

40Watts Single Output LED Driver



Features:

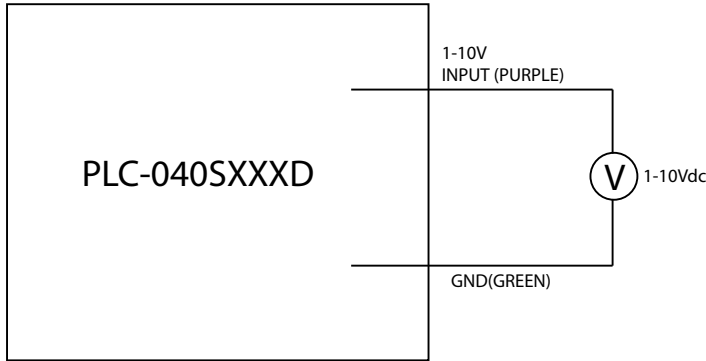
- Constant Current Design
- Dimming Control
- Universal AC input/ Full Range
- Built-in Active PFC function, PF 0.95 Typical
- High Efficiency (Up to 88%)
- Output Protections: OVP/SCP/OTP
- Lightning Protection
- Class 2 Power Unit (See Note)
- Waterproof (IP65)
- 3 Year Warranty



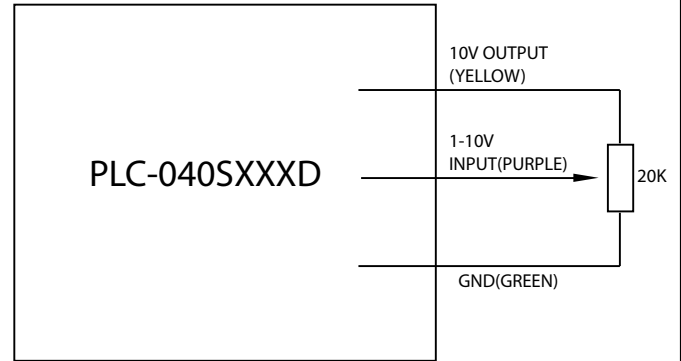
| Model | PLC-040S035D | PLC-040S045D | PLC-040S070D | PLC-040S105D | PLC-040S128D | PLC-040S140D | PLC-040S166D | PLC-040S222D | PLC-040S333D |
|--|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Output Characteristics | | | | | | | | | |
| Rated Current <small>See Note</small> | 0.35A (1) | 0.45A (1) | 0.70A (2) | 1.05A (3) | 1.28A (3) | 1.40A (3) | 1.66A (3) | 2.22A (3) | 3.33A (3) |
| Voltage Range | 38~114V | 30~89V | 18~54V | 12~36V | 10~29V | 10~25V | 8~23V | 6~16V | 4~11V |
| Ripple and Noise (max) <small>Note 1</small> | ±10% Vo | | | | | | | | |
| Voltage Accuracy | ±5% Vo | | | | | | | | |
| Line Regulation | ±1% Vo | | | | | | | | |
| Load Regulation | ±5% Vo | | | | | | | | |
| Rise Time | 20mS Max @ Rated Load | | | | | | | | |
| Hold-up Time (Typ.) | 8.5mS Min (110VAC input, full load), 10mS Min (220VAC input, full load) | | | | | | | | |
| Input Characteristics | | | | | | | | | |
| Voltage Range | 90VAC~305VAC | | | | | | | | |
| Frequency Range | 47Hz-63Hz | | | | | | | | |
| Power Factor (Typical) | 110VAC | >0.95 | >0.95 | >0.95 | >0.95 | >0.95 | >0.95 | >0.95 | >0.95 |
| | 220VAC | >0.90 | >0.90 | >0.90 | >0.90 | >0.90 | >0.90 | >0.90 | >0.90 |
| Efficiency (Typical) | 88% | 88% | 87% | 87% | 87% | 87% | 86% | 85% | 84% |
| AC Current (max) | 0.6A @ 100-277VAC Input Full Load | | | | | | | | |
| Inrush Current (max) | 65A @ 230VAC, 25°C | | | | | | | | |
| Leakage Current | 0.5mA max @ 277VAC | | | | | | | | |
