

## Features

- Ultra-wide Voltage Input Range 85~305V AC or 100~430V DC
- Super Small Design
- Operating Temperature: 40°C~+85°C
- Low Ripple & Noise, High Efficiency
- Low no-load Power Consumption
- Safety Standards to IEC/EN 62368-1
- Certified to UKCA, CE, TUV-GS, RoHS & REACH
- Protection: SCP, OCP, OVP
- Three Years Warranty



Certified to UKCA, CE, TUV-GS, RoHS & REACH & EN 62368-1/IEC 62368-1 Standards and complies with Efficiency Regulations. These are primarily used in ITE, Audio & Video Industries and customised solutions are available upon request.

### Model Number Information

<b>56YMC</b>	<b>5</b>	<b>□</b>	<b>xx</b>
Series Name	Rated Wattage	: Enclosed T: Terminal Block D: DIN Rail	Output Voltage

### Models

Model Number	DC Voltage (V)	Rated Current (A)	Rated Power (W)	Efficiency (%)	Max. Capacitive Load (uF)
56YMC5□-3.3	3.3	1.515	4.99	71.5	4000
56YMC5□-5	5	1	5	77.5	3000
56YMC5□-9	9	0.555	4.99	80.5	1200
56YMC5□-12	12	0.416	4.99	80.5	1200
56YMC5□-15	15	0.333	4.99	81.5	680
56YMC5□-24	24	0.208	4.99	81.5	220

### Input Specifications

Input Voltage	85~305V AC/100~430V DC
Frequency Range	47-63Hz
AC Current	0.13A at 115VAC / 0.07A at 230VAC
Inrush Current	Cold Start 15A at 115V AC / 25A at 230V AC
Leakage Current	< 25mA / 277V AC, 50Hz

### Output Specifications

Voltage Tolerance	±3.0%	3.3v
	±2.0%	Others
Line Regulation	±0.5%	
Load Regulation	±1.0%	
Set up	500ms, 30ms at 230VAC at full load	
Rise Time	500ms, 30ms at 115VAC at full load	
Hold up Time	50ms at 230VAC at full load / 35ms at 115VAC at full load	

### Protection

Over Current	≥130% Rated Output current, recovers automatically after current goes down.	
Short Circuit	Hiccup mode, allowing long short circuit mode, re-power on to recover	
Over Voltage	≤7.5VDC	3.3v
	≤7.5VDC	5v
	≤15VDC	9v
	≤16VDC	12v
	≤20VDC	15v
	≤30VDC	24v
	Output voltage clamp or Hiccup mode	

### Environmental Characteristics

Working Temp	-40 °C to +80 °C (Refer to "Derating Curve")
Working Humidity	20~95% RH non-condensing
Storage Temp., Humidity	- 40°C~+105°C, 10 ~ 95% RH non-condensing
Temp. Coefficient	± 0.02%/°C(0~50°C)
MTBF	2602K hrs min. MIL-HDBK-217F (25°C)
Projected Lifetime	> 130Kh/230VAC,25°C at full load
	> 20Kh/220VAC,55°C at full load
	> 27Kh/220VAC,55°C at 80%load
Altitude Application	5000m
Cooling Method	Natural Air Cooling

### Safety & EMC

Safety Standards	IEC/EN 62368-1, EN61558-1, EN60335-1
Withstand Voltage	I/P-O/P:3.00KVAC
Isolation Resistance	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC/25 °C/70% RH
EMC Emission	EN55032 (CISPR32) Class B, EN55014-1
EMC Immunity	IEC/EN55014-2IEC/EN61000-4-2,3,4,5,6,11

**Notes:**

- All parameters without special description are measured under the conditions of input 230VAC, rated load, ambient temperature 25 ° C, and ambient humidity less than 75%.
- Ripple & noise are measured from peak to peak with a bandwidth limit of 20MHz(0.1uf and 47uf /50V parallel capacitor under DC output full load, AC nominal input 25 ° C ambient temperature).
- Tolerance: includes set up tolerance, line and load regulation.
- Derating may be needed under low input voltages. Please check the derating curve for more details.

- The power supply is considered a component which will be installed into the final equipment. The final equipment must be confirmed to meet EMC directives. For guidance on performing these EMC tests, please refer to "EMI testing of component power supplies."
- The ambient temperature derating of 3.5°C/1000m is needed for operating altitude greater than 2000m(6500ft).

