



Matsusada Precision

ASX series 3.1kV / 15.5W

《 GPIB 》 《 RS-232C 》



ASX series is a high-performance high-voltage power supply with the high stability and ultra-low ripple as low as 1mVp-p. Highest standard in its class.

The ASX series is ideal for measuring faint light with PMT that requires low noise and long-term stability, or for standard power supply that requires accurate setting and reproducibility of output voltage.

Such low ripple of 1mVp-p at output voltage of 3kV is greater than AE series and the stability is 50ppm, which is as good a performance as AE series. ASX series have been chosen by many institutions because of this high performance. Also, 5-digit setting voltage display and digital setting method by three rotary encoders are adopted to enhance this high performance to achieve accurate and speedy setting and ease of reproduction. This model is ideal for those who cannot satisfy with the performance of existing high-voltage power supply.

FEATURES

**ULTRA-LOW RIPPLE·
HIGH STABILITY**

ASX series boast high performance of mere 1mVp-p ripple. Clear signal can be obtained when used as a bias power supply for detector without creating high-frequency oscillation noise or spike noise. Also great stability and temperature coefficient of 50ppm is realized.

**OUTSTANDING
OPERABILITY**

Speedy and reliable voltage setting is made possible by 5-digit setting voltage meter and three rotary encoders. Also, a setting accuracy of 0.015%(0.5V) has realized high reproducibility. It is equipped with memory function of setting voltage for convenience of use.

**HIGH RELIABILITY·
EXCELLENT PROTECTION CIRCUIT**

Needless to say no vacuum tube is used and it is all-solid state for reliability based on the latest design idea. For safe use, it has malfunction prevention circuit and double/triple protection circuit, for example, in case polarity is changed by mistake during operation.

APPLICATIONS

- PMT(Photomultiplier) ●MCP(Micro channel plate) ●Geiger counter ●Nuclear equipment ●Precise measurement ●As reference power supply

LINEUP

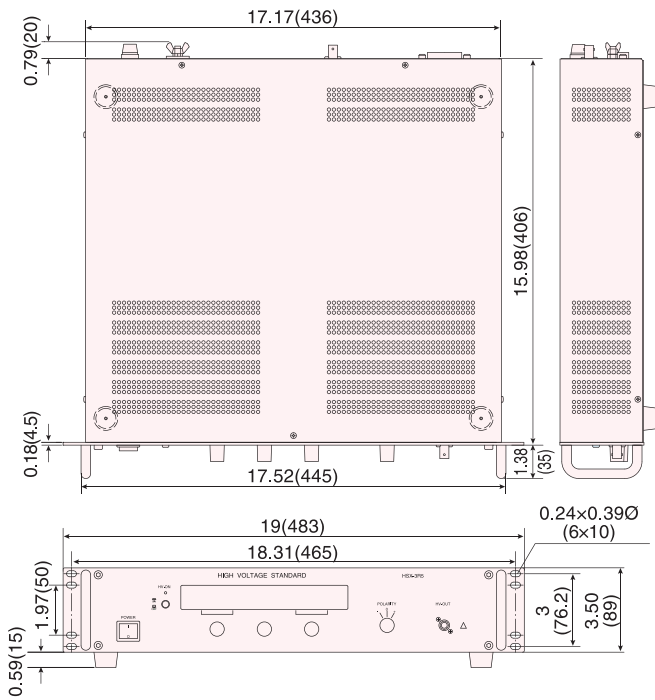
Output Voltage	Output Current	Power	MODEL	Ripple
0 to ±3100V	5mA	15.5W	ASX-3R5	1mVp-p
			ASX-3R5-5	5mVp-p

SPECIFICATIONS

- Input voltage** 100V / 115V / 200V / 230VAC±10% 50 / 60Hz 1Ø
Switched by rear panel switch
- Output voltage control** By rotary encoder on front panel
- Switching polarity** Switched by front panel switch
(positive,negative)
- Regulation** Line : ±0.004%(for ±10% input change)
Load : 0.004%(for 10% to 100% change)
- Stability** 0.005% / Hr, 0.01%/8Hr
- Temperature coefficient** 50ppm / °C

- Setting accuracy** Less than 0.017%(FS)
- Setting voltage display** 5-digit digital meter ±3100.0
- Protection function** Over current protection
(standard : HV output cut-off, manual recovery)
(with -LC option : Limit the output current by dropping output voltage)
Effective in 105% to 120% of the rated output current.
This changes depending on output voltage or whether it has -LW option.
Output short-circuit, protection against arc discharge, power failure protection
- Temperature** Operating : 0 to +40°C
Storage : -20°C to +70°C
Humidity : 20% to 80%RH(no condensation)
- Accessories** AC line input cable 3P 2.5m (1)
Shielded HV output cable 2.5m(flying lead) (1)
BNC-HV(MHV) with a plug (1)
Instruction manual (1)
Battery for output setting memory(2 N cells)

