

# Programmable 2/3 Channel High-Performance Power Supply HMP2020/HMP2030

1<sup>st</sup> Quarter  
2009

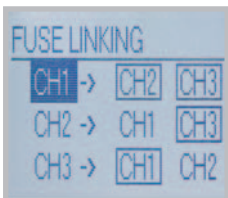
HMP2030



2 channel derivative  
HMP2020



Individual linking of single  
channels using FuseLink



Rear outputs for simple  
integration in rack systems



- ✓ HMP2020: 1x0...32V/0...10A      1x0...5.5V/0...5A
- ✓ HMP2030: 2x0...32V/0...5A      1x0...5.5V/0...5A
- ✓ 188W output power realized by intelligent power management
- ✓ Low residual ripple: <math>< 150\mu V\_{rms}</math> due to linear post regulators
- ✓ High setting- and read-back resolution of 1mV/0.1mA
- ✓ Galvanically isolated, earth-free output channels
- ✓ Advanced parallel- and serial operation via V/I tracking
- ✓ EasyArb function for free definable V/I characteristics
- ✓ FuseLink: individual channel combination of electronic fuses
- ✓ Free adjustable overvoltage protection (OVP) for all outputs
- ✓ All parameters clearly displayed via LCD/glowing buttons
- ✓ Rear connectors for all channels including sense
- ✓ USB/RS-232 Interface, optional Ethernet/USB or IEEE-488

**Programmable 2 Channel High Performance Power Supply HMP2020**  
**Programmable 3 Channel High Performance Power Supply HMP2030**  
**Programmable 3 Channel High Performance Power Supply HMP4030**

All data valid at 23 °C after 30 minute warm-up

**Outputs**

Advanced parallel and series operation: simultaneously switch on/off of active channels via 'Output' button, common voltage- and current control using tracking mode (individual channel linking), individual mapping of channels which shall be affected by FuseLink overcurrent protection (switch-off), all channels galvanically isolated and independant from protective earth

HMP2020	1 x 0...32V/0...10A 0...5.5V/0...5A
HMP2030	2 x 0...32V/0...5A 0...5.5V/0...5A
HMP4030	3 x 0...32V/0...10A

<b>Output terminals:</b>	4mm safety sockets frontside Screw-type terminal rear side (4 units per channel)
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<b>Output power:</b>	
HMP2020/HMP2030	188W max.
HMP4030	384W max.

<b>Compensation of lead resistances [Sense]:</b>	1V
<b>Overvoltage / overcurrent protection [OVP/OCP]:</b>	Adjustable for each channel
<b>Electronic fuse:</b>	Adjustable for each channel, combinable via FuseLink

**32V channels**

<b>Output values:</b>	
HMP2020	1 x 0...32V/0...10A, [5A at 32V]
HMP2030	2 x 0...32V/0...5A, [2.5A at 32V]
HMP4030	3 x 0...32V/0...10A, [5A at 32V]

<b>Resolution:</b>	
Voltage	1mV
Current HMP2030	< 1A: 0.1mA; ≥ 1A: 1mA
Current HMP2020/4030	< 1A: 0.2mA; ≥ 1A: 1mA

<b>Setting accuracy:</b>	
Voltage	< 0.05% + 5mV (typ. ±2mV)
Current HMP2030	< 0.1% + 5mA (typ. ±0.5mA at I < 500mA)
Current HMP2020/4030	< 0.1% + 5mA (typ. ±1mA at I < 500mA)

<b>Measurement accuracy:</b>	
Voltage	< 0.05% + 2mV
Current HMP2030	< 500mA: < 0.05% + 0.5mA, typ. ±0.2mA
Current HMP2030	≥ 500mA: < 0.05% + 2mA, typ. ±1mA
Current HMP2020/4030	< 500mA: < 0.05% + 0.5mA, typ. ±0.5mA
Current HMP2020/4030	≥ 500mA: < 0.05% + 2mA, typ. ±2mA

<b>Residual ripple [3Hz...300kHz]:</b>	
Voltage	< 150µV <sub>rms</sub>
Current	< 1mA <sub>rms</sub>

<b>Stabilisation at load change (10...90%):</b>	
Voltage	< 0.01% + 2mV
Current	< 0.01% + 250µA

