



**Technical Documentation for EU Regulation 2019/424 laying down ecodesign requirements for servers and data storage product pursuant to Directive 2009/125/EC**

2020-02-28

The following information is based on IBM's knowledge as of the date of this document, which may be based on its records and information from third parties. This documentation applies to finished products that IBM newly puts on the market in the European Union and other jurisdictions which require this Technical Documentation as of the above date.

Product Information			
Machine Type(s)	Model(s)	Part Number	Product Type
8284	21A	-	1-socket, rack mount, resilient server

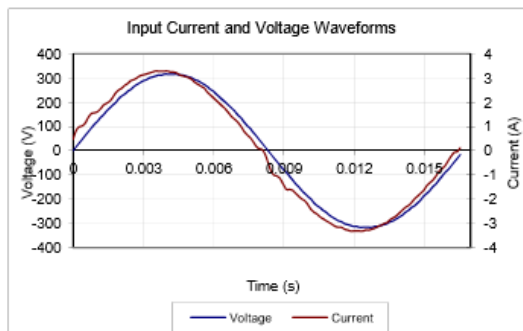
Manufacturer's name, registered trade name and registered trade address:



Year of manufacture  
2020

Power Supply Unit (PSU) efficiency, power factor and rated power output:

Ecos ID #	SO-732
Manufacturer	IBM Corporation
Model Number	MPS1025
Serial Number	YL10KFF23034
Year	2014
Type	CUSTOM
Test Date	04/17/14



Input AC Current Waveform (ITHD = 3.03%, 50% Load)

Rated Specifications	Value	Units
Input Voltage	100-127 / 200-240	Volts
Input Current	12-7	Amps
Input Frequency	50/60	Hz
Rated Output Power	1,025	Watts

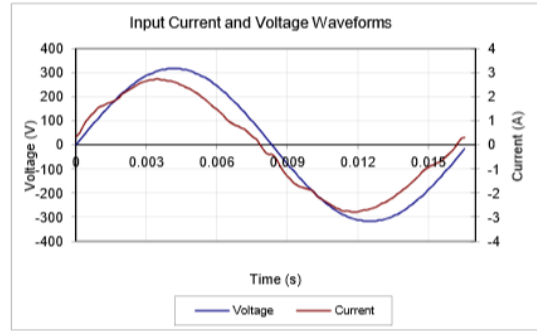
Note: All measurements were taken with input voltage at 230 V nominal and 60 Hz.

I <sub>RMS</sub> A	PF	I <sub>THD</sub> (%)	Load (%)	Fraction of Load	Input Watts	External Fan (W)*	DC Terminal Voltage (V)/ DC Load Current (A)		Output Watts	Efficiency %
							12.3V	12.3Vsb		
0.60	0.84	39.26	10%	Low	117	16.92	12.32/6.67	12.3/1.66	103	87.66%
1.02	0.96	27.40	20%	Light	226	16.92	12.32/13.4	12.3/3.32	206	91.22%
2.40	0.99	3.03	50%	Typical	548	16.92	12.33/33.47	12.29/8.29	515	94.00%
4.83	1.00	2.04	100%	Full	1110	16.92	12.34/66.97	12.27/16.58	1030	92.78%

\* Fan power is not included in the efficiency calculations



<b>Ecos ID #</b>	SO-541
<b>Manufacturer</b>	IBM
<b>Model Number</b>	7001691-XXXX
<b>Serial Number</b>	11S94Y8092YK10812BA007
<b>Year</b>	2012
<b>Type</b>	1U
<b>Test Date</b>	04/25/13



Input AC Current Waveform (ITHD = 5.39%, 50% Load)

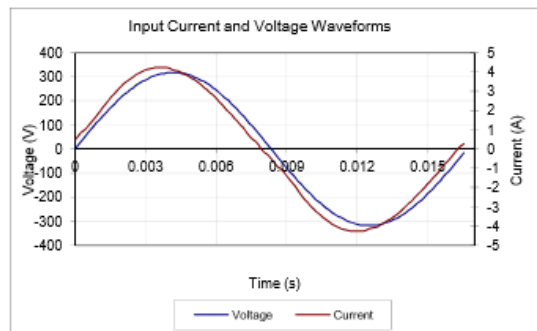
Rated Specifications		Value	Units
Input Voltage		100-127 / 200-240	Volts
Input Current		10.0/5.0	Amps
Input Frequency		50/60	Hz
Rated Output Power		900	Watts

Note: All measurements were taken with input voltage at 230 V nominal and 60 Hz.

