



Test Report issued under the responsibility of:



**TEST REPORT
IEC 61010-1
Safety requirements for electrical equipment for measurement,
control, and laboratory use
Part 1: General requirements**

Report Number : 31781623.300
Date of issue : June 4, 2020
Total number of pages..... : 352 + Attachments

**Name of Testing Laboratory
preparing the Report**..... : TÜV Rheinland of North America, Inc.

Applicant's name : TDK-Lambda Ltd.
Address : 56 Haharoshet St., P.O.B. 500 Karmiel Industrial Zone Karmiel
2161401, Israel

Test specification:
Standard : IEC 61010-1:2010, AMD1:2016
Test procedure : CB Scheme
Non-standard test method : N/A

Test Report Form No. : IEC61010_1L
Test Report Form(s) Originator ... : VDE Testing and Certification Institute
Master TRF..... : 2017-10-20

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Test item description :	Programmable Power Supplies
Trade Mark :	TDK-Lambda, TDK-Lambda
Manufacturer	Same as Applicant
Model/Type reference :	<p>1. GENESYS+5000W series</p> <p>1a) Gxxx-yyy-z-v/uuuuuu/w or Gxxx-yyy-z-v-uuuuuu/w (xxx=010-600; yyy=8.5-500; z="GPIB (IEEE)", "MDBS", "ECAT", Blank; v="3P200", "3P208", "3P400", "3P480"; u=A-Z, 0-9, Blank; w="CO", Blank; Ordinary unit</p> <p>1b) GBxxx-yyy-z-v/uuuuuu/w or GBxxx-yyy-z-v-uuuuuu/w (xxx=010-600; yyy=8.5-500; z="GPIB (IEEE)", "MDBS", "ECAT", Blank; v="3P200", "3P208", "3P400", "3P480"; u=A-Z, 0-9, Blank; w="CO", Blank; Blank unit</p> <p>1c) GSSxxx-yyy-z-v/uuuuuu/w or GSSxxx-yyy-z-v-uuuuuu/w (xxx=010-600; yyy=8.5-500; z="GPIB (IEEE)", "MDBS", "ECAT", Blank; v="3P200", "3P208", "3P400", "3P480"; u=A-Z, 0-9, Blank; w="CO", Blank; Booster unit</p> <p>2. GSP/GBSP 10kW series</p> <p>2a) Consist of: Ordinary unit + Booster unit GSPxxx-yyy-z-v/uuuuuu/w or GSPxxx-yyy-z-v-uuuuuu/w (xxx=010-600; yyy=17-1000; z="GPIB (IEEE)", "MDBS", "ECAT", Blank; v="3P200", "3P208", "3P400", "3P480"; u=A-Z, 0-9, Blank; w="CO", Blank;</p> <p>2b) Consist of: Blank unit + Booster unit GBSPxxx-yyy-z-v/uuuuuu/w or GBSPxxx-yyy-z-v-uuuuuu/w (xxx=010-600; yyy=17-1000; z="GPIB (IEEE)", "MDBS", "ECAT", Blank; v="3P200", "3P208", "3P400", "3P480"; u=A-Z, 0-9, Blank; w="CO", Blank;</p> <p>3. GSP/GBSP 15KW series</p> <p>3a) Consist of: Ordinary unit + Two Booster units GSPxxx-yyy-z-v/uuuuuu/w or GSPxxx-yyy-z-v-uuuuuu/w (xxx=010-600; yyy=25.5-1500; z="GPIB (IEEE)", "MDBS", "ECAT", Blank; v="3P200", "3P208", "3P400", "3P480"; u=A-Z, 0-9, Blank; w="CO", Blank;</p> <p>3b) Consist of: Blank unit + Two Booster units GBSPxxx-yyy-z-v/uuuuuu/w or GBSPxxx-yyy-z-v-uuuuuu/w (xxx=010-600; yyy=25.5-1500; z="GPIB (IEEE)", "MDBS", "ECAT", Blank; v="3P200", "3P208", "3P400", "3P480"; u=A-Z, 0-9, Blank; w="CO", Blank;</p> <p>4. GENESYS+ 1700W series</p> <p>4a) Gxxx-yyy-z-v/uuuuuu/w or Gxxx-yyy-z-v-uuuuuu/w (xxx=010-600; yyy=2.8-170; z="GPIB (IEEE)", "MDBS", "ECAT", Blank; v="1P100-240"; u=A-Z, 0-9, Blank; w="CO", Blank; Ordinary unit.</p> <p>4b) GBxxx-yyy-z-v/uuuuuu/w or GBxxx-yyy-z-v-uuuuuu/w (xxx=010-600; yyy=2.8-170; z="GPIB (IEEE)", "MDBS", "ECAT", Blank; v="1P100-240"; u=A-Z, 0-9, Blank; w="CO", Blank; Blank unit.</p> <p>5. GENESYS+ GH1500W series</p> <p>5a) GHxxx-yyy-z-v/uuuuuu/w or GHxxx-yyy-z-v-uuuuuu/w (xxx=010-600; yyy=2.6-150; z="GPIB (IEEE)", "MDBS", "ECAT",</p>

