Low-profile AC/DC Converter

X55 Series

There are countless different outputs. Currently there are 6 models available.

Features

- Medical Safety Standards
- Patient contact approved
- Universal input voltage
- Single, dual & triple outputs
- Short circuit protected
- Overload protected
- Very low noise
- 5 year warranty

AS/NZS ISO 9001 BUREAU VERITAS Certification

SPECIFICATIONS

AC Input Range	110/240V 47-65Hz. Limits: 90 - 264 VRMS (270V Surge), 47 to 65 Hz
DC Input Voltage Range	110 to 373V DC (380V surge)
Total Output Power	60 Watts Maximum or surge (See "Operating Temperature" below)
Input Fuse	Two 1 A fast-blow fuses (for Live and Neutral lines) internal
Input Current	< 1A RMS at 95V RMS input and full load
Inrush Current	< 15A max. peak for 264Vac or 375Vdc, cold start at 25°C
Efficiency	> 83% at rated loads
Short Circuit Protection	Short circuit on any output causes no damage to the power supply.
Over Load Protection	Over power at 105% to 135% rated power, shut-off with auto restart
Minimum Load	No minimum load necessary (but regulation best with 10% min. load)
Switching frequency	~ 60KHz.
Operating Temperature	(Natural convection) 0°C to +40°C Derate linearly at 1W/ºC to 65ºC
Operating Temperature	(200 linear feet per minute airflow) 0°C to +65°C
Shipping and Storage	-40°C to 105°C , Relative Humidity: 5% to 95% non-condensing
Safety Standards	IEC 601, AS 3200, VDE 0705/EN60601-1, UL 1012, UL2601, UL544, CSA 22.2 No. 234-M90 & No. 601.1. (And AS3260, UL1950, EN60950)
Approvals	CB###AU
EMC Standards (conducted)	CISPR 11 Class B, EN55011 Class B, AS 2064 Class B, FCC part 15 (47 CFR 15) Class A, VDE 0878 PT3 Class B. EN60601-2
Electromagnetic Susceptibility	Designed to meet IEC 801, -2, -3, -4, -5, -6, Level 3 (IEC1000-4 series)
Leakage Current	< 75μA to safety ground and to secondary at 264V input
Isolation between outputs	500V DC, 10nF, >10MΩ (functional)