I <sub>RMS</sub> A	PF	I <sub>THD</sub> (%)	Load (%)	Fraction of Load	Input Watts	External Fan (W)*	DC Terminal Voltage (V)/ DC Load Current (A)		Output Watts	Efficiency %
							12.2V	12Vsb		
0.58	0.76	15.36	10%	Low	102	0.84	12.28/7.15	12.07/0.25	91	88.92%
0.92	0.92	13.03	20%	Light	194	0.84	12.27/14.22	12.06/0.49	180	92.85%
2.13	0.98	5.39	50%	Typical	481	0.84	12.26/35.74	12.04/1.22	453	94.16%
4.29	0.99	6.74	100%	Full	978	2.88	12.26/71.5	11.99/2.43	905	92.57%

\* Fan power is not included in the efficiency calculations

<b>Ecos ID #</b>	SO-542
<b>Manufacturer</b>	IBM
<b>Model Number</b>	7001692-XXXX
<b>Serial Number</b>	11S94Y8090YK10812AZ003
<b>Year</b>	2012
<b>Type</b>	1U
<b>Test Date</b>	04/25/13



Input AC Current Waveform (ITHD = 3.91%, 50% Load)

Rated Specifications		Value	Units
Input Voltage		100-127   200-240	Volts
Input Current		10-8	Amps
Input Frequency		50/60	Hz
Rated Output Power		1,400	Watts

Note: All measurements were taken with input voltage at 230 V nominal and 60 Hz.

I <sub>RMS</sub> A	PF	I <sub>THD</sub> (%)	Load (%)	Fraction of Load	Input Watts	External Fan (W)*	DC Terminal Voltage (V)/ DC Load Current (A)		Output Watts	Efficiency %
							12.2V	12Vsb		
0.78	0.88	16.03	10%	Low	155	0.84	12.28/11.25	12.24/0.25	141	90.93%
1.39	0.94	9.84	20%	Light	302	0.84	12.28/22.5	12.21/0.49	282	93.52%
3.30	0.99	3.91	50%	Typical	748	1.56	12.27/56.26	12.11/1.23	705	94.21%
6.71	0.99	3.75	100%	Full	1533	4.56	12.25/112.54	11.94/2.45	1408	91.85%

\* Fan power is not included in the efficiency calculations

## 1 socket configuration

### Idle State Power High End Configuration

313.5 Watts

### Idle State Power Low End Configuration

283.5 Watts

### List of extra components for additional idle power allowances (High End Configuration):

- CPU Performance : 1
- Additional PSU installed explicitly for power redundancy : 1
- HDD installed : 0
- SSD installed : 2
- Installed memory greater than 4 GB : 508 GB
- Installed buffered DDR channels greater than 8 channels : 8
- Installed I/O devices greater than two ports of ≥ 1 Gbit, onboard Ethernet



- = 1 Gb/s : 1
- > 1 Gb/s and < 10 Gb/s : 0
- ≥ 10 Gb/s and < 25Gb/s : 0
- ≥ 25 Gb/s and < 50Gb/s : 0
- ≥ 50 Gb/s : 0
- Other: 0

List of extra components for additional idle power allowances (Low End Configuration):

- CPU Performance : 1
- Additional PSU installed explicitly for power redundancy : 1
- HDD installed : 2
- SSD installed : 0
- Installed memory greater than 4 GB : 124 GB
- Installed buffered DDR channels greater than 8 channels : 0
- Installed I/O devices greater than two ports of ≥ 1 Gbit, onboard Ethernet
  - = 1 Gb/s : 1
  - > 1 Gb/s and < 10 Gb/s : 0
  - ≥ 10 Gb/s and < 25Gb/s : 0
  - ≥ 25 Gb/s and < 50Gb/s : 0
  - ≥ 50 Gb/s : 0
- Other: 0

Maximum power for high end configuration

370.8 Watts

Maximum power for low end configuration

295.9 Watts

Active state efficiency and performance in active state for high end configuration

3.2

Active state efficiency and performance in active state for low end configuration

0.9

Declared operating condition class for high end configuration

A2

Declared operating condition class for low end configuration

A2

This product has been tested in order to verify that it will function within the boundaries of the declared operating condition class.

