



Ref. Certif. No.

DE 3 - 58773

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

SYSTEME CEI D'ACCEPTATION MUTUELLE DE CERTIFICATS D'ESSAIS DES EQUIPEMENTS ELECTRIQUES (IECEE) METHODE OC

### CB TEST CERTIFICATE CERTIFICAT D'ESSAI OC

**Product**

Produit

Name and address of the applicant

Nom et adresse du demandeur

Name and address of the manufacturer

Nom et adresse du fabricant

Name and address of the factory

Nom et adresse de l'usine

Rating and principal characteristics

Valeurs nominales et caractéristiques principales

Trade mark (if any)

Marque de fabrique (si elle existe)

Model/type Ref.

Ref. de type

Additional information (if necessary)

Information complémentaire (si nécessaire)

A sample of the product was tested and found to be in conformity with

Un échantillon de ce produit a été essayé et a été considéré conforme à la

as shown in the Test Report Ref. No.

which form part of this certificate

comme indiqué dans le Rapport d'essais numéro de référence qui constitue une partie de ce certificat

**Power supplies**

Integrated Power Designs, Inc. Hanover Industrial Estates

300 Stewart Road

Wilkes-Barre, PA 18706, USA

Integrated Power Designs, Inc. Hanover Industrial Estates, 300

Stewart Road, Wilkes-Barre, PA 18706, USA

Integrated Power Designs, Inc. Hanover Industrial Estates, 300

Stewart Road, Wilkes-Barre, PA 18706, USA

**REL-185 Series**

Rated Input Voltage: 100-240 V AC

Rated Input Current: 4 A

Rated Frequency: 50-60 Hz

Rated Outputs: See attachment

Protection Class: I

**DC2-185 Series; DC4-185 Series**

Rated Input Voltage: 18-36 V; 36-72 V

Rated Input Current: 20 A; 10 A

Rated Output: See attachment

Protection Class: I

IPD

REL-185 Series

DC2-185 Series

DC4-185 Series

See certificate attachment for additional ratings, models and license conditions.

SMT Procedure

IEC 60950-1:/A1:2009

090-1005922-000

This CB Test Certificate is issued by the National Certification Body

Ce Certificat d'essai OC est établi par l'Organisme **National de Certification**

Date,

2010-10-29

CB 10 10 30824 147

Joseph Janeliunas



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## Attachment to Certificate CB 10 10 30824 147

**REL-185 POWER SUPPLY SERIES:**

Input: 100 - 240VAC, 4A, 50-60Hz

**DC2-185 POWER SUPPLY SERIES:**

Input: 18-36 Vdc, 20A (max.)

**DC4-185 POWER SUPPLY SERIES:**

Input: 36-72 Vdc, 10A (max.)

**MODEL NUMBERS AND OUTPUT RATINGS**

Model number	Transformer (6000XXX)	Output 1	Output 2	Output 3	Output 4
REL-185-4001	573				
DC2-185-4001	714	3.3V/20A(3)	5V/10A	12V/2A	12V/2A
DC4-185-4001	765				
REL-185-4002	574				
DC2-185-4002	715	5V/20A(3)	3.3V/10A	12V/2A	12V/2A
DC4-185-4002	766				
REL-185-4003	575				
DC2-185-4003	716	5V/20A(3)	3.3V/10A	15V/2A	15V/2A
DC4-185-4003	767				
REL-185-4004	576				
DC2-185-4004	717	5V/20A(3)	5V/10A	12V/2A	12V/2A
DC4-185-4004	768				
REL-185-4005	577				
DC2-185-4005	718	5V/20A(3)	5V/10A	15V/2A	15V/2A
DC4-185-4005	769				
REL-185-4006	578				
DC2-185-4006	719	5V/20A(3)	24V/3A	12V/2A	12V/2A
DC4-185-4006	770				
REL-185-4007	579				
DC2-185-4007	720	5V/20A(3)	24V/3A	15V/2A	15V/2A
DC4-185-4007	771				
REL-185-4008	873	3.3V/20A(3)	6V/5A	12V/2A	6V/5A
REL-185-3001	580				
DC2-185-3001	721	5V/20A(3)	12V/5A	—	12V/2A
DC4-185-3001	772				
REL-185-3002	581				
DC2-185-3002	722	5V/20A(3)	15V/4A	—	15V/2A
DC4-185-3002	773				
REL-185-2001	582				
DC2-185-2001	723	3.3V/20A(3)	5V/10A	—	—
DC4-185-2001	774				

