

AC Adapter

15.0 Volts | 0.8 Amps

- Input Universal 100 ~ 240 Vac / 50 ~ 60 Hz input without any slide switch
- Output 15.0 V / 0 ~ 0.8 A
- Case dimension 80.2 (L) * 46.0 (W) * 40.5 (H) ± 1 mm
- Efficiency Eff(av) ≥82.963 % (at 115 V / 60 Hz input)
 Eff(av) ≥83.263 % (at 230 V / 50 Hz input for CoC Tier 2)
 Eff ≥73.263 % (at 230 V / 50 Hz input 10 % load for CoC Tier 2)
- Safety I.T.E: PSE / BSMI / UL / cUL / GS
- EMC CE / FCC (conduction & radiation Class B)
- Protection OVP (Over voltage protection) / SCP (Short circuit protection)
 OCP (Over current protection)
- Suitable for usage at I.T.E., industrial controller
- NRCan / DoE Level VI / CEC / GEMS VI / ErP (Lot 7) / CoC Tier 2

Item	Value Unit Remarks
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1. Input

Voltage	Universal 100 ~ 240 Vac, single phase
Frequency	50 - 60 Hz
Current	0.32 ~ 0.19 A
Inrush Current	Cold start at 25 °C full load 60 A max. / 240 Vac (ac source chroma 6530) 120 A max. / 230 Vac (mains electricity from wall)
Efficiency	Eff(av) ≥82.963 % (at 115 V / 60 Hz input) Eff(av) ≥83.263 % (at 230 V / 50 Hz input for CoC Tier 2) Eff ≥73.263 % (at 230 V / 50 Hz input 10 % load for CoC Tier 2)
Power Consumption	Pi ≤ 0.075 W (at 115 Vac & 230 Vac & no Load)

$$\text{Eff (av)} = \frac{E1 + E2 + E3 + E4}{4}$$

E1=efficiency with 25% rated load ; E2= efficiency with 50% rated load
 E3=efficiency with 75% rated load ; E4= efficiency with 100% rated load

2. Output

DC output	
Voltage	15.00 V ± 5 %
Current	0.8 A max.
Regulation	14.25 V min. ~ 15.00 V typ. ~ 15.75 V max.
Ripple & Noise	150 mVp-p max.
Total Power	12.0 W max.

Remark : For ripple & noise measurement, use a 20MHz bandwidth frequency oscilloscope, and add a 0.1µF multilayer Cap. and a Low ESR Electrolytic Cap. (10 µF) at output connector terminals. (At nominal line voltage, Full Load)

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3. Protection

Over Voltage Protection (OVP)	27 V max.
Short Circuit Protection (SCP)	Automatic recovery after short-circuit fault being removed
Over Current Protection(OCP)	2 A max.
Remark : When Short Circuit Protection is activated, the power supply will shutdown automatically. Once the abnormal condition resulting in the failure being removed, the power supply will restart accordingly. When Over Voltage Protection is activated, the power supply will shutdown.	

4. Safety Requirement

Dielectric Strength	Cut off current 10 mA	
1	Primary to Secondary	3000 Vac for 1 minute
Insulation Resistance		
1	Primary to Secondary	10 MΩ for 500 Vdc
Leakage Current	Less than 0.25 mA	

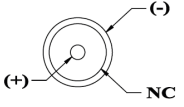
5. Operation and Environment Performance

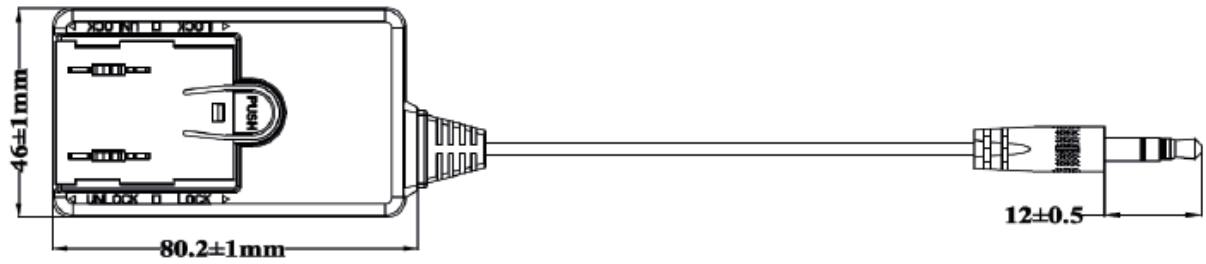
Temperature Range		
	Operating	+0°C ~ +40° C
	Storage	-20°C ~ +80° C
Humidity Range(Non-condensing)		
	Operating	20% ~ 80% RH
	Storage	10% ~ 90% RH
Cooling	By natural air	

6. M.T.B.F.

300000Hrs.(Calculated Hours at 25°C, By Telcordia SR-332)