Idle state power at the higher boundary temperature of the declared operating condition class (High End Configuration):

343.5 Watts

Idle state power at the higher boundary temperature of the declared operating condition class (Low End Configuration):

313.5 Watts

**2 socket configuration**

Idle State Power High End Configuration



**N/A**

Idle State Power Low End Configuration

**N/A**

List of extra components for additional idle power allowances (High End Configuration):

- CPU Performance : **N/A**
- Additional PSU installed explicitly for power redundancy : **N/A**
- HDD installed : **N/A**
- SSD installed : **N/A**
- Installed memory greater than 4 GB : **N/A**
- Installed buffered DDR channels greater than 8 channels : **N/A**
- Installed I/O devices greater than two ports of  $\geq 1$  Gbit, onboard Ethernet
  - = 1 Gb/s : **N/A**
  - $> 1$  Gb/s and  $< 10$  Gb/s : **N/A**
  - $\geq 10$  Gb/s and  $< 25$ Gb/s : **N/A**
  - $\geq 25$  Gb/s and  $< 50$ Gb/s : **N/A**
  - $\geq 50$  Gb/s : **N/A**
- Other: **N/A**

List of extra components for additional idle power allowances (Low End Configuration):

- CPU Performance : **N/A**
- Additional PSU installed explicitly for power redundancy : **N/A**
- HDD installed : **N/A**
- SSD installed : **N/A**
- Installed memory greater than 4 GB : **N/A**
- Installed buffered DDR channels greater than 8 channels : **N/A**
- Installed I/O devices greater than two ports of  $\geq 1$  Gbit, onboard Ethernet
  - = 1 Gb/s : **N/A**
  - $> 1$  Gb/s and  $< 10$  Gb/s : **N/A**
  - $\geq 10$  Gb/s and  $< 25$ Gb/s : **N/A**
  - $\geq 25$  Gb/s and  $< 50$ Gb/s : **N/A**
  - $\geq 50$  Gb/s : **N/A**
- Other **N/A**

Maximum power for high end configuration

**N/A**

Maximum power for low end configuration

**N/A**

Active state efficiency and performance in active state for high end configuration

**N/A**

Active state efficiency and performance in active state for low end configuration

**N/A**

Declared operating condition class for high end configuration

**N/A**

Declared operating condition class for low end configuration

**N/A**



This product has been tested in order to verify that it will function within the boundaries of the declared operating condition class.

Idle state power at the higher boundary temperature of the declared operating condition class (High End Configuration):

**N/A**

Idle state power at the higher boundary temperature of the declared operating condition class (Low End Configuration):

**N/A**

### **3 socket configuration**

Idle State Power High End Configuration

**N/A**

Idle State Power Low End Configuration

**N/A**

List of extra components for additional idle power allowances (High End Configuration):

- CPU Performance : **N/A**
- Additional PSU installed explicitly for power redundancy : **N/A**
- HDD installed : **N/A**
- SSD installed : **N/A**
- Installed memory greater than 4 GB : **N/A**
- Installed buffered DDR channels greater than 8 channels : **N/A**
- Installed I/O devices greater than two ports of  $\geq 1$  Gbit, onboard Ethernet
  - = 1 Gb/s : **N/A**
  - > 1 Gb/s and < 10 Gb/s : **N/A**
  - $\geq 10$  Gb/s and < 25Gb/s : **N/A**
  - $\geq 25$  Gb/s and < 50Gb/s : **N/A**
  - $\geq 50$  Gb/s : **N/A**
- Other: **N/A**

List of extra components for additional idle power allowances (Low End Configuration):

