

# HTP-EDS

## HV COMMON GND DISTRIBUTION MODULES



POSITIVE PROBLEM SOLVING **+ =**

This series of high voltage modules are available with up to 48 channel outputs. The HTP-EDS are ideal for applications that do not require current control.

However a current trip point can be set via the front panel or the interface. Voltage regulation for each output channel is provided, via the CAN interface. A stand alone windows software package allows for individual output channels to be configured into groups. Tolerance bounds around a set point can be programmed for the autonomous supervision of compliance to the set point value.

- + Hardware Voltage Limit & Current Trip Setting
- + Up to 48 Channels in a 6U × 40mm Cassette
- + Desktop & Rackmounting Crate Options
- + Individual Channel Control via CAN
- + Safety Loop / Interlock Circuit
- + Ripple and Noise  $<5\text{mV}_{\text{pp}}$

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## FURTHER DETAILS

Event handling such as delayed or fast current trip processing is also provided via the GUI. Floating Point Single Precision allows for particularly accurate setting and measuring of output values.

An OPC system has been developed with an integrated OPC server. This capability simplifies the integration of these modules into the users program making the HTP-EDS along with HTP-EHS and HTP-EBS modules ideal for larger systems. C++, Delphi and DLL files are also available if required.

A variety of crates are available for housing the HTP-EDS cassettes. These crates provide input power, additional comms ports and cooling options. Up to 480 channels can be operated from a single 19" x 6U rackmounting case. Smaller desktop crates are also available as detailed in the options table.

Overall the HTP-EDS offers the best value cost per output channel. Many large systems require a variety of HV outputs with different specifications. The HTP-EDS can be operated alongside the higher specification HTP-EHS and multi quadrant HTP-EBS families in the same enclosure and on the same software platform.

### TECHNICAL DATA

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Ripple & Noise	<5mV <sub>p-p</sub> (For V <sub>OUT</sub> differences of <600V between channel to channel)
Hardware Limits	Voltage limit and current trip pot per module sets limits for all output channels
Software Limits	Voltage limit and current trip point adjustable per channel via interface
Interface	CAN interface (potential free)
Voltage Setting Resolution	1 × 10 <sup>-5</sup> × V <sub>MAX</sub>
Voltage Measurement Resolution	1 × 10 <sup>-5</sup> × V <sub>MAX</sub>
Current Measurement Resolution (Standard)	1 × 10 <sup>-4</sup> × I <sub>MAX</sub>
Current Measurement Resolution (High Precision)	2 × 10 <sup>-2</sup> × I <sub>MAX</sub>
Accuracy of Voltage Measurement	± (0.01% × V <sub>OUT</sub> + 0.02% × V <sub>NOM</sub> + 1 digit)
Accuracy of Current Measurement (Standard)	± 0.01% × (I <sub>0</sub> + I <sub>0MAX</sub> )
Accuracy of Current Measurement (High Precision)	± 2% × (I <sub>0</sub> + I <sub>0MAX</sub> )
Rate of Voltage Change	Up to 0.2 × V <sub>MAX</sub> /s (on request 0.75 × V <sub>MAX</sub> /s)
Safety Loop (2 Pole Lemo Connector)	5mA < I <sub>S</sub> < 20mA = module ON      I <sub>S</sub> < 0.5mA = module OFF
Power Requirements	+24V (< 2A/4A) and +5V (<200mA/400mA)
HV Connector Type	16, 24, 32 channels: 51 pin REDEL, 48 channels: Radial HV-Multipin
Mechanical Construction	16, 24, 32 or 48 channels in 6U × 8HP cassette (40.3mm)