7. Mechanical

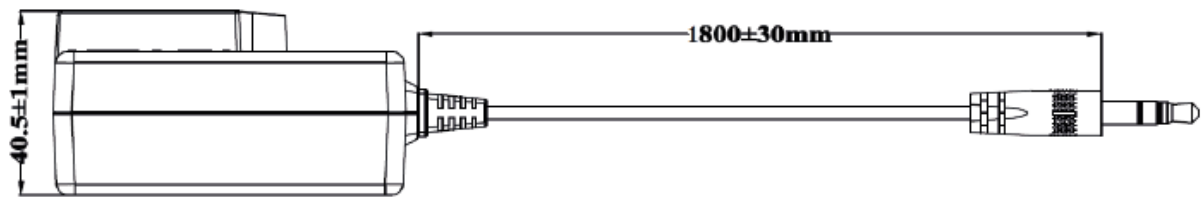
Weight	140 g Ref.	 <p>Output cable plug pin assignment</p>
Cable Type	Cable type : Black UL 1185 24 AWG (wire + plug) Plug : Ø3.5 * Ø23.5 * 12 mm	
Cable Length	1800mm	
Case Dimension	80.2 (L) * 46.0 (W) * 40.5 (H) ± 1 mm	
Material Flammability	UL 94V-0	
External Appearance	As drawing below (Scale -> mm)	

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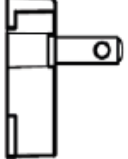
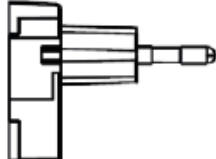

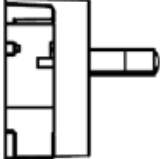
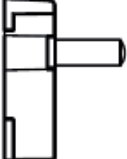
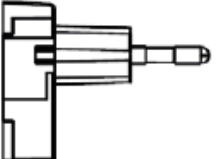
TOP-VIEW
 LABEL



BOTTOM-VIEW



SIDE-VIEW

■ USA	■ Europe	■ U.K.	■ Australia	□ China	□ Korea
					
					

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8. Label

Label materials	Metalized polyester label (silver gloss)
Color	Black background with silver printing
Label dimension	27.5 (L) * 61.8 (W) ± 0.1 mm
Label thickness	75#

100%



200%



"XXX"
 Label supplier's code.
 It is accurate that the number of words depends on the real finished product.

ID NO."X"
 Manufacturer's code.
 It is accurate that the number of words depends on the real finished product.

Label Part No. :

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Line regulation test
Test Result:

Test Condition	Spec.	Reading 1	Reading 2	Reading 3
90 Vac / 50 % Load	14.25 V ~ 15.75 V	15.13 V	15.15 V	15.14 V
115 Vac / 50 % Load	14.25 V ~ 15.75 V	15.13 V	15.15 V	15.14 V
132 Vac / 50 % Load	14.25 V ~ 15.75 V	15.13 V	15.15 V	15.14 V
180 Vac / 50 % Load	14.25 V ~ 15.75 V	15.13 V	15.15 V	15.14 V
230 Vac / 50 % Load	14.25 V ~ 15.75 V	15.13 V	15.15 V	15.14 V
264 Vac / 50 % Load	14.25 V ~ 15.75 V	15.13 V	15.15 V	15.14 V

Efficiency test
Test Result:

Test Condition	Spec.	Reading 1	Reading 2	Reading 3
115 Vac DOE Level VI	82.963 % min.	86.667 %	86.151 %	86.653 %
230 Vac COC Tier 2	83.263 % min.	86.055 %	86.115 %	86.013 %
230 Vac COC Tier 2 (10 % Load)	73.263 % min.	77.203 %	76.918 %	77.200%

$$\eta = \frac{E1 + E2 + E3 + E4}{4}$$

η = Eff (av) E1=efficiency with 25% rated load ; E2= efficiency with 50% rated load
 E3=efficiency with 75% rated load ; E4= efficiency with 100% rated load

Load regulation test
Test Result:

Test Condition	Spec.	Reading 1	Reading 2	Reading 3
115 Vac / 0 % Load	14.25 V ~ 15.75 V	15.26 V	15.27 V	15.26 V
115 Vac / 50 % Load	14.25 V ~ 15.75 V	15.13 V	15.15 V	15.14 V
115 Vac / 100% Load	14.25 V ~ 15.75 V	15.01 V	15.03 V	15.02 V
230 Vac / 0 % Load	14.25 V ~ 15.75 V	15.26 V	15.27 V	15.26 V
230 Vac / 50 % Load	14.25 V ~ 15.75 V	15.13 V	15.15 V	15.14 V
230 Vac / 100 % Load	14.25 V ~ 15.75 V	15.01 V	15.03 V	15.02 V

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Ripple & Noise Test

Test Result:

Test Condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac / 100 % Load	150mVpp Max	43.6 mVp-p	39.6 mVp-p	39.6 mVp-p
230Vac / 100 % Load	150mVpp Max	45.8 mVp-p	35.4 mVp-p	35.4 mVp-p

Inrush Current

Test Result:

Test Condition	Spec.	Reading 1	Reading 2	Reading 3
230Vac / 100 % Load	60 A max. (chroma 6530)	46.2 A	46.2 A	46.2 A