<p>Ratings..... :</p>	<p>Blank; v="1P100-240"; u=A-Z, 0-9, Blank; w="CO", Blank; Ordinary unit.</p> <p>5b) GHBxxx-yyy-z-v/uuuuuu/w or GHBxxx-yyy-z-v-uuuuuu/w (xxx=010-600; yyy=2.6-150; z="GPIB (IEEE)", "MDBS", "ECAT", Blank; v="1P100-240"; u=A-Z, 0-9, Blank; w="CO", Blank; Blank unit.</p> <p>6. GENESYS+ 2700W series</p> <p>6a) Gxxx-yyy-z-v/uuuuuu/w or Gxxx-yyy-z-v-uuuuuu/w (xxx=010-600; yyy=4.5-265; z="GPIB (IEEE)", "MDBS", "ECAT", Blank; v="1P200" or "1P208" or "1P230", "3P200" or "3P208", "3P400", "3P480"; u=A-Z, 0-9, Blank; w="CO", Blank; Ordinary unit</p> <p>6b) GBxxx-yyy-z-v/uuuuuu/w or GBxxx-yyy-z-v-uuuuuu/w (xxx=010-600; yyy=4.5-265; z="GPIB (IEEE)", "MDBS", "ECAT", Blank; v="1P200" or "1P208" or "1P230", "3P200" or "3P208", "3P400", "3P480"; u=A-Z, 0-9, Blank; w="CO", Blank; Blank unit</p> <p>7. GENESYS+ 3400W series</p> <p>7a) Gxxx-yyy-z-v/uuuuuu/w or Gxxx-yyy-z-v-uuuuuu/w (xxx=010-600; yyy=5.6-340; z="GPIB (IEEE)", "MDBS", "ECAT", Blank; v="1P200" or "1P208" or "1P230", "3P200" or "3P208", "3P400", "3P480"; u=A-Z, 0-9, Blank; w="CO", Blank; Ordinary unit</p> <p>7b) GBxxx-yyy-z-v/uuuuuu/w or GBxxx-yyy-z-v-uuuuuu/w (xxx=010-600; yyy=5.6-340; z="GPIB (IEEE)", "MDBS", "ECAT", Blank; v="1P200" or "1P208" or "1P230", "3P200" or "3P208", "3P400", "3P480"; u=A-Z, 0-9, Blank; w="CO", Blank; Blank unit</p> <p>8. GENESYS+ 1000W series</p> <p>8a) Gxxx-yyy-z-v-p/uuuuuu/w or Gxxx-yyy-z-v-p-uuuuuu/w (xxx=010-600; yyy=1.7-100; z="GPIB (IEEE)", "MDBS", "ECAT", Blank; v="1P100-240"; p=E, U, I, J, C, Blank; u=A-Z, 0-9, Blank; w="CO", Blank; Ordinary unit.</p> <p>8b) GBxxx-yyy-z-v-p /uuuuuu/w or GBxxx-yyy-z-v-p-uuuuuu/w (xxx=010-600; yyy=1.7-100; z="GPIB (IEEE)", "MDBS", "ECAT", Blank; v="1P100-240"; p=E, U, I, J, C, Blank; u=A-Z, 0-9, Blank; w="CO", Blank; Blank unit.</p> <p>9. GENESYS+ GH1000W series</p> <p>9a) GHxxx-yyy-z-v-p/uuuuuu/w or GHxxx-yyy-z-v-p-uuuuuu/w (xxx=010-600; yyy=1.7-100; z="GPIB (IEEE)", "MDBS", "ECAT", Blank; v="1P100-240"; p=E, U, I, J, C, Blank; u=A-Z, 0-9, Blank; w="CO", Blank; Ordinary unit.</p> <p>9b) GHBxxx-yyy-z-v-p/uuuuuu/w or GHBxxx-yyy-z-v-p-uuuuuu/w (xxx=010-600; yyy=1.7-100; z="GPIB (IEEE)", "MDBS", "ECAT", Blank; v="1P100-240"; p=E, U, I, J, C, Blank; u=A-Z, 0-9, Blank; w="CO", Blank; Blank unit.</p> <p>Note: see "General product information" and "Definition of variables" for details</p> <p>Input:</p> <p>Option 1: AC 190-240V; 3W+PE, 50/60Hz.</p> <p>1a), 1b), 1c): 18.5A max.</p> <p>2a), 2b): 37A max.</p> <p>3a), 3b): 55.5A max.</p>

	<p>6a), 6b): 10.5A max. 7a), 7b): 13.2A max.</p> <p>Option 2: AC 380-415V; 3W+PE, 50/60Hz. 1a), 1b), 1c): 9.2A max. 2a), 2b): 18.4A max. 3a), 3b): 27.6A max. 6a), 6b): 5.5A max. 7a), 7b): 6.5A max.</p> <p>Option 3: AC 380-480V; 3W+PE, 50/60Hz. 1a), 1b), 1c): 9.2A max. 2a), 2b): 18.4A max. 3a), 3b): 27.6A max. 6a), 6b): 5.5A max. 7a), 7b): 6.5A max.</p> <p>Option 4: AC 100-240V; single phase, 50/60Hz. 4a), 4b): 20A max. 5a), 5b): 18.5A max. 8a), 8b): 12.5A max. 9a), 9b): 12.5A max.</p> <p>Option 5: AC 190-240V; single phase, 50/60Hz. 6a), 6b): 17.5A max. 7a), 7b): 22A max.</p> <p>Output: 1a), 1b), 1c): DC 0-10V/500A to DC 0-600V/8.5A, 5200 Watt max. 2a), 2b): DC 0-10V/1000A to DC 0-600V/17A, 10400 Watt max. 3a), 3b): DC 0-10V/1500A to DC 0-600V/25.5A, 15600 Watt max. 4a), 4b): DC 0-10V/170A to DC 0-600V/2.8A, 1700 Watt max. 5a), 5b): DC 0-10V/150A to DC 0-600V/2.6A, 1560 Watt max. 6a), 6b): DC 0-10V/265A to DC 0-600V/4.5A, 2720 Watt max. 7a), 7b): DC 0-10V/340A to DC 0-600V/5.6A, 3450 Watt max. 8a), 8b): DC 0-10V/100A to DC 0-600V/1.7A, 1050 Watt max. 9a), 9b): DC 0-10V/100A to DC 0-600V/1.7A, 1050 Watt max.</p>
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Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):	
<input type="checkbox"/> CB Testing Laboratory:	TUV Rheinland of North America, Inc.
Testing location/ address	1279 Quarry Lane, Ste. A, Pleasanton, CA 94566
Tested by (name, function, signature)..... :	
Approved by (name, function, signature) .. :	
Testing procedure: CTF Stage 1:	
Testing location/ address	
Tested by (name, function, signature)..... :	
Approved by (name, function, signature) .. :	
Testing procedure: CTF Stage 2:	
Testing location/ address	
Tested by (name + signature)..... :	
Witnessed by (name, function, signature) . :	