Outputs performance – Model:	X55T12M		
Mutually Isolated Outputs:	**#1**	**#2**	**#3**
DC Output Voltage	**5 V**	**12V**	**12V**
Maximum Continuous Load(1)	6A	1A	1A
Maximum Surge Load	10A	2A	2A
Output Ripple and Noise (F.L.)	50mV P - P	150 mV P - P	150 mV P - P
Total Band Regulation, Output **1**	< ± 1% for any combination of input voltage, load and temperature within the specified ranges.		
Total Band Regulation, Outputs **2** & **3**(3)	< ± 8% for loads > 10%, & any combination of input voltage, other loads & temp within specified ranges		
Step Response, Output **1**	For 50% to 100% 100nS step, < ±0.1V overshoot, <150µS recovery time.		
Outputs performance – Model:	X55T1205M		
Mutually Isolated Outputs:	**#1**	**#2**	**#3**
DC Output Voltage	**5 V**	**12V**	**12V**
Maximum Continuous Load(1)	6A	1A	1A
Maximum Surge Load	10A	2A	2A
Output Ripple and Noise (F.L.)	50mV P - P	150 mV P - P	150 mV P - P
Regulation, Output **2**	< ± 1% for any combination of input voltage, as above		
Regulation, Outputs & **3**(3)	< ± 8% for loads > 10%, as above		
Step Response, Output **2**	For 50% to 100% 100nS step, < ±0.1V overshoot, <150µS recovery time.		
Outputs performance – Model:	X55T15M		
Mutually Isolated Outputs:	**#1**	**#2**	**#3**
DC Output Voltage	5 V	15V	15V
Maximum Continuous Load(1)	6A	0.8A	0.8A
Maximum Surge Load	10A	2A	2A
Output Ripple and Noise (F.L.)	50mV P - P	150 mV P - P	150 mV P - P
Total Band Regulation, Output **1**	< ± 1% for any combination of input voltage, as above		
Total Band Regulation, Outputs **2** & **3**(3)	< ± 8% for loads > 10%, as above		
Step Response, Output **1**	For 50% to 100% 100nS step, < ±0.1V overshoot, <150µS recovery time.		
Outputs performance – Model:	X55T1505M		
Mutually Isolated Outputs:	**#1**	**#2**	**#3**
DC Output Voltage	**5 V**	**15V**	**15V**
Maximum Continuous Load(1)	6A	0.8A	0.8A
Maximum Surge Load	10A	2A	2A
Output Ripple and Noise (F.L.)	50mV P - P	150 mV P - P	150 mV P - P
Total Band Regulation, Output **2**	< ± 1% for any combination of input voltage, as above		
Total Band Regulation, Outputs **1** & **3**(3)	< ± 8% for loads > 10%, as above		
Step Response, Output **2**	For 50% to 100% 100nS step, < ±0.1V overshoot, <150µS recovery time.		
Outputs performance – Model:	X55D12M		
Mutually Isolated Outputs:	**#1**	**#2**	**#3**
DC Output Voltage	**12 V**	**12V**	**12V**
Maximum Continuous Load(1)	4A	1A	1A
Maximum Surge Load	5A	2A	2A
Output Ripple and Noise (F.L.)	100mV P - P	150 mV P - P	150 mV P - P
Total Band Regulation, Output **1**	< ± 1% for any combination of input voltage, as above		
Total Band Regulation, Outputs **2** & **3**(3)	< ± 8% for loads > 10%, as above		
Step Response, Output **1**	For 50% to 100% 100nS step, < ±0.1V overshoot, <150µS recovery time.		
Outputs performance – Model:	X55D15M		
Mutually Isolated Outputs:	**#1**	**#2**	**#3**
DC Output Voltage	**15 V**	**15V**	**15V**
Maximum Continuous Load(1)	4A	0.8A	0.8A
Maximum Surge Load	5A	2A	2A
Output Ripple and Noise (F.L.)	100mV P - P	150 mV P - P	150 mV P - P
Total Band Regulation, Output **1**	< ± 1% for any combination of input voltage, as above		
Total Band Regulation, Outputs **2** & **3**(3)	< ± 8% for loads > 10%, as above		

Step Response, Output **1**	For 50% to 100% 100nS step, < ±0.1V overshoot, <150µS recovery time.