Test Report No: 090-1005922-000

Date, 2010-10-29  
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## Attachment to Certificate CB 10 10 30824 147

Model number	Transformer (6000XXX)	Output 1	Output 2	Output 3	Output 4
REL-185-2002	583				
DC2-185-2002	724	5V/20A(3)	12V/8A	—	—
DC4-185-2002	775				
REL-185-2003	584				
DC2-185-2003	725	5V/20A(3)	24V/4A	—	—
DC4-185-2003	776				
REL-185-2004	585				
DC2-185-2004	726	12V/10A	12V/6A	—	—
DC4-185-2004	777				
REL-185-2005	586				
DC2-185-2005	727	15V/8A	15V/5A	—	—
DC4-185-2005	778				
REL-185-2006	712	15V/6A	24V/4A	—	—
REL-185-2007	816	35V/3.5A	12V/5.2A	—	—
REL-185-1001	587				
DC2-185-1001	728	2.5V/37A(4)	—	—	—
DC4-185-1001	779				
REL-185-1002	588				
DC2-185-1002	729	3.3V/37A(4)	—	—	—
DC4-185-1002	780				
REL-185-1003	589				
DC2-185-1003	730	5V/37A(4)	—	—	—
DC4-185-1003	781				
REL-185-1004	590				
DC2-185-1004	731	12V/15.4A	—	—	—
DC4-185-1004	782				
REL-185-1005	591				
DC2-185-1005	732	15V/12.3A	—	—	—
DC4-185-1005	783				
REL-185-1006	592				
DC2-185-1006	733	24V/7.7A	—	—	—
DC4-185-1006	784				
REL-185-1007	593				
DC2-185-1007	734	28V/6.6A	—	—	—
DC4-185-1007	785				
REL-185-1008	594				
DC2-185-1008	735	48V/3.8A	—	—	—
DC4-185-1008	786				
REL-185-1009	022	6.3V/29A	—	—	—

Test Report No: 090-1005922-000

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**Attachment to Certificate CB 10 10 30824 147**

Notes: Applies to all models, except if specifically noted otherwise.

1. Total output power must not exceed 135 watts with free air convection cooling or 120 watts with convection cooling and chassis/cover option.
2. Total output power must not exceed 185 watts with 300 LFM forced air cooling.
3. Rated 15 A maximum with convection cooling.
4. Rated 27 A maximum with convection cooling.
5. Outputs can be positive, negative, or floating with respect to Output 1.
6. All units have been evaluated to both IEC/EN 60950-1 and IEC/EN 60601-1.
7. A suffix, or any combination of, may be added to the model number to indicate the following optional configuration(s):

CH-chassis  
 CO-cover  
 IO-isolated outputs  
 PF-power fail  
 OVP-over voltage protection  
 TS-terminal strips  
 TB- terminal blocks  
 GOLD-gold pins input / output headers  
 Y or NY-decreased, or removed, line to ground capacitors

**License Conditions:**

1. These components have been judged on the basis of the required spacing's in the Standard for Safety of Information Technology Equipment, IEC/EN 60950-1.
2. These components have been evaluated for the output power ratings specified, at a 50°C ambient. The temperature tests are to be repeated in the end product. Isolation Transformer T1 employs a R/C OBJY2 Class B (130°C) electrical insulation system designated IPD-130-1.
3. The input circuit includes only one fuse in the line input.
4. These components have been evaluated as Class I equipment for use in pollution degree 2 environments.

Test Report No: 090-1005922-000

Date, 2010-10-29  
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Product Service





Ref. Certif. No.

DE 3 - 4546

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

SYSTEME CEI D'ACCEPTATION MUTUELLE DE CERTIFICATS D'ESSAIS DES EQUIPEMENTS ELECTRIQUES (IECEE) METHODE OC

### CB TEST CERTIFICATE CERTIFICAT D'ESSAI OC

Product

Produit

Medical power supplies

Name and address of the applicant

Nom et adresse du demandeur

Integrated Power Designs, Inc. Hanover Industrial Estates  
300 Stewart Road  
Wilkes-Barre, PA 18706, USA

Name and address of the manufacturer

Nom et adresse du fabricant

Integrated Power Designs, Inc. Hanover Industrial Estates, 300  
Stewart Road, Wilkes-Barre, PA 18706, USA

Name and address of the factory

Nom et adresse de l'usine

Integrated Power Designs, Inc. Hanover Industrial Estates, 300  
Stewart Road, Wilkes-Barre, PA 18706, USA

Rating and principal characteristics

Valeurs nominales et caractéristiques principales

Rated Input Voltage See attachment  
Rated Input Frequency See attachment  
Rated Input Current See attachment  
Classification: Class I

Type of Manufacturer's Testing Laboratories used

Type de programme du laboratoire d'essais constructeur

SMT

Model/type Ref.