Approved by (name, function, signature) .. :		
<input checked="" type="checkbox"/>	Testing procedure: CTF Stage 3:	TDK-Lambda Ltd.
<input type="checkbox"/>	Testing procedure: CTF Stage 4:	
Testing location/ address		56 Haharoshet St., P.O.B. 500 Karmiel Industrial Zone Karmiel 2161401, Israel
Tested by (name, function, signature)..... :		Boris Gorinshtain, Safety Group Leader <i>Boris G.</i>
Witnessed by (name, function, signature) .. :		Priscilla Mui, Test Engineer <i>PM</i>
Approved by (name, function, signature) .. :		Priscilla Mui, Test Engineer <i>PM</i>
Supervised by (name, function, signature) :		Chan Wang, Technical Manager <i>Chan Sun Wang</i>

List of Attachments (including a total number of pages in each attachment)		
Document No.	Documents included / attached to this report (description)	Page No.
Attachment 1	National Differences	27 pages
Attachment 2	Photos	73 pages
Attachment 3	Electrical Schematics	26 pages
Attachment 4	PCB Layouts	101 pages
Attachment 5	Magnetics	51 pages
Attachment 6	Wire Harness	62 pages

Documents referenced by this report (available on request):		
Document Name or No.	Documents description	Page No.
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Summary of testing:	
This Test Report is based on testing conducted as part of IEC 60950-1/A2:2013 TUV projects 31781623.001 - 31781623.016 and additional testing conducted as part of this project, CB certificate US-TUVR-011201-A3.	
Clause	Comment

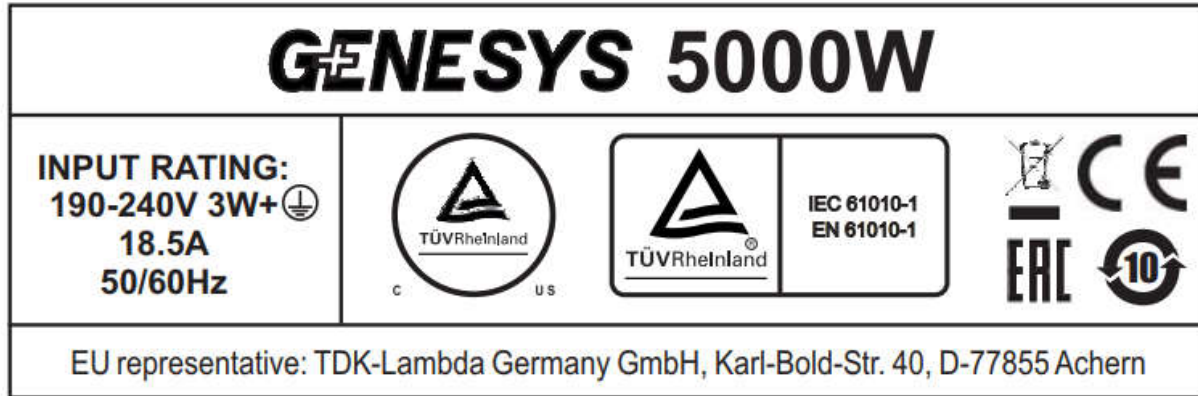
Test Report History: This report may consist of more than one report and is only valid with additional or previous issued reports:	
Report Ref. No.	Item
31781623.300	Original report
Tests performed (name of test and test clause): 4.4.2.3 Protective conductor abnormal 4.4.2.7.2 Mains transformers short circuit 4.4.2.7.3 Mains transformers overload 4.4.2.10 Cooling abnormal 4.4.2.12 Insulation between circuits and parts 5.1.3 Input test 5.3 Durability of marking test 6.2 Determination of accessible parts 6.3.1 Levels in normal condition 6.3.2 Levels in single fault condition (Witnessed) 6.5.2.4 Bonding impedance test 6.7.2, 6.7.3, K.3: Working voltage measurement, Clearances, creepage distances and solid insulation measurement 6.8 Humidity preconditioning and Dielectric strength test 6.10.3 Capacitance discharge test 7.5.2 Handle Test 8.2.1 Static rigidity test 30N 8.2.2 Impact rigidity test 9.4 Limited Energy Source 10.1-10.4 Temperature test 10.5.2 Non-metallic enclosure treatment 10.5.3 Ball pressure test	Testing location: TDK-Lambda Ltd. 56 Haharoshet St., P.O.B. 500 Karmiel Industrial Zone Karmiel 2161401, Israel
Summary of compliance with National Differences (List of countries addressed): The following national differences were considered to IEC 61010-1:2010 (3rd Edition) + Am 1: 2016: List of countries addressed: CENELEC member countries (Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom) List of countries addressed: United States of America, Canada <input checked="" type="checkbox"/> The product fulfils the requirements of EN 61010-1:2010	

Copy of marking plate

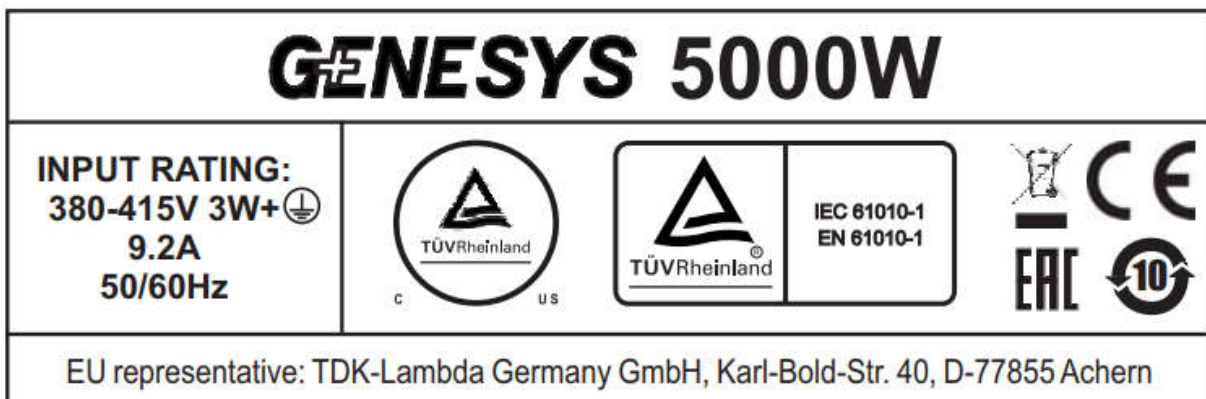
The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBS that own these marks

