YMC10 SERIES 10W



PENDING

YMC10 series is super small size up to 1.57*1 inch, adopting the full range: 85-305VAC/100-430VDC input. The series has extremely low no-load power consumption, high efficiency to reduce power loss.

The series cost-effective, high reliability, operates from -40 ~85℃ . A variety of appearance sizes are available for easy installation and use.

These converters offer excellent EMC performance and meet international standards. They are widely used in areas of industrial design, household appliances, communications, testing instruments.

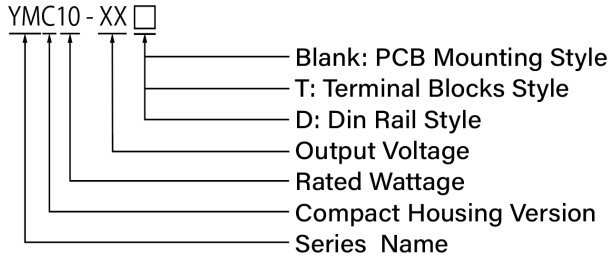
Features

- Ultra-wide voltage input range
- Super Small Design
- Low no-load power consumption
- Low Ripple & Noise, high efficiency
- Protection:Short Circuit/Over Current/ Over Voltage
- Three Years Warranty

Model Information

Yingjiao Part Number	DC Voltage	Rated Current	Rated Power	Max.Capacitive Load
YMC10-3.3□	3.3V	2.6A	8.58W	6600uF
YMC10-5□	5V	2A	10W	5000uF
YMC10-9□	9V	1.1A	9.9W	3600uF
YMC10-12□	12V	0.83A	9.96W	2000uF
YMC10-15□	15V	0.66A	9.9W	820uF
YMC10-24□	24V	0.41A	9.84W	470uF

Model Encoding



Input

VOLTAGE RANGE	85-305VAC	
	100-430VDC	
FREQUENCY RANGE	47-63Hz	
AVERAGE EFFICIENCY(Typ.)	74.0%	YMC10-3.3□
	79.0%	YMC10-5□
	81.0%	YMC10-9□
	84.0%	YMC10-12□
	84.0%	YMC10-15□
	85.0%	YMC10-24□
AC CURRENT(Typ.)	0.23A/115VAC	
	0.15A/230VAC	
INRUSH CURRENT(Typ.)	Cold Start 25A/115VAC	
	Cold Start 40A/230VAC	
LEAKAGE CURRENT	<0.1mA/277VAC,50Hz	

Output

RIPPLE & NOSE(max.)	100mVp-p	ALL SERIES
VOLTAGE TOLERANCE	±2.0%	ALL SERIES
LINE REGULATION	±0.5%	ALL SERIES
LOAD REGULATION	±1.0%	ALL SERIES
NO LOAD POWER CONSUMPTION(Typ.)	0.1W/230VAC	YMC10-3.3/5/9/12/15□
	0.12W/230VAC	YMC10-24□
SETUP,RISE TIME	1000ms, 30ms/230VAC at full load	
	1000ms, 30ms/115VAC at full load	
HOLD UP TIME (Typ.)	40ms/230VAC at full load	
	8ms/115VAC at full load	

Protection

OVER CURRENT	≥110% Rated Output current
	Protection type: Shut down O/P voltage,
	recovers automatically after current goes down
SHORT CIRCUIT	Protection type: Hiccup mode, allowing long short circuit mode,
	re-power on to recover
OVER VOLTAGE	YMC10-3.3□: ≤7.5VDC
	YMC10-5□: ≤7.5VDC
	YMC10-9□: ≤15VDC
	YMC10-12□: ≤20VDC
	YMC10-15□: ≤20VDC
	YMC10-24□: ≤30VDC
	Protection type: Output voltage clamp or Hiccup mode

