Qualtek Electronics Corporation

P P C

PLC-025 D Series

Features:

- Constant Current Design
- Dimming Control
- Universal AC input/ Full Range
- Built-in Active PFC function, PF 0.95 Typical
- High Efficiency (Up to 84%)
- Output Protections: OVP/SCP/OTP
- Lightning Protection
- Class 2 Power Unit (See Note)
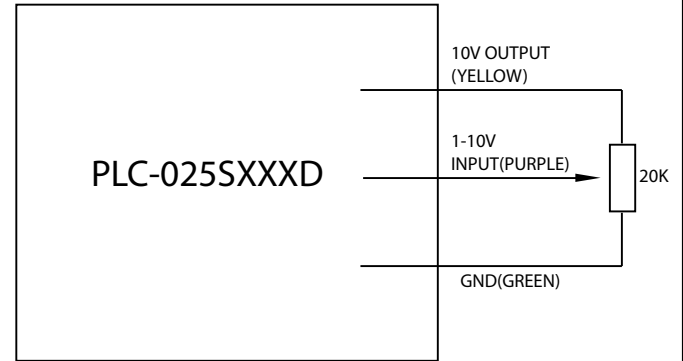- Waterproof (IP65)
- 3 Year Warranty

c UL us   RoHS Compliant

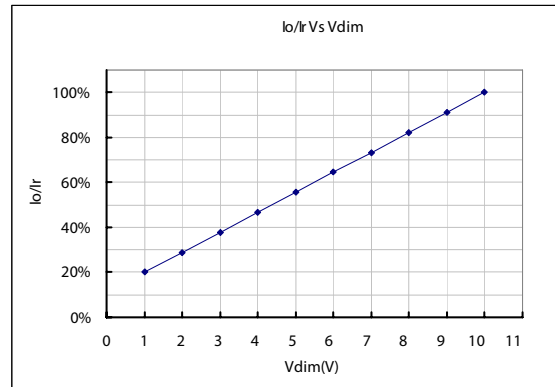| Model	PLC-025S035D	PLC-025S045D	PLC-025S062D	PLC-025S070D	PLC-025S105D	PLC-025S140D	PLC-025S175D	PLC-025S208D
Output Characteristics								
Rated Current See Note	0.35A (1)	0.45A (2)	0.62A (2)	0.70A (3)	1.05A (3)	1.40A (3)	1.75A (3)	2.08A (3)
Voltage Range	24~72V	19~56V	13~40V	12~36V	8~24V	6~18V	5~14V	4~12V
Ripple and Noise (max) Note 1	±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 110VAC	>0.95	>0.95	>0.95	>0.95	>0.95	>0.95	>0.95	>0.95
(Typical) 220VAC	>0.90	>0.90	>0.90	>0.90	>0.90	>0.90	>0.90	>0.90
Efficiency (Typical)	84%	84%	83%	83%	82%	81%	81%	80%
AC Current (max)	0.35A @ 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) Note 2	1.2~1.7Vo							
Short Circuit (SCP)	Long-term mode, auto recovery							
Environmental Characteristics								
Operating Temperature	-35°C~50°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 488,000Hrs (25°C, 80% Load)							
Dimension (LxWxH)	80x78x27mm							
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.

PLC-025SXXXD

1-10V INPUT (PURPLE)

V 1-10Vdc

GND(GREEN)
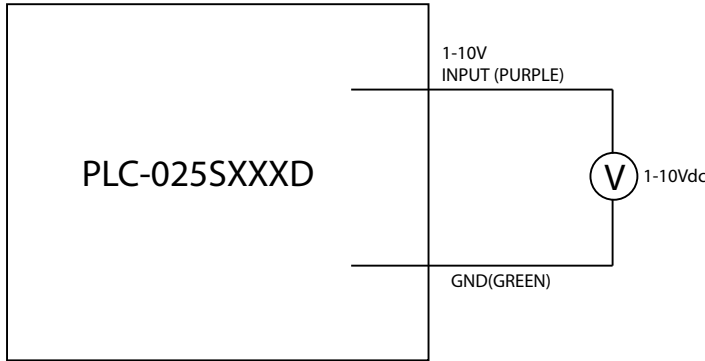
Implementation 1: DC Input

PLC-025SXXXD

10V OUTPUT (YELLOW)

