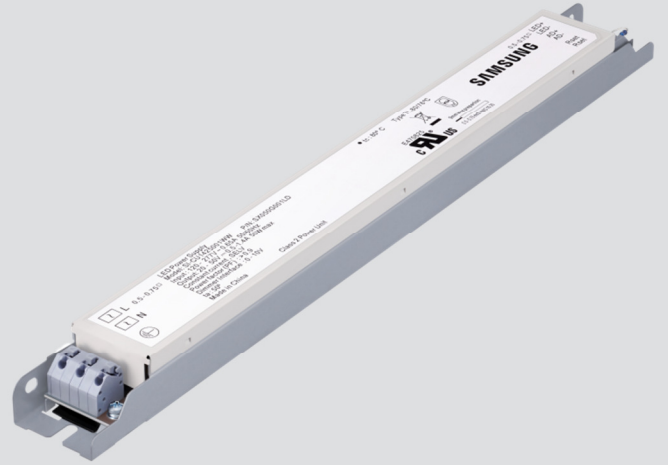


LED Driver

Indoor Linear 50W Driver SI-CU1425001WW



Constant Current LED Driver

Features & Benefits

- Output Current Range: 500~1400 mA (adjustable via R-set)
- Output Voltage Range: MAX 50 Vdc
- Output Power Range: Max 50 W
- Dimming Control: 0-10 V
- Input Voltage: 120 ~ 277 Vac, 50/60 Hz
- Safety: UL / cUL (UL 8750, UL Class 2)
- EMI: FCC Part 15 Class B
- Protections: Short Circuit, Over Voltage
- t_a Range: -20 ~ +50 °C
- Expected lifetime: 50,000 hours at $t_c = 70$ °C
- Environmental Compliance: RoHS
- Long lasting & high reliability
- Metal housing

Applications

- Indoor lighting



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1. Characteristics

Article	Symbol	Specification			Unit	Note
		Min.	Typ.	Max.		
INPUT SPECIFICATIONS						
Nominal Voltage	V _{in}	120		277	Vac	
Voltage Range		108		300	Vac	
Nominal Frequency	F _{in}		50 / 60		Hz	
Frequency Range		47		63	Hz	
Input Current	At 120 Vac	i _{in}		0.56	A	At full load
	At 277 Vac	i _{in}		0.25	A	At full load
Total Harmonic Distortion	THD			20	%	At 120-277 Vac
Power Factor	PF	0.9			-	At 120-277 Vac
Efficiency	η	85	87		%	50V/1A 120~ 277 Vac, 60 Hz
In-rush Current				20	A _{pk}	@ 277Vac input, 25°C Cold start.
OUTPUT SPECIFICATIONS						
Voltage Range	V _o	20		50	Vdc	
Max. Voltage				55	Vdc	Open circuit, No-load protection
Current Range	i _o	500		1400	mA	
Nominal Power	P _o			50	W	
Turn-on Delay Time	T _d			1	s	

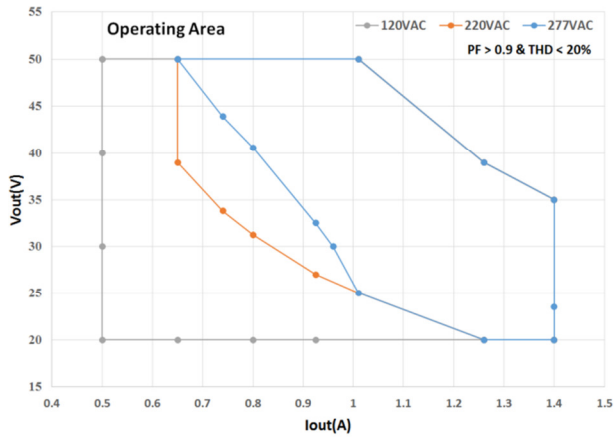
1) PF, THD can meet the electrical performance from 65% of MAX power.

2) Measured the unit is thermally stabilized after half an hour, T_a 25°C.

