



## MEAN WELL Green Adaptors Comply with ErP Regulation

2010.07.30

Published on 2009.10.31, Official Journal of the European Union, Commission Regulation (EC) announced that EuP directive (Energy-Using Product Directive, 2005/32/EC) was replaced by ErP directive (Energy-related Products, 2009/125/EC). The implementing directive (EC/278/2009) for ErP directive requires all external adaptors enter the European Union should comply with energy-saving criteria as below in two steps and then the manufacturer can declare CE compliance. The first step which will come into force on 2010.04.26 requires for:

- The no-load condition power consumption shall not exceed 0.5W ( $P_o \leq 250W$ )
- Average active efficiency shall not be less than

Output Power ~ $P_o$	Average Active Efficiency (%)
$P_o < 1W$	$0.50 \cdot P_o$
$1W \leq P_o \leq 51W$	$0.09 \cdot \ln(P_o) + 0.50$
$P_o > 51W$	0.85

The second step which will come into force on 2011.04.26 requires for:

- The no-load condition power consumption shall not exceed 0.3W ( $P_o \leq 51W$ ) or 0.5W ( $51W < P_o \leq 250W$ )
- Average active efficiency shall not be less than the following limits:

Output Power ~ $P_o$	Average Active Efficiency (%) (Output Voltage $\geq 6V$ )	Average Active Efficiency (%) (Output Voltage $< 6V$ )
$P_o \leq 1W$	$0.48 \cdot (P_o) + 0.14$	$0.497 \cdot (P_o) + 0.067$
$1W < P_o \leq 51W$	$0.063 \cdot \ln(P_o) + 0.622$	$0.075 \cdot \ln(P_o) + 0.561$
$P_o > 51W$	0.87	0.86

MEAN WELL has announced the introduction of full series 6~220W green adaptors that comply with the requirement of “STEP 2” of ErP regulation and certified by the third party ~ S.G.S.. With certificate and related technical documents ready, we renewed the CE declaration for all of the compliance product series. Please refer to the “**Compliance List of ErP External Power Supply**” below and you can get more idea about our green adaptors with energy-saving concepts.

# Compliance List of ErP External Power Supply

2010.07.30.

Model Series	5V	7.5V	9V	12V	15V	18V	19V	20V	24V	28V	48V
GS06	○	○	○	○	○	○	-----	-----	○	-----	○
GS12	○	○	○	○	○	○	-----	-----	○	-----	-----
GE12	○	○	○	○	○	○	-----	-----	○	-----	-----
GS15	○	○	○	○	○	○	-----	-----	○	-----	○
GS18	○	○	○	○	○	○	-----	-----	○	○	○
GE18	○	○	○	○	○	○	-----	-----	○	-----	○
GE24	○	○	○	○	○	○	-----	-----	○	-----	○
GS25	○	○	○	○	○	○	-----	-----	○	○	○
GS40	○	○	○	○	○	○	-----	-----	○	-----	○
GS60	○	○	○	○	○	○	-----	-----	○	-----	○
GS90	-----	-----	-----	○	○	-----	○	-----	○	-----	○
GS120	-----	-----	-----	○	○	-----	-----	○	○	-----	○
AS-120P	-----	-----	-----	◎	◎	-----	-----	◎	○	-----	○
GS160	-----	-----	-----	○	○	-----	-----	○	○	-----	○
GS220	-----	-----	-----	○	○	-----	-----	○	○	-----	○

