

1 R&S Power Supplies NGxxx– removable rear panel connectors

1.1 NGE100B (also valid for A model)

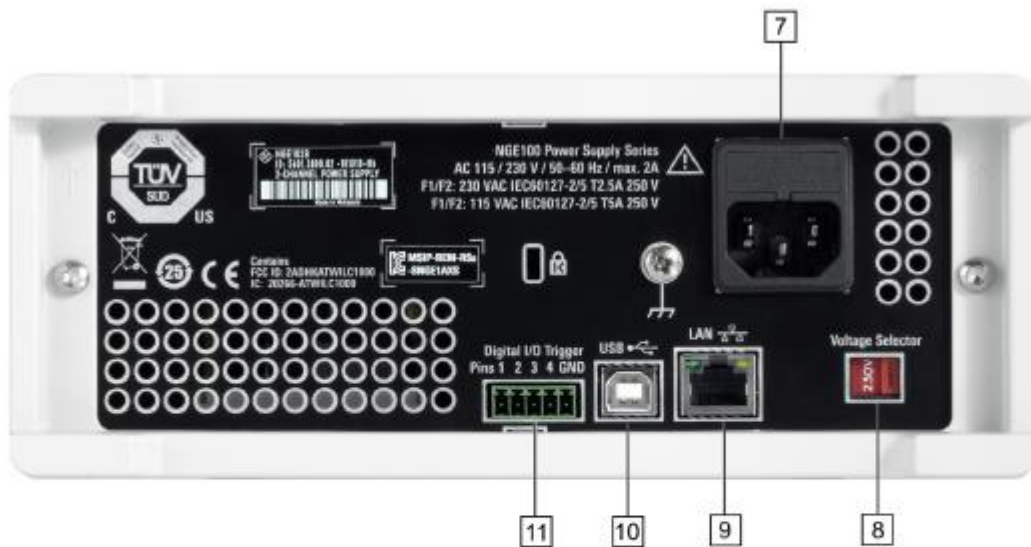
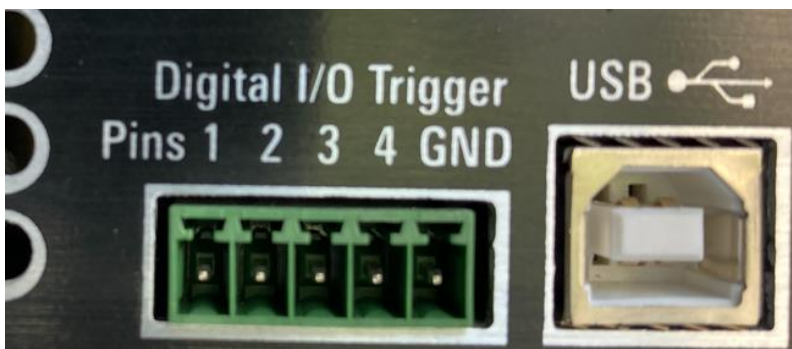


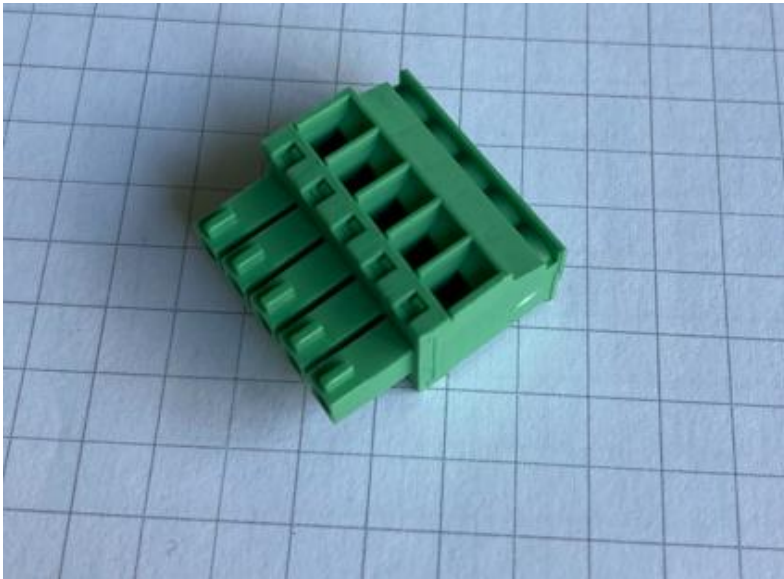
Figure 4-2: Rear panel of R&S NGE100B

- 7 = AC inlet with fuse holder
- 8 = Voltage selector
- 9 = Ethernet (LAN) connector
- 10 = USB connector
- 11 = Digital I/O connector

