

SPECIFICATION

Product name : LCS-100W-300X (RT)

Release date : 2025/3/28

SUNCOM	Product Type	LED INTEGRATED SPECIAL DRIVER		
	Product Series	LCS-100W-300X Series (RT)	REV	V1.0

Features

- Class I type for insulation
- Input voltage range:100-277V ~ 50/60Hz
- Efficiency 95.5% (Typ.)
- Constant current output ,with power limitation for control mode
- Metal material case, protection grade against water and dust: IP65
- Surge level:
 - differential mode : 4kV
 - common mode :6kV
- guaranteed Lifetime : 5 years

Applications

Wall washing light, linear mining light, floodlight, wall light, shoebox light

Model list

Model NO.	Rated Input voltage	Max Output power	Output voltage	The default current	Eff.
LCS-100W-300A LCS-100W-300P LCS-100W-300C LCS-100W-300D LCS-100W-300DD LCS-100W-300DP LCS-100W-300DC	120-277V 50/60Hz (Power reduction when the input is less than 120Vac)	100W	180-300Vdc Rated Power (200-300V)	0.42A	≥95.5%

Note:

1. Test conditions: Ta=25℃, under 230Vac input,after running for 30 minutes with full load .
2. When the input is less than 95±5Vac, the output power gradually decreases,and it recoveries full power of 200W when the input is above 100VAC again. Please refer to “THE OUTPUT POWER VS INPUT VOLTAGE” curve chart for details.
3. When the input voltage is 100-120 Vac, it is recommended to adjust the potentiometer to reduce the power by 20%

Function List of optional models

Edition	Potentiometer	1-10V/PWM /Resistor	Off-line programming	Dip switch power adjustment	Dip switch color temperature	AUX 12V+	Remark
A	√						
P	√	√	√				
C	√	√	√			√	
D	√			√			
DD	√			√	√		
DP	√	√	√	√	√		
DC	√	√	√	√	√	√	

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Input characteristics

Parameter	Min	Typ.	Max	Remark
Rated input voltage	120Vac	230Vac	277Vac	When the input voltage is less than 120Vac, it is derated by 20%
Input voltage range	90Vac	-	305Vac	-
Rated frequency range	47Hz	50/60Hz	63Hz	-
Power factor	0.95	-	-	@230Vac input ,with full load
Power factor	0.9	-	-	@100-277Vac input ,with 70%-100%
T.H.D.	-	-	10%	@230Vac input ,with full load
Input current	-	-	1.2A	@120Vac input ,with full load
Inrush current	-	-	70A	230Vac, cold start (25℃)

Output characteristics

Parameter	Min	Typ.	Max	Remark
Rated current	-	0.33A	-	@230Vac input, 300Vdc
Output current range	0.25A	-	0.5A	The maximum output power is satisfied $P_o = V_o \cdot I_o = 100W$
Dip switch power adjustment	0.35A	-	0.5A	Typical value 0.42A@240Vdc , $P_o = 100W$
	0.28A	-	0.38A	Typical value 0.33A@240Vdc , $P_o = 80W$
	0.25A	-	0.28A	Typical value 0.25A@240Vdc , $P_o = 60W$
Output voltage range	180V		300V	Constant power output range:200-300Vdc
Available power(100-120Vac)	-	80W	-	When the input voltage is less than 120Vac, the derating is 20%
Rated power(120-277Vac)	-	100W	-	-
No-load voltage	-	-	450V	-

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Output characteristics

Parameter	Min	Typ.	Max	Remark
Efficiency@277Vac	-	95.5%	-	@277Vac input ,with full load
Accuracy of output current	-5%	-	+5%	For constant-power range , with full load
Output current ripple (PK-AV)		5%	10%	100% load, 20 MHz BW
Line regulation	-3%	-	+3%	full load
Load regulation	-5%	-	+5%	@full load,200-250Vdc @full load,250-300Vdc
Starting time	-	-	500ms	Full load@230Vac

Note: 1.The output current is limited by the input and output voltage, please refer to “I-V WORKING AREA” for details;