◎: Pass ErP step 1 only      ○: Pass ErP step 2      ----- : Not available

# VERIFICATION OF COMPLIANCE

to the requirements of

## ErP Directive 2009/125/EC

Verification Report No. : EL/2009/C0009C  
 Product Name : External power supply

Model Series	Model number Table
GS160A	GS160A12, GS160A15, GS160A20, GS160A24, GS160A48.
GS18A	GS18A05, GS18A07, GS18A09, GS18A12, GS18A15, GS18A18, GS18A24, GS18A28, GS18A48. <b>A: IEC320-C14 Inlet (Class I).</b>
GS18B	GS18B05, GS18B07, GS18B09, GS18B12, GS18B15, GS18B18, GS18B24, GS18B28, GS18B48. <b>B: IEC320-C8 Inlet (Class II).</b>
GS18E	GS18E05, GS18E07, GS18E09, GS18E12, GS18E15, GS18E18, GS18E24, GS18E28, GS18E48. <b>E: European type plug.</b>
GS25A	GS25A05, GS25A07, GS25A09, GS25A12, GS25A15, GS25A18, GS25A24, GS25A28, GS25A48. <b>A: IEC320-C14 Inlet (Class I).</b>
GS25B	GS25B05, GS25B07, GS25B09, GS25B12, GS25B15, GS25B18, GS25B24, GS25B28, GS25B48. <b>B: IEC320-C8 Inlet (Class II).</b>
GS25E	GS25E05, GS25E07, GS25E09, GS25E12, GS25E15, GS25E18, GS25E24, GS25E28, GS25E48. <b>E: European type plug.</b>
GS40A	GS40A05, GS40A07, GS40A09, GS40A12, GS40A15, GS40A18, GS40A24, GS40A48. <b>A: IEC320-C14 Inlet (Class I).</b>
GS60A	GS60A05, GS60A07, GS60A09, GS60A12, GS60A15, GS60A18, GS60A24, GS60A48. <b>A: IEC320-C14 Inlet (Class I).</b>
GS90A	GS90A12, GS90A15, GS90A19, GS90A24, GS90A48. <b>A: IEC320-C14 Inlet (Class I).</b>
GS220A	GS220A12, GS220A15, GS220A20, GS220A24, GS220A48. <b>A: IEC320-C14 Inlet (Class I).</b>
AS-120P	AS-120P-24, AS-120P-48.

Applicant : MEAN WELL ENTERPRISES CO., LTD.  
 Address of Applicant : NO. 28, WU-CHUAN 3RD ROAD, WU KU IND. PARK, TAIPEI HSIEN, TAIWAN ,248  
 TDF Number : EL/2009/C0009T-01, EL/2009/C0011T-01, EL/2009/C0012T-01, EL/2009/C0013T-01, EL/2009/C0014T-01, EL/2009/C0015T-01, EL/2009/C0016T-01, EL/2009/C0017T-01  
 Test Report Number : EL/2009/C0009, EL/2009/C0011, EL/2009/C0012, EL/2009/C0013, EL/2009/C0014, EL/2009/C0015. EL/2009/C0016. EL/2009/C0017  
 Date of Issued : 2010/01/06  
 Applicable Standards : COMMISSION REGULATION (EC) No 278/2009 of 6 April 2009

### Conclusion

Based upon a review of the Test Report(s) and the Technical Documentation File, the apparatus is deemed to comply with the below requirements of:

**Energy-Related Products Directive 2009/125/EC (recasts and supersedes 2005/32/EC)**  
**Ecodesign requirements for no-load condition electric power consumption and average active efficiency of external power supplies EC No. 278/2009,**  
**Annex I, Two years after this Regulation has come into force.**

*Note : This verification is only valid for the apparatus and configuration described and in conjunction with the technical data detailed above.*

*The CE mark as shown below can be used, under the responsibility of the manufacturer, after completion an EC Declaration of Conformity and compliances with all relevant EC Directives.*

Authorized Signatory:



**SGS TAIWAN LTD.**  
**Steven Chiou**  
**Director**



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.  
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## VERIFICATION OF COMPLIANCE

to the requirements of  
**ErP Directive 2009/125/EC**

Verification Report No. : EL/2009/C0010C  
 Product Name : External power supply

Model number Table		
Model Name		Variant types `E, U` description
GS12E05	GS12U05	E: European type plug(Class II)
GS12E07	GS12U07	
GS12E09	GS12U09	
GS12E12	GS12U12	U: US type plug(Class II)
GS12E15	GS12U15	
GS12E18	GS12U18	
GS12E24	GS12U24	

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 TDF Number : EL/2009/C0010T  
 Test Report Number : EL/2009/C0010  
 Date of Issued : 2010/06/30  
 Applicable Standards : COMMISSION REGULATION (EC) No 278/2009 of 6 April 2009