GENESYS+5000W series:

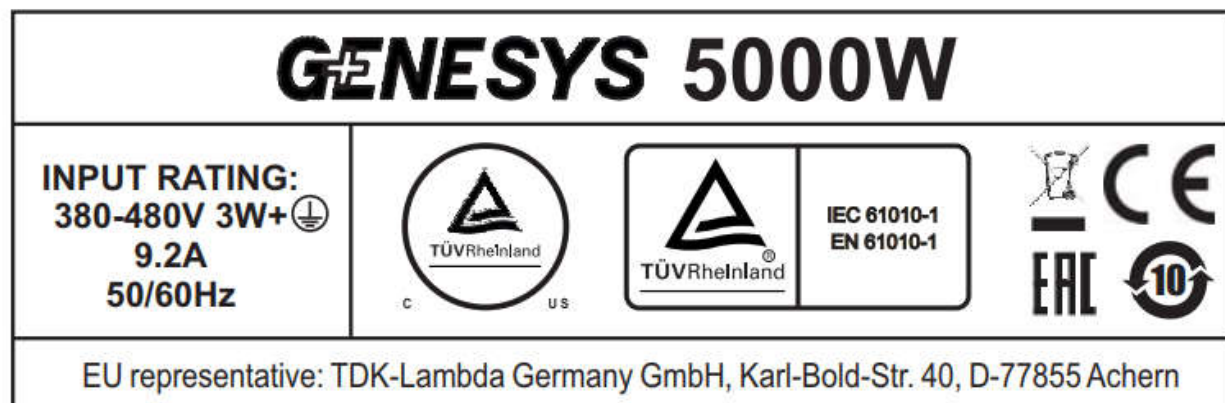
Input option 1



Input option 2



Input option 3



Model identification marking (sample)

TRF No. IEC61010_1L

1. Ordinary (full panel) unit








2. Blank unit








GSP/GBSP 10kW series:






Input option 1

GENESYS				
INPUT RATING: 190-240V 3W+ ⚡ 37A 50/60Hz	 <small>c us</small>	 <small>TÜVRheinland®</small>	IEC 61010-1 EN 61010-1	  
EU representative: TDK-Lambda Germany GmbH, Karl-Bold-Str. 40, D-77855 Achern				

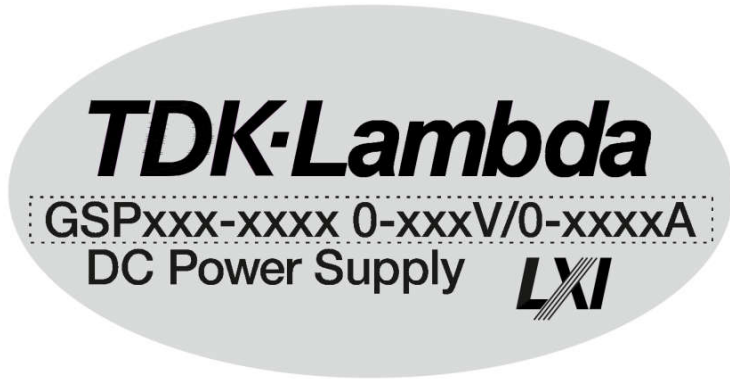
Input option 2

GENESYS				
INPUT RATING: 380-415V 3W+ ⚡ 18.4A 50/60Hz	 <small>c us</small>	 <small>TÜVRheinland®</small>	IEC 61010-1 EN 61010-1	  
EU representative: TDK-Lambda Germany GmbH, Karl-Bold-Str. 40, D-77855 Achern				

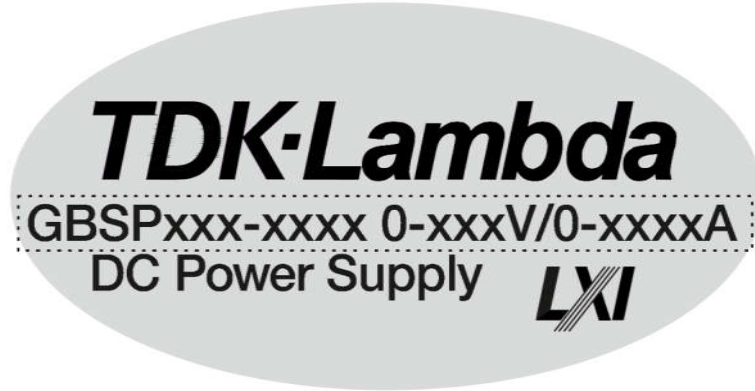
Input option 3

GENESYS				
INPUT RATING: 380-480V 3W+ ⚡ 18.4A 50/60Hz	 <small>c us</small>	 <small>TÜVRheinland®</small>	IEC 61010-1 EN 61010-1	  
EU representative: TDK-Lambda Germany GmbH, Karl-Bold-Str. 40, D-77855 Achern				

Model identification marking









Model identification marking









GSP/GBSP 15kW series:







Input option 1

GENESYS				
INPUT RATING: 190-240V 3W+  55.5A 50/60Hz	 <small>c</small> <small>us</small>	 <small>TÜVRheinland</small>	IEC 61010-1 EN 61010-1	  
EU representative: TDK-Lambda Germany GmbH, Karl-Bold-Str. 40, D-77855 Achern				

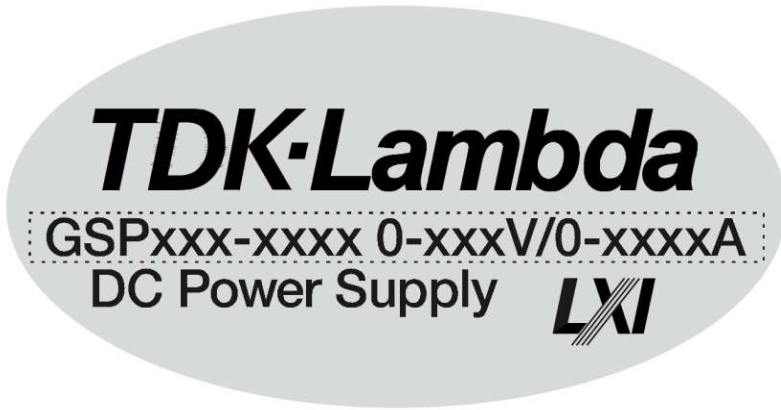
Input option 2

GENESYS				
INPUT RATING: 380-415V 3W+  27.6A 50/60Hz	 <small>c</small> <small>us</small>	 <small>TÜVRheinland</small>	IEC 61010-1 EN 61010-1	  
EU representative: TDK-Lambda Germany GmbH, Karl-Bold-Str. 40, D-77855 Achern				