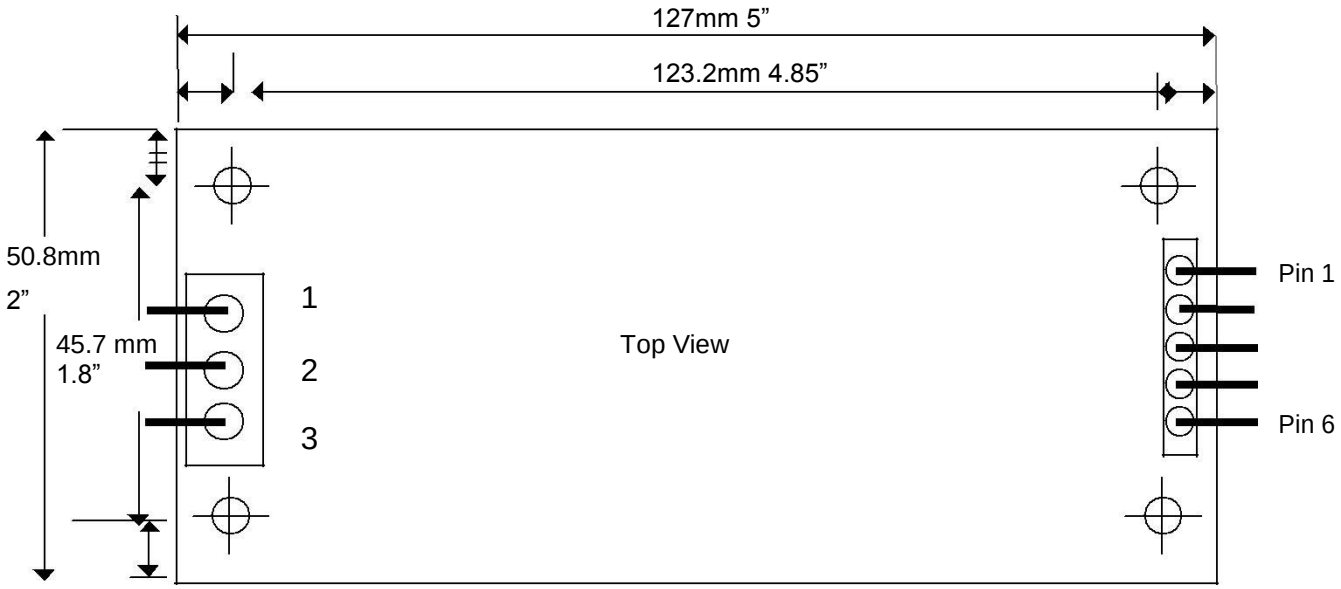
General

Flexibility	The three outputs in each model are isolated and can be interconnected in series (or parallel for same voltages) at the mating O/P connector
Regulation	In models X55T1205M and X55T1505M, feedback control is taken from output #2 instead of #1, to provide closer control if this is the more critical.
Maximum Power	Sum of power from individual outputs is larger than the rated total, which should not be exceeded. Can be loaded unevenly as indicated.
Temperature Coefficient	Any change in output voltage due to warm-up drift and operation temperature, change does not exceed regulation limit.
Dimensions (L x W x H)	127 x 5.8 x 20.1 mm (5 x 2 x 0.8”)
Mounting	Four (4) holes 3.2mm (0.125”) diameter at 123.2 x 45.7mm (4.85x1.8”) centres.
Vibration	3g 5 to 200 Hz, 1g 5 to 500Hz, three orthogonal axes, 1 oct/min, 5 min. dwell at four major resonances (operational).
Shock	30g, any axis
Terminations	Molex KK series locking headers for input and output, 0.156” pitch.

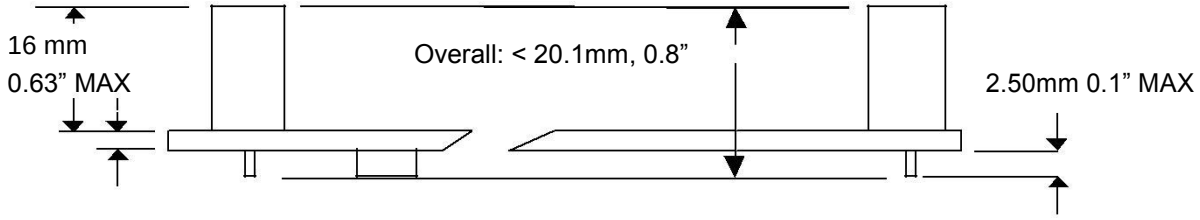
NOTES to specification table above:

1. The maximum loads listed are the maximum continuous loads on each output. However the total load should not exceed the rated total power. For continuous loads, note operating temperature conditions.
2. The ripple and noise voltage of the output is measured at the output connectors. This measurement should be made using a differential technique having a common mode rejection ratio (CMRR) greater than 10,000 to 1.
3. The minimum load for which these outputs remain within the "Total Band Regulation" limits listed (for all input voltages within the input range and all mixes of load on other outputs within the limits of "Maximum Continuous Load" and maximum total power) is 10% of the rated load of the noted outputs.

MECHANICAL SPECIFICATIONS



All specifications subject to change without notice.



Tolerances: ± 0.1mm ± 0.004"

INPUT CONNECTOR (J1)		OUTPUT CONNECTOR (J2)	
PIN 1	EITHER LINE OR NEUTRAL, + OR -	PIN 1	+12V/+15V (O/P-3)
		PIN 2	RETURN (O/P-3)
		PIN 3	+12V/+15V (O/P-2)
PIN 2	EITHER LINE OR NEUTRAL, + OR -	PIN 4	RETURN (O/P-2)
		PIN 5	+5V, +12V (O/P-1)
PIN 3	GROUND/EARTH	PIN 6	RETURN (O/P-1)