## SELECTION TABLE

Part Number	Output Voltage Range	Output Current Range	Number of Channels	Measurement Precision
HTP-EDS F0 05x 105	0 - 500V	0 - 1mA	16 Channels	Standard
HTP-EDS F3 05x 105	0 - 500V	0 - 1mA	16 Channels	High Precision
HTP-EDS 181 05x 105	0 - 500V	0 - 1mA	24 Channels	Standard
HTP-EDS 183 05x 105	0 - 500V	0 - 1mA	24 Channels	High Precision
HTP-EDS 201 05x 105	0 - 500V	0 - 1mA	32 Channels	Standard
HTP-EDS 203 05x 105	0 - 500V	0 - 1mA	32 Channels	High Precision
HTP-EDS 301 05x 105	0 - 500V	0 - 1mA	48 Channels	Standard
HTP-EDS 303 05x 105	0 - 500V	0 - 1mA	48 Channels	High Precision
HTP-EDS F1 30x 504	0 - 3kV	0 - 500µA	16 Channels	Standard
HTP-EDS F3 30x 504	0 - 3kV	0 - 500µA	16 Channels	High Precision
HTP-EDS 181 30x 504	0 - 3kV	0 - 500µA	24 Channels	Standard
HTP-EDS 183 30x 504	0 - 3kV	0 - 500µA	24 Channels	High Precision
HTP-EDS 201 30x 504	0 - 3kV	0 - 500µA	32 Channels	Standard
HTP-EDS 203 30x 504	0 - 3kV	0 - 500µA	32 Channels	High Precision
HTP-EDS 301 30x 504	0 - 3kV	0 - 500µA	48 Channels	Standard
HTP-EDS 303 30x 504	0 - 3kV	0 - 500µA	48 Channels	High Precision

Replace 'x' in the part number with P for positive or N for negative output polarity.

## OPTIONS

CODE	DESCRIPTION
/SHV	SHV connectors in place of REDEL connector (16 channel versions only)
/ECH 224	4 slot desktop mainframe [see below for details]
/ECH 238	8 slot rackmounting mainframe [see below for details]
/ECH 43A	10 slot rackmounting mainframe slave to HTP- ECH 44A [see below for details]
/ECH 44A	10 slot rackmounting mainframe with integrated server [see below for details]
/WIFI	Integrated Wi-Fi access point for wireless remote control (for HTP- ECH 44A only)
/iCS	Intelligent remote control and monitoring software (for HTP- ECH 44A only)
/FAN	Fan tray mounted on HTP-ECH 238 mainframe (adds 1.5U to overall height)
/UPS	Uninterruptible Power Supply (for HTP-ECH 238, HTP- ECH 43A and HTP- ECH 44A)
/MPOD 2H-LX	10 slot mainframe with front panel control and display Ethernet, CAN & USB
/MPODmini	4 slot mainframe with Ethernet, CAN & USB

## MAINFRAMES

Part Number	Slots	Power	Fan	Interface	PSU [Integrated AC/DC]	Dimensions [W × H × D]
HTP-ECH 224	4	300W	Yes	CAN & USB	Yes	19" × 7U × 350mm
HTP-ECH 238	8	700W	Option	CAN & USB	Yes	19" × 6U × 450mm
HTP-ECH 43A	10 + 1*	1200W	Yes	CAN	Yes	19" × 8U × 600mm
HTP-ECH 44A	10 + 1*	1200W	Yes	Ethernet & CAN	Yes	19" × 8U × 600mm
HTP-MPOD 2H-LX	10	1200W	Yes	Ethernet, CAN & USB	Yes	19" × 8U × 460mm
HTP-MPODmini	4	600W	Yes	Ethernet, CAN & USB	Yes	19" × 4U × 460mm

\*Additional slot for communications card

Every effort is made to ensure that the information provided within this technical summary is accurate. However, ETPS Ltd must reserve the right to make changes to the published specifications without prior notice. Where certain operating parameters are critical for your application we advise that they be confirmed at the time of order. ETPS Ltd specialises in modifying its proven platforms to suit your needs. Please contact our office if your requirement is non-standard. Please note that your actual unit may differ from those shown.



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Tel: +44 (0) 1246 452909  
Sales: 0800 612 95 75  
sales@etps.co.uk  
www.etps.co.uk

ETPS Ltd  
Unit 14, The Bridge  
Beresford Way, Chesterfield  
S41 9FG



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