

40 Watt — PYG40W Series V0.0

Constant current&constant voltage LED driver with 0-10V or PWM dimming

Product family features

- Drive Mode: Constant Current, Dimming
- Technology: Active PFC Corrected 2-Stage Switch Mode
- Input Voltage: 100 to 277Vac (UL). 100 to 240Vac (ENEC)
- Output Power: 40Watt Max
- Dimming: Smooth & Continuous Dimming from 10% to 100%. LEDs turn on to any dimmed level without going to full brightness.
Constant Current Reduction (CCR) dimming methods.
0-10V: 2-wire Analog / PWM Control Dimming
- Output Voltage: 27 to 72Vdc
- Output Current: 100 to 1000mA
- Efficiency: Up to 85%
- Warranty: 5 years
- Continuous, dimming from 10% to 100%. dim to off
- Safety isolation between primary and secondary. Dimming control is isolated from AC input and DC output
- A rated lifetime of 50,000 hours @ Tc = 75°C
- Safety: UL8750, UL1310 Class 2, CSA22.2, EN61347, GB19510
- EMC: FCC 47CFR Part 15, Class B @120V & Class A @277V, EN55015, GB17625
- Inrush Current Limiting Circuitry: AC Power Line: line to line 6KV, line to earth 10KV eliminates circuit breaker tripping, switch arcing and relay failure
- Metal shell, Used with silicone potting. Meet the RoHS directive
- IP67, NEMA4 compliant for Dry, Damp, Wet Locations. Type HL



Technical data

Electrical data

40W 0-10V & PWM Dimming Part List

Product Mode	Output Voltage Range(Vdc)	Full Power Vo Range (Vdc)	Output Current Range(mA)	Current Range at Full Power(mA)	Output Power max (W)	Efficiency% @ Max Load			Uout max (V)
						@120V	@230	@277	
PYG40W-54-C1110-RP-P-W	27-54	36-54	100-1110	1110	40	82.5	86.0	86.0	59
PYG40W-54-C1110-RP-P	27-54	36-54	100-1110	1110	40	82.5	86.0	86.0	59
PYG40W-72-C0800-RP-P-W	36-72	50-72	100-800	800	40	83.5	86.5	86.5	80
PYG40W-72-C0800-RP-P	36-72	50-72	100-800	800	40	83.5	86.5	86.5	80

Note: Product may be suffixed by "-P", which means suitable for UL listed & class P models, without suffix "-P" are suitable UL component use only
Product may be suffixed by "-W", which means suitable for EU or UL wet location use models, without suffix "-W" are suitable dry/damp location use only

Product datasheet

Technical data

Electrical Specifications

	Parameter	Min	Typ	Max	Notes / Conditions
Input	Rated input voltage range	100V		277V	
	Input Voltage	90V		305V	
	Input Frequency	47Hz	50/60Hz	63Hz	
	Input AC Current			0.5A	100 Vac , Output Full Load
	Inrush Current (Peak)			30A	Measured at 120 Vac / 60Hz Input, Output Full Load
				60A	Measured at 277 Vac / 60Hz Input, Output Full Load
	No-load Power			3W	230 Vac/50Hz,No-load Power
	Leakage Current			750μA	Measured at 120 Vac / 60Hz Input, Output Full Load
				750μA	Measured at 277 Vac / 60Hz Input, Output Full Load
	THD		8%	10% 20%	Measured at 230 Vac/50Hz Input,Output Full Load 100-277 Vac/50Hz,80-100% load
Output	Power Factor (PF)	0.95 0.90	0.97		Measured at 230 Vac/50Hz Input,Output Full Load 100-277 Vac/50Hz,80-100% load
	DC Output Voltage	Per Table	Per Table	Per Table	Per Tables on Page 1,2
	Output Constant Current	-5%	Per Table	+5%	Per Tables on Page 1,2
	Output Power			Per Table	Per Tables on Page 1,2
	Output LF Current Ripple(PK-AV)		5%	10%	Full load
	Line Regulation	-2%		+2%	Full Load
	Load Regulation	-5%		+5%	
	Start-up Time			1.0s	120 Vac, Output Full Load
				0.5s	230 Vac, Output Full Load
	Output Overshoot		10%	15%	Full Load
Protection	Hold-up Time		10ms		Typical @ 277 Vac Input, Output Full Load
	Output Short Circuit (SCP)				No Damage.Auto recovery after short is removed
	Output Over Current (OCP)			+10% Io	Constant Current Limiting circuit
	Output Over Voltage (OVP)			120% Vo	No Damage.Auto recovery after short is removed
General	Over Temperature Protection(OTP)	90 °C	100 °C	110 °C	> Tc Typ., Currtent derating.< Tc Min.,Current recovery
	Cooling		Convection		
	MTBF		262,000 hours		230 Vac input, 80% Load and Tc=25°C(MIL-HDBK-217F)
	Life Time		50,000 hours		230 Vac input, 80% Load and Tc=75°C
Environmental	Case Temperature (Tc)	-40 °C		+90 °C	Measured at location specified on case
	Operating Temperature (Ta)	-40 °C		+50 °C	This is a reference range. Tc controls temperature range
	Storage Temperature (Ts)	-40 °C		+85 °C	Non operating temperature range
	Operating Humidity	5% RH		95% RH	Relative Humidity. Non-condensing
	Vibration	5 Hz		55 Hz	2G, 10 minutes / 1 cycle, period 30 minutes, each along X, Y, Z axis