<b>Stabilisation at line voltage variation (±10%):</b>	
Voltage	< 0.01% + 2mV
Current	< 0.01% + 250µA

<b>Entire load regulation:</b>	
(at 10%...90% load peak, balance time to match within 10mV U <sub>nom</sub> )	< 50µs

**5.5V channel**

<b>Output values:</b>	
HMP2020/HMP2030	1 x 0...5.5V/0...5A

<b>Resolution:</b>	
Voltage	1mV
Current	< 1A: 0.1mA; ≥ 1A: 1mA

<b>Setting accuracy:</b>	
Voltage	< 0.05% + 5mV (typ. ±2mV)
Current	< 0.1% + 5mA (typ. ±0.5mA at I < 500mA)

<b>Measurement accuracy:</b>	
Voltage	< 0.05% + 2mV
Current	< 500mA: < 0.05% + 0.5mA; typ. ±0.2mA
Current	≥ 500mA: < 0.05% + 2mA, typ. ±1mA

<b>Residual ripple [3Hz...300kHz]:</b>	
Voltage	< 150µV <sub>rms</sub>
Current	< 1mA <sub>rms</sub>

<b>Stabilisation at load change (10%...90%):</b>	
Voltage	< 0.01% + 2mV
Current	< 0.01% + 250µA

<b>Stabilisation at line voltage variation (±10%):</b>	
Voltage	< 0.01% + 2mV
Current	< 0.01% + 250µA

<b>Entire load regulation:</b>	
(at 10%...90% load peak, balance time to match within 10mV U <sub>Nenn</sub> )	< 50µs

**Arbitrary Function easyARB (only 32V channels)**

<b>Parameters of points:</b>	Voltage, current, time
<b>Number of points:</b>	128
<b>Dwell time:</b>	10ms ...100s
<b>Repetition rate:</b>	Continuously or burst mode with 1...255 changes
<b>Trigger:</b>	Manually via keyboard or via Interface

**Maximum ratings**

<b>Reverse voltage:</b>	33V max.
<b>Incorrectly polarized voltage:</b>	0.4V max.
<b>Max. permitted current in case of reverse voltage:</b>	5A max.
<b>Voltage to earth:</b>	150V max.

**Miscellaneous**

<b>Temperature coefficient/°C:</b>	
Voltage	0.01% + 2mV
Current	0.02% + 3mA

<b>Display:</b>	
HMP2020/HMP2030	240 x 64 Pixel LCD (full grafical)
HMP4030	240 x 120 Pixel LCD (full grafical)

<b>Memory:</b>	Non volatile memory for 1 Arbitrary function and 10 device settings
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<b>Interface:</b>	Dual-Interface USB/RS-232 (H0720)
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<b>Process time:</b>	< 50ms
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<b>Protection class:</b>	Safety class I [EN61010-1]
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<b>Power supply:</b>	115/230V ± 10%; 50/60Hz, CAT II
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<b>Mains fuse:</b>	Microfuse 5 x 20mm slow blow
HMP2020/HMP2030	115V: 2 x 6A 230V: 2 x 3.15A
HMP4030	115V: 2 x 10A 230V: 2 x 5A

<b>Power consumption:</b>	
HMP2020/HMP2030	350VA max.
HMP4030	550VA max.

<b>Operating temperature:</b>	+5°C...+40°C
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<b>Storage temperature:</b>	-20°C...+70°C
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<b>Max. rel. humidity:</b>	5%...80% (non condensing)
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<b>Dimensions (W x H x D):</b>	
HMP2020/HMP2030	285 x 75 x 365mm
HMP4030	285 x 125 x 365mm

<b>Weight:</b>	
HMP2020/HMP2030	8,5kg
HMP4030	approx. 10kg

<b>Accessories supplied:</b>	Line cord, Operating manual, Dual-Interface USB/RS-232 (H0720), CD
<b>Optional accessories:</b>	
H0730	Dual-Interface Ethernet/USB
H0740	Interface IEEE-488 (GPIB), galvanically isolated
HZ10S	5 x silicone test lead (measurement connection in black)
HZ10R	5 x silicone test lead (measurement connection in red)
HZ42	2RU 19" Rackmount Kit (HMP2020, HMP2030)
HZ43	3RU 19" Rackmount Kit (HMP4030)

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