DIMENSIONS inch(mm)



INPUT / OUTPUT CABLE

Input	Standard		CABLE TYPE 1 (with 3 pin plug 125V 10A rating)
	Other		
Output	Standard		CN-BNC-HVP
	Other		CN-BNC-HVPP (With MHV)
	Other		CN-BNC-HVSP (With SHV)

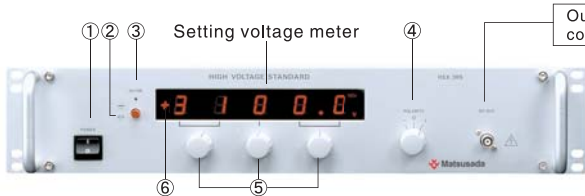
OPTIONS

- LA Following functions are to be added.**
 - Door switch**
HV output cut off by external switch
 - Remote switch ON/OFF**
HV output ON/OFF by external relay
 - Output voltage monitor**
0 to 10v/maximum output voltage(output impedance 1kΩ)
same polarity as HV output.
- LC Current limit**
Limits output current by dropping output voltage.
- LW Slow start**
Takes about 10 seconds to reach a set voltage from turning on high-voltage switch.
- LG GPIB control**
For output ON/OFF, output voltage setting(resolution 0.1V) and switching polarity.
- LRs RS-232C control**
For output ON/OFF, output voltage setting(resolution 0.1V) and switching polarity.
- L(3m)** } High voltage output shielded cable length change
- L(5m)** } Please choose high voltage output cable length from 3, 5, 7 meters.
- L(7m)** } (Please contact nearby sales office if specific length other than above)

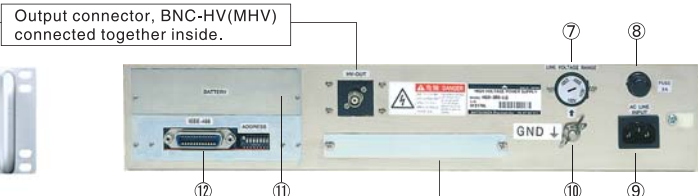
When ordering, suffix the above option mark to the model number.
 <e.g.>ASX-3R5-5LACRs(7m)
 Alphabetical and cable length order

FUNCTIONS

Normal Operation: Output ④ → ① → ② → ⑤, conversely to stop operation.

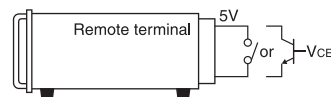


- ① **POWER ON/OFF switch:** This has priority over all operations.
- ② **OUTPUT ON/OFF switch**
This is for urgent OFF or resume the output when remote mode well as output ON/OFF when local mode. Also used for manual recovery of protection function. (Output is possible only when OUTPUT switch is ON even when remote switch is used).
*Please turn ② ON after turning ① on. When this is done reverse, protection will work and output will be cut off and turns to OV (short at 1.5MW)(lights of ③ and ⑥ are off).
- ③ **OUTPUT ON display LED**
Lights up in a status when output is possible or when output. (Goes off when cut off by protection circuit)
- ④ **Polarity switching switch**
Please change the polarity when POWER is OFF. If switched when ON, output will be cut off (will be shorted out at 1.5MW) (lights of ③ and ⑥ are off) and the output to be fixed at the position of "0".
- ⑤ **Output setting dial:** Rotary encoder
- ⑥ **Set polarity display:** Entrained to ④ (however the light goes off when cut off by protection circuit)
- ⑦ **AC input select switch**
- ⑧ **Fuse 3A**
- ⑨ **AC connector (inlet)**
- ⑩ **GND terminal M6**
- ⑪ **Battery for memory High Voltage setting (2 N cells)**
- ⑫ **Connector for GPIB, RS-232C (optional)**



REMOTE TERMINAL M4 (-LA option model)

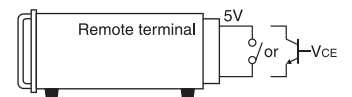
● **REMOTE SWITCH ON/OFF**



Output	External relay	Open collector
ON	Short	V _{CE} ≤ 0.4V
OFF	Open	V _{CE} ≥ 5V

Sink Current ≥ 10mA

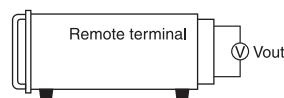
● **DOOR SWITCH**



Sink Current ≥ 10mA

Output is possible in external relay short or a status of V_{CE} less than 0.4V. Output will be cut off when open or 5V or more. To output again, turn OUTPUT switch ON after resetting by turning OUTPUT switch OFF in a status of short or 0.4V or less.

● **OUTPUT MONITOR**



0 to ±10V/0 to MAX
Output imp 1kΩ