Product datasheet

Technical data

Electrical Specifications

	Parameter	Min	Typ	Max	Notes / Conditions	
Dimming	0-10V Dimming	Input Absolute Voltage	-2.0V	10V	15V	Purple Wire
		Output Source Current	200uA	300uA	450uA	Purple Wire
		Output Current Range in 0-10V Dimming	10%		100%	CCR output
		Output Current in 0-10V Pin Open		Normal	15V	
		Output Current in 0-10V Pin Short Circuit		Min		CCR output
	PWM Dimming	Input Absolute Voltage	-2.0V	10V	15V	
		Input Current on PWM pin	200uA	300uA	450uA	
		PWM Frequency	200Hz	1KHz	1.5KHz	
		PWM Duty	0%		100%	
		Output Current Range in PWM Dimming	10%		100%	CCR output
		Output Current in PWM Pin Open		Normal	15V	
		Output Current in PWM Pin Short Circuit		Min	1000uA	

	Category	Standards / Notes	
Safety Compliance	UL / cUL	UL8750, CAN/CSA-C22.2 No. 250.13	
	CCC	GB 19510.1, GB 19510.14	
	ENEC & CE	EN 61347-1, EN 61347-2-13	
	Withstand Voltage	Input to Output: 2000 Vac (UL), 3750 Vac (CE, TUV, ENEC); Dim to Input: 3750 Vac, Dim to Output: 1600 Vac	
	Isolation Resistance	Input to Output: >10MΩ, 500Vdc @ 25°C, 70% RH	
	Dimming	DIM+ (Purple) / DIM- (Pink) are Class 2 Isolated from AC Input and DC Output	
EMC Compliance	FCC	FCC 47CFR Part 15, ANSI C63.4	
	CCC	GB17743, GB17625.1	
	EMI	CE	EN55015 EN 61000-3-2, EN 61000-3-3
		Energy Star	Energy Star transient protection: Ballast or driver shall comply with ANSI/IEEE C62.41.1-2002 and ANSI/IEEE C62.41.2-2002, Category A operation. The line transient shall consist of seven strikes of a 100KHZ ring wave, 2.5KV level, for both common mode and differential mode
		EMS	EN 61000-4-2
	EN 61000-4-3		Radio-Frequency Electromagnetic Field Susceptibility Test-RS
	EN 61000-4-4		Electrical Fast Transient / Burst-EFT
	EN 61000-4-5		Surge Immunity Test: AC Power Line: line to line 6KV, line to earth 10KV
	EN 61000-4-6		Conducted Radio Frequency Disturbances Test-CS
	EN 61547		Electromagnetic Immunity Requirements Applies To Lighting Equipment