Dimming characteristics

Dimming function		Min	Typ.	Max	Instructions
1-10V Dimming (Optional)	Safe operation voltage range	1V	-	12V	Beyond the range may lead to a failure of the driver.
	Dimming output range	10%	-	100%	-
	Rated operation voltage range	1V	-	10V	-
PWM Dimming (Optional)	PWM high level	9.5V	-	10.5V	-
	PWM low level	0V	-	0.3V	-
	Rated dimming frequency	300Hz	-	2000Hz	-
	PWM duty cycle	10%	-	99%	full power output at 99%duty cycle
Resistor Dimming (Optional)	Rated external resistance value	10KΩ	-	100KΩ	-
	Dimming output range	10%	-	100%	-

Note:

- 1.Output current of dimming port: 100uA (typical value).
- 2.The maximum operation voltage for the dimming port is 12V. Wrong voltage beyond the range or a reverse connection may lead to a critical failure of the driver.
- 3.1-10V dimming, when the dimming signal is 0V, Vout drops to 40% of the rated voltage, the lamp board discharges through the Y capacitor, and there is a slight bright phenomenon (afterglow).

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Protections

Protection	description
under-voltage protection	When the input voltage is less than $95 \pm 5V_{ac}$, the output power decreases.Refer to derating curve for details
Output overload protection	Protection mode:hiccup mode,and recovers automatically when the fault condition is removed.
Output short circuit protection	Hiccup mode,and recovery automatically when the fault condition is removed.
Over temperature protection	Self-recoverable type; When the casing temperature is greater than $90 \pm 5^{\circ}C$, the output power decreases as the casing temperature increases
Output over-voltage protection	Protection mode:Hiccup or clamp at a certain output highest voltage state, the product will not be damaged, when the fault is removed, the driver works normally

Note:

1. Unless otherwise specified, all parameters should be measured at the condition of 230Vac (50Hz) input ,with rated load ,and ambient temperature of $25^{\circ}C$;
2. Including setting error, linear adjustment rate and load adjustment rate;

Environmental characteristics

Environmental categories	Parameter
Working temperature	$-40 \sim +55^{\circ}C @ 100-277V_{ac}$ ((Refer to "Service Life Curve"))
Safety case temperature	$-40 \sim 90^{\circ}C$
Working humidity	20 ~ 95% RH,non-condensing
Storage temperature、humidity	$-40 \sim +80^{\circ}C$, 10 ~ 95% RH
Resistant to vibration	10 ~ 500Hz, 5G 12 min/cycle, X, Y, Z axis 72 min each
MTBF	230Khrs min. MIL-HDBK-217F ($T_a=25^{\circ}C$)
Lifetime	50000 hours @230Vac,80% load, $T_{case}=75^{\circ}C$.,.Refer to” T_{case} VS Lifetime” curve for details.

Safety and EMC

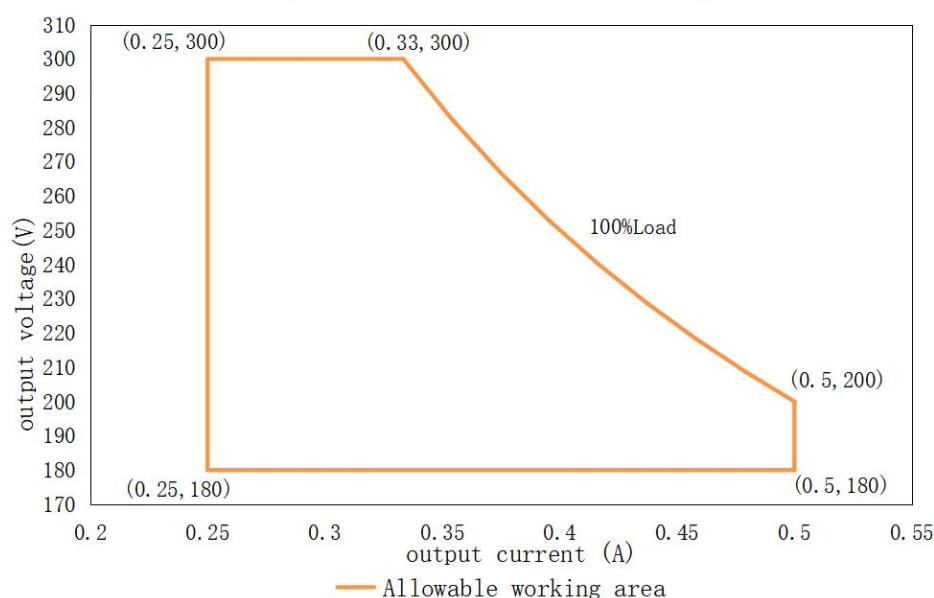
Safety categories	Standard
Safety	GB19510.1、GB19510.14、EN61347-1、EN61347-2-13、IEC61347-1、IEC61347-2-13、AS/NZS61347.1、AS61347.2.13、EN 62384;
EMC	EN 55015、EN 61547、EN 61000-3-2、GB/T 17743、GB17625.1、EN 61000-3-3
Surge level	Differential mode L-N $\pm 4\text{KV}(2\Omega)$, common mode L, N-PE $\pm 6\text{KV}(12\Omega)$ Refer to IEC61000-4-5 2014
High-pot test	I/P-PE:1.5KVac I/P-DIM:3.75KVac
Insulation impedance	I/P-PE:10M Ω / 500VDC; I/P-O/P:10M Ω / 500VDC / 25℃/ 70% RH
Leakage current	<0.7mA@277Vac