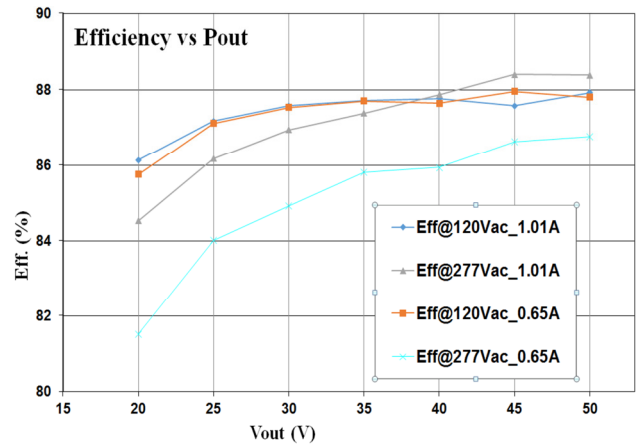
Article	Symbol	Specification			Unit	Note
		Min.	Typ.	Max.		
DIMMING SPECIFICATIONS						
Vdc		0		10	V	See Dimming Specification section
Dimming voltage		1.2		9.5	V	Dimming OFF : 1V
ENVIRONMENTAL SPECIFICATIONS						
Ambient Temperature	t_a	-20		50	°C	
Case Temperature	t_c			80	°C	Type TL(Tref MAX / Measured Tref) 80 / 76 °C
Storage Temperature	t_s	-40		85	°C	
Ambient Humidity		10		90	%	Not condensing
Surge Transient Protection	L / N			±1	kV	IEC 61000-4-5
	LN / GND			±2	kV	
IP Rating			20		-	Suitable for indoor environment
Expected Lifetime (e-cap)		50,000			h	At $t_c = 70$ °C, full load, 120-277 Vac
MTBF			500,000			Ta=25°C, Telcordia SR-332, Method I
Dimensions	L x W x H		300 x 30 x 21.5		mm	
Net Weight			230		g	

