High-Current Driver
Astatine and Beryllium

up to 500 A pulse-current
100 µs – 5 ms pulse-lenght
up to 40 V clamp-voltage
rise – time 40 µs
air- or watercooled
19 inch enclosure

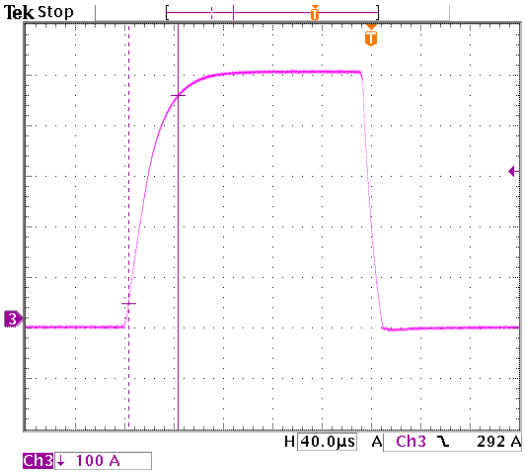
Devices of series Astatine or Beryllium are pulse-current sources (CW capable) to operate single diodes, bars or arrays. Pulse-currents up to 500 A at pulse-durations from 100 µs to 5 ms and up to 40 V clamp-voltage are available. The rise-time is below 40 µs, the fall-time below 20 µs.

The concept is based on a switching regulator with a linear regulator in series. Due to this concept the ripple-current is very low in comparison with true switching regulators.

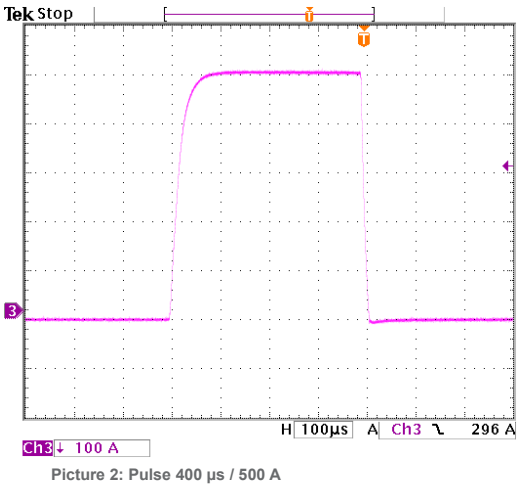
The devices cannot be short-circuited and adapt the load automatically. They can be controlled via an optional front panel and via EIA-232, USB and CAN-Bus.

A multiplicity of security-loops and interfaces makes the integration in your environment easy.

The devices are build in a modular way and can be cusomized to your requirements.



Picture 1: rise- and falltime of a pulse



Picture 2: Pulse 400 µs / 500 A

Picture 3: Backview

Output current resolution	0,1 A up to 300 A; 0,2 A from 300 A - 500 A
Accuracy (current > 20% of end of range)	2 %
Pulse rise – time (10% - 90%)	< 40 µs
Pulse fall – time (90% - 10%)	< 20 µs
Pulse width	100 µs – 5 ms (depending on device) Longer pulses with smaller current possible – automatically adaption of the range
Input AC power	90 – 240 VAC / 50 – 60 Hz
Dimension	19 inch, HU and depth depending on device
Weigth	Between 12 and 18 Kg, depending on device
Emergency Stop	Potential free, dual
Interlock	2x dual, 1x single, potential free
Current Monitor	Analog 0V - 4V
External Trigger	5V over Optocoupler
Shutter control	2 relay outputs
Outputs	Relay Output Laser ON (1 A, 30 V) Relay Output ERROR (1A, 30 V)
24 V Inputs	customable
3 Outputs TTL 50 Ohm	customable, e.g. Pockels – Cell Trigger
1 TTL Input	customable
Emergency Stop Button, Keyswitch	optional

Measurement modul 0801

The measurement modul 0801 measures two galvanically free voltages. They can be read by one of the digitally interfaces.

It is, for expample, possible to measure two voltages of different diodes inside a stack.

The voltage is only measured during a pulse. In the pulse pause the measurement is deactivated.

Trigger modul 0712

The trigger modul 0712 provides three independently configurable TTL trigger outputs. The length, polarity and location can be choosen arbitrary.

With the Trigger modul complicated Laser Systems can be operated without an additional signal generator.

An additinal output shows the pulse as TTL signal.