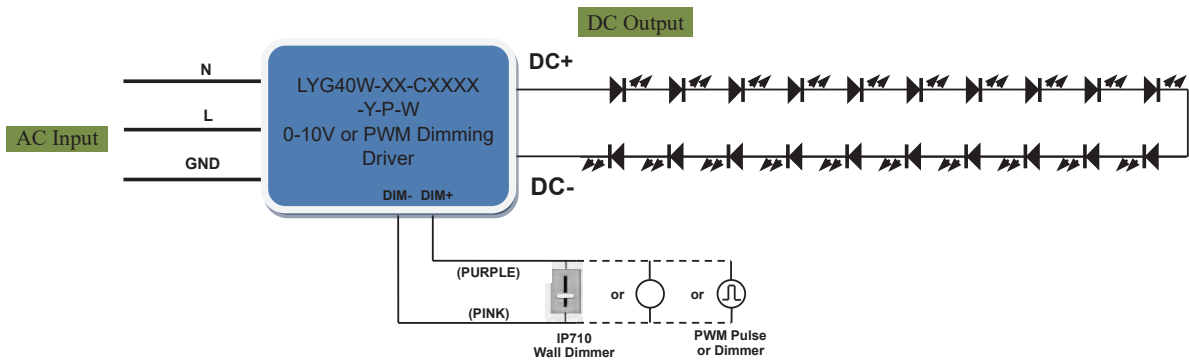
Note: The above test data are in the condition of 25 °C ambient temperature, except for the marked temperature

Product datasheet

Typical Applications

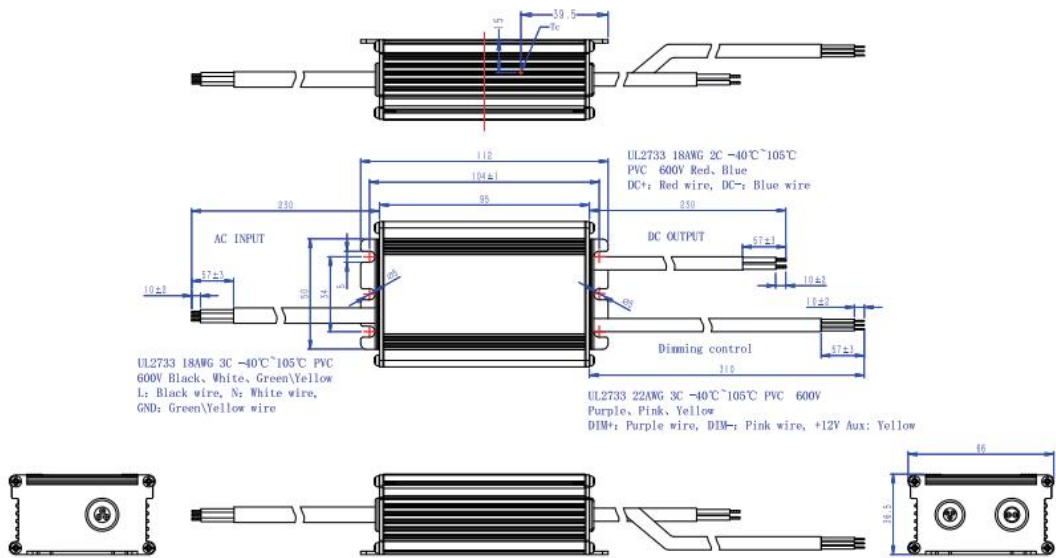
LED Forward voltage: $V_F = 3.0V \sim 3.5V$

