

HTP-SHR

HIGH PRECISION HV DESKTOP PSU



POSITIVE PROBLEM SOLVING **+ =**

The HTP-SHR range is ideal for applications where precision and stability are paramount. Both two and four channel versions are built into a compact desktop case.

Each channel has independent voltage and current control, as well as reversible polarity. Selected models feature three current and voltage ranges. This allows many more V/I combinations at nominal power. Using one PSU instead of several models saves on both cost and bench space. If you do not require multiple HV ranges, then the HTP-SHR can be equipped with cost efficient 2kV/6mA fixed channels.

- + Multi-Channel 2kV or 6kV Versions**
- + 4.3" TFT Capacitive Touch Display**
- + Constant Precise Voltage, Low Ripple & Noise**
- + Ethernet / USB Interfaces as Standard**
- + Electronically Switchable Output Polarity**
- + Data Logging, Diagrammatic Display & Script Control**

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SELECTION TABLE

Part Number	Max. Power	Range 1 [V _{mode} / I _{mode}]	Range 2 [V _{mode} / I _{mode}]	Range 3 [V _{mode} / I _{mode}]	Precision	Number of Channels
HTP-SHR 20-20x	12W	2kV / 6mA	N/A	N/A	Standard	Two
HTP-SHR 20-60x	12W	6kV / 2mA	4kV / 3mA	2kV / 4mA	Standard	Two
HTP-SHR 40-20x	12W	2kV / 6mA	N/A	N/A	Standard	Four
HTP-SHR 40-60x	12W	6kV / 2mA	4kV / 3mA	2kV / 4mA	Standard	Four
HTP-SHR 22-20x	12W	2kV / 6mA	N/A	N/A	High	Two
HTP-SHR 22-60x	12W	6kV / 2mA	4kV / 3mA	2kV / 4mA	High	Two
HTP-SHR 42-20x	12W	2kV / 6mA	N/A	N/A	High	Four
HTP-SHR 42-60x	12W	6kV / 2mA	4kV / 3mA	2kV / 4mA	High	Four

Different output ranges and application/user specific options are possible. Please contact ETPS Ltd to discuss your requirements.

TECHNICAL DATA

SPECIFICATIONS	SHR STANDARD PRECISION	SHR HIGH PRECISION
Ripple & Noise [f >10Hz]	< 10mV _{p-p}	< 2-3mV _{p-p}
Ripple & Noise [f >1kHz]	< 3mV _{p-p}	< 2mV _{p-p}
Ripple & Noise [10Hz - 0.1Hz]	N/A	< 5-10mV _{p-p}
Stability [ΔV _{out} / ΔR _{load}]	$2 \times 10^{-4} \times V_{mode}$	$1 \times 10^{-4} \times V_{mode}$
Temperature Coefficient	50 ppm / K	30 ppm / K (optionally up to 10ppm/K)
Resolution Voltage Setting	$2 \times 10^{-6} \times V_{nom}$	
Resolution Current Setting	$2 \times 10^{-6} \times I_{nom}$	
Resolution Voltage Measurement	$2 \times 10^{-6} \times V_{nom}$	$1 \times 10^{-6} \times V_{nom}$
Resolution Current Measurement [Range 1]	$2 \times 10^{-6} \times I_{nom}$	$1 \times 10^{-6} \times I_{nom}$
Resolution Current Measurement [Range 2]	N/A	50pA [$I_{out} < 20\mu A$]
Voltage Measurement Accuracy*	$\pm (0.01\% \times V_{out} + 0.02\% \times V_{nom})$	$\pm (0.01\% \times V_{out} + 0.01\% \times V_{nom})$
Current Measurement Accuracy [Range 1]*	$\pm (0.01\% \times I_{out} + 0.02\% \times I_{nom})$	$\pm (0.01\% \times I_{out} + 0.01\% \times I_{nom})$
Current Measurement Accuracy [Range 2]*	N/A	$\pm (0.01\% \times I_{out} + 4nA)$
Sample Rates [SPS]	5, 10, 25, 50, 60, 100, 500	
Digital Filter Averages	1, 16, 64, 256, 512, 1024	
Hardware Limits	Potentiometer per module [V _{max} / I _{max}]; relative to V _{nom} / I _{nom}	
Voltage Ramp	$1 \times 10^{-6} \times V_{mode} / s$ up to $0.2 \times V_{mode} / s$	
Input Voltage	100 - 240VAC / 50-60Hz	
Protection	INHIBIT, safety loop, short circuit, overload, hardware V/I limits	
Interfaces	Ethernet, USB(A) 2.0 (Host: WiFi, logging, webcam), USB(B) (remote control)	
HV Connector	SHV	
Safety Loop Connector	Lemo 2pole: FFA.0S.302.CLAC	
Safety Loop Socket	Lemo 2pole: ERA.0S.302.CLL	
Case	Desktop case	
Output Polarity	Electronically switchable	
Dimensions	103 x 257 x 331 mm [H x W x D]	
Operating Temperature	0-40°C	
Further Environmental Conditions	Equipment is for use in closed environment only, relative humidity 20% to 90% [no condensation], maximum pollution degree level 2	

