

# UNITROL® power converter UNL 13300

## Thyristor converter for applications with fast current control

The UNL 13300 power converter from ABB Switzerland can be used in all industrial applications where fast-controllable direct currents within the higher power range are required. An increase in the output current in stages can easily be achieved through parallel connection of several converters. The modular design enables installation in any cubicle system, eventually also in already existing ones. The converters are controlled by standard pulse final-stages with 24 ... 48 V output voltage or can be supplied with matching firing final-stage.

### Features

The modular construction system allows the converter to be installed in any design of cubicle system. A UNL 13300 converter consists of the following units and optional expansions:

#### Converter module

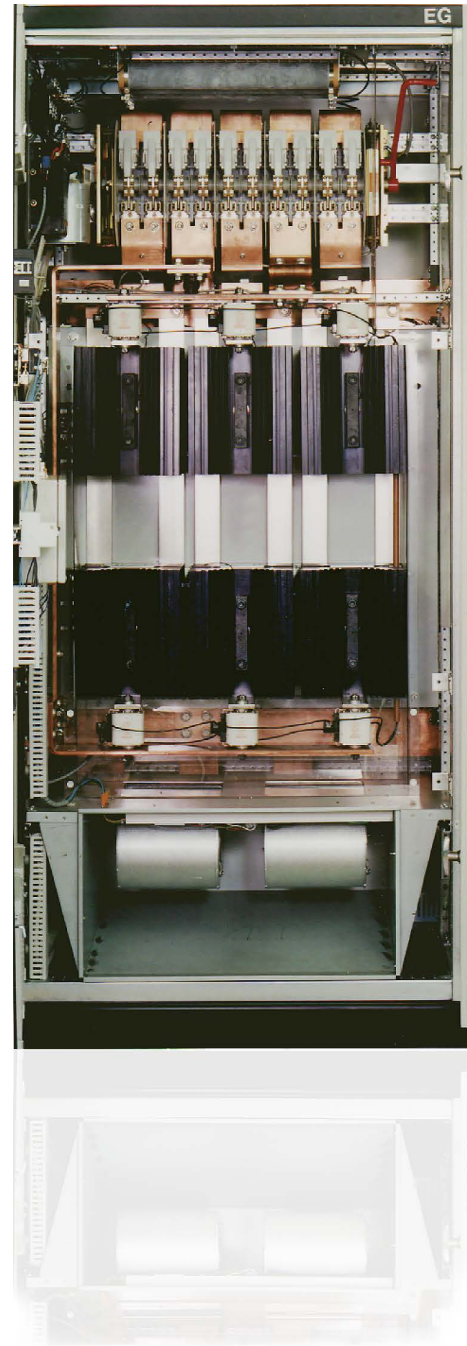
The UNS 4680 converter module is a fully-controlled 3-phase bridge circuit with six thyristors cooled at both sides. In series with each thyristor there is an ultra-fast fuse with defect indicator switch.

#### AC overvoltage protection

The UNS 4681 overvoltage protection limits the excess commutation overvoltages and protects the six thyristors against externally-generated voltage peaks. The unit has 3-phase fuses on the input side; the fuses include a defect indicator switch. The device UNS 4681 also includes a separately supplied resistor.

#### Gate control

The converter can be driven by any pulse final-stage with an output voltage of 24 V or 48 V.



Forced cooled UNL 13300 converter with isolator in 1,000 mm wide cubicle

## Technical data

Input characteristics	
Input voltage	360...1,000 V <sub>AC</sub>
Required firing current pulse peak (10 μs)	0.7...1.1 A
Pulse inversion (80...200 μs)	420 V <sub>P</sub>
Output characteristics	
Maximum output current	
with self-cooling (IP20, T <sub>a</sub> ≤ 45°C)	1,370 A <sub>DC</sub>
self-cooling + door ventilators (IP21, T <sub>a</sub> ≤ 45°C)	1,445 A <sub>DC</sub>
with forced cooling (IP21, T <sub>a</sub> ≤ 35°C)	
without isolator	2,600 A <sub>DC</sub>
with isolator	1,600 A <sub>DC</sub>
Signaling circuits	
switching voltage AC/DC	250 V
switching power AC	500 VA
switching power DC	50 W
Thyristors	
Depending on the desired output	2" / 2.5" / 3"
Ventilator	
Nominal supply voltage U <sub>N</sub>	230 V <sub>AC</sub>
Nominal frequency	50/60 Hz
Current consumption at U <sub>N</sub> ventilation unit (forced cooling)	< 1.15 A
Door ventilation	< 0.38 A
Dimensions and weight	
Converter (W x H x D)	940 x 1,100 x 400 mm
Converter module with AC overvoltage protection and resistor	max. 245 kg
Isolator (installed above; height +500 mm)	25 kg
Ventilation unit (installed below +400 mm)	40 kg
Test voltage	
Power section against earth	5 kV, 50 Hz 1 min

The detailed type description and variants with their electrical value and other technical data can be found in the data sheet for UNL 13300, HIER 457 075 E which we would be pleased to send you.

## Options

### Types of ventilation

The converter module is cooled naturally or by forced cooling with a fan.

With natural cooling, depending on the protection type, it may be necessary to ventilate the cubicle by means of a door ventilator.

Single or redundant ventilation is possible with forced ventilation.

### 1,600 A / 1,000 V isolator

The converter module is available with a five-pole isolator for online maintenance purposes.

### 60 mV measuring shunt

If required, a shunt resistor for a voltage signal proportional to the output current can be installed on the plus rail.

### Thermostat

The thermostat monitors the temperature inside the cubicle.

### Measuring coils for conduction monitoring

Defective thyristors are indicated on the control unit UNS 0674 in combination with the final-stage UNS 3670, Var. 4. For this purpose, three measuring coils are installed on the AC rails.

For more information please contact:

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