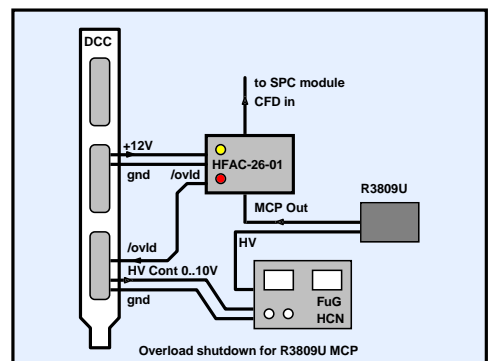
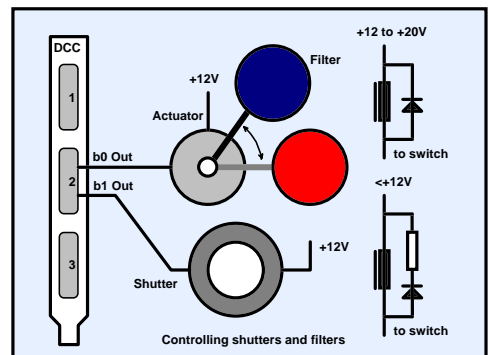
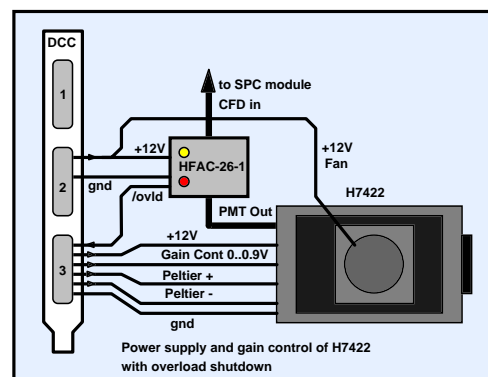
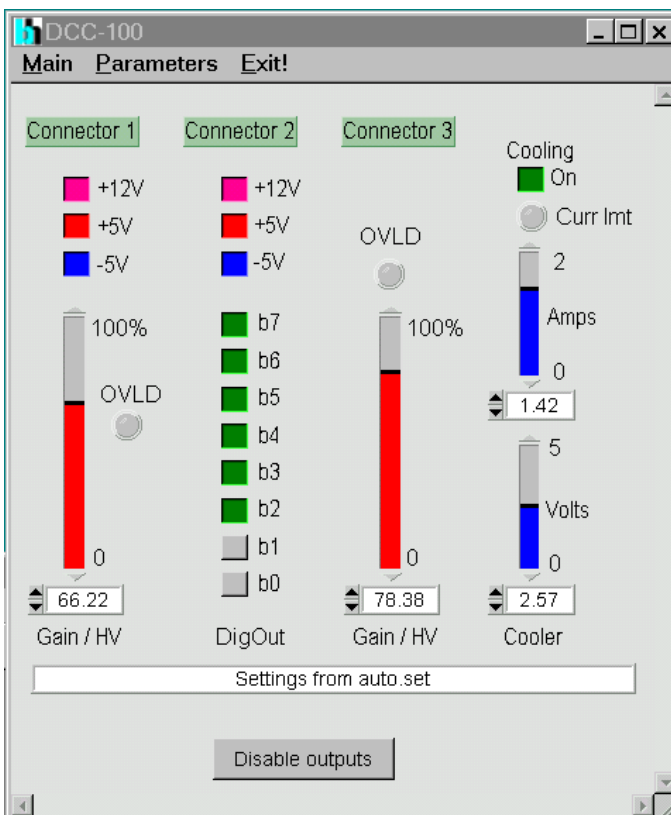


# DCC-100

## PCI compatible detector control module for single photon counting experiments

- Power supply and gain control for Hamamatsu H7422, H5783 or H5773 modules
- Gain control for Hamamatsu R3809U MCP via FuG power supplies
- Overload shutdown of detectors in conjunction with bh HFAC-26 preamps
- Power supply for thermoelectric coolers, particularly for H7422
- Short circuit protected +12V, +5V and -5V power supply for preamps and detectors
- Software switched +12V, +5V and -5V power supply outputs for detector on/off control
- High current digital outputs for shutter and filter control
- PCI card, software for Windows 95, 98, 2000 and NT
- Works with any bh photon counting card



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# DCC-100

## Power Supply Outputs (Connectors 1 to 3)

Max. Current at +12 V	100 mA
Short Circuit Current +12 V	50 mA <sup>1)</sup>
Time from /OVL D to disable +12 V	10 ms <sup>2)</sup>
Output current in disabled state, +12 V	< 0.5 mA
Max. Current at +5 V	200 mA
Short Circuit Current +5 V	60 mA <sup>1)</sup>
Output current in disabled state, +5 V	< 0.5 mA
Max. Current at -5 V	200 mA
Short Circuit Current -5 V	60 mA <sup>1)</sup>
Output current in disabled state, -5 V	< 0.5 mA
Max. Current at -12 V	Sum 120 mA, single output 60 mA
Short Circuit Current -12 V	No short protection. Don't short longer than 1s

<sup>1)</sup> Foldback Characteristics, don't short several outputs simultaneously for more than 20s

<sup>2)</sup> Connectors 1 and 3 only. 250  $\Omega$  load, time from +12V to +6V output voltage.

## Detector Gain Control (Connectors 1 and 3)

Resolution	12 bit
Voltage Range Pin 12	0 to +10 V
Load at Pin 12	min. 1 k $\Omega$
Output Resistance at Pin 12	100 $\Omega$
Voltage Range Pin 13	0 to +0.9 V
Load at Pin 13	min. 1 k $\Omega$
Output Resistance at Pin 13	100 $\Omega$
Output Time Constant	100 ms

## Overload Shutdown

Overload inputs at connector 1 and 3	TTL, active Low, Pull-up resistor 10 k $\Omega$
Overload Reset	By Software and at Power-ON

## High Current Switches (Connector 2)

Typical 'On' Resistance, 25°C	70 m $\Omega$
Max. Switch Current, Single Switch	2 A
Max. Switch Current, Sum of all Switches	5 A <sup>3)</sup>
Max. turn-off Voltage at Switch	20 V
Turn-on and turn-off transition time, Load 10 $\Omega$	100 ns
Disable on /OVL D	if configured by jumpers
Disable Transition Time	< 1 $\mu$ s
Time from /OVL D to Disable	< 2 $\mu$ s

<sup>3)</sup> Both GND pins used

## Supply for Thermoelectric Coolers (Connector 3)

Output Voltage	0 to 5 V
Output Current	0 to 2 A
Resolution of Output Voltage and Current	12 bit
Output Resistance	0.4 $\Omega$ <sup>4)</sup>
Output Capacitance	300 $\mu$ F
Output Ripple	< 5 mV

<sup>4)</sup> All pins parallel

## PC Interface

Dimensions	160 mm x 106 mm x 15 mm
Interface / Connector	PCI
Register Access	I/O only
Supply Current, +5V, No Load, typ. value	0.6 A
Supply Current, +5V, Maximum Load, typ. value	1.2 A
Supply Current, +12V, No Load, typ. value	0.2 A
Supply Current, +12V, Maximum Load, typ. value	1.6 A

## Related Products

SPC-300 through SPC-134 TCSPC modules  
MSA-1000, MSA-300, PMS-400, PMM-324 Multiscalers  
HFAC-26 preamplifiers  
Lifetime Kits for LSM-510 and TCS SP2 laser scanning microscopes

For manual, application notes and software please see [www.becker-hickl.de](http://www.becker-hickl.de)

