W-022-C1820-XX	1820	7-22	40	86%
LED40W-018-C2220-XX	2200	6-18	40	85%
LED40W-015-C2680-XX	2680	5-15	40	85%
LED40W-013-C3080-XX	3080	4-13	40	85%
LED40W-012-C3330-XX	3330	4-12	40	84%
LED40W-010-C4000-XX	4000	3-10	40	84%
LED40W-009-C4450-XX	4450	3-9	40	83%

-XX indicates dimming options are available. See options at left. Blank = fixed current output

Constant Voltage - Product Specifications

Model Number	Output Voltage (Vdc ±5%)	Output Current Range (mA)	Max Output Power (W)	Max Efficiency
LED40W-114	114	88-350	40	87%
LED40W-100	100	100-400	40	87%
LED40W-089	89	113-450	40	87%
LED40W-054	54	175-700	40	86%
LED40W-048	48	208-830	40	86%
LED40W-045	45	225-900	40	86%
LED40W-036	36	275-1100	40	86%
LED40W-030	30	325-1300	39	86%
LED40W-024	24	418-1670	40	86%
LED40W-022	22	455-1820	40	86%
LED40W-018	18	550-2200	40	85%
LED40W-015	15	670-2680	40	85%
LED40W-013	13	770-3080	40	85%
LED40W-012	12	833-3330	40	84%
LED40W-010	10	1000-4000	40	84%
LED40W-009	9	1112-4450	40	83%

Class 2: US/Canada US Only

8-1-13



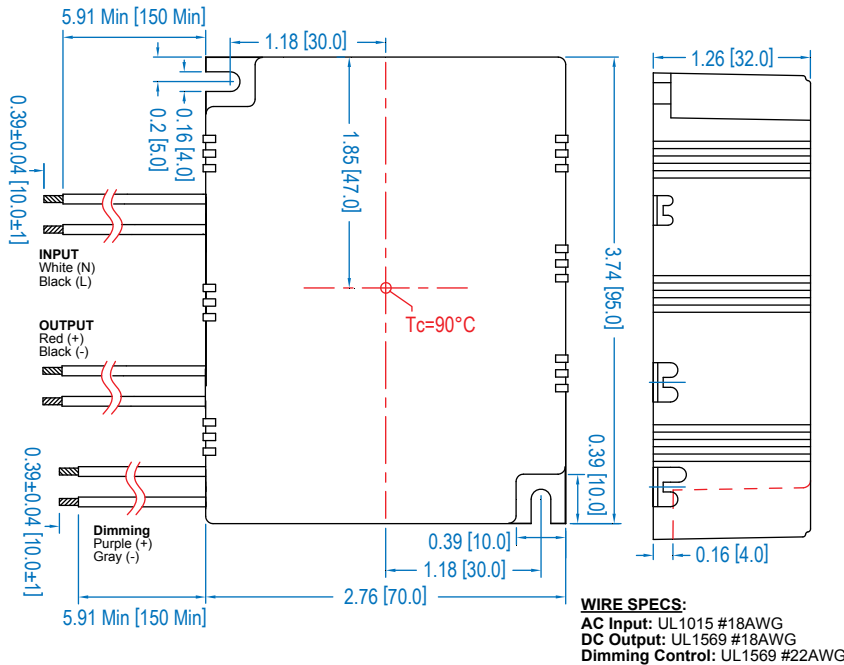
Thomas Research Products

SSL Solutions Faster Than The Speed Of Light®

LED40W

Pg 2 of 4

Dimensions - Inches (mm)