0-10V or PWM Dimming Driver



Appearance information

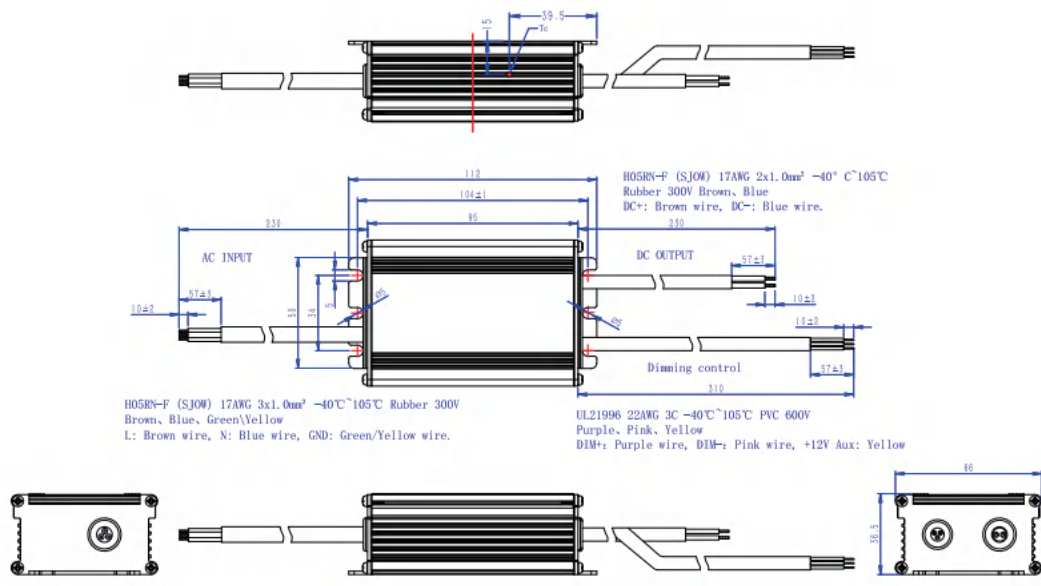
Product Size



Note: The above is the American gauge size drawing

Product datasheet

Appearance information

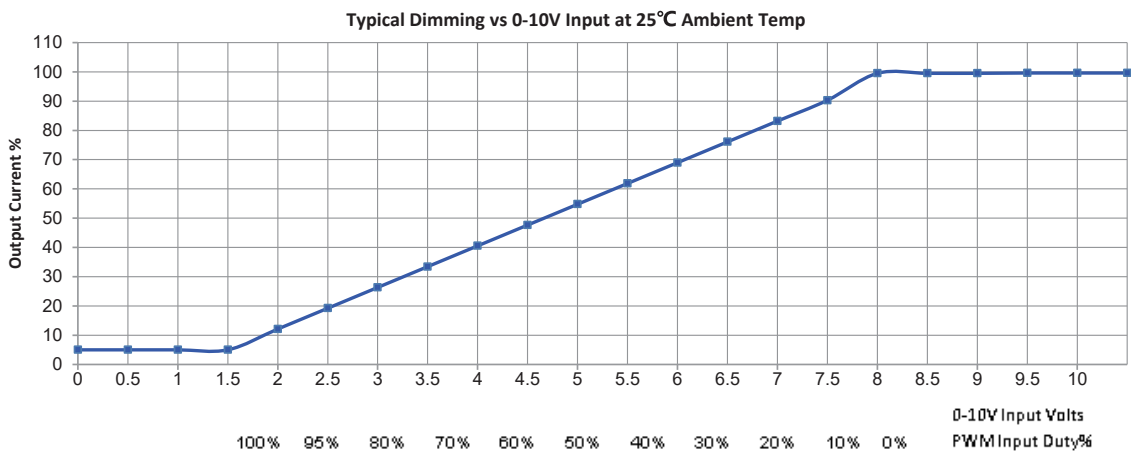


Note: The above is the European size drawing

Note:

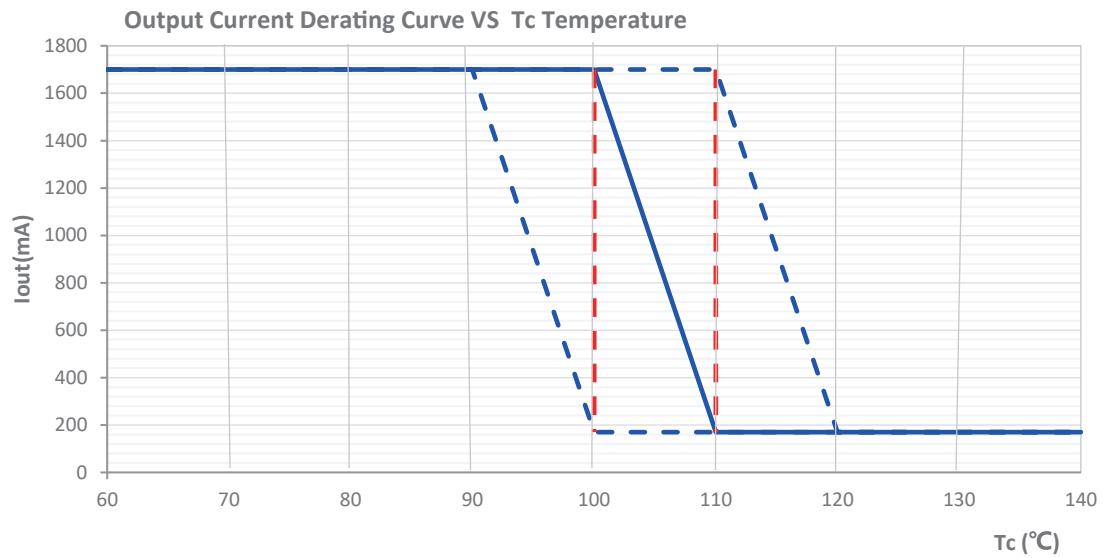
The independent LED drive conforms to the EMC standard. But it is not guaranteed to be qualified, when the drive is mounted in the LED fixture
Please forgive us for any discrepancy due to the update of the specifications or the upgrade of the product. If you need the latest information, please contact our marketing department