2. Typical Characteristics Graphs

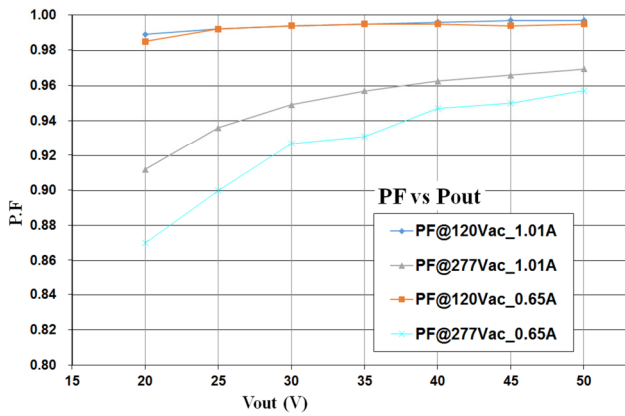
a) Operating Window



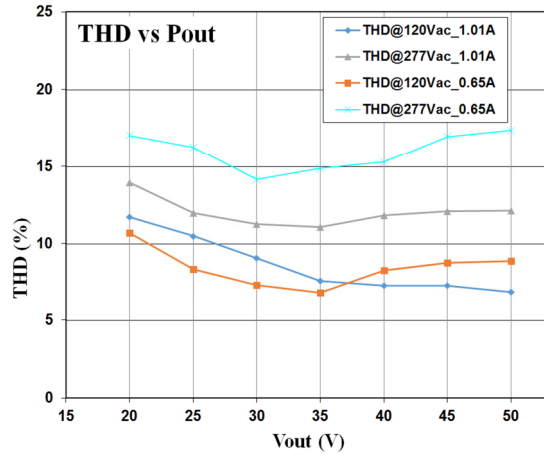
b) Efficiency vs. Load



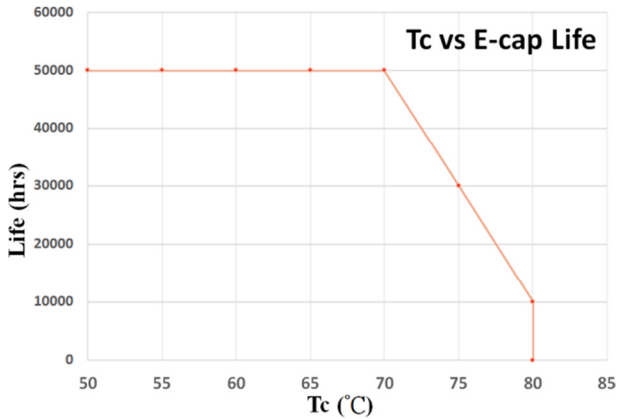
c) Power Factor vs. Load



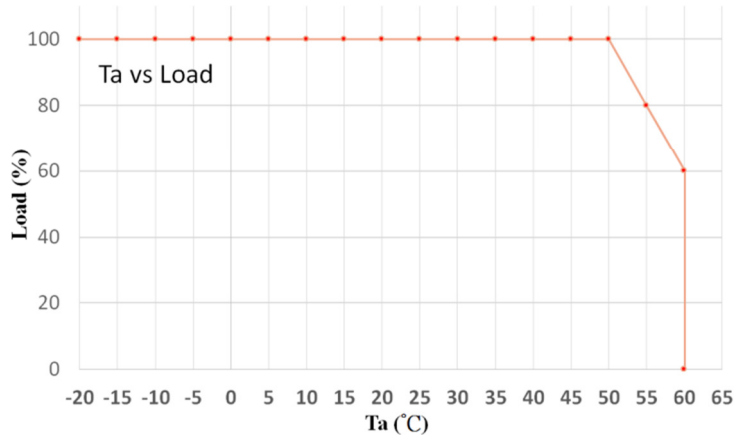
d) Total Harmonic Distortion vs. Load



e) Lifetime vs. Tc



f) Ta de-rating according to the load condition



f). R-set Setting

Rest Installation Instruction

1. Power OFF the driver.
2. Choice a resistance from Rset table. (Open R-set : 35V / 1.4A)
3. Use resistor with lead wire. (Recommend).
4. Forming.
5. Connection.

Remove the cable from input side as below

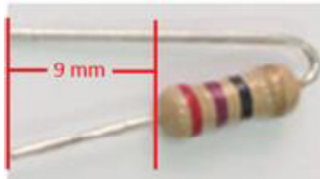


Recrommended to use a resistor with lead wire
(Requirement: $\geq 0.25W$ and $\geq 20V$)

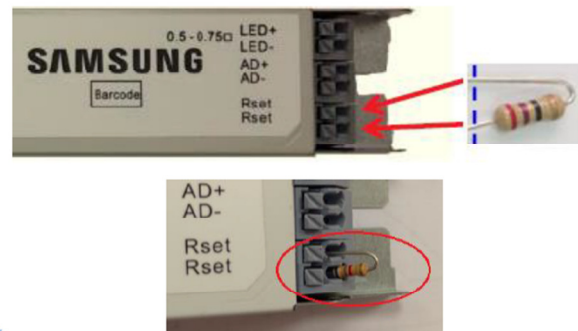


Bend a lead

Cut the wires as the length below



Insert the resistor to the Rset connector



※ Resistor wire should be the opposite side of driver metal case.