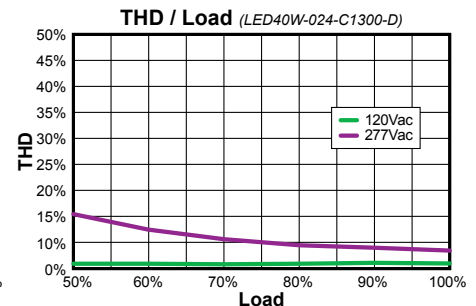
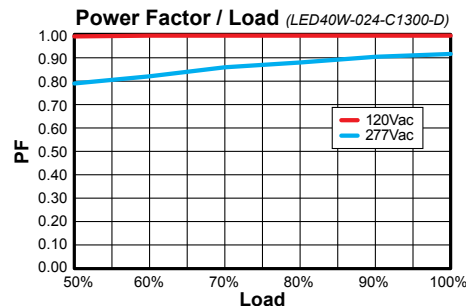
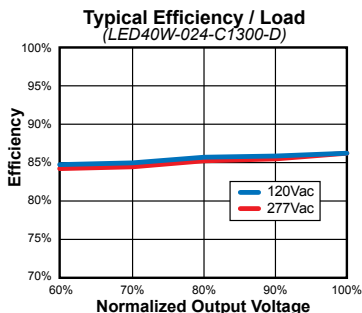
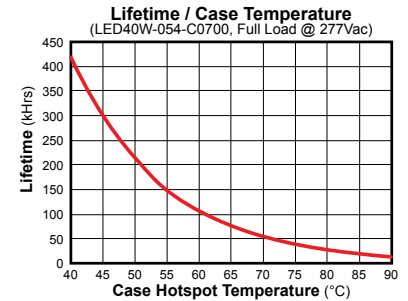
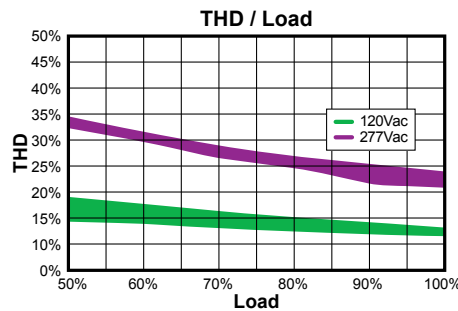
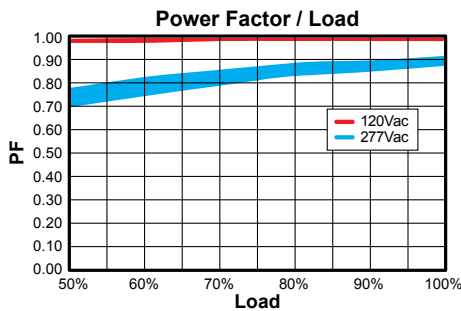


UL Conditions of Acceptability

See website for additional information

Safety and EMC Compliance

UL/CUL	UL8750, CSA-C22.2
C E	EN61347
FCC, 47CFR Part 15	Class B
EN61000-3-2	
EN61000-3-3	Class C

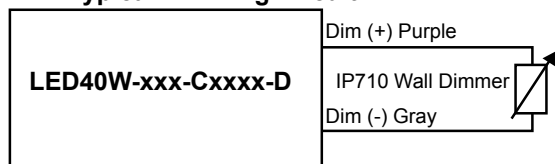




“-D” and “-D3” Option: 0-10VDC and Resistance Dimming

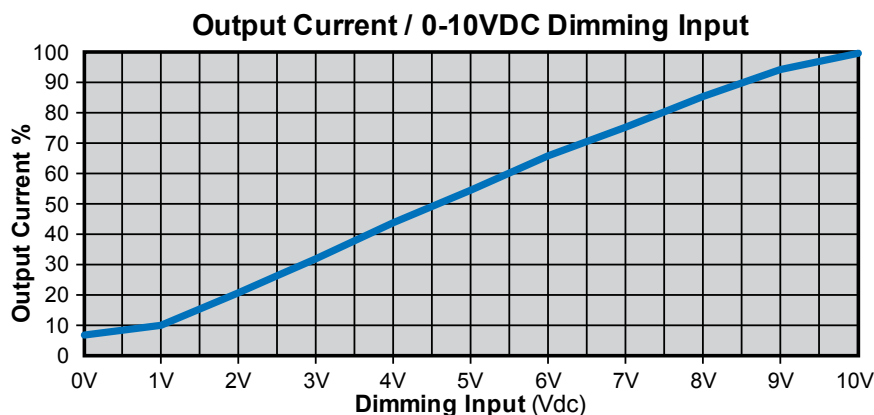
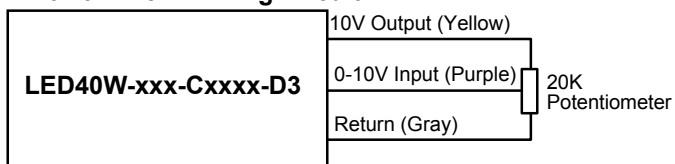
Parameters	Minimum	Typical	Maximum
Source Current out of 0-10V Purple Wire	0 mA	—	10 mA
Absolute Voltage Range on 0-10V (+) Purple Wire	-2.0 V	—	+15 V