Ref. de type

REL-185 Series  
DC2-185 Series  
DC4-185 Series  
See attachment for models

Additional information (if necessary)

Information complémentaire (si nécessaire)

A sample of the product was tested and found to be in conformity with

Un échantillon de ce produit a été essayé et a été considéré conforme à la

IEC 60601-1:2005

as shown in the Test Report Ref. No.

which form part of this certificate

comme indiqué dans le Rapport d'essais numéro de référence qui constitue une partie de ce certificat

090-1010810-000

This CB Test Certificate is issued by the National Certification Body  
Ce Certificat d'essai OC est établi par l'Organisme **National de Certification**

Date,

2011-11-02

CB 11 10 30824 169

A. C. Young-Taylor



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Product Service

**Attachment to Certificate CB 11 10 30824 169**

**Integrated Power Designs, Inc.**  
**Hanover Industrial Estates**  
**300 Stewart Road**  
**Wilkes-Barre, PA 18706, USA**

**INPUT RATINGS**

Series	Voltage	Current	Frequency
REL-185	100-240VAC	4A (max.)	50-60Hz
DC2-185	18-36Vdc	20A (max.)	N/A
DC4-185	36-72Vdc	10A (max.)	N/A

**MODEL NUMBERS AND OUTPUT RATINGS**

Model number	Transformer (6000XXX)	Output 1 (5)	Output 2 (5)	Output 3 (6)	Output 4 (6)
REL-185-4001	573	3.3V/20A(3)	5V/10A	12V/2A	12V/2A
DC2-185-4001	714				
DC4-185-4001	765				
REL-185-4002	574	5V/20A(3)	3.3V/10A	12V/2A	12V/2A
DC2-185-4002	715				
DC4-185-4002	766				
REL-185-4003	575	5V/20A(3)	3.3V/10A	15V/2A	15V/2A
DC2-185-4003	716				
DC4-185-4003	767				
REL-185-4004	576	5V/20A(3)	5V/10A	12V/2A	12V/2A
DC2-185-4004	717				
DC4-185-4004	768				

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**300 Stewart Road**  
**Wilkes-Barre, PA 18706, USA**

REL-185-4005	577				
DC2-185-4005	718	5V/20A(3)	5V/10A	15V/2A	15V/2A
DC4-185-4005	769				
REL-185-4006	578				
DC2-185-4006	719	5V/20A(3)	24V/3A	12V/2A	12V/2A
DC4-185-4006	770				
REL-185-4007	579				
DC2-185-4007	720	5V/20A(3)	24V/3A	15V/2A	15V/2A
DC4-185-4007	771				
REL-185-4008	873	3.3V/20A(3)	6V/5A	12V/2A	6V/5A
REL-185-3001	580				
DC2-185-3001	721	5V/20A(3)	12V/5A		12V/2A
DC4-185-3001	772				
REL-185-3002	581				
DC2-185-3002	722	5V/20A(3)	15V/4A		15V/2A
DC4-185-3002	773				
REL-185-2001	582				
DC2-185-2001	723	3.3V/20A(3)	5V/10A		
DC4-185-2001	774				
REL-185-2002	583				
DC2-185-2002	724	5V/20A(3)	12V/8A		
DC4-185-2002	775				
REL-185-2003	584				
DC2-185-2003	725	5V/20A(3)	24V/4A		
DC4-185-2003	776				
REL-185-2004	585				
DC2-185-2004	726	12V/10A	12V/6A		
DC4-185-2004	777				

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Integrated Power Designs, Inc.  
Hanover Industrial Estates  
300 Stewart Road  
Wilkes-Barre, PA 18706, USA