Rset (Ohm)	Output current (A)	Output Voltage (V)	Max Output Voltage (V)	OVP at No load (V)	Output MAX POWER (W)
825	0.50	20~50	50	52.5	25.0
866	0.51	20~50	50	52.5	25.5
1K	0.53	20~50	50	52.5	26.3
1.3K	0.56	20~50	50	52.5	28.1
1.5K	0.58	20~50	50	52.5	29.1
1.6K	0.59	20~50	50	52.5	29.5
2.0K	0.63	20~50	50	52.5	31.7
2.2K	0.65	20~50	50	52.5	32.5
2.4K	0.67	20~50	50	52.5	33.4
2.7K	0.69	20~50	50	52.5	34.6
3.3K	0.74	20~50	50	52.5	36.8
3.6K	0.76	20~50	50	52.5	37.9
3.9K	0.78	20~50	50	52.5	38.9
4.3K	0.80	20~50	50	52.5	40.0
4.7K	0.82	20~50	50	52.5	41.2
5.6K	0.87	20~50	50	52.5	43.5
6.2K	0.89	20~50	50	52.5	44.7
6.8K	0.925	20~50	50	52.5	46.3
7.5K	0.94	20~50	50	52.5	47.1
8.2K	0.96	20~50	50	52.5	48.0
9.1K	0.98	20~50	50	52.5	49.2
10K	1.010	20~49.5	49.5	52	50.0
10.5K	1.025	20~48.5	48.5	51	49.7
11K	1.04	20~48	48	50.5	49.9
13K	1.06	20~45	45	47	47.7
15K	1.10	20~44	44	46.5	48.2
20K	1.16	20~42	42	44.5	48.6
22K	1.18	20~41	41	43.5	48.2
24K	1.19	20~41	41	43.5	48.8
30K	1.23	20~40	40	43	49.0
33K	1.23	20~40	40	43	49.3
36K	1.24	20~39	39	41	48.4
43K	1.26	20~39	39	41	49.1
51K	1.29	20~37	37	39.5	47.5
68K	1.31	20~36	36	39	47.2
75K	1.32	20~36	36	39	47.4
82K	1.32	20~36	36	39	47.7
100K	1.34	20~36	36	39	48.1
120K	1.34	20~36	36	39	48.4
150K	1.35	20~36	36	39	48.7
180K	1.36	20~36	36	39	49.0
220K	1.37	20~36	36	39	49.2
270K	1.37	20~36	36	39	49.3
330K	1.37	20~36	36	39	49.4
620K	1.40	20~35	35	39	49.0
820K	1.40	20~35	35	39	49.0
1M	1.40	20~35	35	39	49.0
OPEN	1.40	20~35	35	39	49.0

3. Protection

a) Output Short Circuit Protection

The unit is protected when output is short thus avoiding safety hazard, shock hazard and damage to the unit. After the short circuit fault condition is removed, the unit will enter the auto-recovery mode.

b) Output Over Voltage Protection

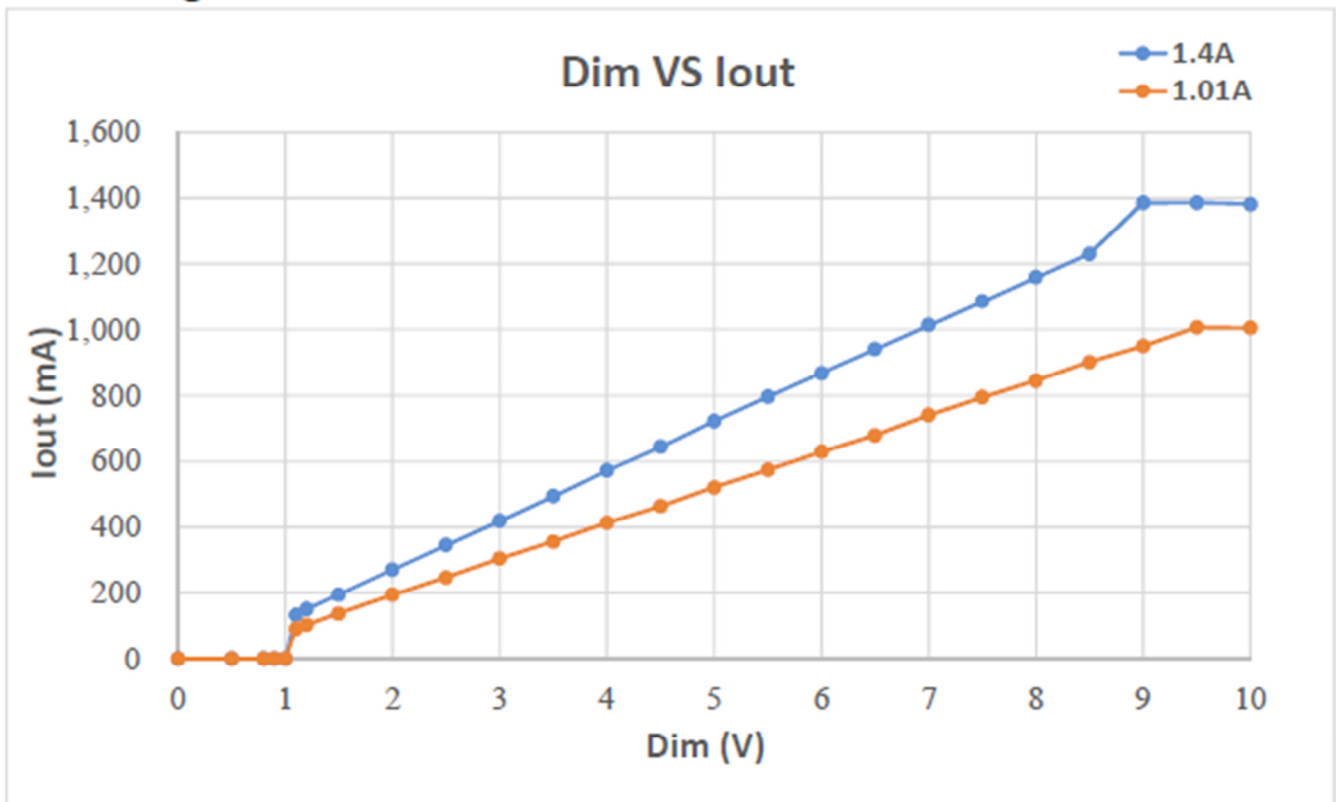
When no load condition occurs, the unit will clamp output voltage to the OVP Voltage avoiding damage to the unit. After the load is connected, the unit will enter the auto-recovery mode.

