



Thomas Research Products

SSL Solutions Faster Than The Speed Of Light®

TRC-025 Series—Fixed Output and Dimmable 25W Switch Mode LED Drivers Constant Current, Long Life

Total Power: 25 Watts
Input Voltage: 120-277 Vac, 50/60 Hz
Outputs: Single from 4-72 Vdc
High Efficiency
High Power Factor
Indoor or Outdoor Applications, IP66
Input and Output Protection

Electrical Specifications

Input Voltage Range:	120 - 277 Nom. Vac (90 - 305 V Min/Max)
Frequency:	50/60 Hz Nom. (47-63 Hz Min/Max)
Power Factor:	>0.90 @ full load, 100V through 277V
Input Current:	0.32 A @ 100Vac, 0.15 A @ 220Vac
Inrush Current:	60.0 Amps @ 230Vac, 25°C Cold Start
Efficiency	85-85% typical @ maximum load
Maximum Power:	25W
Line Regulation:	± 3%
Load Regulation:	± 5%
Turn-on Time Delay:	3S
Output Protection:	Over-Voltage, Over-Current, Short Circuit Protection with Auto Recovery

Environmental Specifications

Operating Temperature:	-20°C to +70°C
Maximum Case Temp.	89°C
Storage Temperature:	-40°C to +85°C
Humidity:	10% to 100%
Cooling:	Convection
MTBF:	484,000 Hours @ 25°C, 80% load, 110Vac input on 2080 mA output model (MIL-HDBK-217F)
Lifetime:	79,000 Hours @ 45°C, 80% load, 110Vac input on 2080 mA output model
Weight:	0.4 lbs.



Constant Current Versions - Product Specifications

Model Number	Output Current (mA)	Output Voltage Range (Vdc)	Max. Output Power (W)	Typical Efficiency
TRC-025S035PS	350	24-72	25	84%
TRC-025S045PS	450	19-56	25	84%
TRC-025S062PS	620	13-40	25	83%
TRC-025S070PS	700	12-36	25	83%
TRC-025S105PS	1050	8-24	25	82%
TRC-025S140PS	1400	6-18	25	81%
TRC-025S175PS	1750	5-14	25	81%
TRC-025S208PS	2080	4-12	25	80%

Dimmable Versions - Product Specifications

Model Number	Output Current (mA)	Output Voltage Range (Vdc)	Max. Output Power (W)	Typical Efficiency
TRC-025S035DS	350	24-72	25	84%
TRC-025S045DS	450	19-56	25	84%
TRC-025S062DS	620	13-40	25	83%
TRC-025S070DS	700	12-36	25	83%
TRC-025S105DS	1050	8-24	25	82%
TRC-025S140DS	1400	6-18	25	81%
TRC-025S175DS	1750	5-14	25	81%
TRC-025S208DS	2080	4-12	25	80%

Class 2: US/Canada US Only



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.