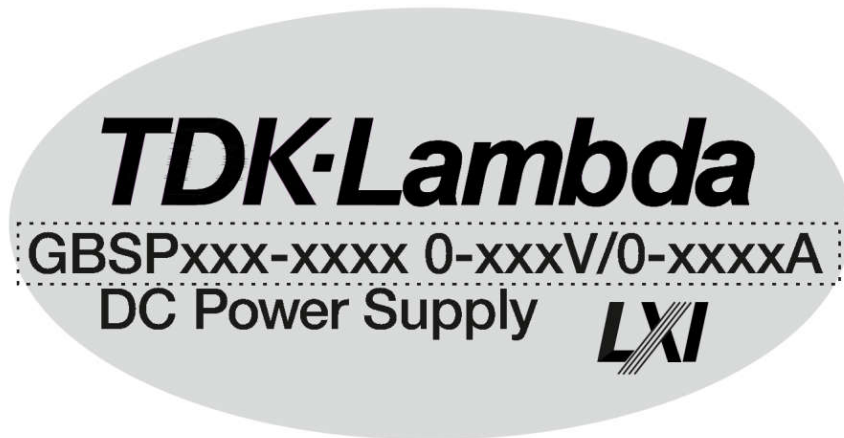
Input option 3

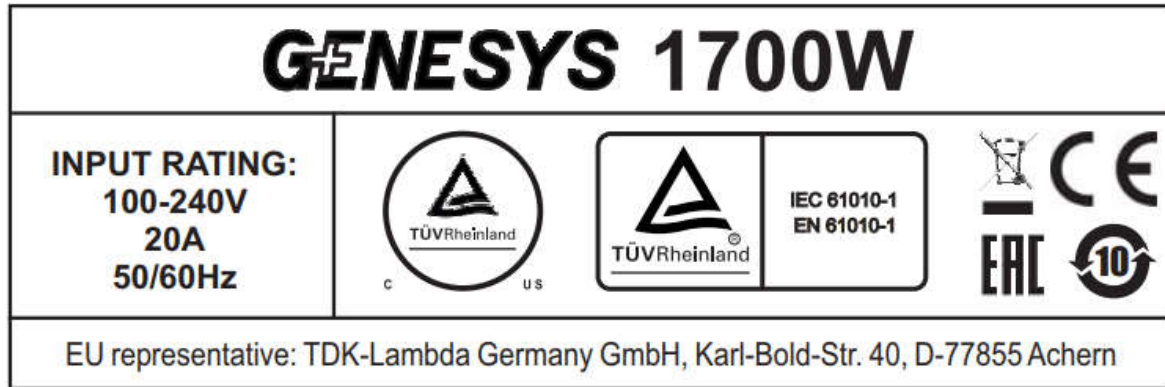
GENESYS				
INPUT RATING: 380-480V 3W+  27.6A 50/60Hz	 <small>c</small> <small>us</small>	 <small>TÜVRheinland</small>	IEC 61010-1 EN 61010-1	  
EU representative: TDK-Lambda Germany GmbH, Karl-Bold-Str. 40, D-77855 Achern				

Model identification marking



Model identification marking



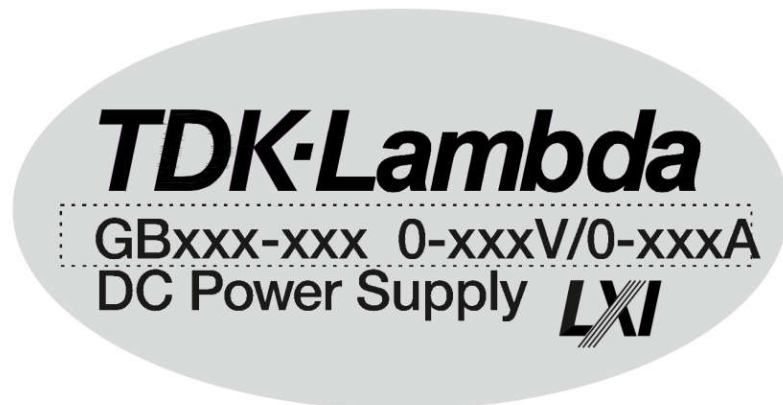
GENESYS+ 1700W series:

Model identification marking

1. Ordinary (full panel) unit









2. Blank unit



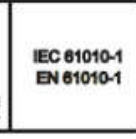





GENESYS+ 2700W series:







Input Option 1:

GENESYS 2700W			
INPUT RATING: 190-240V 3W+⊕ 10.5A 50/60Hz	 <small>c u.s.</small>	 <small>TÜVRheinland</small>	 <small>IEC 61010-1 EN 61010-1</small>
  			
EU representative: TDK-Lambda Germany GmbH, Karl-Bold-Str. 40, D-77855 Achern			



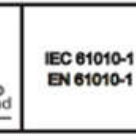



Input Option 2:

GENESYS 2700W			
INPUT RATING: 380-415V 3W+⊕ 5.5A 50/60Hz	 <small>c u.s.</small>	 <small>TÜVRheinland</small>	 <small>IEC 61010-1 EN 61010-1</small>
  			
EU representative: TDK-Lambda Germany GmbH, Karl-Bold-Str. 40, D-77855 Achern			

Input Option 3:

GENESYS 2700W			
INPUT RATING: 380-480V 3W+⊕ 5.5A 50/60Hz	 <small>c u.s.</small>	 <small>TÜVRheinland</small>	 <small>IEC 61010-1 EN 61010-1</small>
  			
EU representative: TDK-Lambda Germany GmbH, Karl-Bold-Str. 40, D-77855 Achern			

Input Option 5:

