

# EHR

## POLARITY SWITCHABLE HIGH END HIGH PRECISION HV MODULE



Out: 2 kV - 6 kV | 12 W per channel | 4 channels | Ripple: typ. < 2-3 mV<sub>p-p</sub>

- ▶ 4 channels
- ▶ Electronically switchable polarity for each channel independently
- ▶ 2 kV / 6 kV versions
- ▶ 6 kV channel with electronical switchable modes: up to 2 kV/4 mA, 4 kV/3 mA or 6 kV/2 mA
- ▶ High precision / very low ripple and noise
- ▶ Second current measurement range 20  $\mu$ A for high precision version
- ▶ Voltage and current control per channel
- ▶ Hardware voltage and current limits

The new EHR series represents a system capable multichannel high voltage module - equipped with the finest iseg HV generation technology in MMS system (Eurocard format). The module is made of high-precision components such as 24 bit ADC and up to 20 bit DAC and provides comprehensive safety features.

The EHR provides 4 HV-channels, each with an independent voltage and current control and reversible polarity.

A flexible 6kV channel provides a maximum versatility: With three electronically switchable HV-generation modes it can supply 4 mA up to voltages of 2 kV, 3 mA up to 4 kV or 2 mA up to 6 kV. Alternatively the EHR can be equipped with cost efficient 2kV/6mA fixed channels.

By offering different configurations and options this module perfectly covers various types of applications such as detector supply, experimental setup or lab use.



MMS

# EHR

## POLARITY SWITCHABLE HIGH END HIGH PRECISION HV MODULE

### SPECIFICATIONS

	EHR STANDARD	EHR HIGH PRECISION
<b>Polarity</b>	electronically switchable	electronically switchable
<b>Ripple and noise</b>	< 10 mV	< 2 - 3 mV
<b>Temperature coefficient</b>	50 ppm / K	30 ppm/K   opt. 10 ppm/K (TC)
<b>Resolution voltage setting</b>	$2 \cdot 10^{-6} \cdot V_{nom}$	$2 \cdot 10^{-6} \cdot V_{nom}$
<b>Resolution current setting</b>	$2 \cdot 10^{-6} \cdot I_{nom}$	$2 \cdot 10^{-6} \cdot I_{nom}$
<b>Resolution voltage measurement</b>	$2 \cdot 10^{-6} \cdot V_{nom}$	$1 \cdot 10^{-6} \cdot V_{nom}$
<b>Resolution current measurement - full range</b>	$2 \cdot 10^{-6} \cdot I_{nom}$	$1 \cdot 10^{-6} \cdot I_{nom}$
<b>Resolution current measurement - 2nd range</b>	n/a	50 pA [ $I_{out} < 20\mu A$ ]
<b>Accuracy voltage measurement *</b>	$\pm (0.01 \% \cdot V_{out} + 0.02 \% \cdot V_{nom})$	$\pm (0.01 \% \cdot V_{out} + 0.01 \% \cdot V_{nom})$
<b>Accuracy current measurement * - full range</b>	$\pm (0.01 \% \cdot I_{out} + 0.02 \% \cdot I_{nom})$	$\pm (0.01 \% \cdot I_{out} + 0.01 \% \cdot I_{nom})$
<b>Accuracy current measurement * - 2nd range</b>	n/a	$\pm (0.01 \% \cdot I_{out} + 4 nA)$
<b>Rate of voltage change</b>	$1 \cdot 10^{-6} \cdot V_{nom} / s$ up to $0.2 \cdot V_{nom} / s$	$1 \cdot 10^{-6} \cdot V_{nom} / s$ up to $0.2 \cdot V_{nom} / s$
<b>Protection</b>	INHIBIT (option), Safety loop, short circuit, overload, hardware V/I limits	INHIBIT (option), Safety loop, short circuit, overload, hardware V/I limits
<b>HV connector</b>	SHV	SHV
<b>Case</b>	6U cassette, width 8 HP	6U cassette, width 8 HP

<sup>\*)</sup> All specifications guaranteed from  $1\% \cdot V_{mode} < V_{out} < V_{mode}$

### CONFIGURATIONS

MODEL	CHANNELS	PRECISION	OUTPUT VOLTAGE	OUTPUT CURRENT	HV-MODES ( $V_{mode} / I_{mode}$ )
EHR 40 20	4	Standard	2 kV	6 mA	2 kV / 6 mA
EHR 40 60	4	Standard	6 kV	4 mA	6 kV / 2 mA   4 kV / 3 mA   2 kV / 4 mA
EHR 42 20	4	High	2 kV	6 mA	2 kV / 6 mA
EHR 42 60	4	High	6 kV	4 mA	6 kV / 2 mA   4 kV / 3 mA   2 kV / 4 mA

### OPTIONS & ORDER INFO

OPTION	ORDER INFO
LOWER TEMP. COEFFICIENT (high precision version only)	TC
LOWER CURRENT (100 $\mu A$ , high precision version only)	L
ACTIVE SAFETY LOOP INTERRUPTION	SLA
INTERNALLY POWERED SAFETY LOOP	SLP
INHIBIT PER CHANNEL	INH

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