Environment

WORKING TEMP.	-40 ℃ to +85 ℃ (Refer to "Derating Curve")
WORKING HUMIDITY	20 ~ 95% RH Non-Condensing
STORAGE TEMP, HUMIDITY	- 40℃~+85℃,10 ~ 95% RH non-condensing
TEMP. COEFFICIENT	± 0.02%/℃(0~50℃)
MTBF	> 3200K hrs min. MIL-HDBK-217F (25℃)
PROJECTED LIFETIME	> 130Kh/220VAC,25℃ at full load
	> 20Kh/220VAC,55℃ at full load
	> 27Kh/220VAC,55℃ at 80%load
ALTITUDE APPLICATION	5000m

SAFETY & EMC

SAFETY STANDARDS	IEC/EN/BS EN62368-1, EN61558-1, EN60335-1
	CONFORM TO UL62368-1, CLASS Ⅱ
WITHSTAND VOLTAGE	I/P-O/P:4.00KVAC
ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/ 500VDC/25 ℃/70% RH
EMC EMISSION	EN55032(CISPR32) Class B, EN55014-1
EMC IMMUNITY	IEC/EN55014-2 IEC/EN61000-4-2,3,4,5,6,11

Note

1. 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%.
2.Ripple&noise are measured from peak to peak with band width limit of 20MHz(0.1uf and 47uf /50V parallel capacitor under DC output full load, AC nominal input 25 ℃ ambient temperature).
3.Tolerance :includes set up tolerance, line regulation and load regulation.
4.Derating may be needed under low input voltages. Please check the derating curve for more details.
5.The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to"EMI testing of component power supplies."
6.The ambient temperature derating of 3.5℃/1000m is needed for operating altitude greater than 2000m(6500ft).

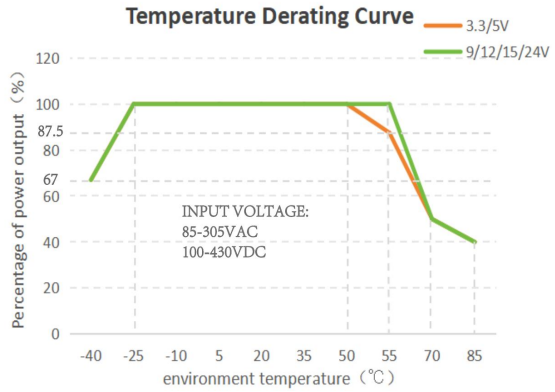
PHYSICAL PROPERTY

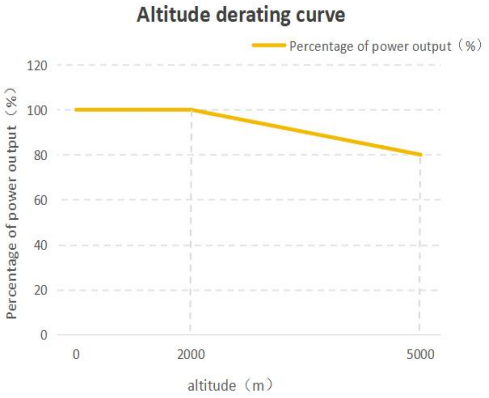
LENGTH*WIDTH*HEIGHT:	40.0*25.4*21.0mm PCB Mounting Style
	76.0*31.5*29.8mm Terminal Blocks Style
	76.0*31.5*34.4mm Din Rail Style
WEIGHT:	34.0g(PCB Mounting Style)
	54.0g(Terminal Blocks Style)
	74.0g(Din Rail Style)
COOLING METHOD:	Natural Air Cooling
TEXTURE:	Black flame retardant and heat resistant plastic