GENESYS 2700W			
INPUT RATING: 190-240V 17.5A 50/60Hz	 <small>c u.s.</small>	 <small>TÜVRheinland</small>	 <small>IEC 61010-1 EN 61010-1</small>
  			
EU representative: TDK-Lambda Germany GmbH, Karl-Bold-Str. 40, D-77855 Achern			

Model identification marking

1. Ordinary (full panel) unit








2. Blank unit








GENESYS+ 3400W series:






Input Option 1:

GENESYS 3400W				
INPUT RATING: 190-240V 3W+⊕ 13.2A 50/60Hz			IEC 61010-1 EN 61010-1	  
EU representative: TDK-Lambda Germany GmbH, Karl-Bold-Str. 40, D-77855 Achem				






Input Option 2:

GENESYS 3400W				
INPUT RATING: 380-415V 3W+⊕ 6.5A 50/60Hz			IEC 61010-1 EN 61010-1	  
EU representative: TDK-Lambda Germany GmbH, Karl-Bold-Str. 40, D-77855 Achem				

Input Option 3:

GENESYS 3400W				
INPUT RATING: 380-480V 3W+⊕ 6.5A 50/60Hz			IEC 61010-1 EN 61010-1	  
EU representative: TDK-Lambda Germany GmbH, Karl-Bold-Str. 40, D-77855 Achem				

Input Option 5:

GENESYS 3400W				
INPUT RATING: 190-240V 22A 50/60Hz			IEC 61010-1 EN 61010-1	  
EU representative: TDK-Lambda Germany GmbH, Karl-Bold-Str. 40, D-77855 Achem				

Model identification marking

1. Ordinary (full panel) unit



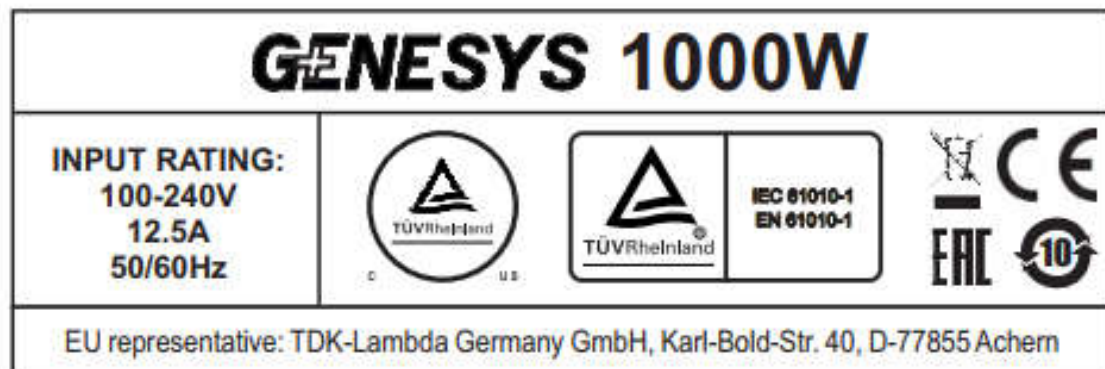
2. Blank unit



GENESYS+ GH1500W series:



GENESYS+ 1000W&GH1000W series:



Model identification marking



Warning label



Test item particulars:	
Type of item	Measurement / Control / Laboratory
Description of equipment function	Programmable AC/DC power supplies
Connection to MAINS supply	Permanent: all except GENESYS+ 1000W/GH1000W Non detachable cord set (IEC 60309 type plug): all units except GENESYS+ 1000W/GH1000W / None / Battery operated NOTE: Means of connection to the mains depends on the final installation GENESYS+ 1000W/GH1000W Detachable cord set with non industrial plug (connector according to IEC 60320.)
Overvoltage category	II / III / IV
POLLUTION DEGREE	2
Means of protection	Class I (PE connected) / Class II (isolated)
Environmental conditions	Normal / Extended (Specify): Same as normal except: Altitude 3000m Temperature: 0-50°C considering derating as specified in general product information
For use in wet locations	Yes / No
Equipment mobility	Portable / Hand held / Floor standing / Fixed / Built-in
Operating conditions	Continuous / Short time / Intermittent
Overall size of equipment (W x D x H)	Not including accessories or handles (mm): 423 x 441.5 x 43.6 (GENESYS+ Full-Width) 214 x 432 x 43.6 (GENESYS+ GH Half-Width)
Mass of equipment (kg)	3.5 max (GENESYS+ GH1000W/GH1500W series) 5 max (GENESYS+ 1000W/1700W series) 7 max (GENESYS+ 2700W/3400W series) 7.5 max (GENESYS+5000W series) 16 max (GSP/GBSP 10kW series) 24 max (GSP/GBSP 15kW series)
Marked degree of protection to IEC 60529	IPX0
Possible test case verdicts:	
- Test case does not apply to the test object	N/A (Not Applicable)
- Test object does meet the requirement	P (Pass)
- Test object does not meet the requirement	F (Fail)
Testing:	

Date of receipt of test item	: May 1, 2017 (31781623.001) Aug 27,2017 (31781623.003) N/A (31781623.004) Feb 4, 2018 (31781623.006) June 1, 2018 (31781623.008) N/A (31781623.009) N/A (31781623.011) Nov 22, 2018; Dec 6, 2018 (31781623.013) N/A (31781623.015) N/A (31781623.016) Dec 20, 2019 (31781623.300)
Date (s) of performance of tests	: May 1, 2017 to May 9, 2017 (31781623.001) Aug 27,2017 to Sep 28, 2017(31781623.003) N/A (31781623.004) Feb 4 to Feb 19,2018; Mar 4 to Mar 8,2018 (31781623.006) June 12, 2018 to June 18, 2018 (31781623.008) N/A (31781623.009) N/A (31781623.011) Nov 22, 2018; Dec 6, 2018; Feb 06 and 12, 2019; Mar 18, 2019; April 10-23, 2019 (31781623.013) N/A (31781623.015) N/A (31781623.016) Dec 20, 2019 to May 14, 2020 (31781623.300)

General remarks:

The test results presented in this report relate only to the object tested.
 This report shall not be reproduced, except in full, without the written approval of the issuing testing laboratory.
 "(see ENCLOSURE #)" refers to additional information appended to the report.
 "(see Form A.xx)" refers to a Table appended to the report.
 Bottom lines for measurement Tables Forms A.xx are optional if used as record.

