

Programmable Power Supplies NGPV



Photo 431 316-1

Brief description

Power Supplies of the NGPV series are suitable for use in test systems and for general laboratory applications.

Nine different models are available

- NGPV 8/10 0 to 8 V/0 to 10 A
- NGPV 20/5 0 to 20 V/0 to 5 A
- NGPV 20/10 0 to 20 V/0 to 10 A
- NGPV 40/3 0 to 40 V/0 to 3 A
- NGPV 40/5 0 to 40 V/0 to 5 A
- NGPV 100/1 0 to 100 V/0 to 1 A
- NGPV 100/2 0 to 100 V/0 to 2 A
- NGPV 300/0.3 0 to 300 V/0 to 0.3A
- NGPV 300/0.6 0 to 300 V/0 to 0.6A

Each model comes in two versions

The version for use in systems and labs can be programmed via IEC/IEEE bus or operated manually. These power supplies are provided with the necessary operating controls, a digital LED display for indication of all input data including IEC/IEEE-bus commands,

and analog meters for indication of actual voltage and current values. The system version is without operating controls so that models for use in systems are lower-priced.

Main features

- Digital setting, high resolution
- No discrete output capacitance, true current source
- Programmable via IEC/IEEE bus and manual control
- Short setting time for down programming thanks to current sinking
- Two current ranges - high-resolution current monitoring output
- Display of operating status and faults
- Thermostat-controlled cooling fan
- 19" design

System use

Power Supplies NGPV are ideal for use in systems because of the short set-

ting time of 2 ms which applies both to the rise time and thanks to controlled current sinking also to the fall time.

The NGPV models have no discrete output capacitance so that they can be used for regulating extremely low currents. Relay contacts will not be damaged by switching of current paths. A larger output capacitor can be switched into circuit manually or via the program.

Remote sensing

Remote sensing is a particularly system-friendly mode since it is set automatically with no sensing links involved. In the sensing mode, the maximum output voltage of the power supply exceeds the specified nominal voltage only by the amount of the voltage drop in the leads. The load is thus fully protected, even in the presence of a shortcircuit, wrong polarity or interruption of the sensing leads.



Power Supply NGPV for use in systems (photo 31924)

Specifications in brief

Type	NGPV 8/10	NGPV 20/5	NGPV 20/10	NGPV 40/3	NGPV 40/5	NGPV 100/1	NGPV 100/2	NGPV 300/0.3	NGPV 300/0.6
A1	0 to 7.99 V	0 to 19.99 V		0 to 39.99		0 to 99.9 V		0 to 299.9 V	
A2	10 mV/800	10 mV/2000		10 mV/4000		100 mV/1000		100 mV/300	
A3	$<10^{-3}$	$<10^{-3}$		$<10^{-3}$		$<10^{-3}$		$<10^{-3}$	
B1	0 to 9.99 A	0 to 4.99 A	0 to 9.99 A	0 to 2.99 A	0 to 4.99 A	0 to 0.999 A	0 to 1.99 A	0 to 0.299 A	0 to 0.599 A
B2	10 mA/1000	10 mA/500	10 mA/1000	10 mA/300	10 mA/500	1 mA/1000	10 mA/200	1 mA/300	1 mA/600
B3	$<10^{-3}$	$<2 \times 10^{-3}$	$<10^{-3}$	$<3 \times 10^{-3}$	$<2 \times 10^{-3}$	$<10^{-3}$	$<4 \times 10^{-3}$	$<3 \times 10^{-3}$	$<2 \times 10^{-3}$
B11	0 to 999 mA	0 to 999 mA		0 to 999 mA		0 to 99.9 mA		0 to 99.9 mA	
B12	1 mA	1 mA		1 mA		0.1 mA		0.1 mA	
B13	$<10^{-3}$	$<10^{-3}$		$<10^{-3}$		$<2 \times 10^{-3}$		$<2 \times 10^{-3}$	
C	$<200 \mu\text{V}$	$<250 \mu\text{V}$		$<400 \mu\text{V}$		$<600 \mu\text{V}$		$<900 \mu\text{V}$	
D	500 pF/220 μF	500 pF/100 μF	750 pF/220 μF	500 pF/47 μF	750 pF/100 μF	500 pF/22 μF	750 pF/47 μF	500 pF/10 μF	750 pF/22 μF
E	4.5 to 15 V	4.5 to 25 V		4.5 to 50 V		5 to 110 V		5 to 330 V	

Output voltage

A1: setting
A2: resolution (mV/steps)
A3: deviation (of fs)

Output current (A range)

B1: setting
B2: resolution (mA/steps)
B3: deviation (of fs)

Output current (mA range)

B11: setting
B12: resolution (1000 steps)
B13: deviation (of fs)

C: PARD, V_{rms}

D: output C (OFF/ON)

E: overvoltage protection (OVP)

Common data

Constant-voltage source

Deviation of output voltage
with $\pm 10\%$ AC supply variation $<10^{-5}$
between 0 and 50°C $<2 \times 10^{-5}/\text{K}$
with 10 to 90% load $<10^{-4}$
Transient recovery time
(10 to 90%/90 to 10%) $<75 \mu\text{s}$ (to within $\pm 10^{-3}$)

Constant-current source

Deviation of output current
with $\pm 10\%$ AC supply variation $<10^{-5}$
between 0 and 50°C $<5 \times 10^{-5}/\text{K}$
with 10 to 90% load $<10^{-4}$
Transient recovery time,
output C OFF/ON $<50 \mu\text{s}/<2 \text{ ms}$
PARD, I_{rms}
in mA range 10 μA
in A range 100 $\mu\text{A}/\text{A}$

Remote control

Interface functions

Setting time
(0 to 100%/100 to 0%)

Remote sensing

Current monitoring output

mA range 100 mV $\pm 1\%$ for full scale
A range 10 mV $\pm 1\%/\text{A}$

General data

Meter accuracy $\pm 2.5\%$ of fs
AC supply 110/120/220/240 V $\pm 10\%$,
47 to 63 Hz

Order No.

IEC 625-1 (IEEE 488)
SH0, AH1, TO, TE0, L1, LEO, SRO,
RL1, PP1, DC1, DT1, CO

$<2 \text{ ms}$ (to within $\pm 2 \times 10^{-3}$)

compensation for 1 V per lead

100 mV $\pm 1\%$ for full scale
10 mV $\pm 1\%/\text{A}$

$\pm 2.5\%$ of fs
110/120/220/240 V $\pm 10\%$,
47 to 63 Hz

192.0310...	192.0326...
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Power consumption approx. 250 VA
Dimensions (W x H x D) in mm 492 x 161 x 392
Weight 12 kg

approx. 500 VA	approx. 500 VA
492 x 161 x 420	492 x 161 x 420
19 kg	19 kg

Ordering information

Type	NGPV 8/10	NGPV 20/5	NGPV 20/10	NGPV 40/3	NGPV 40/5	NGPV 100/1	NGPV 100/2	NGPV 300/0.3	NGPV 300/0.6
F1	192.0310.80	192.0310.20	192.0326.20	192.0310.40	192.0326.40	192.0310.10	192.0326.10	192.0310.30	192.0326.30
F2	192.0310.81	192.0310.21	192.0326.21	192.0310.41	192.0326.41	192.0310.11	192.0326.11	192.0310.31	192.0326.31

F1: system version

F2: system and lab version