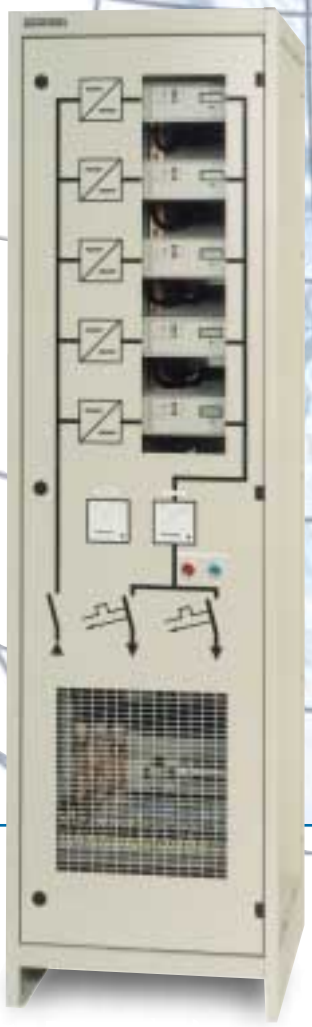
BENNING

TEBECHOP

DC / DC Converter



TEBECHOP – Switch mode DC-Converter

General

This range of Switch mode DC-DC-Converters has been developed to convert voltages from a central 110 V DC or 220 V DC battery power source to 24, 48 or 60 V DC.

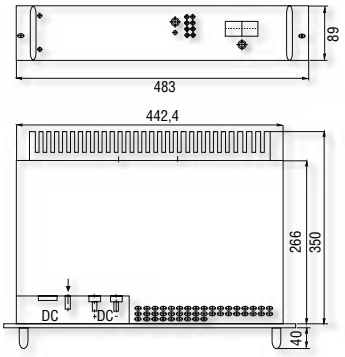
The DC / DC Converters are used for decentralised 24 V systems in Power Stations and 48 V telecommunication loads.

Salient features

- Output characteristic IU
- Efficiency ≥ 90 %
- Radio interference level B (EN 50022)
- Ripple ≤ 1 % ss (post smoothing, if required)
- Excellent transient response
- Short-circuit current 2x $I_{Nom.}$ (only by U_A = 24 V)

Function

Basic components of the DC / DC Converter are Mosfet transistors which convert the DC input to high frequency AC and a transformer to give galvanic isolation and the required output voltage. The rectification is achieved using high speed diodes. A special choke reduces the ripple of the output voltage to ≤ 1 % pk to pk.



Dimensions in mm

Supervisory equipment with visual display:

- GS-input undervoltage control with disconnection and visual display
- GS-input overvoltage control with visual display (option: disconnection)
- GS-output undervoltage control with visual display
- GS-output overvoltage control with disconnection and visual display
- Output overload / short circuit control with time delay disconnection (approx. 5 sec.) and visual display
- volt free contact fault report

Technical Data:

Input voltage:	110 V + 20 % - 15 % 220 V + 20 % - 15 %
Max. allowable ripple:	10 % ss
Nominal direct current:	see typetable
Nominal output voltage:	see typetable
Voltage stability:	± 1 % over the total load range
Setting range:	± 5 %
Voltage ripple:	≤ 1 % ss
Nominal output current:	see typetable
Short circuit reaction:	short circuit fixed
Efficiency:	≥ 90 %
Fuse protection:	external only
Instruments:	switchable digital instrument for output voltage and output current
Connection:	input voltage via plug output voltage via 8 mm thread bolt
Operating conditions:	environmental temperature 0 °C to + 40 °C rel. air humidity max. 75 % max. altitude 1000 m over NN
Dimensions:	19" plug-in (see typetable)
Weight:	see typetable
Finish:	front panel RAL 7032

TEBECHOP – Switch mode DC-Converter

Application

As described earlier DC / DC Converters are often used in power stations and sub stations to supply decentralised control systems. Redundancy is available by connecting several DC / DC Converters in parallel. Each Converter is fitted with a diode in the output to avoid feedback of a fault into another parallel running Converter.

To increase the short circuit current of the system, a capacitor bank can be connected to the output. With this solution the fuse disconnection time can be increased to clear down stream faults.

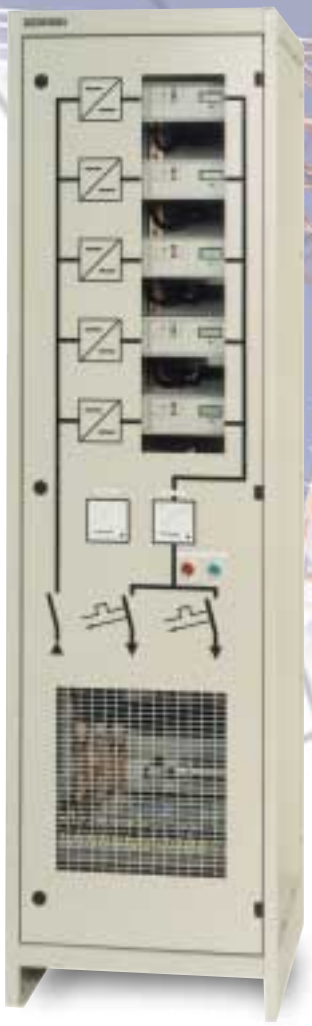
The capacitor bank, as well as input and output fuses will be built into a steel cabinet.

A complete system comprising several DC / DC Converters operating in parallel can be built into a cabinet with a door. Indications and instruments on the Converters can be visible through windows on the door.

The cabinet protection is IP 20. The standard finish is a powder coating in RAL 7032.

The DC / DC Converter systems are suitable for telecommunication loads as the output meets all industrial regulation and requirements.

The required frequency weighed noise voltage of 2 mV by 800 Hz is achieved as well as the EMV requirements to EN 55011.



Typetable

Input voltage (V)	Current carrying (A)	Output voltage (V)	Output power (A)	Output capacity (W)	Dimensions H x B x T (mm)	Weight (kg)	Type
110	17	26	65	1680	89 x 483 x 350	7,5	G 110 G 26/ 65 Wr-PCE
110	15	48	30	1440	89 x 483 x 350	7,5	G 110 G 48/ 30 Wr-PCE
110	16	60	25	1500	89 x 483 x 350	7,5	G 110 G 60/ 25 Wr-PCE
220	8,5	26	65	1680	89 x 483 x 350	7,5	G 220 G 26/ 65 Wr-PCE
220	7,5	48	30	1440	89 x 483 x 350	7,5	G 220 G 48/ 30 Wr-PCE
220	8,0	60	25	1500	89 x 483 x 350	7,5	G 220 G 60/ 25 Wr-PCE

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