

Low voltage power supplies thyristor regulated Series NYN from 12,5 V to 350 V / 7 kW to 100 kW



NYN 70000 - 35
35V / 2000A

Features:

- Simple construction
- Extremely robust
- High efficiency
- Short circuit proof and unlimited operation with full current in short circuit condition
- Voltage and current regulation with automatic and sharp transition; control modes indicated by LEDs
- Voltage and current setting with 10-turn potentiometers with precision scale; the adjusting knob can be locked
- Sense terminals for the compensation of voltage drop on the load lines. The nominal voltage always refers to the output terminals
- Limitation of inrush current on switching on
- Suitable also for inductive and capacitive loads
- Interlock loop to monitor the external load and internal loop as a standard
- Elapsed-hour meter as a standard

Design Example

Function:

The mains voltage is first transformed to the appropriate level. On the secondary side of the transformer is a thyristor controlled rectifier stage (phase cutting circuit). The rectified voltage is smoothed by a LC - filter.

Design:

- Depending on voltage and power the units are built as single or double 19" cabinets of various height. The side covers are detachable, the rear door is lockable.
- All cabinets are equipped with fork-lift-compatible plinths and removable crane-eyes.
- Single 19"- cabinets up to 38U are easily transportable by fork-lift.
- Cooling is carried out via convection or built-in fans, with the air being exhausted (depending upon type) either via the rear or the top.



NYN 42000M - 84
84V / 500A
customer specific design with current consumption unit (Side covers removed)

Output:

- Output isolation:
The output is floating. The maximum operating voltage with respect to earth: $\pm 500V$. Either the positive or the negative terminal may be connected to earth.
- Output terminals:
All output terminals are located at the rear side of the cabinet. For Output current up to 300A feed through terminals are used; for higher currents the output is via copper bars.

Technical Data:

- Mains connection:
400V $\pm 10\%$ 47Hz to 53Hz; three-phase
- Ambient temperature:
0°C to +40°C

The following data applies for voltage and current regulation, and refers to the rated value (unless otherwise stated): (For explanations please refer to Definitions and Terms on page 54.)

- Setting range:
from approx. 1% to 100%
- Setting resolution:
 $\pm 1 \times 10^{-4}$
- Residual ripple (0 - 10MHz):
 $< 1 \times 10^{-2} \text{pp} + 100 \text{mVpp}$
- Recovery time:
<100ms to 500ms (depending on type) for load variations of $\pm 10\%$
- Setting time at nominal load:
<100ms to 2sec (depending on type) for changes of the output voltage from 10% to 90% or 90% to 10%
- Discharge time constant for output without load:
approx. 5sec. to 60sec., depending on type
- Deviation:
For $\pm 10\%$ mains voltage variation:
 $< \pm 1 \times 10^{-4}$
For no load / full load:
 $< \pm 1 \times 10^{-3}$
Over 8 hours under constant conditions:
 $< \pm 3 \times 10^{-4}$
Within the temperature range:
 $< \pm 3 \times 10^{-4} / K$

Possible Options:

- Analog programming (One of the outputs on "0V" - potential; see also page 44)
- Analog programming, floating (see page 44)
- Computer interfaces - IEEE 488, RS 232, RS 422, Profibus DP, USB, LAN (more on request) (see page 46)
- Internal resistance setting and regulation (see page 48)
- Power regulation with display (see page 48)
- Roller blades for cabinet units

More options and special solutions on request. Some options may involve changes to the description of the unit - especially concerning the mechanical design.

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Series NYN from 12,5 V to 350 V / 7kW to 100 kW