Throughout this report a comma / point is used as the decimal separator.

Manufacturer's Declaration per sub-clause 4.2.5 of IEC60068-2-1:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided

Yes
 Not applicable

When differences exist; they shall be identified in the general product information section.

Name and address of factory (ies) : TDK-Lambda Ltd.
 56 Haharoshet St., P.O.B. 500 Karmiel Industrial Zone Karmiel 2161401, Israel;

General product information and other remarks:

Description of unit:

The GENESYS+5000W series is a family of power supplies having rated output from 0-10VDC/0-500A up to 0-600VDC/0-8.5A with total output power 5200 Watt maximum.

The GENESYS+5000W series is separated into three types of front panels and operation modes:

a) Ordinary (full panel) units: is comes with display, on/off switch and may be operated independently or in parallel with another Ordinary, Blank or Booster unit by manual or remote control mode.

b) Blank units: is comes without display, with on/off switch, and may be operated independently or in parallel with another Blank or Booster unit by remote control mode only.

c) Booster units: is comes without on/off switch, display and operated by master unit only (Ordinary or Blank)

The GSP/GBSP 10kW units consists of two single GENESYS+5000W units, in combination as described above in section " Model/Type reference", connected by the input and output in parallel.

The GSP/GBSP 10kW units is factory assembled only.

The GSP/GBSP 15KW units consists of three single GENESYS+5000W units, in combination as described above in section " Model/Type reference", connected by the input and output in parallel.

The GSP/GBSP 15KW units is factory assembled only.

The GENESYS+ 1700W series based on GENESYS+ 5000W. Since the output power of the GENESYS+ 1700W units is lower than the GENESYS+ 5000W, two DC/DC boards and interconnects board removed because they are no longer needed. The GENESYS+ 1700W series has the same mechanical and electronic construction as the GENESYS+ 5000W, with the exception of input and PFC boards. Power supplies having rated output from 0-10VDC/0-170A up to 0-600VDC/0-2.8A with total output power 1700 Watt maximum.

The GENESYS+ GH1500W series is based on GENESYS+ 1700W. The GENESYS+ GH1500W uses the same modules used in GENESYS+1700W except for the output filter boards. The GENESYS+ GH1500W has a different mechanical construction. The power supplies having rated output from 0-10VDC/0-150A up to 0-600VDC/0-2.6A with total output power 1560 Watt maximum.

The GENESYS+ 2700W and 3400W series are based on GENESYS+ 5000W. Since the output power of the GENESYS+ 2700W or 3400W units are lower than the GENESYS+ 5000W, one DC/DC board removed because it is no longer needed. The GENESYS+ 2700W and 3400W series have the same mechanical and electronic construction as the GENESYS+ 5000W, with the exception of additional one phase input and PFC boards but they are same as GENESYS+ 1700W series. The GENESYS+ 2700W and 3400W series having rated output from 0-10VDC/0-265A up to 0-600VDC/0-4.5A and 0-10VDC/0-340A up to 0-600VDC/0-5.5A respectively with total output power 2720 and 3450 Watt maximum respectively.

The GENESYS+ 1000W series based on GENESYS+ 1700W. The GENESYS+ 1000W series has the same mechanical and electronic construction as the GENESYS+ 1700W, with the exception of input and PFC boards. The power supplies having rated output from 0-10VDC/0-100A up to 0-600VDC/0-1.7A with total output power 1050 Watt maximum.

The GENESYS+ GH1000W series is based on GENESYS+ 1000W. The GENESYS+ GH1000W uses the same modules used in GENESYS+1000W with the exception of half size enclosure. The power supplies having rated output from 0-10VDC/0-100A up to 0-600VDC/0-1.7A with total output power 1050 Watt maximum.

Engineering Considerations

- The units are Class I, evaluated for use in Installation Category II and Pollution Degree 2 environments.
- The units are evaluated for use in TN and TT power systems.
- All units may be adjusted by operator to 105% of the rated output voltage or current.
- Units with output rated up to (but not including) 60VDC considered as non-hazardous live output units.
- Units with output rated 60VDC and higher considered as Secondary Hazardous voltage output units and

not accessible during normal operation using an output protection bracket.

-The units consist of an aluminum box-type frame enclosure with an aluminum cover.

The following parts factory installed (or may be installed - optional parts) inside of enclosure:

Common parts:

Input board IA764 for input 190-240V or IA765 for inputs 380-415V and 380-480V include:

- Input SELV module IA814 for input 190-240V or IA850 for inputs 380-415V and 380-480V;
- Input control module IA815 for input 190-240V or IA849 for inputs 380-415V and 380-480V;
- Input STBY module IA818 for inputs 380-415V and 380-480V.

For GENESYS+ GH1500W/1700W only:

- Input board IA763 for input 100-240V

For GENESYS+ 2700W/3400W only:

- Input board IA763 for input 190-240V

For GENESYS+ GH1000W/1000W only:

- Input board IA823 for input 100-240V

Power factor control board (PFC) IA766 for input 190-240V - 3Ph, IA767 for inputs 380-415V - 3Ph and 380-480V - 3Ph.

For GENESYS+ GH1500W/1700W only: Power factor control board (PFC) IA833 for input 100-240V - 1Ph.

For GENESYS+ 2700W/3400W only: Power factor control board (PFC) IA833 for input 190-240V - 1Ph.

For GENESYS+ GH1000W/1000W only: Power factor control board (PFC) IA822 for input 100-240V - 1Ph.

GENESYS+ 5000W have three DC/DC converter boards connected in parallel,

GENESYS+GH1000W/GH1500W/1000W/1700W have one DC/DC converter board:

GENESYS+2700W/3400W have two DC/DC converter board connected in parallel.

IA768 for output 10V-30V, IA785 for output 40V-100V, IA769 for output 150-300V or IA851 for output 600V, each board includes:

- DC/DC slave module IA771.

Control board IA806.

Output filter board-IA787 for output 10-100V, IA809 for output 150-300V or IA788 for output 400-600V.

For GENESYS+ GH1000W/GH1500W: IA791 for output 10-100V, IA873 for output 150-200V, IA792 for output 300-600V.