- CPU Performance : **N/A**
- Additional PSU installed explicitly for power redundancy : **N/A**
- HDD installed : **N/A**
- SSD installed : **N/A**
- Installed memory greater than 4 GB : **N/A**
- Installed buffered DDR channels greater than 8 channels : **N/A**
- Installed I/O devices greater than two ports of  $\geq 1$  Gbit, onboard Ethernet
  - = 1 Gb/s : **N/A**
  - > 1 Gb/s and < 10 Gb/s : **N/A**
  - $\geq 10$  Gb/s and < 25Gb/s : **N/A**
  - $\geq 25$  Gb/s and < 50Gb/s : **N/A**
  - $\geq 50$  Gb/s : **N/A**
- Other **N/A**

Maximum power for high end configuration

**N/A**



Maximum power for low end configuration

**N/A**

Active state efficiency and performance in active state for high end configuration

**N/A**

Active state efficiency and performance in active state for low end configuration

**N/A**

Declared operating condition class for high end configuration

**N/A**

Declared operating condition class for low end configuration

**N/A**

This product has been tested in order to verify that it will function within the boundaries of the declared operating condition class.

Idle state power at the higher boundary temperature of the declared operating condition class (High End Configuration):

**N/A**

Idle state power at the higher boundary temperature of the declared operating condition class (Low End Configuration):

**N/A**

#### **4 socket configuration**

Idle State Power High End Configuration

**N/A**

Idle State Power Low End Configuration

**N/A**

List of extra components for additional idle power allowances (High End Configuration):

- CPU Performance : **N/A**
- Additional PSU installed explicitly for power redundancy : **N/A**
- HDD installed : **N/A**
- SSD installed : **N/A**
- Installed memory greater than 4 GB : **N/A**
- Installed buffered DDR channels greater than 8 channels : **N/A**
- Installed I/O devices greater than two ports of  $\geq 1$  Gbit, onboard Ethernet
  - = 1 Gb/s : **N/A**
  - > 1 Gb/s and < 10 Gb/s : **N/A**
  - $\geq 10$  Gb/s and < 25Gb/s : **N/A**
  - $\geq 25$  Gb/s and < 50Gb/s : **N/A**
  - $\geq 50$  Gb/s : **N/A**
- Other: **N/A**

List of extra components for additional idle power allowances (Low End Configuration):

- CPU Performance : **N/A**
- Additional PSU installed explicitly for power redundancy : **N/A**
- HDD installed : **N/A**
- SSD installed : **N/A**
- Installed memory greater than 4 GB : **N/A**



- Installed buffered DDR channels greater than 8 channels : **N/A**
- Installed I/O devices greater than two ports of  $\geq 1$  Gbit, onboard Ethernet
  - = 1 Gb/s : **N/A**
  - $> 1$  Gb/s and  $< 10$  Gb/s : **N/A**
  - $\geq 10$  Gb/s and  $< 25$ Gb/s : **N/A**
  - $\geq 25$  Gb/s and  $< 50$ Gb/s : **N/A**
  - $\geq 50$  Gb/s : **N/A**
- Other **N/A**

Maximum power for high end configuration

**N/A**

Maximum power for low end configuration

**N/A**

Active state efficiency and performance in active state for high end configuration

**N/A**

Active state efficiency and performance in active state for low end configuration

**N/A**

Declared operating condition class for high end configuration

**N/A**

Declared operating condition class for low end configuration

**N/A**

This product has been tested in order to verify that it will function within the boundaries of the declared operating condition class.

Idle state power at the higher boundary temperature of the declared operating condition class (High End Configuration):

**N/A**

Idle state power at the higher boundary temperature of the declared operating condition class (Low End Configuration):

**N/A**

Secure data functionality:

[http://www.ibm.com/support/knowledgecenter/POWER8/p8eah/p8eah\\_secure\\_data\\_deletion.htm](http://www.ibm.com/support/knowledgecenter/POWER8/p8eah/p8eah_secure_data_deletion.htm)

[http://www.ibm.com/support/knowledgecenter/en/linuxonibm/liaau/Linux\\_secure\\_delete.html](http://www.ibm.com/support/knowledgecenter/en/linuxonibm/liaau/Linux_secure_delete.html)



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