1.1.1 Pin assignment Digital I/O connector [11]



1.1.2 Spare part



Manufacturer DEGSON Electronics, type 15EDGK[]-3.5, 5-pole
IN 3643.6463.00

Plug-on connector, 2.5mm screwdriver for contacts

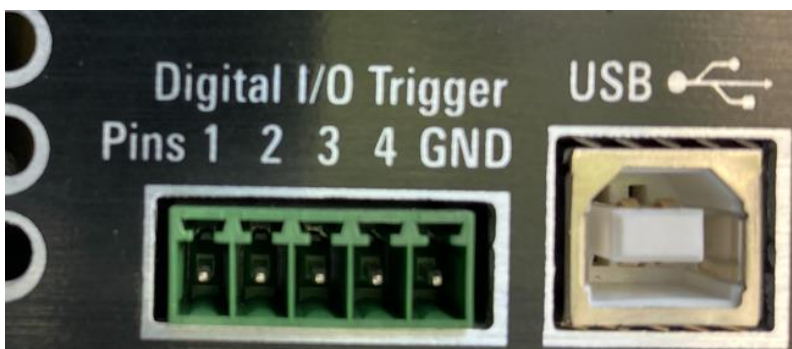
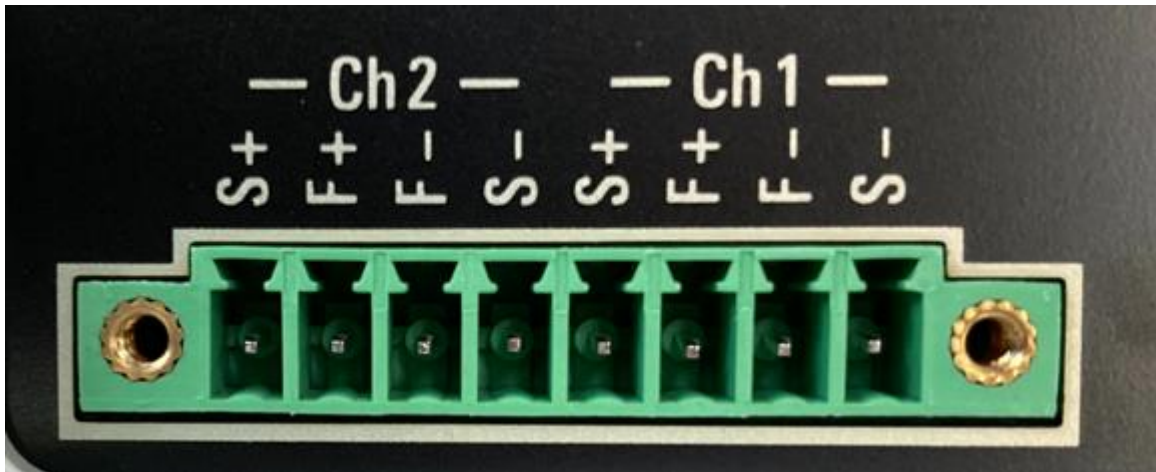
1.2 NGA100



Figure 4-2: Rear panel of R&S NGA100

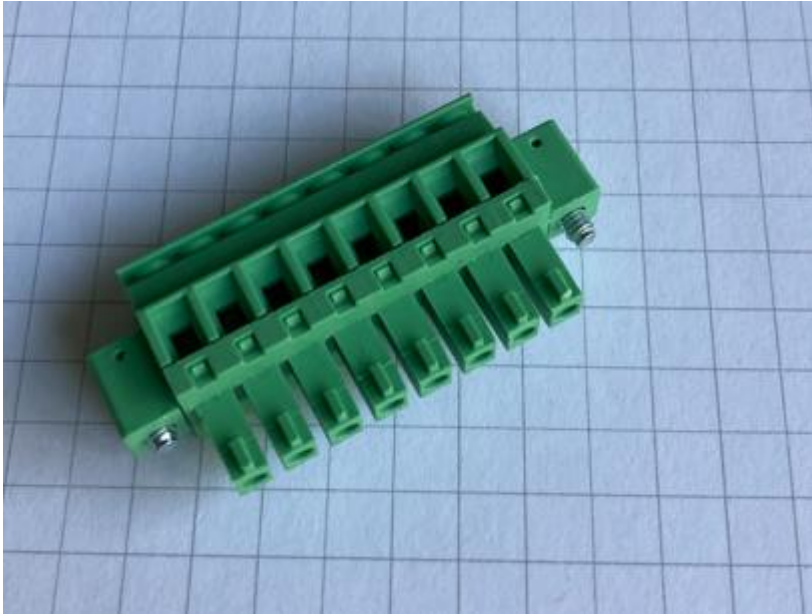
- 7 = AC inlet with fuse holder
- 8 = Ethernet (LAN) connector
- 9 = USB connector
- 10 = Digital I/O connector
- 11 = Rear panel connector

