

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



**NYN 70000 - 35**  
35V / 2000A

## Design examples



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

### 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 mode 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

### 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 built-in fans, with the air being exhausted (depending upon type) either via the rear or the top.

### Output:

- Output isolation:  
The output is floating, maximum operating voltage with respect to earth:  $\pm 500$  V. 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 current 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 61.)

- Setting range:  
from approx. 1% to 100%
- Setting resolution:  
 $\pm 1 \times 10^{-4}$
- Residual ripple:  
 $< 1 \times 10^{-2} \text{pp} + 100 \text{mVpp}$
- Recovery time:  
<100ms to 500ms (depending on type) for load variations of  $\pm 10\%$
- Setting time at nominal load:  
<100ms to 2 sec (depending on type) for changes of the output voltage from 10% to 90% or 90% to 10%
- Discharging 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 h under constant conditions:  
 $< \pm 3 \times 10^{-4}$   
within the temperature range:  
 $< \pm 3 \times 10^{-4} / \text{K}$

### Possible Options:

- Analogue programming (One of the outputs on "0V" - potential; see also page 52)
- Analogue programming, floating (see page 52)
- Computer interface - IEEE 488, RS 232, RS 422, Profibus DP, USB, LAN (more on request) (see page 54)
- Internal resistance setting and regulation (see page 56)
- Power regulation with display
- 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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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

## Low voltage power supplies thyristor regulated

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



Type	Voltage	Current	Width	Height	Depth	Weight
NYN 7000 - 125	0 - 125 V	0 - 50 A	19" / 600 mm	20 U / 1100 mm	600 mm	220 kg
NYN 10500 - 125	0 - 125 V	0 - 80 A	19" / 600 mm	20 U / 1100 mm	600 mm	330 kg
NYN 14000 - 125	0 - 125 V	0 - 100 A	19" / 600 mm	29 U / 1500 mm	600 mm	400 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 7000 - 200	0 - 200 V	0 - 30 A	19" / 600 mm	20 U / 1100 mm	600 mm	220 kg
NYN 10500 - 200	0 - 200 V	0 - 50 A	19" / 600 mm	20 U / 1100 mm	600 mm	330 kg
NYN 14000 - 200	0 - 200 V	0 - 60 A	19" / 600 mm	29 U / 1500 mm	600 mm	380 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 7000 - 350	0 - 350 V	0 - 20 A	19" / 600 mm	20 U / 1100 mm	600 mm	220 kg
NYN 10500 - 350	0 - 350 V	0 - 30 A	19" / 600 mm	20 U / 1100 mm	600 mm	330 kg
NYN 14000 - 350	0 - 350 V	0 - 40 A	19" / 600 mm	29 U / 1500 mm	600 mm	380 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