| Protection | | | | | | | | | |
| Over Temperature (OTP) | 110°C (Temperature of internal components); shut down, auto recover after the temperature decreases | | | | | | | | |
| Over Voltage (OVP) <small>Note 2</small> | 1.2~1.7Vo | | | | | | | | |
| Short Circuit (SCP) | Long-term mode, auto recovery | | | | | | | | |
| Environmental Characteristics | | | | | | | | | |
| Operating Temperature | -35°C~70°C | | | | | | | | |
| Operating Relative Humidity | 5% RH to 95% RH | | | | | | | | |
| Storage Temperature | -40°C~85°C, 5% to 100% RH non-condensing | | | | | | | | |
| Vibration | 10 to 300Hz sweep at constant acceleration of 1.0G(Breadth: 3.5mm) for 1 Hour for each of the perpendicular axes X, Y, Z | | | | | | | | |
| Waterproof Rating | IP65 | | | | | | | | |
| Safety Standards | UL8750, Compliance to UL1012 UL935, IEC61347 | | | | | | | | |
| Withstand Voltage | L/N-GND: 4kV, L-N: 2kV | | | | | | | | |
| Isolation Resistance | I/P-O/P: >100M Ohms / 500VDC / 25°C / 70% RH | | | | | | | | |
| EMC Emission | Compliance to EN55022(CISPR22) Class B, EN61000-3-2 Class A, EN61000-3-3 | | | | | | | | |
| EMC Immunity | Compliance to EN61000-3-2, 3 EN61000-4-2, 3, 4, 5, 6, 8, 11, EN61547 | | | | | | | | |
| Characteristics | | | | | | | | | |
| Life Time | More than 78,000Hrs (25°C, 80% Load) | | | | | | | | |
| MTBF (MIL-HDBK-217F) | More than 492,000Hrs (25°C, 80% Load) | | | | | | | | |
| Dimension (LxWxH) | 95x70x32mm | | | | | | | | |
| Note | 1. Ripple & Noise: Measured by 20 MHz bandwidth oscilloscope and the output paralleled with a 0.1 uF ceramic capacitor and a 10 uF electrolytic capacitor. 2. Latch Mode: The power supply shall return to normal operation only after the power is turned on again (1) Non-Class 2 output (USR & CNR) (2) Class 2 output (USR); Non-Class 2 output (CNR) (3) Class 2 output (USR & CNR) | | | | | | | | |