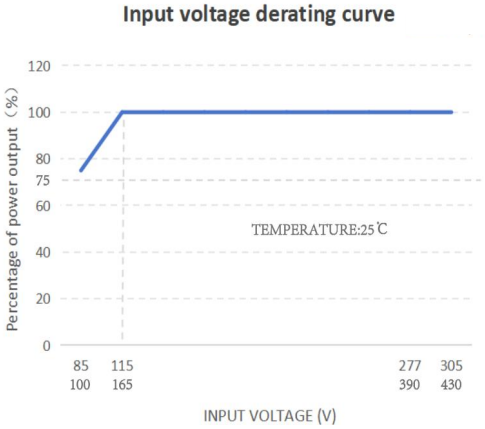
Packing

Carton Size:	28 × 15 x 24 CM
	11 x 5.9 x9.44 in
Master Carton Quantities:	280pcs/Carton(PCB Mounting Style)
	96pcs/Carton(Terminal Blocks Style)
	72pcs/Carton(Din Rail Style)

Curve



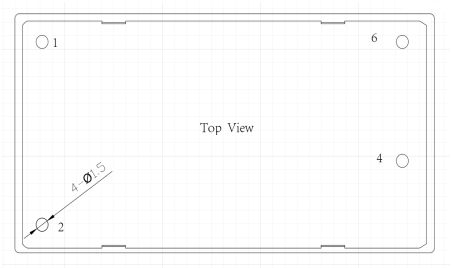


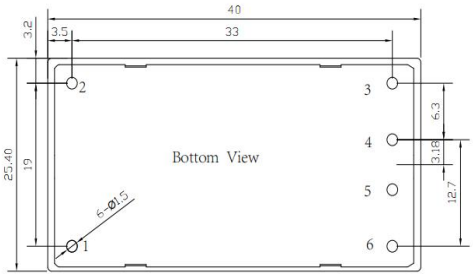


Dimensions and Installation



third-angle projection

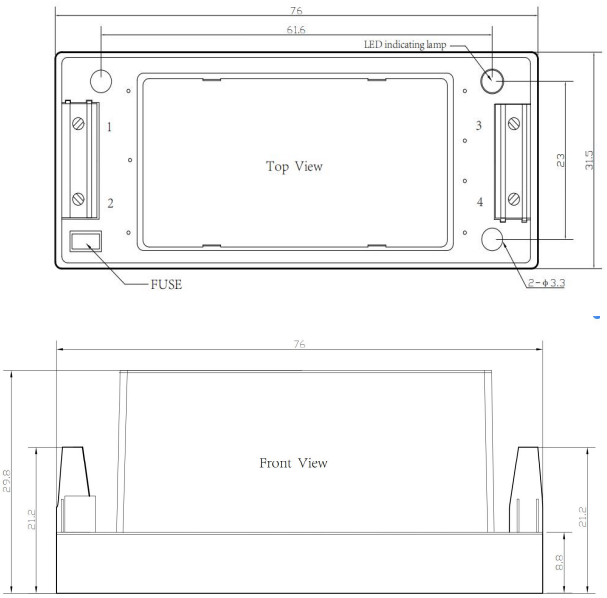




Pin-Out	
Pin	Function
1	AC/L
2	AC/N
3	No Pin
4	+VO
5	No Pin
6	-VO

annotation:
unit of size:mm
Pin diameter tolerances:±0.10
[±0.004]
General tolerances:±0.50
[±0.020]

Terminal Blocks Style External Dimension

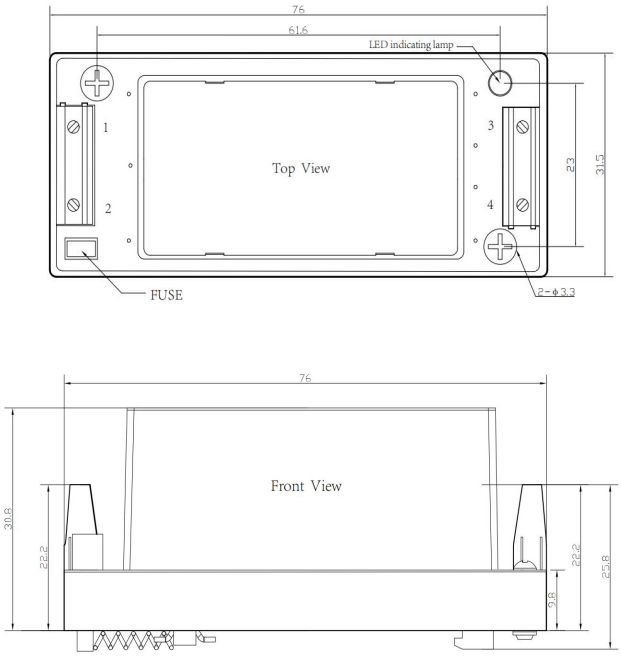


third-angle projection

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
Unmarked tolerance:±1.00 [±0.039]