REL-185-2005	586				
DC2-185-2005	727	15V/8A	15V/5A		
DC4-185-2005	778				
REL-185-2006	712	15V/6A	24V/4A		
REL-185-2007	816	35V/3.5A	12V/5.2A		
REL-185-1001	587				
DC2-185-1001	728	2.5V/37A(4)			
DC4-185-1001	779				
REL-185-1002	588				
DC2-185-1002	729	3.3V/37A(4)			
DC4-185-1002	780				
REL-185-1003	589				
DC2-185-1003	730	5V/37A(4)			
DC4-185-1003	781				
REL-185-1004	590				
DC2-185-1004	731	12V/15.4A			
DC4-185-1004	782				
REL-185-1005	591				
DC2-185-1005	732	15V/12.3A			
DC4-185-1005	783				
REL-185-1006	592				
DC2-185-1006	733	24V/7.7A			
DC4-185-1006	784				
REL-185-1007	593				
DC2-185-1007	734	28V/6.6A			
DC4-185-1007	785				
REL-185-1008	594				
DC2-185-1008	735	48V/3.8A			
DC4-185-1008	786				
REL-185-1009	022	6.3V/29A			
REL-185-1010	593	31V/6A			

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## Attachment to Certificate CB 11 10 30824 169

Integrated Power Designs, Inc.  
Hanover Industrial Estates  
300 Stewart Road  
Wilkes-Barre, PA 18706, USA

Notes: Applies to all models, except if specifically noted otherwise.

1. Total output power must not exceed 135 watts with free air convection cooling or 120 watts with convection cooling and chassis/cover option.
2. Total output power must not exceed 185 watts with 300 LFM forced air cooling.
3. Rated 15 A maximum with convection cooling.
4. Rated 27 A maximum with convection cooling.
5. Outputs can be positive, negative, or floating with respect to Output 1.
6. A suffix, or any combination of, may be added to the model number to indicate the following optional configuration(s): CH-chassis, CO-cover, IO-isolated outputs, PF-power fail, RE- Remote On/Off, OVP-over voltage protection, TS-terminal strips, TB- terminal blocks, GOLD-gold pins input / output headers, Y or NY-decreased, or removed, line to ground capacitors.

Conditions of Acceptability:

1. These components have been judged on the basis of the required spacings in the Standard for Safety of Medical Electrical Equipment, IEC 60601-1:2005.
2. These components have been evaluated for the output power ratings specified, at a 50°C ambient. The temperature tests are to be repeated in the end product. Isolation Transformer T1 employs a R/C OBJY2 Class B (130°C) electrical insulation system designated IPD-130-1 (see File E137708SP, Vol. 1, Sec. 4.), issued by Underwriters Laboratories.
3. The input circuit includes only one fuse in the line input. A second fuse must be included in the neutral input in the end product, in consideration of paragraph 8.11.5 of IEC 60601-1:2005.
4. These components have been evaluated as Class I equipment for use in pollution degree 2 environments.
5. The supply terminal grounding connector is connected to the chassis through a land on the printed wiring board. An Earthing Test between the chassis and input ground terminal was successfully performed. All mounting holes on the printed circuit board must be reliably connected to the end product's grounding connection.

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Product Service

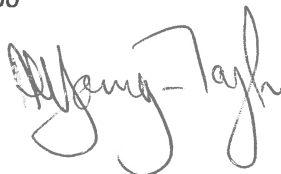
## Attachment to Certificate CB 11 10 30824 169

Integrated Power Designs, Inc.  
Hanover Industrial Estates  
300 Stewart Road  
Wilkes-Barre, PA 18706, USA

6. These components require Electrical and Fire enclosures as part of the end product.
7. These components provide reinforced insulation between the primary and secondary circuits.
8. This unit utilizes both input/output connectors and alternate output terminal blocks, see critical components list. The input/output connectors are not acceptable for field connections and are only intended for connection to mating connectors of internal wiring inside the end-use machine. The acceptability of these mating connectors relative to secureness, insulating materials and temperatures should be considered.  
  
However, the units that utilize terminal blocks are acceptable for field wiring. These terminal blocks accept 16-30 AWG wire.
9. Touch Currents and/or Leakage Currents must be repeated in the end product. Applicable to REL-150 Series only.
10. In consideration of IEC 60601-1:2005, care must be taken to insure the voltage applied to a reinforced insulation does not overstress basic insulation. Breakdown of basic insulation and catastrophic failure of the power supply may result if a test voltage of greater than 1800 VAC is applied between primary and secondary circuits. Each isolating component is factory tested at 4000 VAC minimum prior to installation.

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