“-D” Typical Dimming Circuit



(Dimmer must be current-sink type control)

“-D3” 3-Wire Dimming Circuit



Notes:

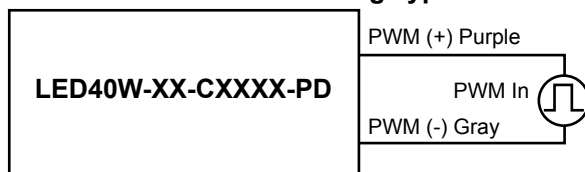
1. D dimmable version comes with an extra two wires on the output side: +Purple/-Gray.
2. Compatible with most 0-10V dimmers. Recommended dimmer is Leviton IP710 or equivalent.
3. D & D3 dimmable versions are not intended to dim below about 5% @ 0V or 10% @ 1.0V.
4. Output will be 100% with Purple/Gray open and minimum with Purple/Gray Shorted.



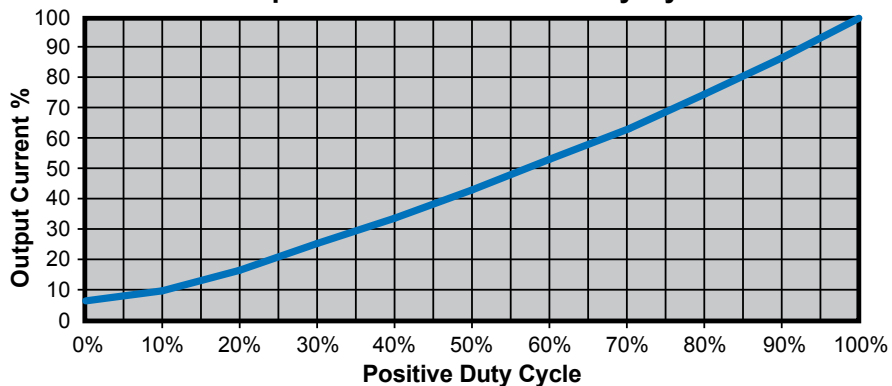
“-PD” Option: PWM Dimming

Parameters	Minimum	Typical	Maximum
Absolute Maximum Voltage Range on PWM Input (Purple Wire)	-2.0V	10V	+28V
Input LOW Level Voltage Range (Purple Wire)	-2.0	0V	+7.5V
Input HIGH Level Voltage Range (Purple Wire)	+9.0	10V	28V
Sink Current into PWM Input (Purple Wire)	0mA	—	1.2mA
PWM Input Signal Frequency	200Hz	—	1000Hz
PWM Input Signal Positive Duty Cycle	0%	10-90%	100%

“-PD” PWM Positive Dimming Typical Circuit



Output Current / Positive Duty Cycle



Notes:

1. PD dimmable version comes with an extra 2 wires on the output side for PWM type dimming: +Purple/-Gray.
2. Below 10% Duty cycle proper dimming operation is not assured. Unit is not intended to turn off at <10% Duty Cycle.
3. Output will be 100% with Purple/Gray open and minimum with Purple/Gray Shorted.