Options and modifications: Further possibilities

Polarity reversal:
By this switch the polarity of the output voltage of a high voltage power supply (Nearly all of the HCP, HCK or HYN types) can be changed.
With HCP up to 35kV it is possible to remote control the polarity change if the units are equipped additionally with an analogue programming or with an digital interface. For the most models the polarity reversal can be installed later at our site. On request please ask us!

Higher stability:
Voltage and/or current regulation with better long-term stability and lower temperature coefficient. With a lot of models, using components with a better specification and lower temperature coefficient the following data can be reached:

- Stability over 8 hours under constant conditions: $<\pm 1 \times 10^{-5}$
- Temperature coefficient: $<\pm 1 \times 10^{-5}$ /K within the specified temperature range

On request we can achieve for certain units even a higher stability.
These options can be incorporated only in new units. A later modification is not possible. These options are not available for cassette power supplies.

Lower output ripple:
On several series a lower ripple can be achieved by better smoothing. This option can be supplied only with new units. A later modification is not possible. The following data will be achieved:

- For MCP / HCP up to 35W: $<1 \times 10^{-5}$ + 10mV p-p
- For MCP / HCP 140W to 700W: $<1 \times 10^{-5}$ + 20mV p-p
- For MCP / HCP of 1400W and higher power: $<1 \times 10^{-5}$ + 100mV p-p

This option is not available for cassette power supplies and for power supplies of the NTN series.

Lower stored energy:
Especially for the operation of gas discharge processes, arcs or similar loads with a negative dynamic resistance characteristic, the quantity of stored energy can be decreased by smaller output capacitors. Those units will have than a higher ripple up to 1%. This option is available for units of the series MCP, HCP or HCH.

Digital meters with higher resolution:
For units, which are equipped with 3½ digit DVM in the standard version (display of max."1999"), instead of the standard DVM a DVM with higher resolution (4½ digit) can be offered.
This replacement is also possible later at our site. For customer specific units even higher display resolutions are possible (Only for new units in combination with a higher stability).
Units of MCP or HCP type are equipped as a standard with 4½ digit meters.

Higher adjustment resolution:
By an additional ten-turn potentiometer for fine adjustment of current and/or voltage the resolution will be increased by a factor of 100. Adjustment range 0 - 99% and a window of approx. 1%.

Power regulation with display and adjustment:
Besides the standard voltage regulation and current regulation, the units may be equipped with an additional regulation loop for constant power.

Internal impedance:
For electronic simulation of a changing internal impedance of the unit (e.g. battery characteristic). The technical design is similar to the power regulation.

Preset indication:
The preset values can be displayed by a button besides the appropriate meter. (For MCP– and HCP– units standard.)

Electronical sweep of nominal value:
Ramp function especially for superconductor power supplies.

Flashover sensor:
Supervising on overcurrent/ high voltage flashover with signalization, shut down or spark counter.

Interlock loop for supervising of the connected load (e.g. door contacts):
At interrupting the interlock loop, the unit will be shut down by disconnecting the mains. Only after pressing a "RESET"-button, the unit can be put into operation again.

Fast discharge of the output:
When the unit is shut down, e.g. together with the interlock loop, additionally the output capacitor will be discharged within a distinct time.

Active down regulation:
for fast controlled decrease of the output voltage.

Different mains voltage and frequency:
As a standard our units are designed for a 230V, 50Hz or 400V, 50Hz three phase mains input. But most of our units can be modified for other mains values, like they are used in other countries.

Higher isolation of the output and/or the mains input:
For special applications (e.g. the operation at a high voltage platform), the standard isolation of the unit may be not sufficient. We can deliver units with isolation up to > 200 kV.

Customer specific design of the power output:
For several types of our units the output as a standard is at the front or at the rear plate. Optionally on request it can be moved to an other place.

Temperature regulated fan:
Switch on of the fans of a cooled by forced air unit only at higher power request. This option can be delivered for some models only if there are no strong requests to the stability of the current regulation.

Please take into account that many of the options and modification possibilities mentioned here require a further technical specification. Furthermore we gladly will offer you more special equipment and modifications on request.

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