

# R&S® HMP Series Power Supply

versus

## Keysight E36313A

### Key features

R&S®HMP power supplies are designed primarily for industrial use – for production environments as well as for development labs. These rugged instruments offer high efficiency with low residual ripple and many protection functions.

#### ■ Four models:

- 2 or 3 channels with 188 W total output power
- 3 or 4 channels with 384 W total output power

#### ■ Galvanically isolated, floating outputs with overload and short-circuit protection

#### ■ Remote sensing eliminates voltage drops on the load leads

#### ■ Comfortable programming features and 19" rack adapters ensure perfect integration in production environments.

Your benefit	Features
Flexible configuration for any specific application; including sense lines for each channel to compensate voltage drops over the supply leads	Up to 4 channels in a single compact box
Serial operation with up to 128 V or parallel operation with up to 40 A	Channels galvanically isolated and floating
To safeguard instrument and DUT. The FuseLink function switches off all selected channels when one reaches its current limit	Overcurrent protection (electronic fuse) and overvoltage protection
To vary voltage or current during a test sequence; can be programmed manually via the user interface or via the external interfaces	Easily programmable time/voltage or time/current curves

► For more information,  
see [www.rohde-schwarz.com/catalog/hmp](http://www.rohde-schwarz.com/catalog/hmp)



Parameter	R&S®HMP2020/ R&S®HMP2030	R&S®HMP4030/ R&S®HMP4040	Keysight E36313A
Number of output channels	2/3 (all equal)	3/4 (all equal)	2 plus 1 auxiliary channel
Total output power	max. 188 W	max. 384 W	160 W
Max. output power per channel	80 W (HMP2020: 160 W)	160 W	60 W / 50 W / 50 W
Max. output voltage	32 V (all channels)	32 V (all channels)	6 V / 25 V / 25 V
Maximum current per channel	5 A (HMP2020: 10 A)	10 A	10 A / 2 A / 2 A
Max. voltage in serial operation	64 V / 96 V	96 V / 128 V	50 V
Max. current in parallel operation	15 A	30 A / 40 A	4 A
Voltage ripple (20 Hz to 20 MHz)	typ. 1.5 mV (RMS)		< 1 mV (RMS)
Current ripple (20 Hz to 20 MHz)	< 1 mA (RMS)		not specified
Load regulation voltage	< 0.01 % + 2 mV		< 0.01 % + 4 mV
Load regulation current	< 0.01 % + 250 µA		< 0.01 % + 500 µA
Voltage readback accuracy	< 0.05 % + 5 mV		< 0.03 % + 5 mV
Current readback accuracy	< 0.1 % + 2 mA		< 0.04 % + 3 mA
Sense function	yes, for each channel		yes, for each channel
Remote control interfaces	RS-232, USB, LAN, GPIB		USB, LAN, GPIB
Protection functions	OVP, OCP, FuseLink, OTP		OVP, OCP, OTP
Arbitrary function	yes		yes
Front panel connections	4 mm safety sockets		4 mm sockets (safety version optional)
Rear panel connections	yes		yes
Dimensions W x H x D [mm]	285 x 95 x 405	285 x 136 x 405	216 x 145 x 367
Weight	7.8 kg / 8.0 kg	12.4 kg / 12.8 kg	9.8 kg

**R&S®HMP series and Keysight E36300 family**



**R&S®HMP series:**

- 4 instruments, 188 W or 384 W total output power
- 32 V max. output voltage (all models)

**Keysight E36300 family:**

- 3 instruments
- E36311A and E36312A: 80 W total output power (not considered here)
- E36313A: 160 W total output power
- 6 V and 25 V channels



**R&S®HMP series: all channels are equal**

R&S®HMP4030 and Keysight E36313A, both instruments have 3 channels, but:



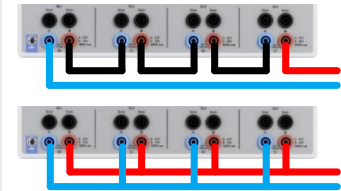
**R&S®HMP4030:**

- All channels provide
- 160 W max. output power
- 32 V max. output voltage
- 10 A max. output current

**Keysight E36313A:**

- Channels are different
- Ch 1: 60 W, ch 2/3: 50 W
- Ch 1: 6 V, ch 2/3: 25 V
- Ch 1: 10 A, ch 2/3: 2 A

**Parallel and serial operation**



max. 128 V

max. 40 A

**R&S®HMP series:**

All output channels can be configured in series to achieve higher output voltage, or in parallel for higher output current



**Keysight E36313A:**

- Only channels 2 and 3 can be combined in series or in parallel (max. 50 V or max. 4 A)
- Configuration can be done internally with no need to use cables to connect the channels

**Connections on front and rear panels**

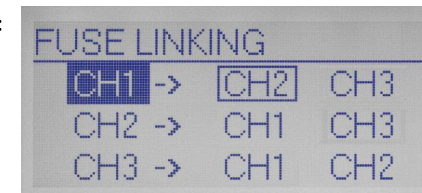


Connections for all channels – including sense lines – are also provided on the rear panel (R&S and Keysight)

**Protection functions to safeguard instrument and DUT**

R&S and Keysight offer overvoltage protection, overcurrent protection (electronic fuse) and overtemperature protection

**R&S only:**



Electronic fuses can be linked logically in any combination.

**Example shown in picture:**

- If channel 1 exceeds the maximum current level, then channel 1 and the linked channel 2 will be switched off
- Channel 3 is not involved because fuse 3 is not linked