Dimming Curve



Product datasheet

Output Current derating vs. TC Temperature

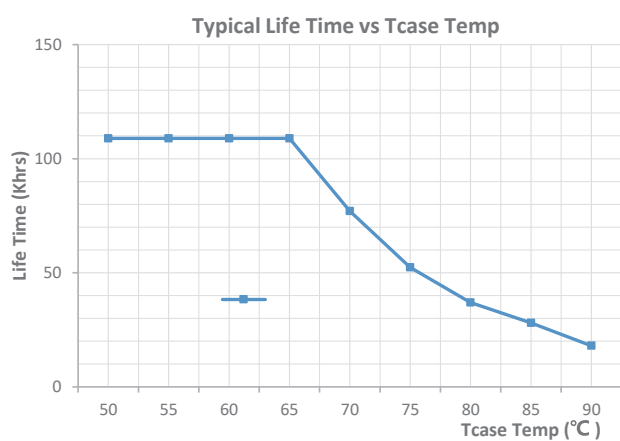
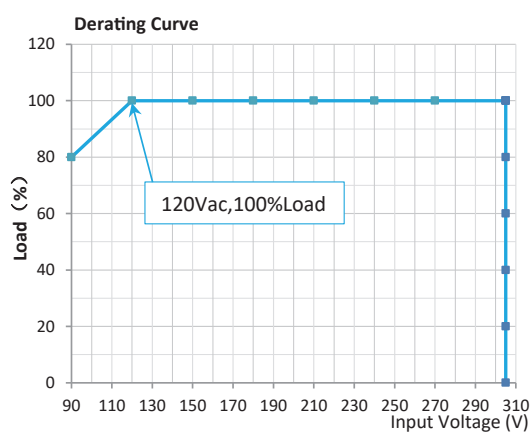


Note:

The temperature control curve is the test result of the technical sample, and the product is not tested

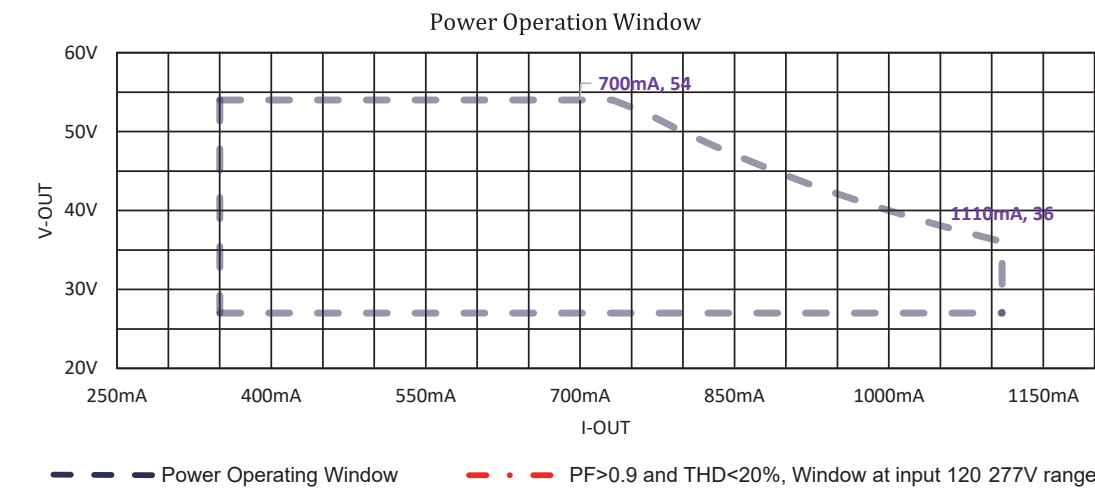
Affected by the internal temperature distribution of the shell, the test temperature has a large error corresponding to the TC temperature