1.2.1 Pin assignment [11] and [10]



1.2.2 Spare part

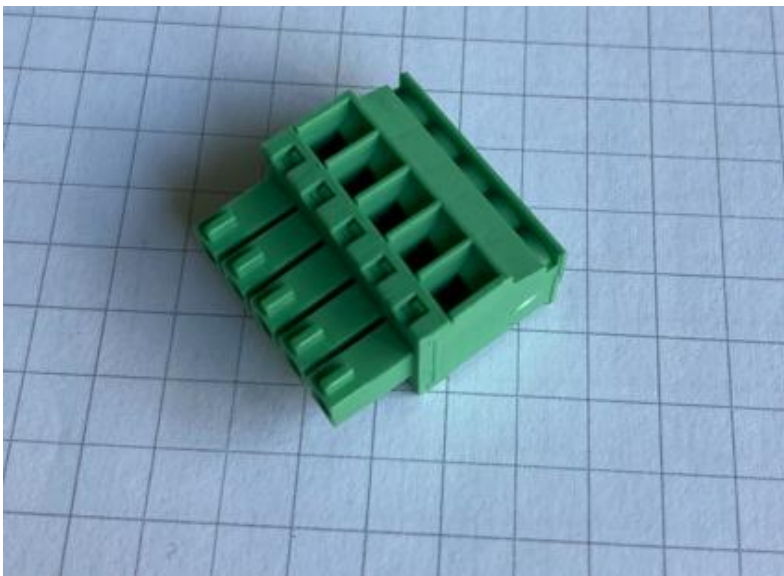
1.2.2.1 Channels [11]



