

80 PLUS Verification and Testing Report

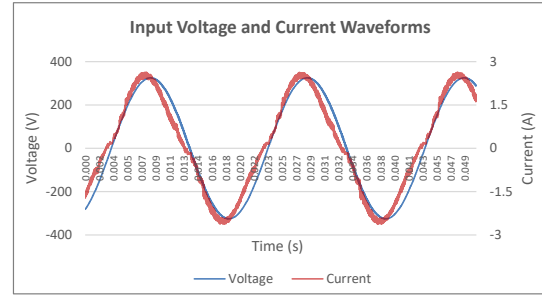
TYPICAL EFFICIENCY (50% Load):	89.16%
AVERAGE EFFICIENCY :	84.06%
80 PLUS COMPLIANT:	Bronze



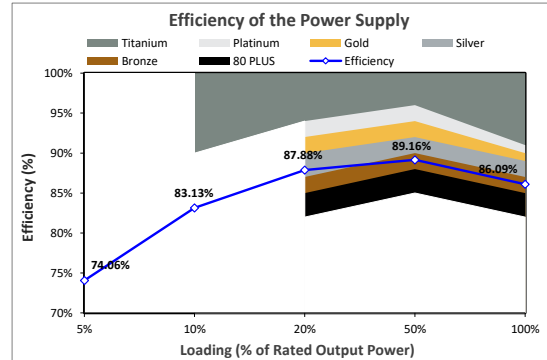
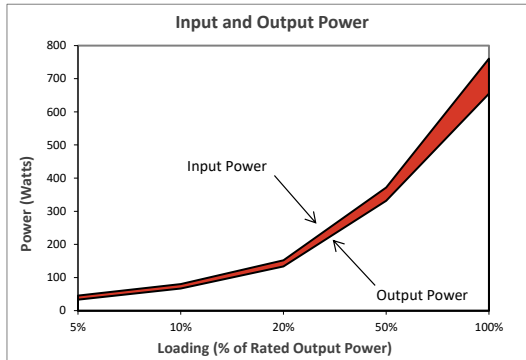
ID Number	EU-973
Manufacturer	Zalman
Model Number	ZM650-GV3
Serial Number	N/A
Year	2023
Type	ATX12V
Test Date	8/17/23

Rated Specifications	Value	Units
Input Voltage	200-240	Volts
Input Current	5	Amps
Input Frequency	50-60	Hz
Rated Output Power	650	Watts

Note: All measurements were taken with input voltage at 230 V nominal at 50 Hz.



I _{RMS} (A)	PF	I _{THD} (%)	Load	Input Watts	DC Terminal Voltage (V)/ DC Load Current (A)					Output Watts	Efficiency
					12V (cumulative of 12V1, 12V2, etc.)		-12V	3.3V	5V		
0.157	0.3537	20.79	0%	12.77	No-Load						
0.269	0.7298	20.08	5%	45.11	12.32/2.26	12.31/0.01	3.37/0.55	5.14/0.55	5.14/0.13	33.41	74.06%
0.406	0.8596	17.07	10%	80.24	12.3/4.52	12.26/0.03	3.36/1.11	5.13/1.11	5.13/0.25	66.71	83.13%
0.705	0.9379	13.68	20%	151.99	12.28/9.09	12.26/0.06	3.34/2.21	5.11/2.21	5.11/0.5	133.57	87.88%
1.655	0.9767	10.81	50%	371.86	12.22/22.71	12.26/0.13	3.3/5.52	5.05/5.52	5.06/1.25	331.54	89.16%
3.341	0.9900	6.38	100%	760.65	12.11/45.34	12.39/0.25	3.23/11.04	4.96/11.06	4.95/2.5	654.84	86.09%



These tests were conducted by a third party independent testing firm on behalf of the 80 PLUS Program. 80 PLUS is a certification program to promote highly-efficient power supplies (greater than 80% efficiency in the active mode) in technology applications. <http://www.80plus.org/>