A7505B

1 Ch 1600 V / 500 µA High Efficiency HV Power Supply Box

Features

- Based on A7505 PCB mount HV DC-DC converter
- Temperature working range: -10°C ÷ 70°C
- Designed for long working life in harsh environment
  - Architectural materials chosen to minimize issues due to thermal expansion
  - Layout optimized for the worst foreseen environmental condition
  - Redundancy of internal connections
  - Connection and cabling with stress relief on solder points
  - Stress absorption with silicon resin
  - Several solutions from Aerospace electronics design
- Assembly optimized for easy maintenance operation

Description

The CAEN **Mod.A7505B** is a solution designed for operating in challenging environmental and high thermal excursions. It relies on the high efficiency PCB High Voltage power supply **A7505** embedded in a custom carrier.

In order to assure its functionality for long working periods under severe environmental conditions, several dedicated technical and electrical precautions have been implemented such as stress relief techniques on cabling and soldering points, electrical redundancies, PCB layout design, and use of specific materials to minimize the thermal expansion on PCB and housing mechanics.
These features make A7505B boxes ideal for Large Area experiments where the possibility of a prompt maintenance intervention is reduced.

Safety features include:

- Overcurrent detection: if the channel attempts to draw a current larger than Iset, the output voltage is automatically adjusted to keep the current below Iset limit. Under this condition, the channel behaves as a current generator.
- Protected against short circuits, sparks and humidity.

Technical Specifications

Packaging

Custom Carrier
W=62,9 mm ; L=119 mm ; H=34,5 mm

Output connector

SHV RADIALL

COMM connector

15 Pin Male High Density D-Sub

Operating temperature

-55° C ÷ +80° C

Storage temperature

-55° C ÷ +85° C

Voltage Supply (Vin)

+12 V ± 10%

Output Voltage (Vout)

0 ÷ ±1600 V

Output polarity

Available positive or negative

Enable

If Enable > 2.8 V Channel active
If Enable < 1 V Channel disabled

Vmon Output (positive analog monitor)

0 ÷ +2.6 V

Vset Input (positive analog command)

0 ÷ +2.6 V
Important!: Vset must not exceed 2.6 V (Vout is not limited)

Iset Input (positive analog command)

0 ÷ +2.5 V

Imon Output (positive analog monitor)

0 ÷ +2.5 V

Status OVC bit

0÷5 V (low = OVC)

DVout/Vout (for ±5% Vin variations)

<1.5 X 10-3 @ full scale

Maximum Output Current (Iout)

500 µA @ ±1600 V

Power requirement

<1.6 W;
@ 1600 V / 500 µA (Rload ≈ 3 MΩ)

Efficency

>60% @ Vout >1200 V (0° C ÷ +40° C)

Output Ripple (Full Load)

Typical 5mVpp; Maximum 10mVpp

Vout / Temperature coefficient

600 V

Vset vs. Vout Integral Non Linearity

<±0.2% (-20° C ÷ +70° C)

Vmon vs. Vout Integral Non Linearity

<±0.2% (-20° C ÷ +70° C)

Electromagnetic compatibility

Weak emission of electromagnetic impulse and RF; one-piece metal shielding with several ground connections

Uniformity of a lot

< 1 %

Protection

Over current short circuit, sparks and humidity

Ordering Options

Code	Description	
WA7505NBXAAA	A7505NB -1.6kV 500µA HV Power Supply Module BOXED	RoHS
WA7505PBXAAA	A7505PB +1.6kV 500µA HV Power Supply Module BOXED	RoHS

Related Products

A7501B

1 Ch 2100 V / 100 µA High Efficiency HV Power Supply Box

A7505

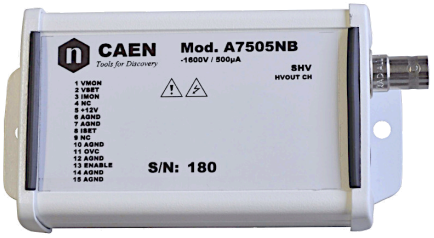
1 Ch 1600 V/500 µA High Efficiency HV Power Supply Module

A7512DB

1 Ch 12 kV/20 µA Digital Controlled Power Supply Module for MRPC

Gallery


CAEN
Tools for Discovery
Mod. A7505NB
-1600V / 500µA
SHV
HVOUT CH
1 VMON
2 VSET
3 IMON
4 NC
5 +12V
6 AGND
7 AGND
8 ISET
9 NC
10 AGND
11 GVC
12 AGND
13 ENABLE
14 AGND
15 AGND
S/N: 180


CAEN
Tools for Discovery
Mod. A7505NB
-1600V / 500µA
SHV
HVOUT CH
1 VMON
2 VSET
3 IMON
4 NC
5 +12V
6 AGND
7 AGND
8 ISET
9 NC
10 AGND
11 GVC
12 AGND
13 ENABLE
14 AGND
15 AGND
S/N: 180

CAEN S.p.A.
Via Vetraia 11
55049 - Viareggio
Italy
Phone +39.0584.388.398
Fax +39.0584.388.959
info@caen.it
www.caen.it

CAEN GmbH
Brunnenweg 9
64331 Weiterstadt, Germany
Phone +49 (0)212.254.4077
Mobile +49 (0)151.16.548.484
info@caen-de.com
www.caen-de.com

CAEN Technologies, Inc.
1 Edgewater Street - Suite 101
Staten Island, NY 10305
USA
Phone +1.718.981.0401
Fax +1.718.556.9185
info@caentechnologies.com
www.caentechnologies.com

CAENspa India Private Limited
B205, BLDG42, B Wing,
Azad Nagar Sangam CHS,
Mhada Layout, Azad Nagar, Andheri West
Mumbai, Maharashtra 400053, India
info@caen-india.in
www.caen-india.in