Manufacturer DEGSON Electronics? type 15EDGK[M-3.81, 8-pole
IN 3660.3381.00

Screw-on connector: 3.5mm screwdriver for mounting, 2.5mm for contacts

1.2.2.2 Digital IO [10]



Manufacturer DEGSON Electronics, type 15EDGK[-3.5, 5-pole
IN 3643.6463.00

Plug-on connector, 2.5mm screwdriver for contacts

1.3 NGL200, NGM200

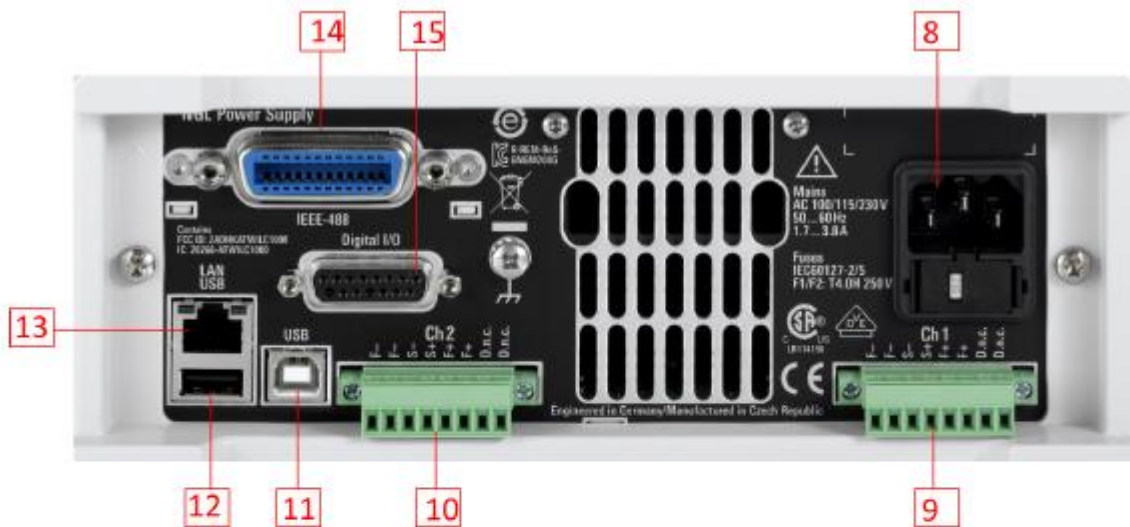


Figure 4-2: Rear panel of R&S NGL/NGM with 2 channels

- 8 = AC inlet with fuse holder and voltage selector
- 9 = Channel 1 rear panel connector for NGL202, NGM202 models. The two D.n.c. labels for NGM201 are labeled as DVM+ and DVM-
- 10 = Channel 2 rear panel connector for NGL202, NGM202 models. The two D.n.c. labels for NGM202 are labeled as DVM+ and DVM-
- 11 = USB connector (device)
- 12 = USB connector (host)
- 13 = Ethernet (LAN) connector
- 14 = Optional IEEE-488 (GPIB) interface
- 15 = Digital I/O connector

1.3.1 Pin assignment

Channel connectors (9, 10)

Output terminals

Either the output terminals at the front panel or those at the back panel can be used. Using both terminals at the same time can cause instrument malfunction.

Digital voltmeter (DVM)

The DVM+ and DVM- pins on the channel connector are available only with R&S NGM power supply series equipped with option R&S NGM-K104 (P/N: 3643.9927.02).

The channel connectors contain both output ("F+", "F-") and sense ("S+", "S-") connections. Connector for "Ch2" is only available in the NGL202, NGM202 models

Digital I/O connector (15)

The Digital I/O option (R&S NGL-K103 or R&S NGM-K103) must be installed for this function to be available in the instrument.

The specified voltages are 0 V to 24 V for all output pins and 0 V to 15 V for all input pins.

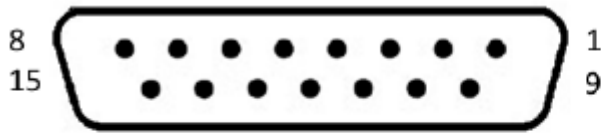


Figure 4-3: Digital I/O connector (female socket front view)

Table 4-1: Digital I/O pin layout

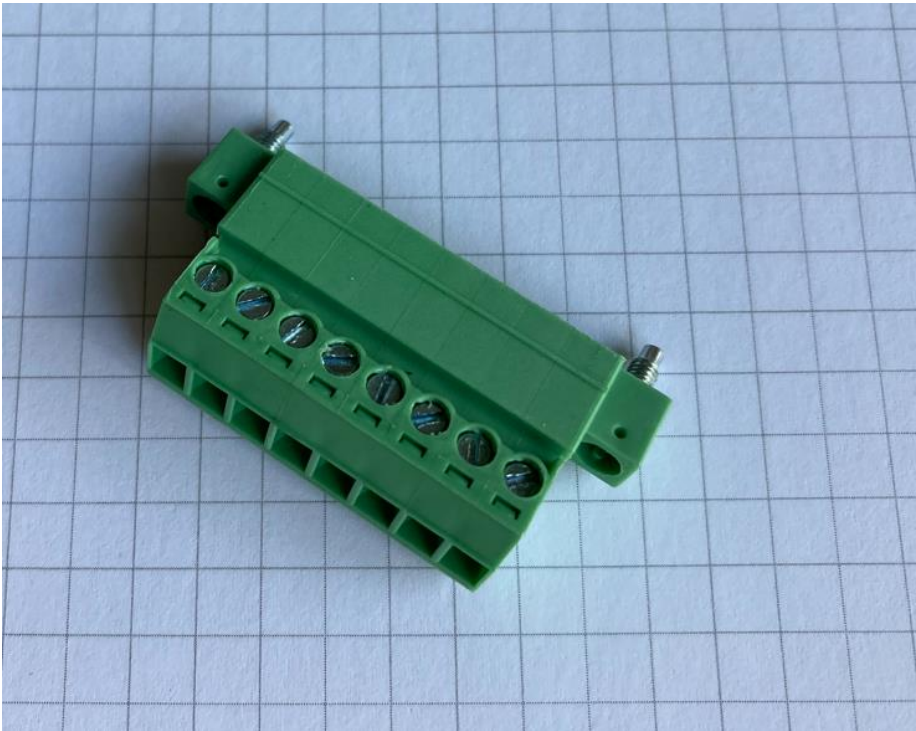
Pin	Signal	Direction	Pin	Signal	Direction
1	*Inhibit Ch1	IN	9	*Inhibit Ch2	IN
2	Ext. Trigger Ch1	IN	10	Ext. Trigger Ch2	IN
3	Digital In1	IN	11	Digital Output Fault	OUT
4	Digital Output Out1	OUT	12	Digital Output Out2	OUT
5 - 8	Gnd	-	13 - 15	Gnd	-

* The inhibit signals can be used to turn off the outputs by a digital hardware signal.