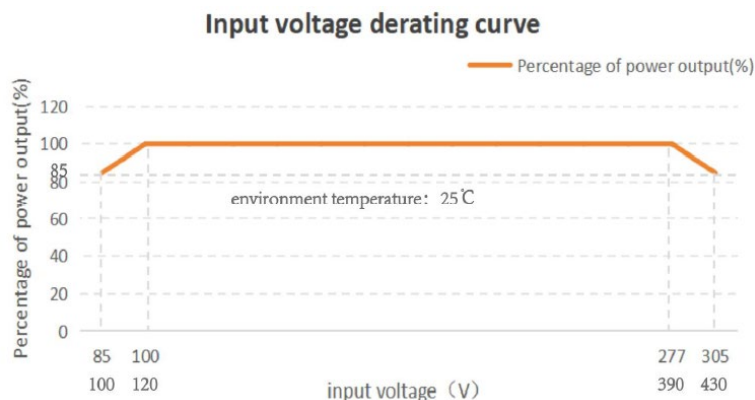
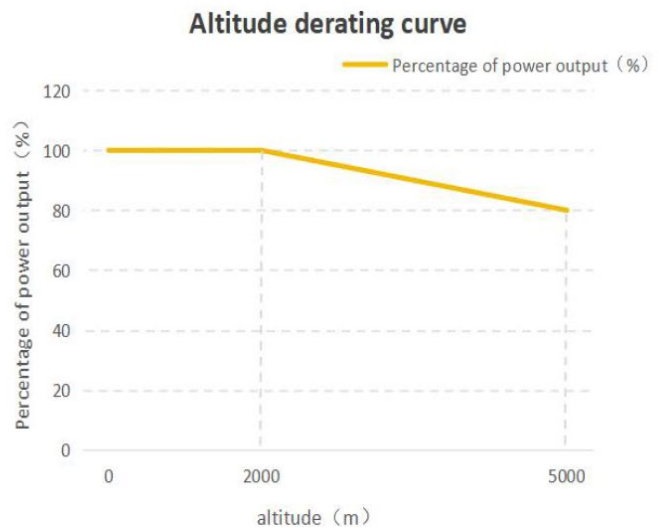
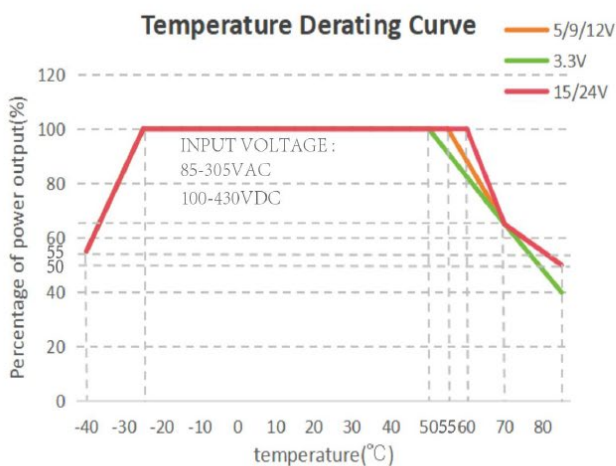
### Dimensions & Weight

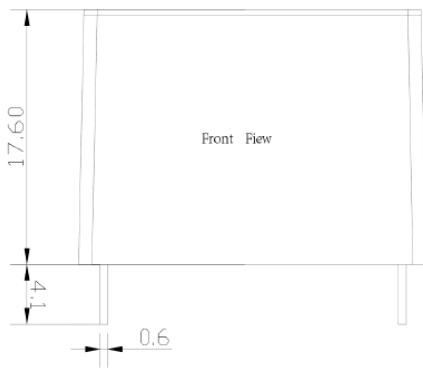
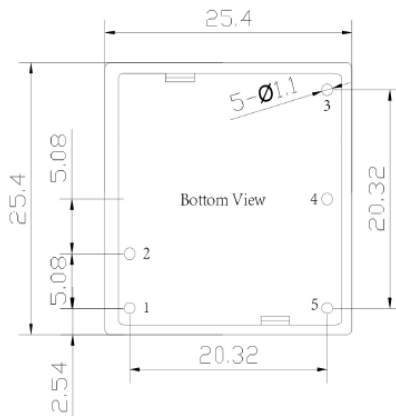
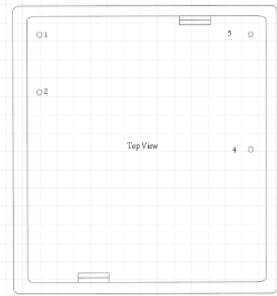
	Measurements	Weight
56YMC5	25.4 x 25.4 x 17.6mm / 1 x 1 x 0.7in	17.5g
56YMC5T	76.0 x 31.5 x 26.4mm / 2.99 x 1.24 x 1.04in	38g
56YMC5D	76.0 x 31.5 x 31.0mm / 2.99 x 1.24 x 1.22in	58g

