

ATR-1 Series, 1Watt
FEATURES:

- ✓ Universal AC input range
- ✓ Short circuit, and over current protections
- ✓ Board in-line type installation
- ✓ High voltage isolation
- ✓ Compact size
- ✓ Plastic case



Model	Input voltage (Vac)	Output voltage (Vdc)	Output current (mA)	Output power (W)
ATR1-3	85-265	3.3	303	1
ATR1-5		5	200	1
ATR1-9		9	111	1
ART1-12		12	83	1
ART1-15		15	67	1

Notes: Above models are default to plastic case.

ELECTRICAL
Input

Parameters	Symbols	Test Conditions / Comment	Min.	Typ.	Max.	Units
Input voltage	V_{in}	--	85	--	265	Vac
Input frequency	F_{line}	--	47	--	63	Hz
Efficiency	η	Full voltage, full load	--	72	--	%

Output

Output voltage accuracy	--	$V_{in}=100-240Vac$	--	± 1	--	%
Line regulation	$V_{out-line}$	V_{in} from 100Vac to 240Vac	--	± 0.5	--	%
Load regulation	$V_{out-load}$	20%-100% load	--	± 0.5	--	%
Ripple*	V_{ripple}	--	--	--	50	mV

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ELECTRICAL
Protection

Parameters	Symbols	Test Conditions / Comment	Min.	Typ.	Max.	Units
Over current		Continuous Automatic Recovery				
Short circuit		Continuous Automatic Recovery				

Environment

Storage	T_{storage}	Humidity: 5% RH to 90% RH	-40	--	+105	°C
Ambient operating temperature	T_a	--	-40	--	+70	°C
Case temperature	T_c	--	--	--	+90	°C
Operating relative humidity	H_a	Non condensing	5	--	90	%
MTBF	T_{MTBF}	--	--	--	300	kHrs
Dimension(LxWxH)			36.5 x 18.9 x 17.2mm			
Weight			22g			

Safety

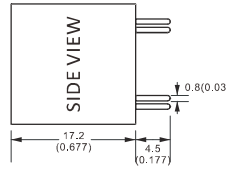
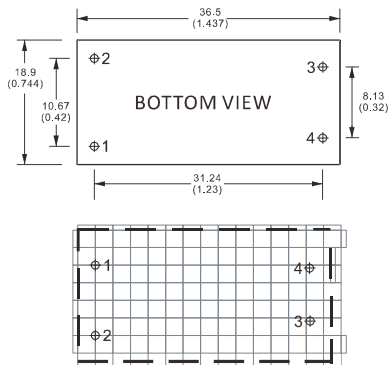
EMI	EN55022 class B					
Safety standards	UL60950-1,IEC/EN60950-1					
Isolation Voltage	Input-Output	3000Vac \leq 1mA/1min				
Isolation resistance	1000M Ω at 500Vdc					

Notes: Unless otherwise specified, all the above parameters are measured at ambient temperature of 25°C and $V_{\text{in}} = 220\text{Vac}$;

Ripple test are under rated load with 20M bandwidth by using 300mm twisted pair wires, and parallel with one 0.1 μF high frequency capacitor and one 47 μF electrolytic capacitor in the terminal.

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MECHANICAL



Unit: mm(inch)
PCB vertical view
Grid spacing: 2.54mm(0.1inch)

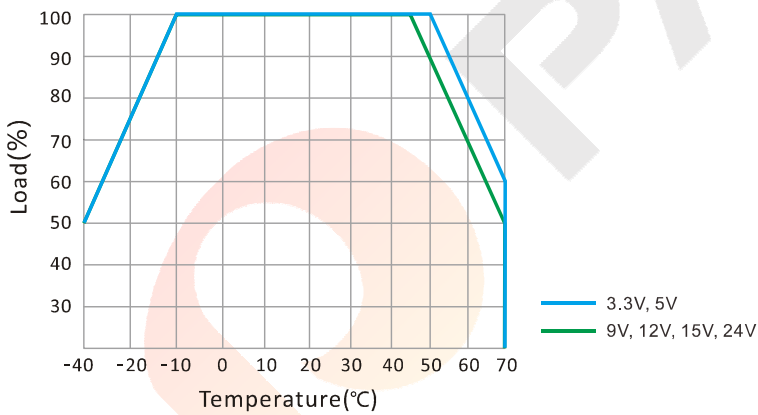
CONNECTION

PIN #	SINGLE
1	AC(N)
2	AC(L)
3	+Vo
4	0V

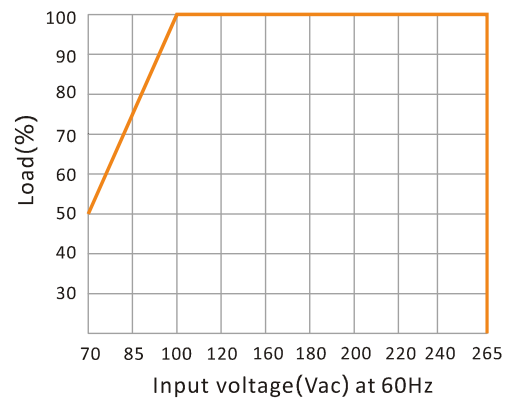
Note: Unit is mm(inch).

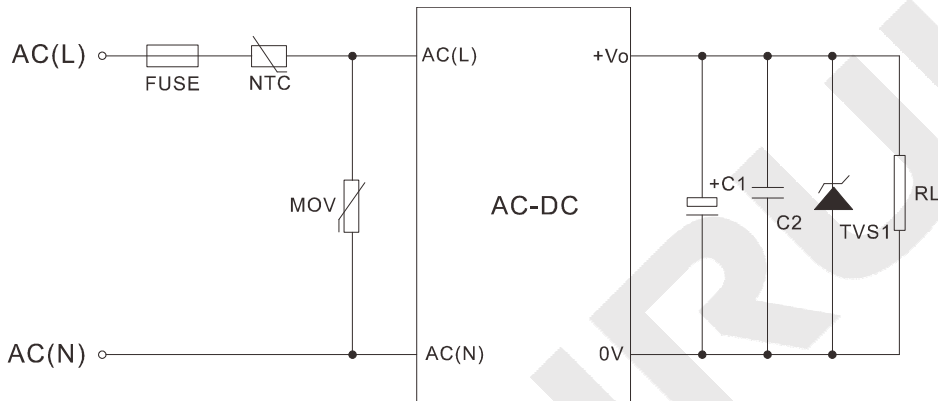
ELECTRICAL CURVE

DERATING CURVE



STATIC CHARACTERISTIC CURVE



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NOTE
RECOMMENDED TEST AND APPLICATION CIRCUIT


Components	Recommended Value
Fuse	1A/250V
NTC	10D-9
MOV	7D471K
C1	High frequency low resistance capacitor, choose according to different outputs
C2	104K/50V
TVS1	TVS tube, choose according to different outputs