Table 4-2: Inhibit signals

Signal name	Pin	Descriptions
Inhibit Ch1	Pin 1 of Digital I/O connector	If the inhibit signal goes active, channel 1 output is turned off. The inhibit signal is low active (inverted logic).
Inhibit Ch2	Pin 9 of Digital I/O connector	If the inhibit signal goes active, channel 2 output is turned off The inhibit signal is low active (inverted logic).

1.3.2 Spare part [9], [10]



IN 3630.1674.00

Screw-on connector: 3mm or PH0 screwdriver for mounting, 2.5mm for the contact screws

1.4 NGU201, NGU401

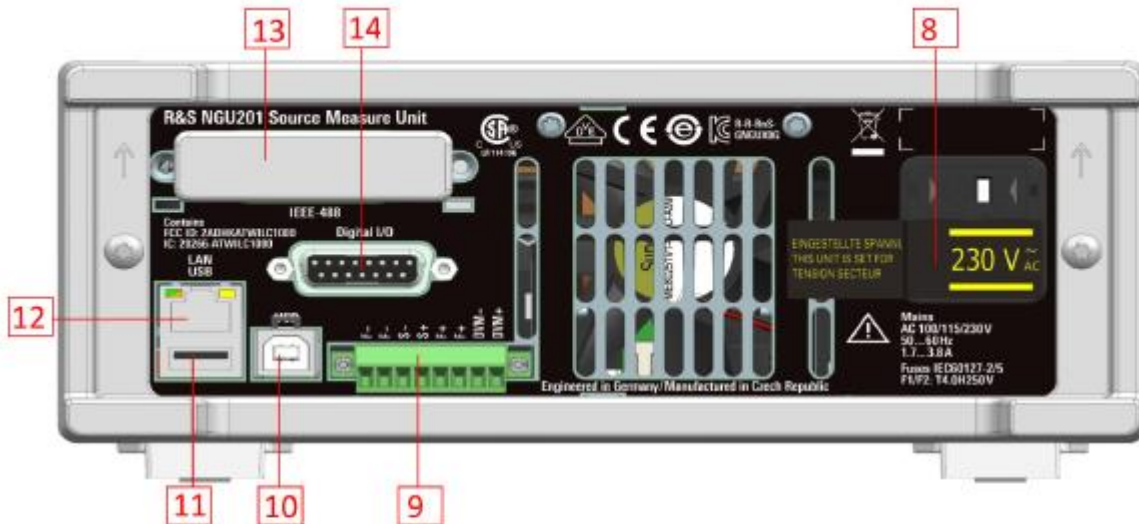


Figure 4-2: Rear panel of NGU201 model

- 8 = AC inlet with fuse holder and voltage selector
- 9 = Channel 1 rear panel connector. For NGU201, the last two pins are labeled as DVM+ and DVM- as an option. For NGU401, the pins are labeled as MOD+ and MOD-.
- 10 = USB connector (Device)
- 11 = USB connector (Host)
- 12 = Ethernet (LAN) connector
- 13 = Cover for optional IEEE-488 (GPIB) Interface
- 14 = Digital I/O connector

1.4.1 Pin assignment

Channel connectors (9)

Output terminals

Either the output terminals at the front panel or those at the back panel can be used. Using both terminals at the same time can cause instrument malfunction.

The channel connectors contain both output ("F+", "F-") and sense ("S+", "S-") connections.