Note:

1.Attention! As a component of the whole, the EMC performance of the final product is not only decided by the driver, even if the driver is well-designed and fulfil all the required compliance. The final equipment manufacturers must re-qualify EMC Directive on the complete product.

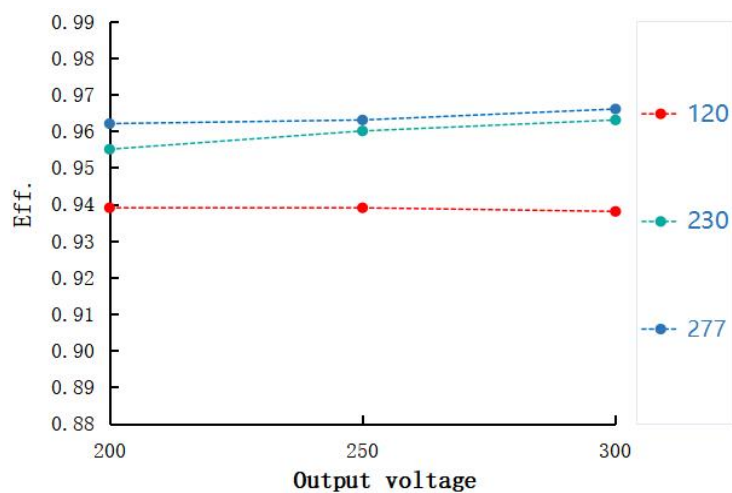
I-V Working area

LCS-100W-300X (Import:100-277Vac) output voltage VS output current

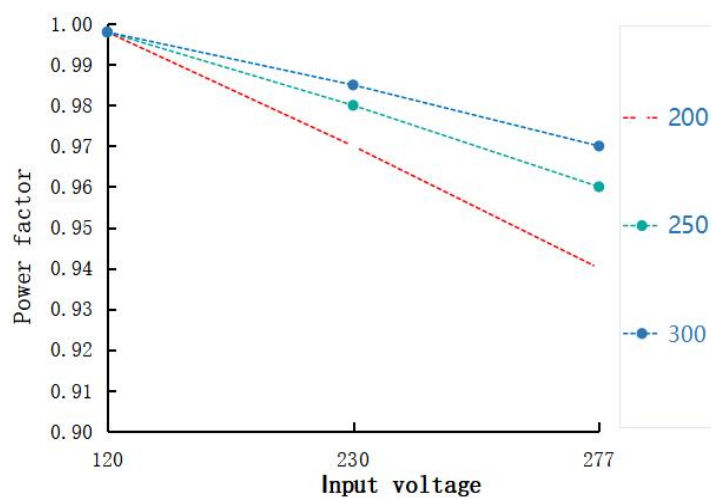


Load	Output								
Load working Voltage	180V	200V	220V	240V	260V	270V	280V	290V	300V
Io_MAX	0.5A	0.5A	0.45A	0.42A	0.38A	0.37A	0.36A	0.34A	0.33A
Po_MAX	90W	100W	100W	100W	100W	100W	100W	100W	100W