Characteristic Curve

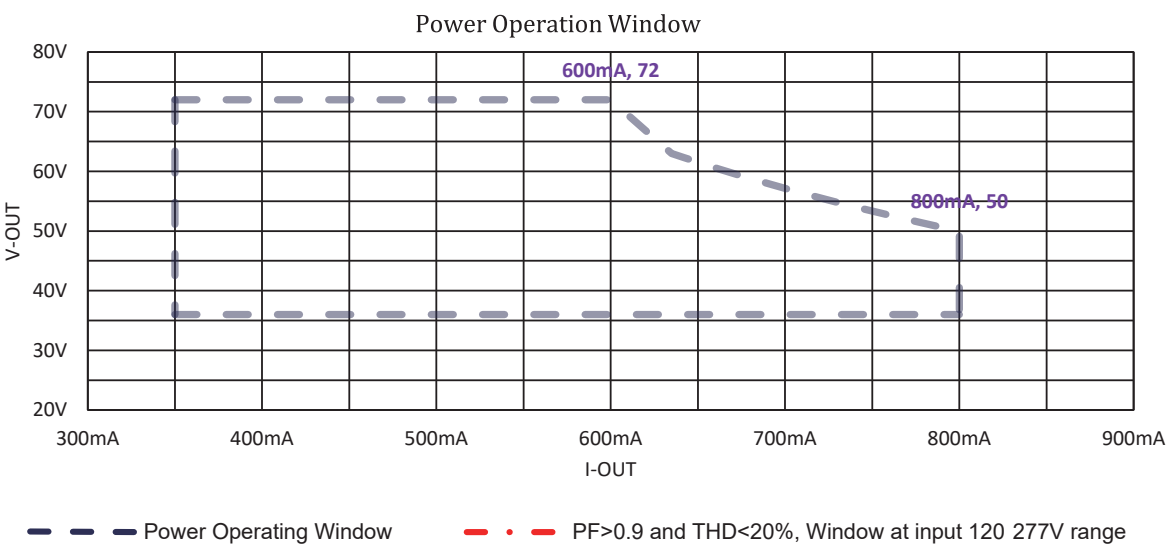


Product datasheet

Operating Window (PYG40W-54-C1110)



Operating Window (PYG40W-72-C0800)



Product datasheet

Installation

UL Cable used in Dry & Damp Location:

AC input cable, the three cores, ANSI/UL2733 18AWG 3C -40 °C~105 °C PVC 600V Black、 White、 Green\Yellow

Cable Length: 230mm, External stripping 57mm, Stripping on the tin: 10mm

Where: L — Black wire, N — White wire, GND — Green\Yellow wire

DC output cable, the two cores, ANSI/UL2733 18AWG 2C -40 °C~105 °C PVC 600V Red、 Blue

Cable Length: 230mm, External stripping 57mm, Stripping on the tin: 10mm

Where: DC+ — Red wire, DC- — Blue wire

Dimming control cable, the three cores, ANSI/UL2733 22AWG 3C -40 °C~105 °C PVC 600V Purple、 Pink

Cable Length: 310mm, External stripping 57mm, Stripping on the tin: 10mm

Where: DIM+ (0-10V or PWM) input — Purple wire, DIM- — Pink wire

UL & CE, CCC, ENEC Standard used in Wet Location:

AC input for connection the three cores copper wire connection.

Outdoor Type (IP67): IEC 60245 /VDE 0282-4 / H05RN-F (SJOW) 17AWG 3x1.0mm² -40°C~105 °C Rubber 300V

Brown、 Blue、 Green\Yellow

Cable Length: 230mm, stripping on the tin: 10mm.

Where: L — Brown wire, N — Blue wire, GND — Yellow/Green wire

DC output for connection the two core copper wire.

Outdoor Type (IP67): IEC 60245 /VDE 0282-4 / H05RN-F (SJOW) 17AWG 2x1.0mm² -40°C~105 °C Rubber 300V Brown、

Blue

Cable Length: 230mm, stripping on the tin: 10mm.

Where: DC+ — Brown wire, DC- — Blue wire

The dimmer control input is the three copper wires. ANSI/UL21996 22AWG 3C -40 °C~105 °C PVC 300V Purple、 Pink

Cable Length: 310mm, stripping on the tin: 10mm.

Where: DIM+ (0-10V or PWM) input — Purple wire, DIM- — Pink wire