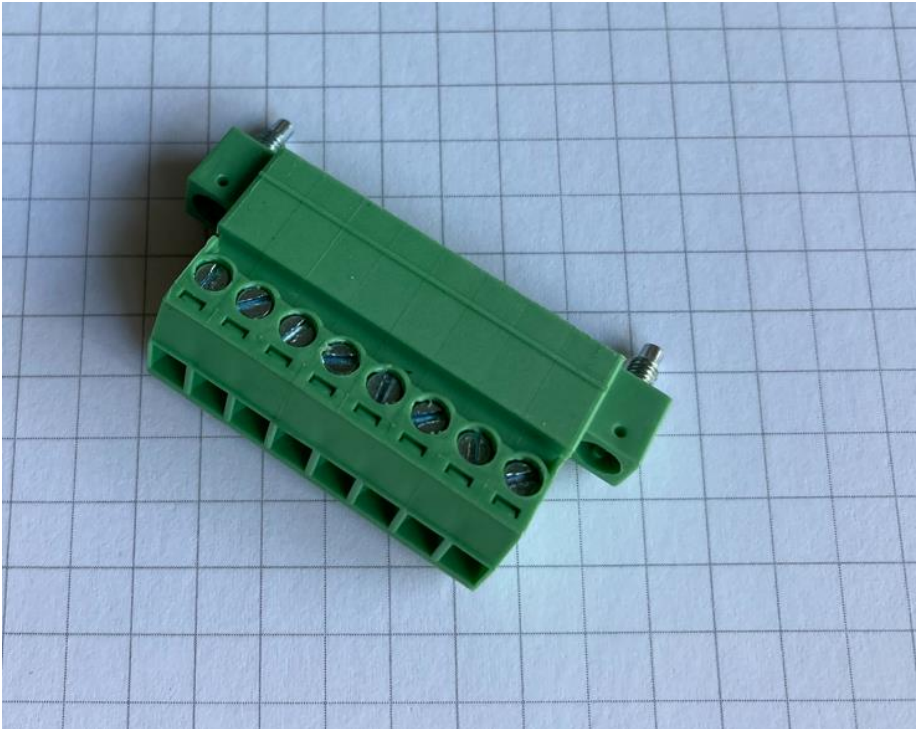
Digital voltmeter (DVM)

The DVM+ and DVM- pins on the channel connector are available only with **NGU201** model equipped with option R&S NGU-K104 (P/N: 3663.0390.02).

Modulating signal (MOD)

The MOD+ and MOD- pins on the channel connector are available only with **NGU401** model.

1.4.2 Spare part [9]



IN 3630.1674.00

Screw-on connector: 3mm or PH0 screwdriver for mounting, 2.5mm for the contact screws

1.5 NGP

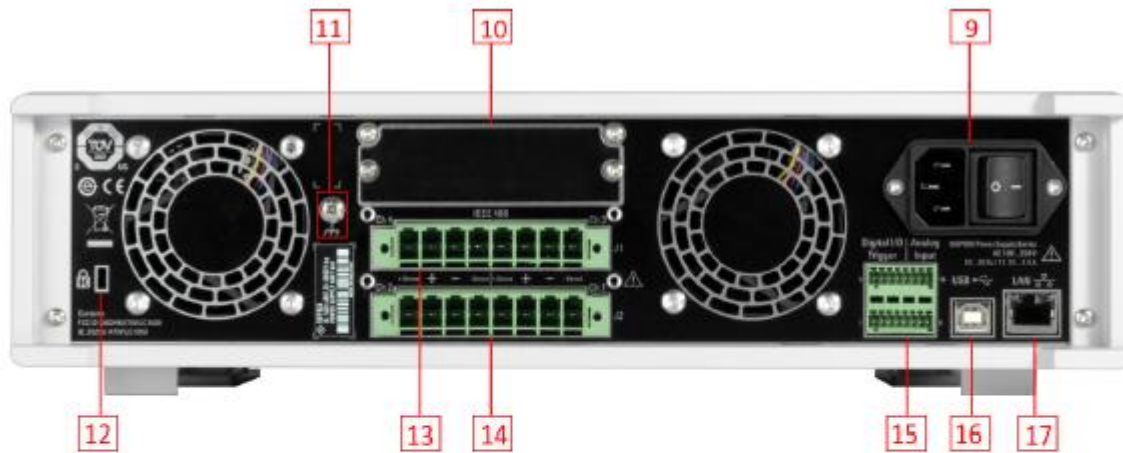


Figure 4-2: Rear panel of R&S NGP800 power supply

- 9 = AC inlet with integrated 2-pole rocker switch
- 10 = Optional IEEE-488 (GPIB) interface
- 11 = Ground terminal
- 12 = Kensington lock
- 13 = Channel 3 and 4 rear panel connector (for NGP804, NGP814 and NGP824 models only)
- 14 = Channel 1 and 2 rear panel connector
- 15 = Analog input and digital I/O connector
- 16 = USB-B connector (device)
- 17 = Ethernet (LAN) connector

1.5.1 Pin assignment

Channel connectors (13, 14) - Output terminals

Either the channel output terminals at the front panel or rear panel can be used. Using both terminals at the same time can cause instrument malfunction.

