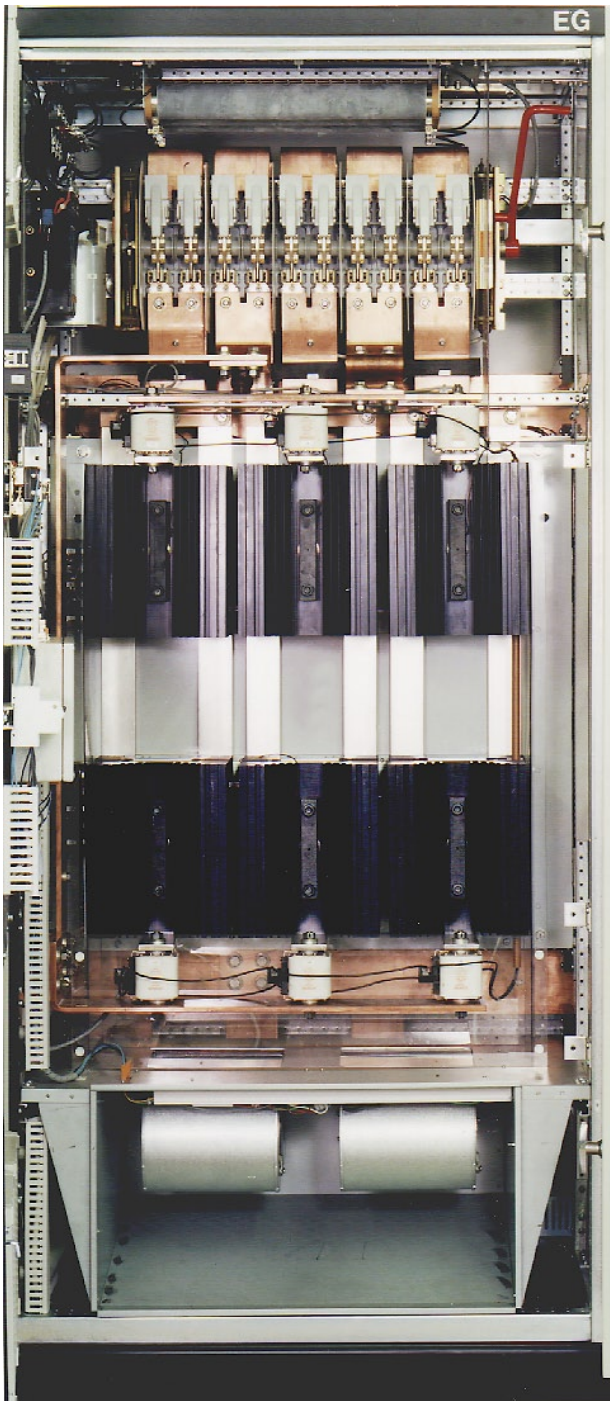


UNITROL®

Power Converter

UNL 13 300

Thyristor converter with natural or forced cooling for output direct current up to 2000 Amperes / 1350 Volts



The UNL 13 300 power converter from ABB Industrie AG 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.

Forced cooled
UNL 13 300 converter
with isolator in 1000 mm
wide cubicle



UNL 13 300 Power Converter

Features

The modular construction system allows the converter to be installed in any design of cubicle system. A UNL 13 300 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.

Technical Data

Input characteristics		Ventilator	
Input voltage	360...1000 V _{AC}	Nominal supply voltage U _N	230 V _{AC}
Required firing current:		Nominal frequency	50/60 Hz
pulse peak (10 μs)	0,7...1,0 A	Current consumption at U _N	
pulse inversion (80...200 μs)	0,5...0,75 A	ventilation unit (forced cooling)	< 1.15 A
		door ventilator	< 0.38 A
Output characteristics		Dimensions and weight	
Maximum output current		Converter (W × H × D)	940 × 1100 × 400 mm
with self-cooling (IP20, T _a ≤ 45°C)	1370 A _{DC}	Converter module with AC overvoltage	
self-cooling + door ventilators		protection and resistor	max. 245 kg
(IP21, T _a ≤ 45°C)	1445 A _{DC}	Isolator (installed above; height +500 mm)	25 kg
with forced cooling (IP21, T _a ≤ 35°C)		Ventilation unit (installed below +400 mm)	40 kg
without isolator	2600 A _{DC}		
with isolator	1600 A _{DC}		
Signalling circuits		Test voltage	
switching voltage AC/DC	250 V	Power section against earth	5 kV, 50 Hz 1 min
switching power AC	500 VA		
switching power DC	50 W		
Thyristors			
Depending on the desired output	2" / 2,5" / 3"		

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**.

1600 A / 1000 V isolator

The converter module is available with a **five-pole isolator**.

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.



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We reserve the right to change in the interest of technical development.