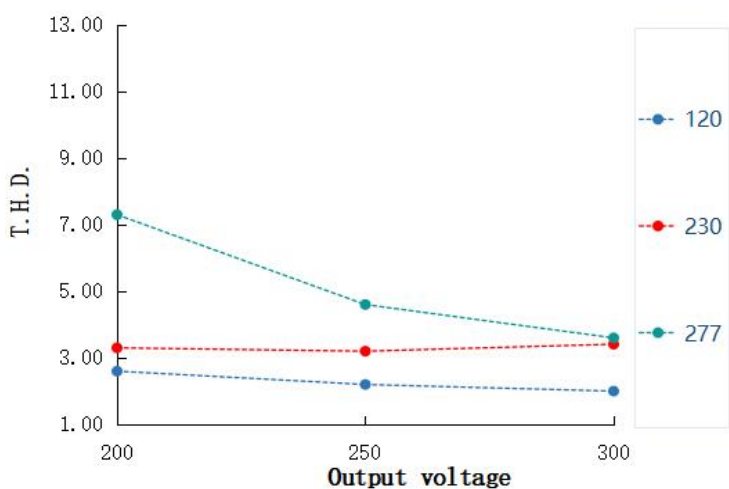
Eff. VS Output voltage



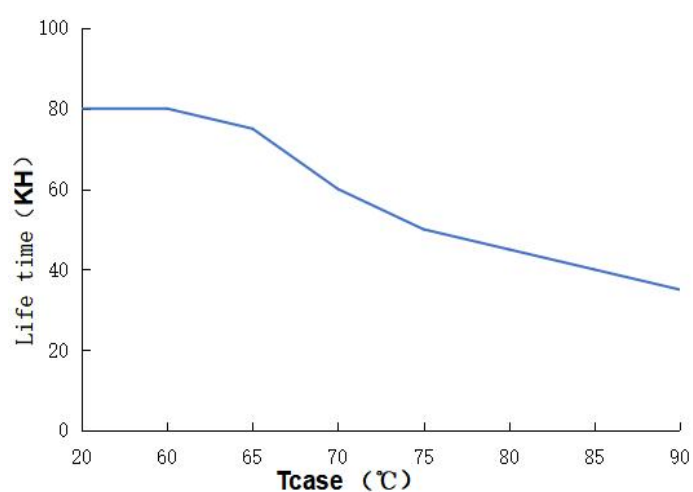
Power factor VS Input voltage



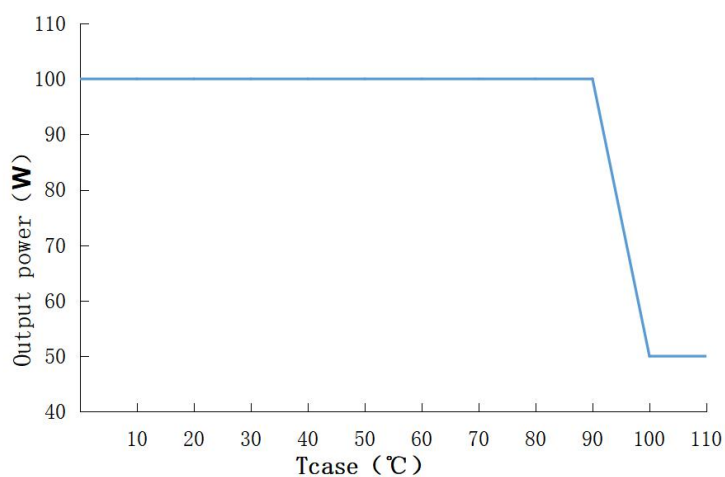
T.H.D. VS Output voltage



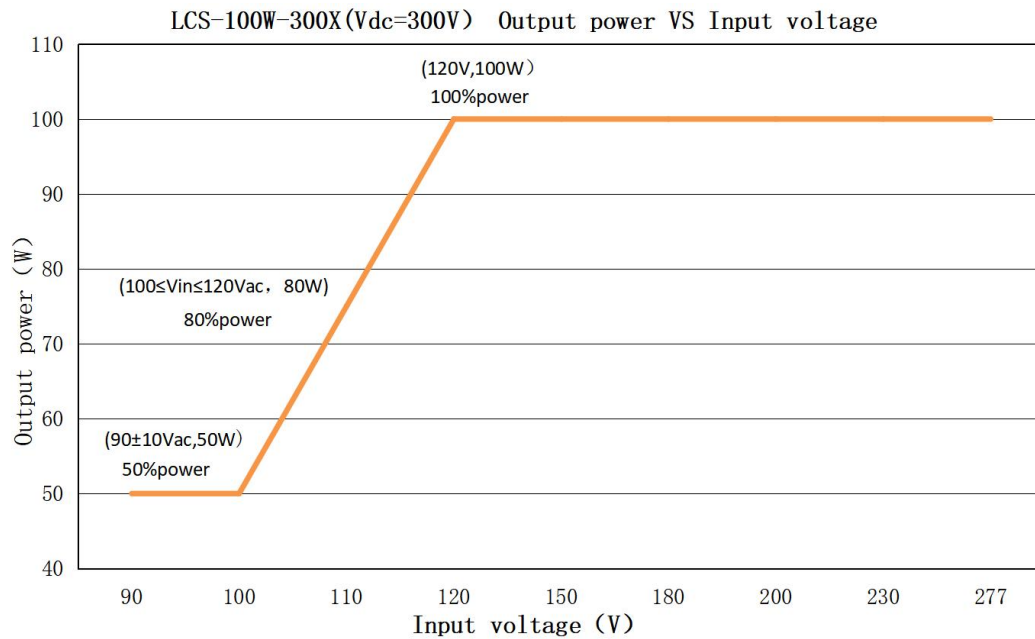
Tcase VS Life time



Output power VS Tcase



Output power VS Input voltage



LCS-100W-300X(For output 300Vdc, the rated output current & power under different input voltage)

Input Voltage	90Vac	100Vac	110Vac	120Vac	150Vac	180Vac	230Vac	277Vac
Io	0.17A	0.17A	0.27A	0.33A	0.33A	0.33A	0.33A	0.33A
Po	50W	50W	80W	100W	100W	100W	100W	100W

Note:

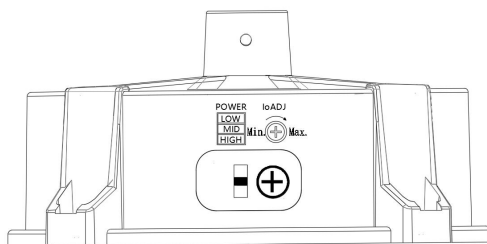
- If the input voltage is lower than 120Vac, adjust the potentiometer to derate 80% power. If the input voltage is higher than 120VAC, adjust the potentiometer to restore the full power of 100W.

