



## PRODUCT CATALOGUE

# CAPACITOR CHARGING POWER SUPPLIES

## MEDICAL GRADE CAPACITOR CHARGERS

certified  
IEC 60601-1:2005/AMD1:2012  
IEC 60601-1-2:2014



output power  
output voltage (higher on request)  
input



**PCA-10**

1 kW  
up to 2 kV  
110-240 V AC



**PCA-20 / PCA-25**

2 kW / 2.5 kW  
up to 2 kV  
110-240 V / 200-240 V AC



**PCA-40**

4 kW  
up to 2 kV  
200-240 V AC

## GENERAL PURPOSE CAPACITOR CHARGERS

- output power from 700 W to 3500 W
- output voltage up to 4 kV
- input 230 V AC
- compact design
- very attractive pricing

**PCP-series**



- output power from 400 to 700 W or from 300 to 500 J/s
- output voltage up to 4 kV
- input 24 / 48 V DC
- compact design

**PBZ-series**



# MODULES FOR FLASHLAMP PUMPING

## DISCHARGE CIRCUITS

- IGBT-based
- free discharge, quasi-rectangular pulse shape
- variable pulse width (50 us-100 ms)
- output power up to 2 kW
- output voltage up to 1300 V
- output current up to 1000 A

**NBU-1012**



- SRC- (thyristor) based
- bell-shaped pulse
- pulse width depends on system L and C, fixed
- output power up to 2 kW
- output voltage up to 1500 V
- output current up to 1000 A

**NBU-1508**



## SIMMER SUPPLY MODULES

- +24 V DC input
- one or two flashlamp modifications
- output current up to 800 mA

**SBZ-2008/3008**



- 200-240 V AC input
- one or two flashlamp modifications
- output current up to 800 mA

**SCA-2008/3008**



## CUSTOM FLASHLAMP DRIVERS

- different applications – from IPL to Nd:YAG, Alexandrite, Er:YAG, CTH:YAG and other lasers
- different power – up to 8 kW
- different voltage – up to 900 V
- a variety of options



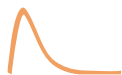
## APPLICATION SPECIFIC READY-TO-USE SETS

all-in-one sets for definite flash lamp driving tasks, for:

- Holmium lasers for surgery (Ho:YAG, CTH:YAG)
- Alexandrite, long-pulsed Nd:YAG, long-pulsed KTP laser systems for aesthetics
- nanosecond (Q-switched) and Picosecond Nd:YAG laser systems for tattoo removal
- Er:YAG laser systems for dermatology
- different IPL machines

# POCKELS CELL DRIVERS

## QBD-series



fast leading edge  
ideal for q-switching  
pulses up or pulses down  
(factory fixed)



**QBD-nano**



**QBD-mini**



**QBD**



**QBD-BT**

size, mm  
output voltage  
max. repetition rate  
leading edge  
input

40x30x10  
up to 5 kV  
> 1 kHz @ 5 kV  
1-3 ns  
5 V DC  
pulses up only

90x50x20  
up to 4.0 kV  
> 10 kHz @ 4 kV  
< 20 ns  
24 V DC

110x80x25  
up to 6.0 kV  
> 10 kHz @ 6 kV  
< 20 ns  
24 V DC

225x180x70  
up to 6 kV  
> 10 kHz @ 6 kV  
< 15 ns  
100-240 V AC

## QBU-series



both edges are fast, operating frequency and pulse width are set by an external pulse generator  
suitable for pulse slicing, pulse picking and other advanced applications



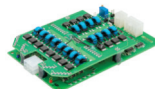
**QBU-nano**



**QBU-mini-SP**



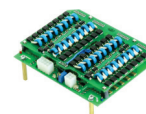
**QBU-mini**



**QBU**



**QBU-BT**



**QBU-10kV**



**QBU-BT-10kV**

size, mm  
out. voltage  
max. rep. rate  
rise / fall time  
input  
pulse width  
unipolar output

80x50x20  
up to 5.8 kV  
>2 kHz @ 3.8 kV  
1-3 ns  
12 V DC  
up to 800 ns

102x50x20  
up to 4 kV  
> 8 kHz @ 4 kV  
< 10 ns  
24 V DC  
100 - 2000 ns

140x50x20  
up to 4 kV  
> 8 kHz @ 4 kV  
< 15 ns  
24 V DC  
200 ns - ∞

130x80x32  
up to 6 kV  
> 10 kHz @ 6 kV  
< 15 ns  
24 V DC  
200 ns - ∞

225x180x70  
up to 6 kV  
> 10 kHz @ 6 kV  
< 20 ns  
100-240 V AC  
200 ns - ∞

132x105x50  
up to 10 kV  
>5 kHz @ 10 kV  
< 20 / 25 ns  
24 V DC  
200 ns - ∞

300x220x80  
up to 10 kV  
>5 kHz @ 10 kV  
< 20 / 25 ns  
100-240 V AC  
200 ns - ∞