*All specifications guaranteed from $1\% \times V_{mode} < V_{out} < V_{mode}$ for 1 year



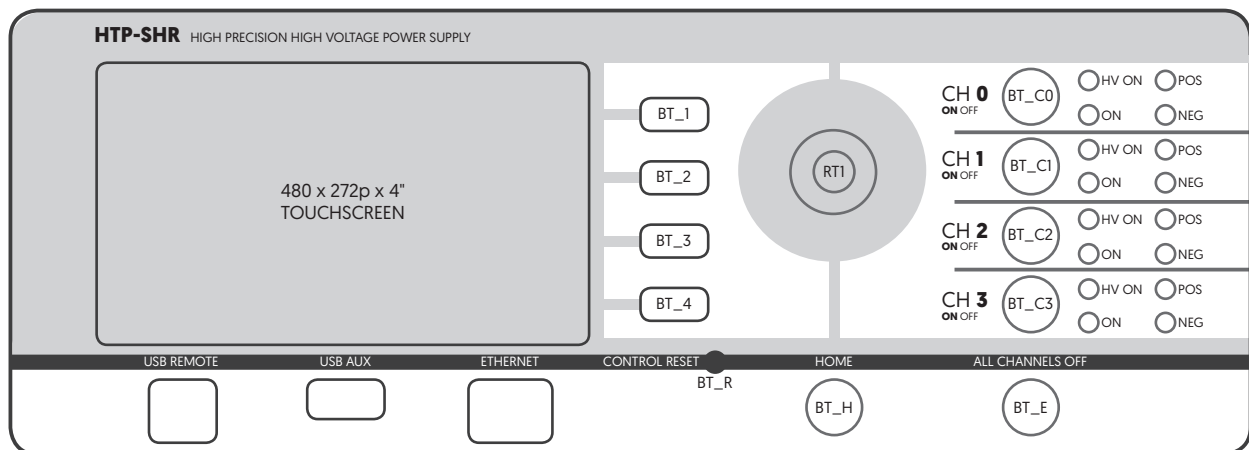
HIGHLIGHTED FEATURE

4.3" TOUCHSCREEN

The precise 4.3" TFT display presents detailed information, controllable via capacitive touch. Key features such as logging, graphical display and customer specific plugins are also available via the rotary button and context sensitive pushbuttons located on the front panel. Remote operation is possible via SHRremote, which allows the units display to be mirrored on WIN/MAC/LINUX.

Front Panel Control Elements	
Touchscreen	480 x 272px 4" capacitive touch screen interface
RT1	Rotary button
BT_1 to BT_4	4 context sensitive pushbuttons, display shows corresponding action
BT_H	Home action push button - opens home menu
BT_C0 to BT_C3 ¹	Channel ON / OFF push buttons
BT_E	ALL CHANNELS OFF push button - immediately shuts down all channels
BT_R	Reset for the front panel controller

¹ Two Channel HTP-SHR models only have BT_C0 and BT_C1



OPTIONS

CODE	DESCRIPTION
/TC	Lower temperature coefficient (10ppm/K, high precision models only)
/L	Lower current (100µA, high precision models only)
/VCT	Voltage correction by temperature
/IHB	Single channel inhibit - BNC connectors
/IHD	Detector inhibit (Ortec, Canberra)

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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ETPS engineer electronic power supply and testing systems. Our problem solving skills provide the spark of innovation to some of the world's leading technology brands.



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