DCS300PA Dual-Channel Data Acquisition System, 16-bit, Built-in Preamplifiers

Model DCS300PA · waveqvanta.com/products/dcs300pa-dual-channel-data-acquisition-system

Two-channel data acquisition unit with switchable high-gain preamplifiers for weak detector signals in spectroscopy systems.



The DCS300PA is a two-channel data acquisition unit with built-in, multi-range high-gain preamplifiers, intended for weak signals from photodetectors. It is an upgrade of the DCS103 and includes all of its acquisition functions. Besides the current/voltage inputs it provides an auxiliary voltage input, a temperature channel and two analog outputs for controlling a PMT high-voltage supply and an optical chopper.

Key features

- Two analog input channels with switchable current or voltage input and built-in preamplification
- Current gain 10^3–10^7 and voltage gain 10^0–10^4
- 16-bit A/D conversion, integration time from 10 µs to 10 s
- Two 12-bit analog outputs (0–10 V DC): one for PMT high-voltage control, one for chopper control
- Auxiliary 0–10 V DC input and AD590 temperature channel (-30 to 100 °C)
- Software or external TTL trigger; 5 digital inputs and 2 TTL outputs
- USB 2.0 interface, CE marked

Specifications

Analog Input Channels	2, current or voltage input; positive/negative input selected by switching
Current Input Range	Up to ±10 mA
Current Gain	10^3–10^7
Voltage Input Range	±1 mV–±10 V
Voltage Gain	10^0–10^4
AUX Input	1 channel, DC 0–10 V
Temperature Channel	1 channel, AD590 probe, -30 to 100 °C
A/D Converter	16 bit
Analog Outputs	2 channels, 12-bit D/A, DC 0–10 V (HV power supply and chopper control)
Integration Time	10 µs–10 s
Data Points	Up to 2000, stored in RAM
Trigger Input	Software trigger or external trigger (TTL rising edge)
Digital I/O	5 inputs, 2 TTL outputs
Interface	USB 2.0
Certification	CE
Power Supply	AC 100–240 V, 50/60 Hz (DC 24 V, 0.3 A)
Dimensions	260 × 260 × 120 mm
Weight	3.3 kg

Typical applications

- Signal acquisition from PMTs, photodiodes and infrared detectors
- Spectral scanning with monochromators

- Weak-signal measurements in fluorescence and absorption spectroscopy
- Control of PMT high-voltage supplies and optical choppers