Din Rail Style External Dimension



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 [±0.039]

Typical application circuit

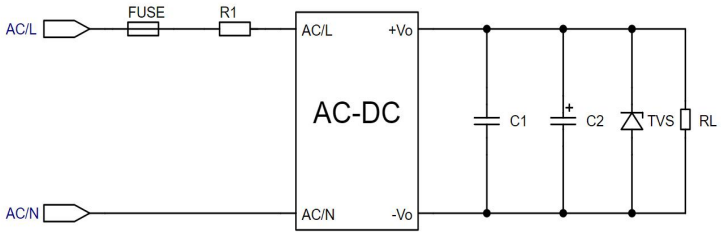


Figure 1:Typical application circuit

MODEL	FUSE	R1	C1	C2	TVS
YMC10-3.3□	2A/300V,Slow fuse, must be connected	6.8Ω /3W(Wire wound resistor, must be connected)	1uF/50V	220uF/16V	SMBJ7.0A
YMC10-5□				220uF/16V	SMBJ7.0A
YMC10-9□				100uF/25V	SMBJ12A
YMC10-12□				100uF/25V	SMBJ20A
YMC10-15□				100uF/25V	SMBJ20A
YMC10-24□				100uF/35V	SMBJ30A

EMC Solution - Recommended circuit

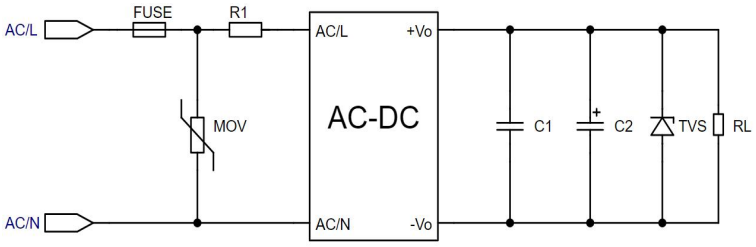


Figure 2:EMC Recommended circuits for higher requirements

Component Type	Recommended Value
MOV	14D561K

EMC Solution - Recommended circuit

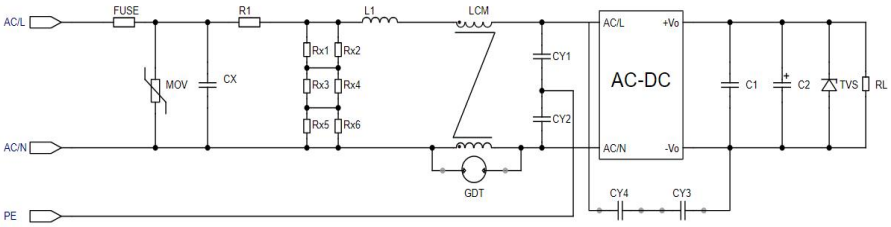


Figure 3 : category Ⅰ device recommendation circuit

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

Component Type	Recommended Value
FUSE	2A/300V Slow fuse, must be connected
MOV	14D561K
CX	334K/305VAC
R1	12Ω/5W(Winding resistor, must be connected)
L1	1.2mH/0.5A
CY1/CY2	2.2nF/400VAC
GDT	300V/1KA
LCM	20mH

annotation:Rx1/Rx2/Rx3/Rx4/Rx5/Rx6 is the bleed resistance of CX, the recommended resistance value is 1.5MΩ /150VDC