The OVP Voltage varies according to the Rset resistor value (see below curve and table) and under 55 V.

4. Dimming Specification

The unit has Analog Dimming (AD) function, using 0-10 Vdc. The typical dimming curve is shown below.

Dimming Curve



Note: The dimming curve is tested with LED electronic load Chroma 63115A/6312A. Rd coefficient is 0.16.

5. Reliability & Standards

Test Items and Conditions

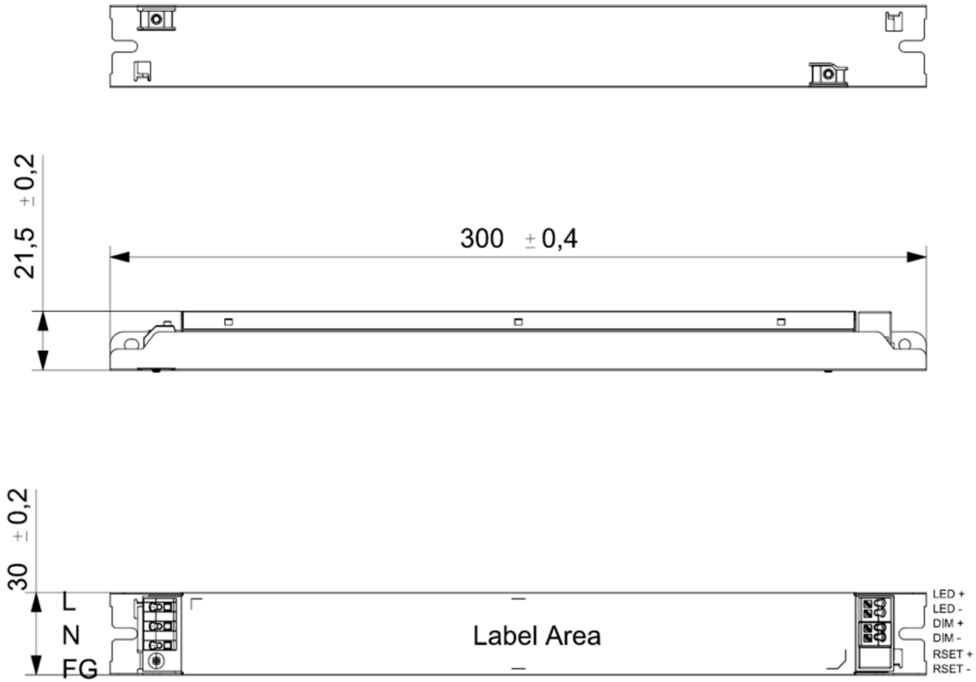
Test Item	Specification	Condition
Leakage Current	< 0.7 mA	According to IEC/EN 60950 @ 300Vac
Earth Continuity	< 0.5 Ω	According to IEC/EN 61347
Hi-Pot	Input – Output	3750 Vac, 60 s, cut-off current 10 mA
	Input – F.G	1857 Vac, 60 s, cut-off current 10 mA
	Output – F.G	1500 Vac, 60 s, cut-off current 10 mA
Insulation Resistance	Input – Output	500 Vdc, 60 s, insulation resistance 10 M Ω
Surge	L / N	± 1 kV
	LN / GND	± 2 kV
ESD	Contact	± 4 kV
	Air	± 8 kV