### Conclusion

Based upon a review of the Test Report(s) and the Technical Documentation File, the apparatus is deemed to comply with the below requirements of:

**Energy-Related Products Directive 2009/125/EC (recasts and supersedes 2005/32/EC)**  
**Ecodesign requirements for no-load condition electric power consumption and average active efficiency of external power supplies EC No. 278/2009,**  
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## VERIFICATION OF COMPLIANCE

to the requirements of  
**ErP Directive 2009/125/EC**

Verification Report No. : EL/2009/C0018C  
 Product Name : External power supply

Model number Table	
Model Name	Variant types "A, X" description
GS120A15	A:IEC320-C14 Inlet (Class I) X=12,15,20,24,48
GS120A20	
GS120A12	
GS120A24	
GS120A48	

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 TDF Number : EL/2009/C0018T  
 Test Report Number : EL/2009/C0018  
 Date of Issued : 2010/06/30  
 Applicable Standards : COMMISSION REGULATION (EC) No 278/2009 of 6 April 2009

### Conclusion

Based upon a review of the Test Report(s) and the Technical Documentation File, the apparatus is deemed to comply with the below requirements of:

**Energy-Related Products Directive 2009/125/EC (recasts and supersedes 2005/32/EC)**  
**Ecodesign requirements for no-load condition electric power consumption and average active efficiency of external power supplies EC No. 278/2009,**  
**Annex I, two years after this Regulation has come into force.**

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## EC-Conformity Declaration

For the following equipment :

Product Name: Switching Power Supplies

Model Designation: GSXAY (X=40 or 60)(Y=05/07/09/12/15/18/24/48)

is herewith confirmed to comply with the requirements set out in the Council Directive, the following standards were applied :

### Low Voltage Directive (2006/95/EC) :

EN60950-1:2006 TUV certificate No : R50127275

### Electromagnetic Compatibility Directive (2004/108/EC) :

#### EMI (Electro-Magnetic Interference)

Conducted emissions	EN55022:2006+A1:2007	Class B
Radiated emissions	EN55011:2007+A2:2007 (Group 1)	Class B
	EN61000-6-3:2007	

Harmonic distortion EN61000-3-2:2006

Voltage flicker EN61000-3-3:1995+A1:2001+A2:2005

#### EMS (Electro-Magnetic Susceptibility)

EN55024:1998+A1:2001+A2:2003 EN61204-3:2000 EN61000-6-1:2007

ESD air EN61000-4-2:1995+A1:1998+A2:2001 Level 3 8KV

ESD contact EN61000-4-2:1995+A1:1998+A2:2001 Level 2 4KV

RF field susceptibility EN61000-4-3:2006 Level 2 3V/m

EFT bursts EN61000-4-4:2004 Level 2 1KV/5KHz

Surge susceptibility EN61000-4-5:2006 Level 3 1KV/Line-Line 2KV/Line-Earth

Conducted susceptibility EN61000-4-6:2007 Level 2 3V

Magnetic field immunity EN61000-4-8:1993+A1:2001 Level 2 3A/m

Voltage dip, interruption EN61000-4-11:2004 >95% dip 0.5 periods 30% dip 25 periods >95% interruptions 250 periods

Keyed carrier immunity ENV50204:1995 Level 2 3V/m 900MHz

#### Note:

The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.

For guidance on how to perform these EMC tests, please refer to TDF (Technical Documentation File).

### Energy-Related Products Directive (2009/125/EC) :

Ecodesign requirements for no-load condition electric power consumption and average active efficiency of external power supplies EC No.278/2009"

This Declaration is effective from serial number EB01xxxxxx

Person responsible for marking this declaration :

Mean Well Enterprises Co., Ltd.

(Manufacturer Name)

28, Wu-Chuan 3rd Road, Wu Ku Ind. Park, Taipei Hsien, Taiwan R.O.C.

(Manufacturer Address)

Johnny Huang/Senior Verification Engineer :

(Name / Position)

(Signature)

Ted Cheng/Product Manager :

(Name / Position)

(Signature)

Taiwan

(Place)

Jan.06.2010

(Date)