## QBY-series



GaN drivers, both edges are 3-4 ns fast, output voltage level, operating frequency and pulse width are set by user  
suitable for pulse slicing, pulse picking and other advanced applications  
input 24 V DC, output voltage max 4 kV, 3-4 ns rise and fall, pulse width 10-1000 ns

**QBY-4001**

80x50x20 mm  
1 kHz @ 4 kV



**QBY-4010-A**

80x71x28 mm  
10 kHz @ 4 kV



**QBY-BT**

182x110x70 mm  
5 kHz @ 4 kV



## HIGH REPETITION RATE POCKELS CELL DRIVERS

specialized drivers for pico- and femtosecond lasers  
suitable for pulse picking and other advanced applications

**HVSW-03**

- output voltage up to 2 kV
- repetition rate up to 1 MHz @ 1.5 kV
- pulse width 14 ns (short pulse mode), or 100-2000 ns (long pulse mode)
- < 8 ns rise /fall time
- 24 V DC input (integrated HV power supply)



**HVSW-04**

- output voltage up to 4 kV
- repetition rate up to 4 MHz @ 1.4 kV
- pulse width 15-20 ns (short pulse mode) or 100 - 2000 ns (long pulse mode)
- < 7 ns rise /fall time @ 1 kV
- water cooling



## ARBITRARY WAVEFORM POCKELS CELL DRIVER



specialized driver, based on voltage amplifier  
for light modulation, beam deflection, piezo and MEMS actuators, ultrasonic devices

**QBX-08 / QBX-16**

- output voltage up to 800 V / 1.6 kV
- repetition rate ~50 kHz @ full voltage
- < 1 us rise /fall time
- 24 V DC input (integrated HV power supply)



## ENERGY-EFFECTIVE POCKELS CELL DRIVER

specialized driver with extremely low power consumption, for Q-switching, pulse slicing, battery-powered equipment

**QBY-4050**

- output voltage up to 5 kV
- repetition rate ~50 kHz @ 4 kV
- < 40 ns rise / fall (< 20 ns on request)
- pulses 40-1000 ns long
- 24 V DC input
- compact - 112x108x25 mm



# DIODE DRIVERS

## PULSED DIODE DRIVERS FOR HAIR REMOVAL WITH 100-240 V AC INPUT

high-power pulsed diode drivers for medical and medical aesthetic treatments, e.g. for hair removal  
 medical-grade, full compliance to IEC 60601-1 ed.3 and IEC 60601-1-2

- pulses from 1 to 100 ms and longer
- output current up to 200 A
- compliance voltage up to 50 V
- output power up to 300 W (avg), up to 5kW (peak)



- pulses from 1 to 100 ms and longer
- output current up to 200 A
- compliance voltage up to 100 V
- very powerful - output power up to 1600 W (avg) and to 10 kW (peak) (2 kW and 15 kW peak on request)



## PULSED DIODE DRIVER FOR HAIR REMOVAL WITH DC INPUT

specialized driver, with 300 V DC inputs for powering IPL and diode applicators in one system

- pulses from 1 to 100 ms and longer
- output current up to 200 A
- very powerful - output power up to 1000 W (avg) and to 10 kW (peak)



## CW AND PULSED DIODE DRIVERS

powerful diode drivers for laser diode stacks and bars pulsed or continuous form output designed to comply with IEC 60601-1 and IEC 60601-1-2

- CW output
- output current up to 100 A
- output power up to 2000 W
- input 100-240 or 200-240 V AC
- medical standards compliance: safety, PFC 0.98, low EMI and leakage current

## LDD-250 / LDD-1500



## PULSED DIODE DRIVERS FOR ND:YAG PUMPING



- 100 W
- 50 - 300 us pulses
- up to 400 A, 450 V
- 1x high-power TEC
- + 1x low-power TEC inside
- able to control an extra external Pockels cell driver



- 1500 W
- 50 - 300 us pulse
- up to 400 A, 500 V
- able to control an extra external Pockels cell driver
- parallel operation in master-slave mode is possible

# RF GENERATOR MODULES

## NEW PRODUCT LINE - RF POWER SOLUTIONS



medium-power RF generator modules high-voltage of the radio-frequency range for vacuum plasma usage and for medical aesthetic devices

need an external source of HV DC (for ex. from PCA-series)

- output power 300 - 1500 W
- frequencies - 6.78, 13.56, 27.12, 40.68 MHz, factory fixed (0.5 - 4 MHz on request)
- input - DC from PCA-10 or PCA-20

## RFGM-1.00-50 BOARD



**50 W, 1 MHz**  
 For medical aesthetic equipment

0.5 - 2 MHz on request up to 100 W

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