Safety, EMI and EMC

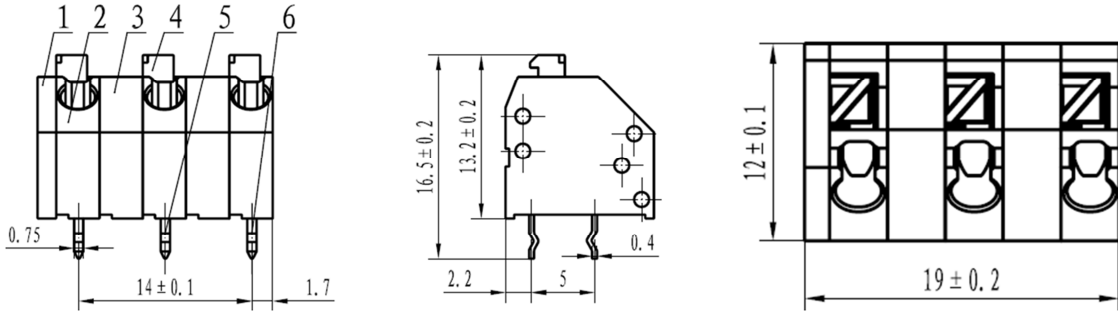
International Standard	Certification
IEC/EN Safety Standards for LED Lighting	IEC/EN 61347-1, IEC/EN 61347-2-13
UL Safety Standards (Class 2 Output)	UL 8750 (Class 2)
Conducted and Radiated Emission Test	IEC/EN 55015
Harmonic current emissions: Class C	IEC/EN 61000-3-2
Voltage Fluctuations and Flicker	IEC/EN 61000-3-3
Electrostatic Discharge (ESD): Contact 4kV, Air 8kV	IEC/EN 61000-4-2
Radio-frequency Electromagnetic Fields	IEC/EN 61000-4-3
Electrical Fast Transients (EFT)	IEC/EN 61000-4-4
Surges: Differential 1kV, Common 2kV	IEC/EN 61000-4-5
Injected Currents, Conducted disturbances induced by Radio-Frequency fields	IEC/EN 61000-4-6
Voltage Dips and Short Interruptions (Class B)	IEC/EN 61000-4-11
KC EMC and Safety	

6. Outline Drawing & Dimension

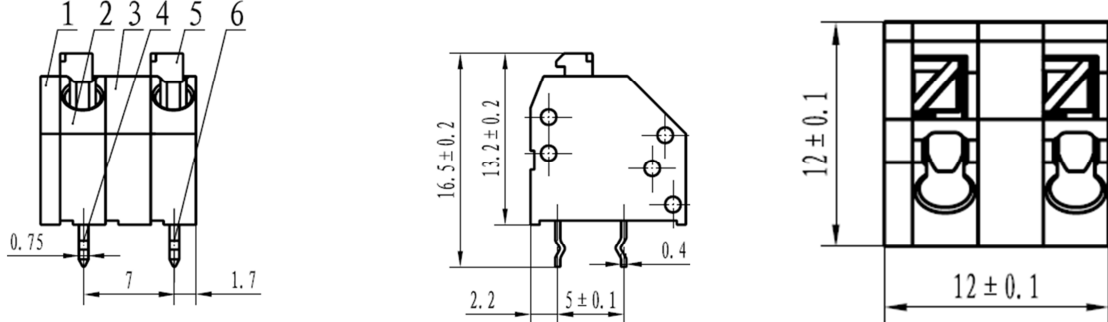
Dimension : 300 (L) x 30 (W) x 21.5 (H) Unit: mm