1-10V INPUT(PURPLE)

20K

GND(GREEN)

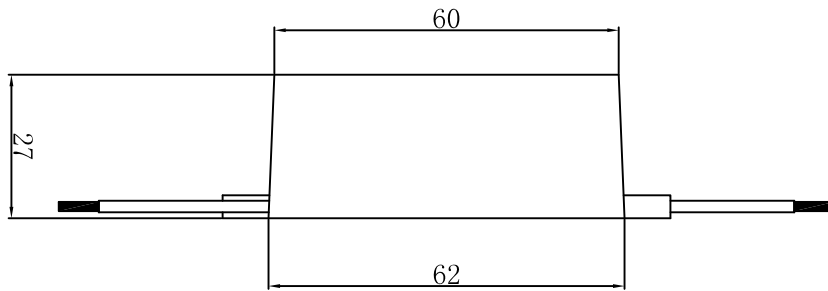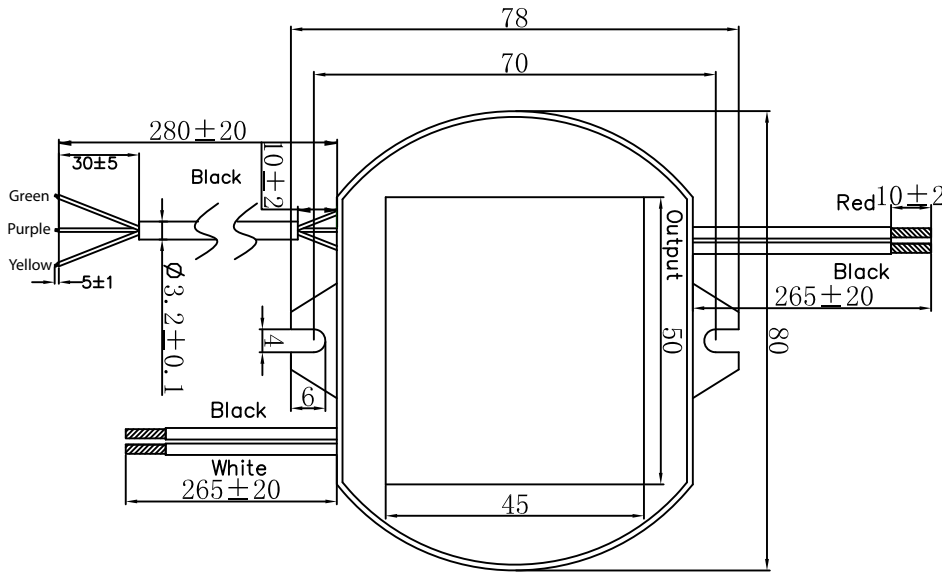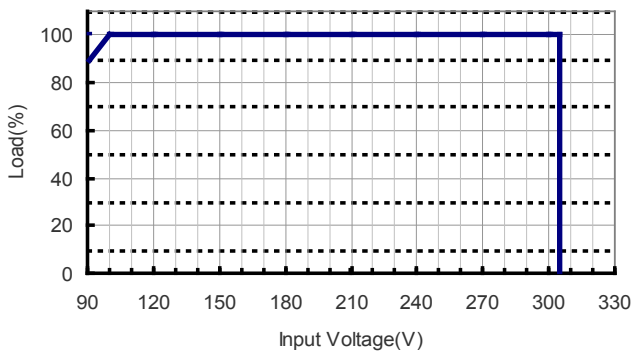Implementation 2: Potentiometer Control

Io/Ir Vs Vdim

Notes:

1. Io is actual output current and Ir is rated current.

2. If the dimming function is not used, please short 10 V output pin (yellow) and 1-10 V input pin(purple). The output current is about 92% Ir 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. 33% 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% Ir; 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.

Qualtek
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P
P C

PLC-025 D Series

MECHANICAL SPECIFICATIONS

UNIT: mm

78

70

280±20

30±5

Black

10±2

Green

Purple

Yellow

5±1

Ø3.2±0.1

4

6

Black

Black

White

265±20

Output

50

45

Red 10±2

Black

265±20

80

60

27

62

Derating Curve

Ambient Temperature vs.Load

ISO-9001 Company

www.qualtekusa.com