### Packaging

Carton Size	28 x 15 x 24cm / 11 x 5.9 x 9.44in	
Master Carton Quantities	500pcs/Carton	56YMC5
	96pcs/Carton	56YMC5T
	84pcs/Carton	56YMC5D

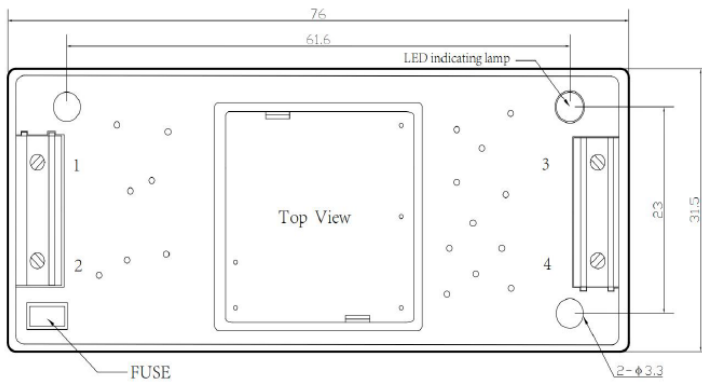
### Derating Curves



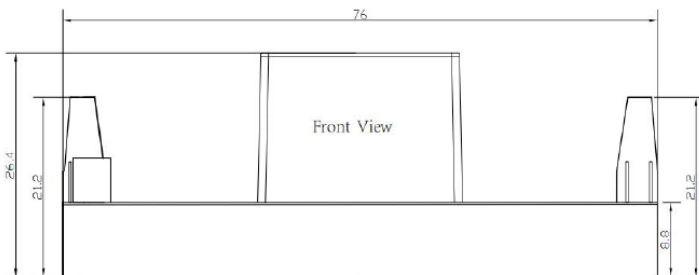
**56YMC5 Dimensions and Recommended Layout**

 third-angle projection 


Pin-Out	
Pin	Function
1	AC/N
2	AC/L
3	NO Pin
4	-VO
5	+VO

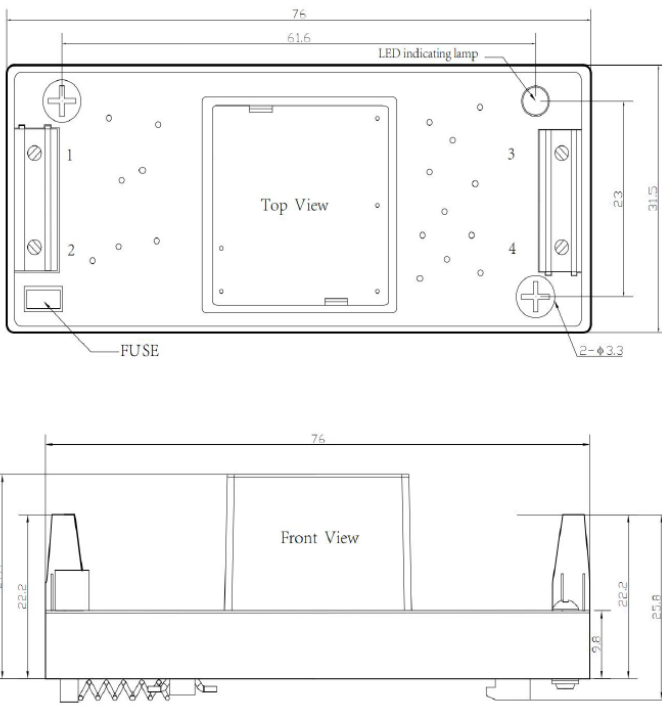
 annotation:  
 unit of size:mm  
 Pin diameter tolerances:±0.10  
 General tolerances:±0.50

**56YMC5T Dimensions and Recommended Layout**

 third-angle projector 

Pin Mode	
Pin	Function
1	AC/N
2	AC/L
3	+VO
4	-VO


 annotation:  
 unit of size:mm  
 Connection wire diameter:24-12AWG  
 tightening torque:Max 0.4 N\*m  
 Unmarked tolerance:±1.00