AC input : CON1 (DN250-5P)



DC output : CON51,52,53 (DN250-5P)



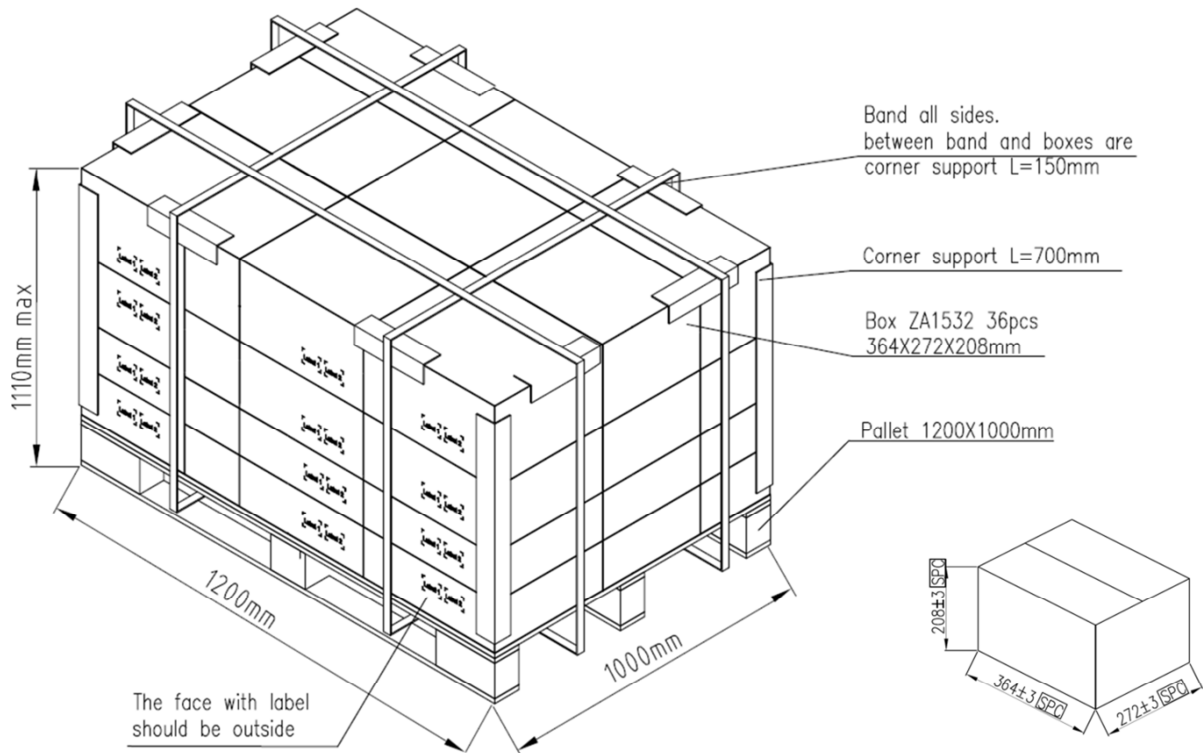
AWG 16 ~ 22 wire can be recommended.

7. Label Structure



8. Packing Structure

Packing material	Max. quantity (pcs)	Dimension (mm)		
		Length	Width	Height
Outer Box	30	364	272	208
Pallet	1,080 (36 outer boxes)	1,200	1,000	1110



9. Precautions in Handling & Use

- 1) To prevent the LED Driver from any defect, please handle and store it with care
 - Do not drop or give shock
 - Do not store in very humid location or at extreme temperature
 - Do not open or disassemble the product
- 2) Static electricity or surge voltage may damage the components inside LED Driver, as such please observe proper anti-electrostatic working process
 - People handling the Driver should be well grounded (e.g. using ESD wrist band) and wear anti-static working clothes and gloves
 - All related devices and instruments in the production line should be well grounded (e.g. working table, measuring equipment, assembly jigs)
- 3) Observe the correct polarity of output terminal
- 4) Avoid input voltage exceeds the maximum rating, which will cause damage to the circuit and result in malfunction

Legal and additional information.

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