| Type | Voltage | Current | Width | Height | Depth | Weight |
|------------------|------------|------------|-------------------|----------------|--------|---------|
| NYN 7000 - 12,5 | 0 - 12,5 V | 0 - 500 A | 19" / 600 mm | 20 U / 1100 mm | 600 mm | 300 kg |
| NYN 10500 - 12,5 | 0 - 12,5 V | 0 - 800 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 440 kg |
| NYN 14000 - 12,5 | 0 - 12,5 V | 0 - 1000 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 480 kg |
| NYN 21000 - 12,5 | 0 - 12,5 V | 0 - 1500 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 550 kg |
| NYN 28000 - 12,5 | 0 - 12,5 V | 0 - 2000 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 820 kg |
| NYN 35000 - 12,5 | 0 - 12,5 V | 0 - 2500 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 1200 kg |
| NYN 50000 - 12,5 | 0 - 12,5 V | 0 - 4000 A | 2 x 19" / 1200 mm | 38 U / 2000 mm | 800 mm | 1300 kg |
| NYN 7000 - 20 | 0 - 20 V | 0 - 300 A | 19" / 600 mm | 20 U / 1100 mm | 600 mm | 280 kg |
| NYN 10500 - 20 | 0 - 20 V | 0 - 500 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 400 kg |
| NYN 14000 - 20 | 0 - 20 V | 0 - 600 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 440 kg |
| NYN 21000 - 20 | 0 - 20 V | 0 - 800 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 530 kg |
| NYN 28000 - 20 | 0 - 20 V | 0 - 1200 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 750 kg |
| NYN 35000 - 20 | 0 - 20 V | 0 - 1500 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 1100 kg |
| NYN 50000 - 20 | 0 - 20 V | 0 - 2500 A | 2 x 19" / 1200 mm | 38 U / 2000 mm | 800 mm | 1250 kg |
| NYN 7000 - 35 | 0 - 35 V | 0 - 200 A | 19" / 600 mm | 20 U / 1100 mm | 600 mm | 260 kg |
| NYN 10500 - 35 | 0 - 35 V | 0 - 300 A | 19" / 600 mm | 29 U / 1500 mm | 600 mm | 380 kg |
| NYN 14000 - 35 | 0 - 35 V | 0 - 400 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 420 kg |
| NYN 21000 - 35 | 0 - 35 V | 0 - 600 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 500 kg |
| NYN 28000 - 35 | 0 - 35 V | 0 - 800 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 700 kg |
| NYN 35000 - 35 | 0 - 35 V | 0 - 1000 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 900 kg |
| NYN 70000 - 35 | 0 - 35 V | 0 - 2000 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 1070 kg |
| NYN 7000 - 65 | 0 - 65 V | 0 - 100 A | 19" / 600 mm | 20 U / 1100 mm | 600 mm | 260 kg |
| NYN 10500 - 65 | 0 - 65 V | 0 - 150 A | 19" / 600 mm | 29 U / 1500 mm | 600 mm | 360 kg |
| NYN 14000 - 65 | 0 - 65 V | 0 - 200 A | 19" / 600 mm | 29 U / 1500 mm | 600 mm | 400 kg |
| NYN 21000 - 65 | 0 - 65 V | 0 - 300 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 480 kg |
| NYN 28000 - 65 | 0 - 65 V | 0 - 400 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 680 kg |
| NYN 35000 - 65 | 0 - 65 V | 0 - 500 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 850 kg |
| NYN 70000 - 65 | 0 - 65 V | 0 - 1000 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 1070 kg |
| NYN 21000 - 125 | 0 - 125 V | 0 - 150 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 450 kg |
| NYN 28000 - 125 | 0 - 125 V | 0 - 200 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 650 kg |
| NYN 35000 - 125 | 0 - 125 V | 0 - 250 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 800 kg |
| NYN 50000 - 125 | 0 - 125 V | 0 - 400 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 1100 kg |
| NYN 100000 - 125 | 0 - 125 V | 0 - 800 A | 2 x 19" / 1200 mm | 38 U / 2000 mm | 800 mm | 1600 kg |
| NYN 21000 - 200 | 0 - 200 V | 0 - 100 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 450 kg |
| NYN 28000 - 200 | 0 - 200 V | 0 - 120 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 630 kg |
| NYN 35000 - 200 | 0 - 200 V | 0 - 150 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 750 kg |
| NYN 50000 - 200 | 0 - 200 V | 0 - 250 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 1100 kg |
| NYN 100000 - 200 | 0 - 200 V | 0 - 500 A | 2 x 19" / 1200 mm | 38 U / 2000 mm | 800 mm | 1500 kg |
| NYN 21000 - 350 | 0 - 350 V | 0 - 60 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 450 kg |
| NYN 28000 - 350 | 0 - 350 V | 0 - 80 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 630 kg |
| NYN 35000 - 350 | 0 - 350 V | 0 - 100 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 750 kg |
| NYN 70000 - 350 | 0 - 350 V | 0 - 200 A | 19" / 600 mm | 38 U / 2000 mm | 800 mm | 1200 kg |
| NYN 100000 - 350 | 0 - 350 V | 0 - 300 A | 2 x 19" / 1200 mm | 38 U / 2000 mm | 800 mm | 1500 kg |