Interface board-IA770.

For GENESYS+ 2700W/3400W/5000W only: Connect board-IA789.

Display-IA772 (GENESYS+ series)

Display-IA871 (GENESYS+ GH1000W/GH1500W only)

Blank Display-IA854 or IA884 or IA860 or IA910 (GENESYS+ series)

Booster-IA853 (GENESYS+ 5000W)

Air filter kit-IA857:

For all models except 10V 3.4kW~15kW: 0~40°C, 100% load.

For 10V 3.4kW~15kW models: 0~30°C, 100% load, For 30°C ≤ Ta ≤ 40°C, derate 5A/1°C.

Operating: Maximum 10000ft (3000m).

For all models except 10V 3.4kW~15kW: Derate 1°C/100m, or 2% Load/100m above 2000m.

For 10V 3.4kW~15kW models: Derate 2°C/100m, or 2% Load/100m above 2000m.

Optional parts

GPIB (IEEE) board IA834.

Anybus board IA790 (which gives option to ECAT and MDBS).

The power I/O connectors are suitable for factory and field wiring.

The units are suitable for maximum ambient operating temperature 50°C at maximum load with the following derating: All units which include GPIB (IEEE) module are limited up to Tma=40°C. Output current derating 2%/100m or Tma derating 1°C /100m above 2000m. Non operating: 4000ft (12000m).

For GENESYS+ 5000W only:

Units with output 0-10VDC/0-500A: up to Tma=40°C, or 0-10VDC/0- 450A up to Tma=50°C; For 10V model derate 5A/1°C above 40°C. For 10V model Tma derating 2°C /100m,
For 10V model only: Max. output current for using GPIB (IEEE) is 400A up to 40°C and 450A up to 30°C.

For GSP/GBSP+ 10kW only:

Units with output 0-10VDC/0-1000A: up to Tma=40°C, or 0-10VDC/0-900A up to Tma=50°C; For 10V model derate 10A/1°C above 40°C. For 10V model Tma derating 2°C /100m, For 10V model only: Max. output current for using GPIB (IEEE) is 800A up to 40°C and 900A up to 30°C.

For GSP/GBSP+ 15kW only:

Units with output 0-10VDC/0-1500A: up to Tma=40°C, or 0-10VDC/0-1350A up to Tma=50°C; For 10V model derate 15A/1°C above 40°C. For 10V model Tma derating 2°C /100m,
For 10V model only: Max. output current for using GPIB (IEEE) is 1200A up to 40°C and 1350A up to 30°C.

For GENESYS+ GH1500W only:

When applying input voltage under 100Vac, maximum operating temperature is 45°C.

Definition of variable(s): Model configuration code

GENESYS+5000W series

Gxxx-yyy-z-v-uuuuuu-w or Gxxx-yyy-z-v/uuuuuu/w – ordinary unit
GBxxx-yyy-z-v-uuuuuu-w or GBxxx-yyy-z-v/uuuuuu/w – blank unit
GSSxxx-yyy-z-v-uuuuuu-w or GSSxxx-yyy-z-v/uuuuuu/w – booster unit

GSP/GBSP 10kW series:

GSPxxx-yyy-z-v-uuuuuu-w or GSPxxx-yyy-z-v/uuuuuu/w Consist of: Ordinary unit + Booster unit
GBSPxxx-yyy-z-v-uuuuuu-w or GBSPxxx-yyy-z-v/uuuuuu/w Consist of: Blank unit + Booster unit

GSP/GBSP 15KW series:

GSPxxx-yyy-z-v-uuuuuu-w or GSPxxx-yyy-z-v/uuuuuu/w Consist of: Ordinary unit + Two Booster units
GBSPxxx-yyy-z-v-uuuuuu-w or GBSPxxx-yyy-z-v/uuuuuu/w Consist of: Blank unit + Two Booster units

GENESYS+ 1000W/1700W series

Gxxx-yyy-z-v-p-uuuuuu-w or Gxxx-yyy-z-v-p/uuuuuu/w – ordinary unit
GBxxx-yyy-z-v-p-uuuuuu-w or GBxxx-yyy-z-v-p/uuuuuu/w – blank unit

GENESYS+2700W/3400W series

Gxxx-yyy-z-v-uuuuuu-w or Gxxx-yyy-z-v/uuuuuu/w – ordinary unit
GBxxx-yyy-z-v-uuuuuu-w or GBxxx-yyy-z-v/uuuuuu/w – blank unit

GENESYS+ GH1000W/GH1500W series

GHxxx-yyy-z-v-p-uuuuuu-w or GHxxx-yyy-z-v-p/uuuuuu/w – ordinary unit
GHBxxx-yyy-z-v-p-uuuuuu-w or GHBxxx-yyy-z-v-p/uuuuuu/w – blank unit

Variable:	Range of variable:	Content:
xxx	010-600	min/max output voltage in VDC
y	yyy = 8.5-500 (for GENESYS+5000W) yyyy = 17-1000 (for GSP/GBSP 10kW) yyyy = 25.5-1500 (for GSP/GBSP 15kW)	min/max output current in A

	yyy = 2.8-170 (for GENESYS+1700W) yyy = 2.6-150 (for GENESYS+ GH1500W) yyy = 4.5-265 (for GENESYS+ 2700W) yyy = 5.5-340 (for GENESYS+ 3400W) P	
z	1. GPIB (IEEE) 2. MDBS 3. ECAT 4. Blank	1. IEEE card installed. 2. AnyBus module installed with MDBS option. 3. AnyBus module installed with ECAT option. 4. Base model.
p	1. E 2. U 3. I 4. J 5. C 6. Blank;	1. power cord set for Europe 2. power cord set for US/Canada 3. power cord set for Israel 4. power cord set for Japan 5. power cord set for China 6. power cord set not provided with unit;
u	1. Various letters or/and numbers 2. Blank	1. Indicate other options (not safety related) 2. Base model
w	1.CO 2.Blank	1. Conformal coating used on all boards or partially (for environmental protection only). 2. Without conformal coating.

Description of model differences:

Refer to General Product Information section

Description of special features:

(HV circuits, high pressure systems etc.)

No special features