5-21-13

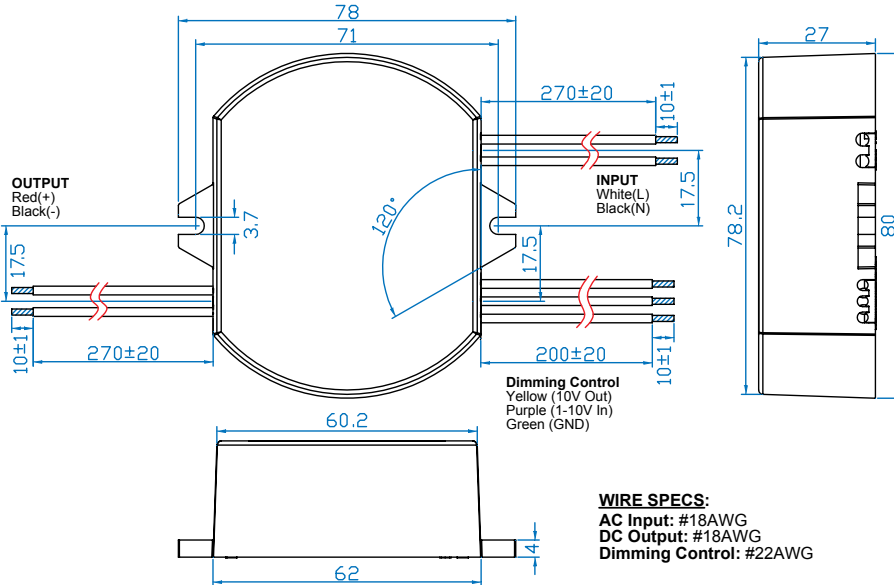


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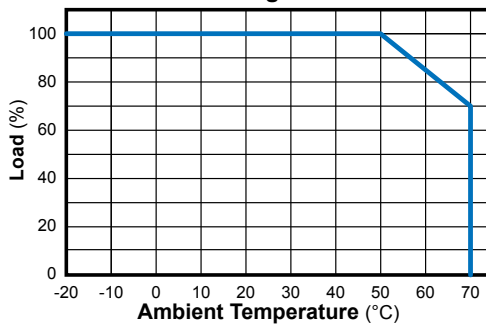
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TRC-025 25W

Pg 2 of 3



Derating Curve



Safety and EMC Compliance

CUL	UL 8750
CE	EN 61347-1, EN61347-2-13
EN 55015	Conducted emission
EN 61000-3-2	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations and flicker
EN 61000-4-2	Electrostatic discharge
EN 61000-4-3	RFE Field Susceptibility test
EN 61000-4-4	Electrical Fast Transient
EN 61000-4-6	Conducted Radio Frequency
EN 61000-4-8	Power Frequency Magnetic Field Test
EN 61000-4-11	Voltage Dips
EN 61547	Electromagnetic Immunity

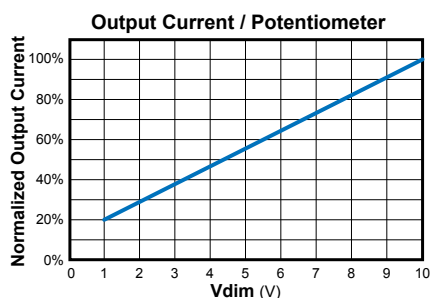
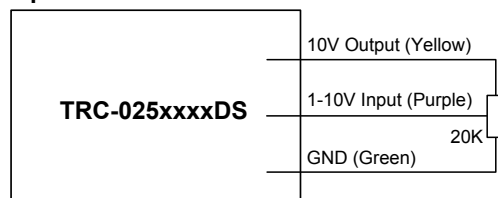


Dimming Control Details

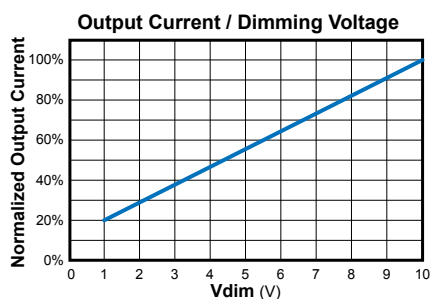
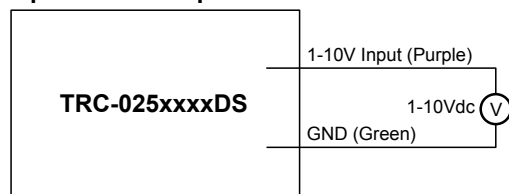
Parameters	Minimum	Typical	Maximum
10V output voltage	9.8 V	10 V	10.2 V
10V output source current	-10 mA	—	2 mA
Absolute maximum voltage on the 0-10V input pin	-2 V	—	15 V
Source current on 0-10V input pin	0 mA	—	1 mA

The dimmer control is operated from either a potentiometer or from an input signal of 1 – 10 Vdc. Recommended implementations are provided below.

Option 1 - Potentiometer Control



Option 2 - DC Input



Notes:

1. When the dimming voltage is decreased to less than 1V, the output current will decrease to approximately 20%Ir; but the connected LEDs may flicker. It is strongly recommended to keep the dimming voltage greater than 1V in the end-use application.
2. Do not connect the GND of dimming to the output or to earth ground; otherwise the LED driver will not work normally.