DIMMING CONTROL

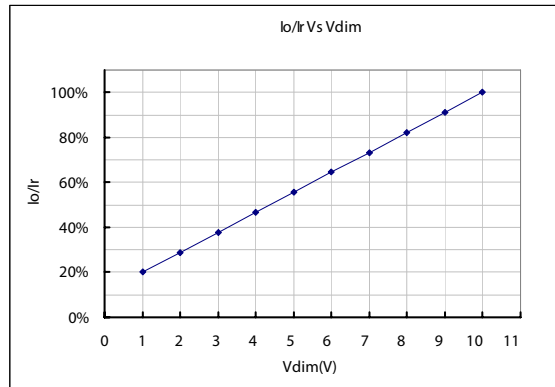
The dimmer control may be operated from either a potentiometer or from an input signal of 1 – 10 Vdc. Two recommended implementations are provided below.



Implementation 1: DC Input



Implementation 2: Potentiometer Control

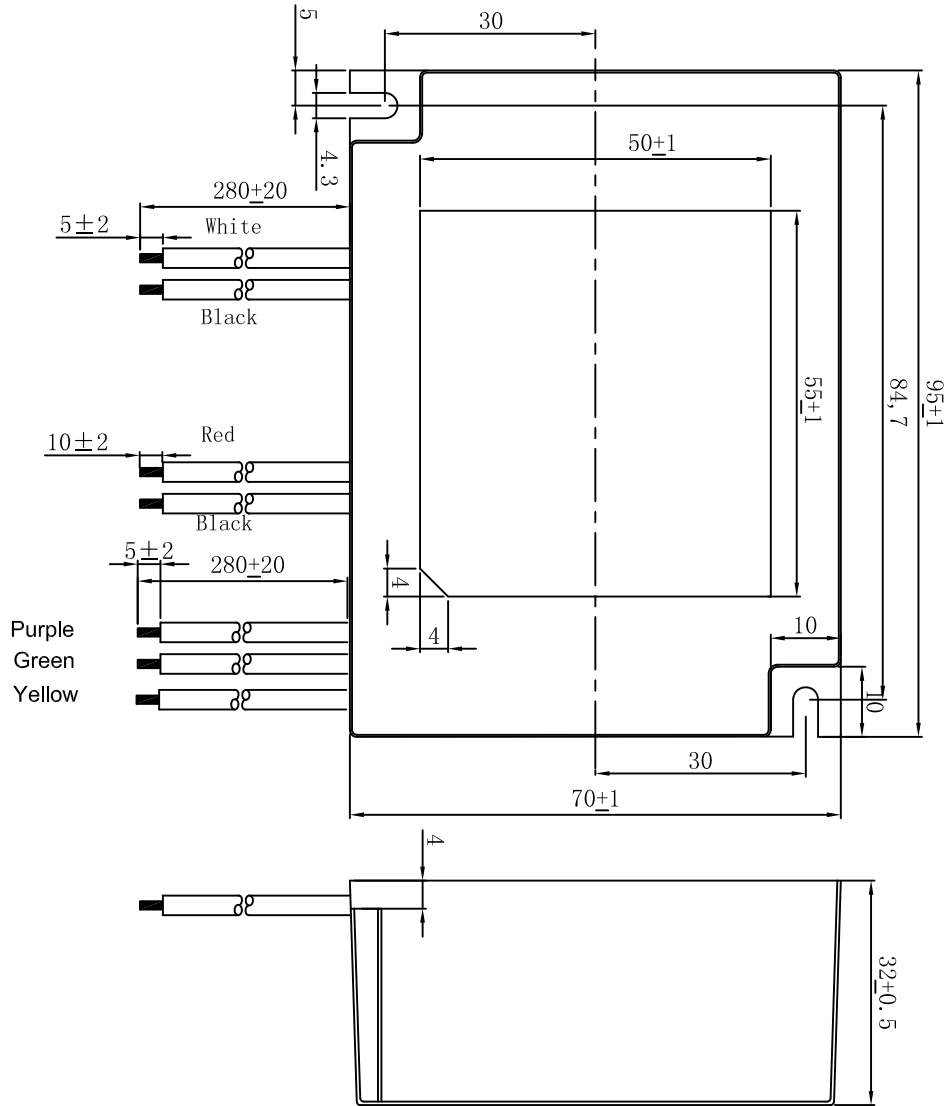


Notes:

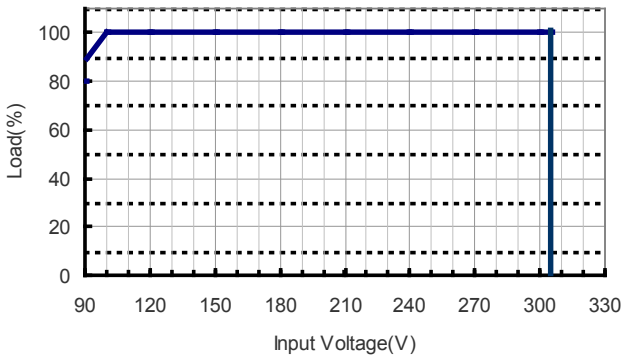
1. I_o is actual output current and I_r is rated current.
2. If the dimming function is not used, please short 10V output pin (yellow) and 1-10V input pin (purple). The output current is about 92% I_r when the 1-10V input pin is floating.
3. For the driver to operate properly, the load voltage must be maintained above the minimum voltage threshold (approx. 50% of the max. output voltage for any given model).
4. The dimming voltage can be tuned down to less than 1V, and the output current will be decreased to about 10% I_r ; but the connected LEDs may flicker. Keeping dimming voltage greater than 1V is strongly recommended.
5. Do not connect the GND of dimming to the output; otherwise, the LED driver will not work normally.

MECHANICAL SPECIFICATIONS

UNIT: mm



Derating Curve



Ambient Temperature vs. Load

