

# CQ16 / 16A channel Charge Integrating ADC

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The CQ16 is a 16-channel 12bit, fast converting charge-integrating ADC for CAMAC. To provide compatibility to older CAMAC ADC's it can be switched into an 11-bit mode. All data read-out is provided either via CAMAC commands or through the fast FERA bus on the front of the module.

The high performance CQ16A is enhanced by providing an 18 bit dynamic range in 3 overlapping 12-bit bands in order to process pulses in a wide dynamic range with high resolution. The built in data processing includes sliding scale, pedestal subtraction and threshold suppression to reduce data volume and readout time. The onboard data buffer can store up to 51 events. Instead of the front side FERA bus the CQ16A is using the FASTCAMAC protocol, which allows buffers to be read out at up to 30 MB/s.

## Main Features

- Single wide 16 channel charge integrating ADC (QDC),
- 11-bit or 12-bit (selectable) ADC resolution
- CQ16A: 18bit dynamic range (via 3 12bit bands), most sensitive range 25fC/count, full scale 6,000pC

- Common gate
- Fast conversion and read-out via CAMAC and FERA (only CQ16)
- Single wide 16 channel charge integrating ADC (QDC),
- 11-bit or 12-bit (selectable) ADC resolution
- Two ranges, 8:1, full scale 2nC or 250pC
- CQ16A: 18bit dynamic range (via 3 12bit bands), most sensitive range 25fC/count, full scale 6,000pC
- Fast conversion, dead time 8.5µs in FERA mode and <5.5µs for CQ16A
- Common gate with 20ns to 500 ns width (CQ16A: 10ns minimum)
- Built in sliding scale, differential non-linearity <1%.
- Pedestal memory and subtraction, zero and overflow suppression
- Separate sparse readout thresholds independent of pedestal subtraction
- FIFO buffers for both FERA and CAMAC readout, up to 51 events
- High data rate performance, up to 16MB/s (CAMAC) and 30MB/s (FASTCAMAC, CQ16A only)

### Standard configurations

Package	Items
<b>CQ16</b>	16 channel fast 11/12bit charge ADC with FERA read-out
<b>CQ16A</b>	16 channel fast 18 bit dynamic range charge ADC with FAST CAMAC read-out

No further technical details available! Please see Features and documentation!

### Product Data Sheet

CQ16 / 16A channel Charge Integrating ADC:

[Print Product Data Sheet](#)

### Documentation

Manual:

Introduction:

[WIENER NIM CAMAC introduction](#)