56YMC5D Dimensions and Recommended Layout

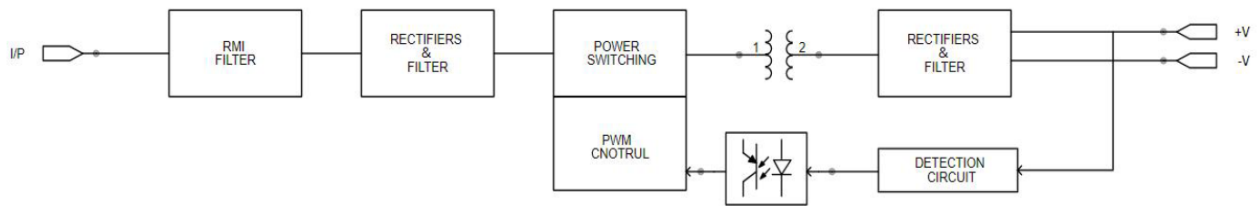


third-angle projection

Pin Mode	
Pin	Function
1	AC/N
2	AC/L
3	+VO
4	-VO

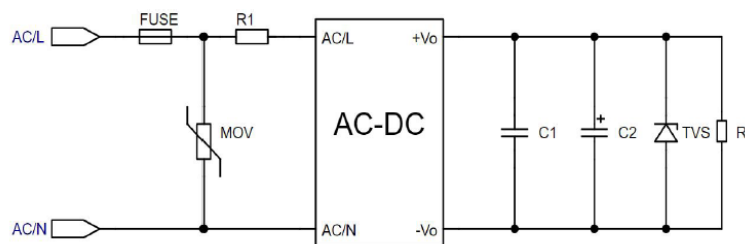
annotation:  
unit of size:mm  
Connection wire diameter:24-12AWG  
tightening torque:Max 0.4 N\*m  
Guide type:TS35,Guide rails need to be grounded  
Unmarked tolerance:±1.00

Functional Diagram

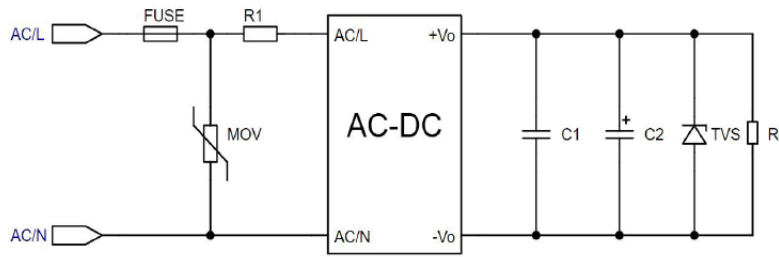


Typical Application Circuit

Figure 1: Typical application circuit



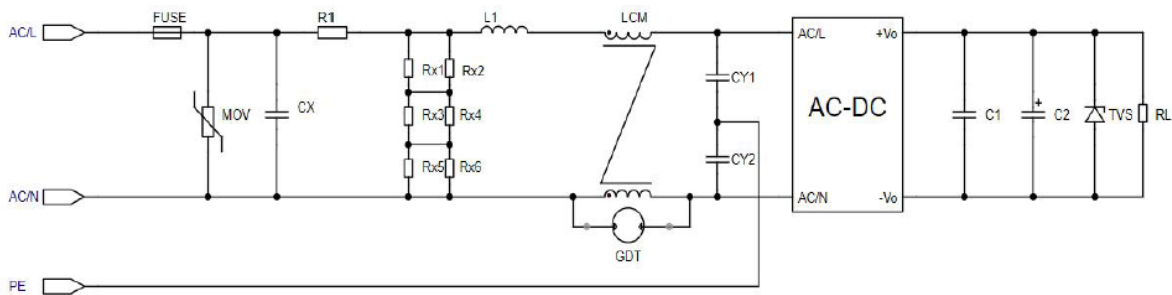
MODEL	C1(uF)	C2(uF)	FUSE	R1	TVS	MOV
56YMC5□-3.3	1	150	1A/300V Slow fuse, must be connected	12Ω/3W (Winding resistor must be connected)	SMBJ7.0A	10D561K
56YMC5□-5		150			SMBJ7.0A	
56YMC5□-9		120			SMBJ12A	
56YMC5□-12		120			SMBJ20A	
56YMC5□-15		120			SMBJ20A	
56YMC5□-24		68			SMBJ30A	

**EMC Solution, Recommended Circuit**
**Figure 2: EMC Recommended circuits for higher requirements**


Component Type	Recommended Value
MOV	14D561K
R1	33Ω/3W (Winding resistor, must be connected)
FUSE	2A/300V Slow fuse must be connected

**Figure 3: I device recommendation circuit**

(Recommended when the output end of the product needs to be connected to PE or connected to PE through a Y cap)



Component Type	Recommended Value
FUSE	2A/300V Slow fuse, must be connected
MOV	14D561K
CX	334K/305VAC
R1	33Ω/3W(Winding resistor ,must be connected)
L1	1.2mH/0.3A
CY1/CY2	1nF/400VAC
GDT	300V/1KA
LCM	20mH