

High Voltage Power Supply Specifications

1. Required specifications

- 0 – 500V
- 10 mA per PDB minimum current
- Floating
- 100 mV voltage resolution

2. CAEN power supplies

CAEN A1511B specifications

- 12 channels per card.
- Ground: individual floating channels up to 500V.
- Voltage range: 0 – 500V.
- Voltage resolution: 100 mV.
- Ripple: < 30 mV pp.
- Voltage set accuracy: $\pm 0.3\% \pm 0.5V$.
- Over/under voltage protection: $\pm 1 V$.
- Current output: 1 mA / 10 mA full scale (internal jumper switches between the two ranges).
- Overcurrent protection 100 mA/1 μ A resolution.
- Connector: DB-37.

CAEN SY1527LC Mainframe Specifications

- Size: 19" x 8U x 720 mm. (6U boards, 2U fans).
- Weight: 24 kg (with 1 A1532 and 1 A1531 power unit).
- 0-40°C operating temperature.
- Input power:
 - 100-230 VAC (Three-phase upon request).
 - 50/60 Hz, 15 A (@230 V)
 - 3400 W
 - Three power supplies: A1531 for crate power, A1532 for cards
 - 2250 W maximum output power.
- Capacity: 16 boards/crate.
- Cooling: 15 cm (3.37U, or 5.91") needed from top of crate to any other object.

3. ISEG Power Supplies

Users:

- ATLAS silicon pixel (EHQ F607n_405)
- ALICE TRD (EDS 20 025p_203)
- ALICE TPC (EDS 20 025p_204)
- ALICE photon spectrometer (EHS 8605p_156)
- LHCb (EHQ 8605p_156)

MPOD LV/HV Mainframe

- Different types :

Type	Slots	Remote control interface	Local control / Backplane display	HV	HV power	Output Position
Mpod EC	10	Ethernet, CAN, USB	-	HV/LV	600W	front
Mpod EC-R	10	Ethernet, CAN, USB	-	HV/LV	600W	rear
Mpod LX	10	Ethernet, CAN, USB	Yes, LCD	HV/LV	600W	front
Mpod LX-R	10	Ethernet, CAN, USB	Yes, LCD	HV/LV	600W	rear
Mpod EC-LV	10	Ethernet, CAN, USB	-	LV	-	front
Mpod EC-LV-R	10	Ethernet, CAN, USB	-	LV	-	rear
Mpod EC-HV	10	Ethernet, CAN, USB	-	HV	600W	front
Mpod EC-HV-R	10	Ethernet, CAN, USB	-	HV	600W	rear
Mpod 2H	10	Ethernet, CAN, USB	-	HV	1200W	front
Mpod 2H-R	10	Ethernet, CAN, USB	-	HV	1200W	rear
Mpod 2H-LX	10	Ethernet, CAN, USB	Yes, LCD	HV	1200W	front
Mpod 2H-LX-R	10	Ethernet, CAN, USB	Yes, LCD	HV	1200W	rear

- Size : 9U bin (6U boards)
- Cooling: Built-in fans with front air inlet and rear outlet
 - Capacity: 10.5 HV/LV slots, Controller takes first half slot
- Input power:
 - 100-240 VAC
 - 50-60 Hz
 - 16 A
 - Hirschmann 3-pin connector
 - 3000 W
 - No main fuse: external overcurrent circuit breaker needed
- Interface:
 - Ethernet (TCP/IP), CANbus, USB Combi-interface
 - Simple Network Management Protocol (SNMP) via TCP/IP, Object Linking and Embedding (OLE) for Process Control (OPC) server
 - Interlock connector
- Different modules:

EHS Series, 8 / 16 channels with floating ground

Type	Channels	V max	I max	V res	I res	Ripple
EHS 8660x_105-F	8	6kV	1mA	$10^{-5} - 10^{-6} V_{\max}$	$10^{-5} - 10^{-6} I_{\max}$	<50mV
EHS 8640x_205-F	8	4kV	2mA	$10^{-5} - 10^{-6} V_{\max}$	$10^{-5} - 10^{-6} I_{\max}$	<10mV
EHS 8630x_305-F	8	3kV	3mA	$10^{-5} - 10^{-6} V_{\max}$	$10^{-5} - 10^{-6} I_{\max}$	<10mV
EHS 8620x_405-F	8	2kV	4mA	$10^{-5} - 10^{-6} V_{\max}$	$10^{-5} - 10^{-6} I_{\max}$	<10mV
EHS 8610x_805-F	8	1kV	8mA	$10^{-5} - 10^{-6} V_{\max}$	$10^{-5} - 10^{-6} I_{\max}$	<10mV
EHS 8605x_156-F	8	500V	15mA	$10^{-5} - 10^{-6} V_{\max}$	$10^{-5} - 10^{-6} I_{\max}$	<10mV
EHS F660x_105-F	16	6kV	1mA	$10^{-5} - 10^{-6} V_{\max}$	$10^{-5} - 10^{-6} I_{\max}$	<50mV
EHS F640x_205-F	16	4kV	2mA	$10^{-5} - 10^{-6} V_{\max}$	$10^{-5} - 10^{-6} I_{\max}$	<10mV
EHS F630x_305-F	16	3kV	3mA	$10^{-5} - 10^{-6} V_{\max}$	$10^{-5} - 10^{-6} I_{\max}$	<10mV
EHS F620x_405-F	16	2kV	4mA	$10^{-5} - 10^{-6} V_{\max}$	$10^{-5} - 10^{-6} I_{\max}$	<10mV
EHS F610x_805-F	16	1kV	8mA	$10^{-5} - 10^{-6} V_{\max}$	$10^{-5} - 10^{-6} I_{\max}$	<10mV
EHS F605x_156-F	16	500V	15mA	$10^{-5} - 10^{-6} V_{\max}$	$10^{-5} - 10^{-6} I_{\max}$	<10mV

EHQ Series high precision series, 8 / 16 channels with floating ground

Type	Channels	V max	I max	V res	I res	Ripple
				1mV	5nA	<5mV
EHQ 8205x_156-F	8	500V	15mA	0.5mV	15nA	<5mV
EHQ F210x_505-F	16	1kV	5mA	1mV	5nA	<5mV
EHQ F205x_106-F	16	500V	10mA	0.5mV	15nA	<5mV

MPOD EC-2H Mainframe

ISEG EHQ F6 05x_106F

- 16 channels per card
- Size: 6U
- Ground: floating
- Voltage range: 0 – 500 V
- Maximum current: 10 mA/channel
- Connector: REDEL 51 pin

ISEG EHQ F605p156_F

- 16 channels per card
- Size: 6U
- Ground: floating
- Voltage range: 0 – 500 V
- Maximum current: 15 mA/channel
- Connector: REDEL 51 pin