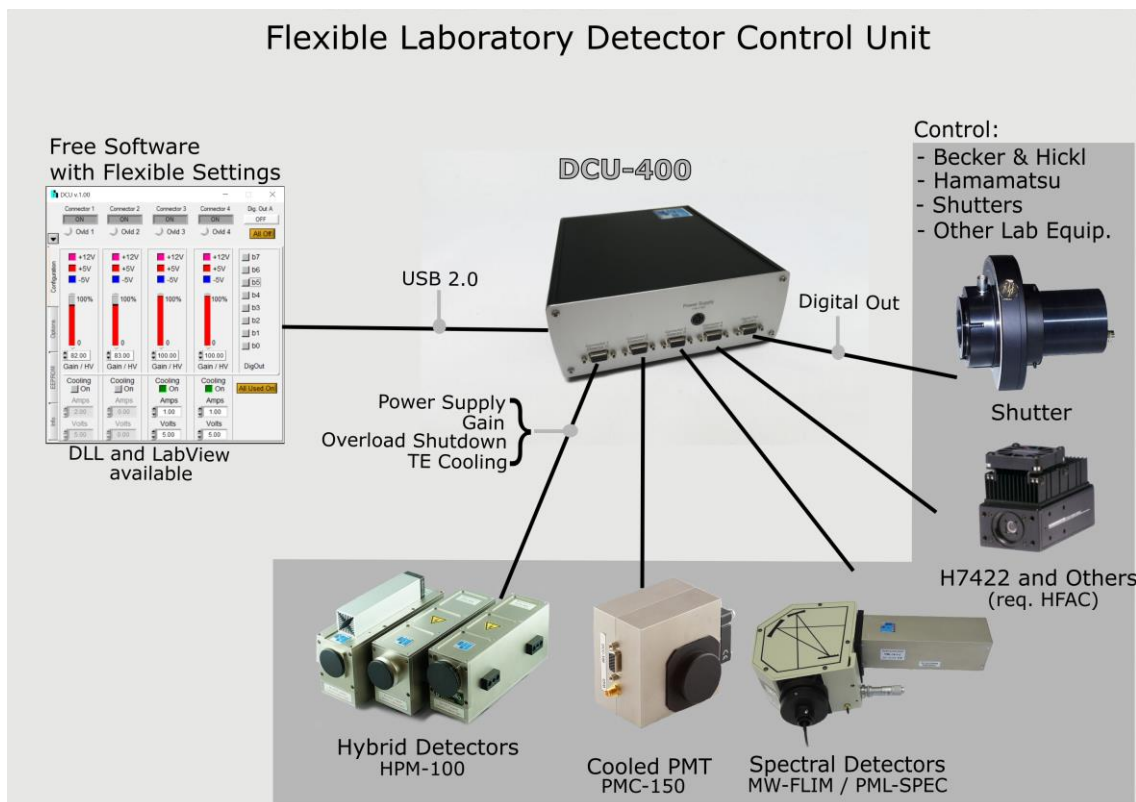




# DCU-400 / DCU-800

## Detector Control Unit

- Controls up to 4 / 8 detectors or lasers
- Power supply, gain control and overload shutdown for up to 4 / 8 detectors
- USB interface
- Additional high current digital output for shutter and filter control
- Overload protection of detectors in conjunction with bh HFAC-26 Preamps
- Full operation of Hamamatsu H7422 modules
- Software for Windows Vista/7/8/10
- Simple +19 V power supply
- Compatible with all bh TCSPC devices



Designed and manufactured by



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# DCU-400 / DCU-800

**DCU-400 controls up to 4 detectors with an additional digital output for shutter and filter control.**  
**DCU-800 controls up to 8 detectors with two additional digital outputs for shutter and filter control.**

## Power Supply Outputs (All Connectors)

Max. Current at +12 V	100 mA
Short Circuit Current +12 V	50 mA <sup>1)</sup>
Time from /OVLD to disable +12V	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 20 s

<sup>2)</sup> Connectors 1 - 4 / 1 - 8 only. 250 Ω load, time from +12 V to +6 V output voltage.

## Detector Gain Control (Connectors 1-4 / 1-8)

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

## Overload Shutdown

Overload inputs at connector 1 - 4 / 1 - 8	TTL, active Low, Pull-up resistor 10 kΩ
Overload Reset	By Software and at Power-ON

## High Current Switches (Additional Digital Out / Digital Output A + B)

Typical 'On' Resistance, 25°C	70 mΩ
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 Ω	100 ns
Disable Transition Time	< 1 us
Time from /OVLD to Disable	< 2 us

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

## Supply for Thermoelectric Coolers (Connector 1-4 / 1-8)

Output Voltage	0 to 5 V
Output Current	0 to 2 A
Resolution of Output Voltage and Current	12 bit
Output Resistance	0.4 Ω <sup>4)</sup>
Output Capacitance	300 uF
Output Ripple	< 5 mV

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

## General

Dimensions	264 mm x 205 mm x 75 mm
Interface / Connector	USB 2.0 / 2x USB 2.0
Power Supply	+ 19 V DC

## International Sales Representatives



US: Boston Electronics Corp  
tcspec@boselec.com  
www.boselec.com



UK: Photonic Solutions PLC  
sales@psplc.com  
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東京インスツルメンツ TOKYO INSTRUMENTS

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