Dip switch

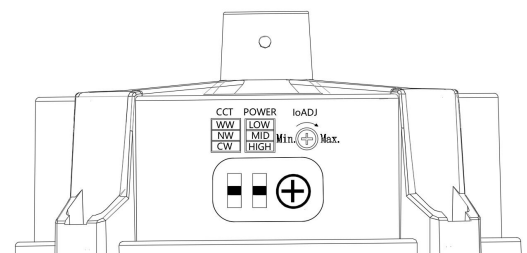
DP:Dip switch power adjustment

DC:Dip switch power + DIP switch color temperature

Power
60W
80W
100W



CCT	Power
WW	60W
NW	80W
CW	100W

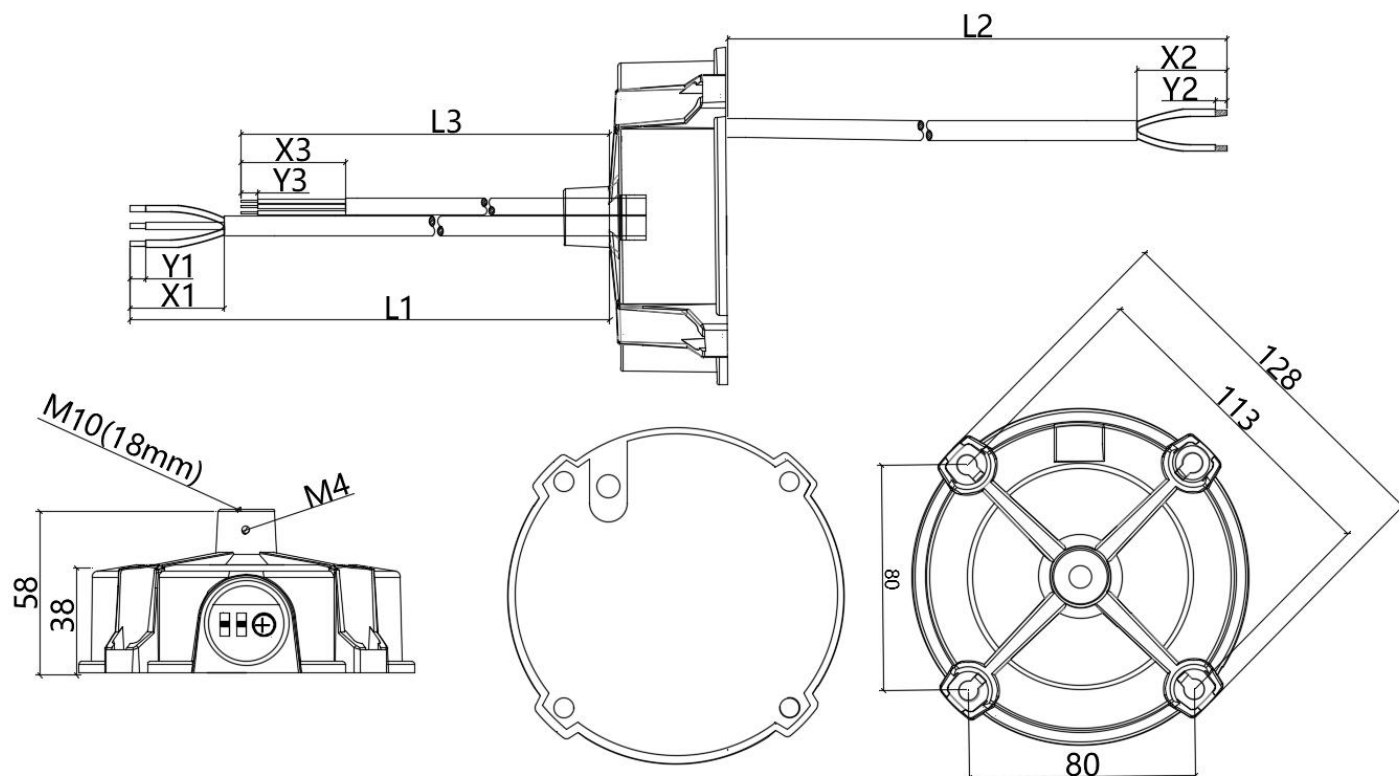


CW: White light NW: mixed light WW: warm light

Mechanical specification

Size (mm)	Φ 128*58mm Fixed hole spacing 113mm
Weight (Kg)	630g
Packaging (mm)	

LCS-100W-300X



Type	Specifications	Color	Length	Peeled	Tinned	Remarks
Input Wire	H05RN-F 3*1.0mm ² OD:7.2mm 300V/500V VDE/CCC/SAA	AC-L Brown ; AC-N Blue PG Kelly	300±10mm (L1)	50±5mm (X1)	10±1mm (Y1)	/
	SJOW 3*0.824mm ² OD:7.8mm UL 18AWG*3C	AC-Black; AC-N White PG Green	300±10mm (L1)	50±5mm (X1)	10±1mm (Y1)	/
Output Wire	H05RN-F 2*1.0mm ² OD:6.8mm 300/500V VDE/CCC/SAA	LED + Brown; LED-Blue	200±10mm (L2)	50±5mm (X2)	5±1mm (Y2)	A/P/C/D
	SJOW 2*0.824mm ² OD:7.2mm UL 18AWG*2C	LED + Red; LED-Black	200±10mm (L2)	50±5mm (X2)	5±1mm (Y2)	A/P/C/D
	H05RN-F 3*1.0mm ² OD:7.2mm 300/500V VDE/CCC/SAA	LED + Brown; LED1-Blue LED2-Black	200±10mm (L2)	50±5mm (X2)	5±1mm (Y2)	DP/DC
	SJOW 3*0.824mm ² OD:7.8mm UL 18AWG*3C	LED + Red; LED1-Black LED2-Blue	200±10mm (L2)	50±5mm (X2)	5±1mm (Y2)	DP/DC
Dimming Wire & AUX Output Wire	PVC 300V 105℃ OD: 4.8mm UL 22AWG*2C	DIM + Purple; DIM-Pink	200±10mm (L3)	50±5mm (X3)	10±1mm (Y3)	P/DP
	PVC 300V 105℃ OD: 4.8mm UL 22AWG*3C	DIM + Purple; 12V + Pink; DIM-Black and White	200±10mm (L3)	50±5mm (X3)	10±1mm (Y3)	C/DC

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Version

DATE	DESCRIPTION	REV.	CHECK
2025.3.28	Initial version.	V1.0	