Over Voltage Protection

Test Result:

Test Condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac	27 V max.	23.5 V	23.5 V	23.5 V
230Vac	27 V max.	22.7 V	22.7 V	22.7 V

Over Current Protection

Test Result:

Test Condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac	2 A max.	1.18 A	1.18 A	1.18 A
230Vac	2 A max.	1.15 A	1.15 A	1.15 A

Short Circuit Protection

Test Result:

Test Condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac	Auto Recovery	OK	OK	OK
230Vac	Auto Recovery	OK	OK	OK

Input Power Consumption(No Load)

Test Result:

Test Condition	Spec.	Reading 1	Reading 2	Reading 3
115 Vac / 0 % Load	≤ 0.075W	0.047 W	0.050 W	0.050 W
230 Vac / 0 % Load	≤ 0.075W	0.056 W	0.058 W	0.059 W

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Efficiency Test Report

A.	Model Number	: ATM012T-W150Z(Z=A,B,C,E,K,U,V)	15.0V	0.80A	12.00W
B.	DC Power Cord	: UL1185 24AWG, 1.8M			
C.	Average Efficiency	:			
	Erp (Lot 7)	$0.0834 \cdot \ln(P_{out}) - 0.0014 \cdot P_{out} + 0.609 =$	82.963%	Min.	
	DoE Level VI	$0.0834 \cdot \ln(P_{out}) - 0.0014 \cdot P_{out} + 0.609 =$	82.963%	Min.	
	GEMS Level VI	$0.0834 \cdot \ln(P_{out}) - 0.0014 \cdot P_{out} + 0.609 =$	82.963%	Min.	
	CoC Tier 2	$0.0834 \cdot \ln(P_{no}) - 0.0011 \cdot P_{no} + 0.609 =$	83.263%	Min.	
	CoC Tier 2 (10% Load)	$0.0834 \cdot \ln(P_{no}) - 0.00127 \cdot P_{no} + 0.518 =$	73.263%	Min.	
D.	NO Load Power Consumption	:			
	Erp (Lot 7)	0.10W Max.			
	DoE Level VI	0.10W Max.			
	GEMS Level VI	0.10W Max.			
	CoC Tier 2	0.075W Max.			
E.	Testing Equipment	:			
	a. AC Power Source	: " Zentech "	2700M-10		
	b. Electronic Load	: " PRODIGIT "	3311C		
	c. Power Meter	: " YOKOGAWA "	WT-210A		
	d. Digital Meter	: " FLUKE "	45		
F.	AC Input Voltage	: 115Vac/60Hz			

Reported Quantity	Load Conditions					
	100%± I ₀	75%± I ₀	50%± I ₀	25%± I ₀	10%± I ₀	0%± I ₀
Rms Output Current(mA)	800mA	600mA	400mA	200mA	80mA	0mA
Rms Output Voltage(V)	15.190V	15.080V	15.150V	15.220V	15.250V	15.302V
Active Output Power(W)	12.15W	9.05W	6.06W	3.04W	1.22W	0.00W
Rms Input Voltage(V)	115V	115V	115V	115V	115V	115V
Rms Input Current(A)	0.216A	0.169A	0.122A	0.071A	0.036A	0.002A
Rms Input Power(W)	14.010W	10.447W	7.004W	3.551W	1.492W	0.046W
True Power Factor (PF)	0.564	0.538	0.500	0.434	0.362	0.237
Total Harmonic Distortion of the input current	140.0A%	153.9A%	175.2A%	222.3A%	274.6A%	292.1A%
Power Consumed by UUT(W)	1.858W	1.399W	0.944W	0.507W	0.272W	0.046W
Active Efficiency	86.738%	86.609%	86.522%	85.722%	81.769%	*
Average Efficiency	86.398%				81.769%	*

G. AC Input Voltage : 230Vac/50Hz

Reported Quantity	Load Conditions					
	100%± I ₀	75%± I ₀	50%± I ₀	25%± I ₀	10%± I ₀	0%± I ₀
Rms Output Current(mA)	800mA	600mA	400mA	200mA	80mA	0mA
Rms Output Voltage(V)	15.190V	15.080V	15.148V	15.216V	15.250V	15.299V
Active Output Power(W)	12.15W	9.05W	6.06W	3.04W	1.22W	0.00W
Rms Input Voltage(V)	230V	230V	230V	230V	230V	230V
Rms Input Current(A)	0.145A	0.115A	0.083A	0.048A	0.024A	0.001A
Rms Input Power(W)	13.970W	10.560W	7.117W	3.659W	1.592W	0.064W
True Power Factor (PF)	0.420	0.399	0.373	0.331	0.288	0.230
Total Harmonic Distortion of the input current	231.0A%	255.7A%	281.7A%	325.1A%	346.1A%	180.2A%
Power Consumed by UUT(W)	1.818W	1.512W	1.058W	0.616W	0.372W	0.064W
Active Efficiency	86.986%	85.682%	85.137%	83.170%	76.633%	*
Average Efficiency	85.244%				76.633%	*

Tester : Ian