

Test report for no-load condition electric power consumption and average active efficiency of external power supplies

for Ecodesign requirement of the COMMISSION REGULATION (EU) 2019/1782

Effective from 1 April 2020

■ Sample product information

(Notice)

Product Category: Commercial equipment
 Product name: External power supply
 Product number: PGLV1021
 Serial number: *
 Nameplate output power, (Pno) 54Vdc 1.67A Pno:90.0W
 AC-AC external power supply
 Type of external power supply AC-DC external power supply
 Low voltage external power supply

(Low voltage external power supply: Nameplate output voltage < 6V and output current \geq 550mA)

■ Measurement report

No-load condition power consumption

Type	Pno	Measurement Data	Requirement
AC-AC external power supply	$P_{no} \leq 49.0W$	N/A	$\leq 0.21 W$
	$49.0W < P_{no}$	N/A	
AC-DC external power supply	$P_{no} \leq 49.0W$	N/A	$\leq 0.10 W$
	$49.0W < P_{no}$	0.11	$\leq 0.21 W$
Low Voltage external power supply	$P_{no} \leq 49.0W$	N/A	$\leq 0.10 W$
	$49.0W < P_{no}$	N/A	$\leq 0.21 W$

- N/A if Pno and Type not in category.

The average active efficiency

Type	Pno	Measurement data	Requirement
AC-AC external power supply AC-DC external power supply	$P_{no} \leq 1.0W$	N/A	$\geq 0.50 \cdot P_{no}/1W + 0.160$
	$1.0W < P_{no} \leq 51.0W$	N/A	$\geq 0.85 - 0.071 \cdot \ln(P_{no}) - 0.0014 \cdot P_{no} + 0.67$
	$51.0W < P_{no} \leq 250W$	0.9375	≥ 0.880
Low Voltage external power supply	$P_{no} \leq 1.0W$	N/A	$\geq 0.517 \cdot P_{no} + 0.087$
	$1.0W < P_{no} \leq 51.0W$	N/A	$\geq 0.0834 \cdot \ln(P_{no}) - 0.0014 \cdot P_{no} + 0.609$
	$51.0W < P_{no} \leq 250W$	N/A	≥ 0.870

- N/A if Pno and Type not in category

■ Information provided by manufacturer

	Percentage of nameplate output current					
	Condition 1	Condition 2	Condition 3	Condition 4	Condition 5	Condition 6
	100%±2%	75%±2%	50%±2%	25%±2%	10%±2%	0%
RMS output current(mA)	1680	1260	840	420	170	/
RMS output Voltage(V)	53.53	53.58	53.63	53.68	53.71	
Active output power(W) :(P _o)	89.74	67.41	45.09	22.66	9.20	
RMS input voltage(V)	229.99	230.04	230.11	230.20	230.22	230.23
RMS input power(W):(P _i)	95.73	72.12	48.81	25.31	10.58	0.11
Total Harmonic distortion (THD)	0.06	0.06	0.07	0.15	0.14	0.06
True power factor	0.968	0.951	0.922	0.785	0.574	0.024
Power Consumed by UUT(W) :(P _i – P _o)	Calculated at load condition					Actual
	5.99	4.76	3.71	2.65	1.38	0.11
Efficiency :(P _o /P _i)	Calculated at load condition					/
	93.75%	93.40%	92.39%	89.52%	86.99%	
Average efficiency	Arithmetic average of efficiency at load conditions 1-4					/
	92.27%					

■ Measuring Condition

Items	Value	Measuring Instrument	Accuracy
Power supply voltage and frequency	230 (Volts)		
	50 (Hertz)		
Power Supply THD	<2(%)		
Ambient Temperature	23 ± 5(Centigrade)		

■ Measuring equipment for power consumption

Instrument Name	Model number	Manufactured by	Accuracy
AC Source	6430	CHROMA	
Electronic Load	63640-80-80	CHROMA	
Power Meter	66202	CHROMA	

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