The channel terminal blocks contain connections to both outputs (“+”, “-“), and remote sense (“+Sense”, “-Sense”). Terminal block for channel 3 and channel 4 are only available for a 4-channel instrument.

Digital I/O & analog input connector (15)

A 16-pin terminal block provides connection to both digital I/O (option NGP-K103) and analog input (option NGP-K107).

Table 4-2: Pin configurations

DIO & analog input connector	Signal	Logical name	Value range	Pin number
	Analog input 1 to 4	ANA1	0 Vdc to 5 Vdc	16
		ANA2		8
		ANA3		15
		ANA4		7
	Analog ground	GND	0 Vdc	6, 14

DIO & analog input connector	Signal	Logical name	Value range	Pin number
	Digital ground	GND	0 Vdc	5, 13
	Digital trigger 1 to 8	DIO1	TTL	12
		DIO2		4
		DIO3		11
		DIO4		3
		DIO5		10
		DIO6		2
		DIO7		9
		DIO8		1

1.5.2 Spare part

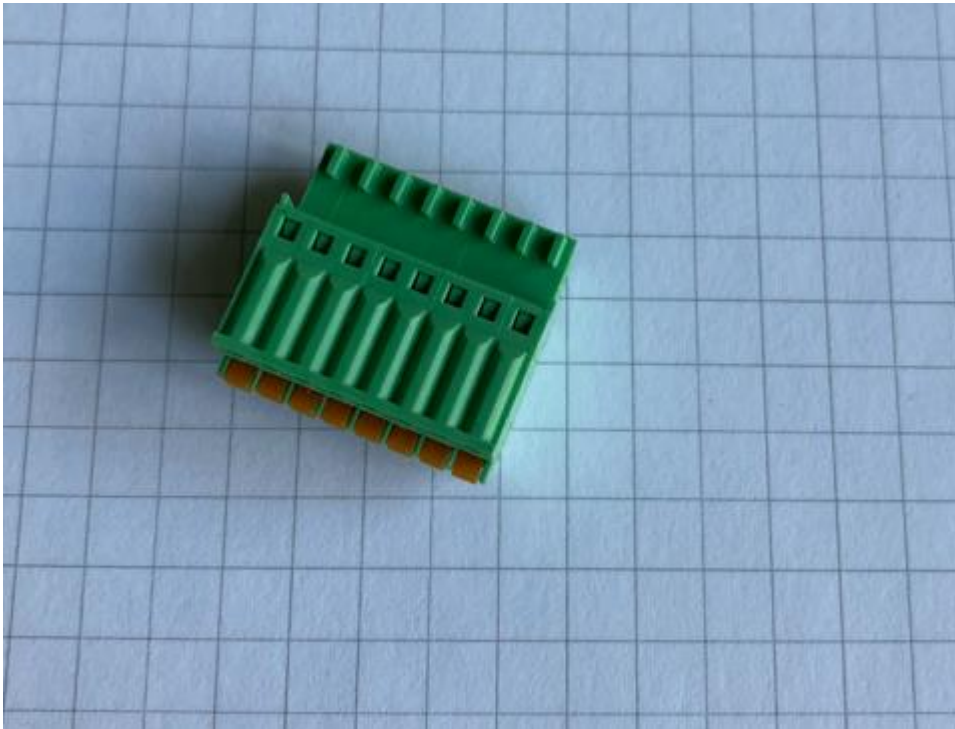
1.5.2.1 Channels [13], [14]



Manufacturer DEGSON Electronics, type 5EDGKM-7.62-08P-14-00A(H), 8-pole
 IN 3639.1025.00

Screw-on connector: 5.5mm screwdriver for mounting, 3.5mm for the contact screws

1.5.2.2 DIO and ANA [15], two pieces



Manufacturer DEGSON Electronics, type 15EDGKD-2.5-08P-14-00A(H), 8-pole
IN 3639.1002.00

Plug-on connector, a small screwdriver or other pin-type tool is required to insert (!) and release wires to the spring-type sockets.

