C420

8 Channel Peak Sensing ADC

Features

- 4 V full scale range
- 12 bit resolution
- 10 µs/8 ch. conversion time
- Integral non-linearity: ±2 counts
- Differential non linearity ±1 %
- Gate width programmable from 1 to 15 µs
- Zero suppression

Description

The **Mod. C420** is a single width CAMAC module with 8 independent channels, able to detect and convert the peak value of the analog signals fed to the associated input connectors. The channels are divided in two groups of 4 channels each, and each group has a single external trigger input.
For each channel the associated linear gate stretcher detects the peak-value of the input signal during the programmed gate width (Rise Time Protection) and holds that value till the end of the conversion phase. The linear gate stretcher can be triggered for each channel in three different ways: auto-trigger (the Rise Time Protection starts when the signal on the analog input is higher than a fixed pre-threshold of about 100 mV), external sampling trigger (the Rise Time Protection is triggered by an external NIM/TTL pulse) and software sampling trigger: the **Rise Time Protection** is triggered by a software command that can be issued at the same time to all channels.
When the sampling mode by external pulse is enabled, a front panel switch selector allows the triggering of the two groups of channels by the same pulse. Each channel has a window discriminator whose thresholds, low and high, can be programmed via CAMAC.
The conversion of a signal is possible if its peak is higher than the low threshold and lower than the high one, otherwise the stretcher is cleared to zero immediately at the end of the programmed Rise Time Protection.
The conversion module is based on a ?two steps subrange? concept: an overall resolution of 12 bits is obtained using two 8 bit flash ADCs. Moreover a sliding scale compensation technique has been implemented to improve the differential Non-linearity. The converted data are stored into eight 12 bit Data Registers (one per channel) that can be accessed by CAMAC.
The unit accepts either square wave, gaussian or semigaussian positive pulses with rise time greater than 1 µs. It can also convert constant or very slow signals working in sampling mode.

Technical Specifications

Packaging

1-unit wide Camac module

Inputs

- Positive polarity, both square wave and gaussian/semigaussian shaped pulses
- 1 KΩ impedance
- Maximum input voltage: +4.0 V
- Minimum pulse FWHM: 1 µs

Trigger

- NIM/TTL levels, 1 KΩ impedance
- Minimum pulse FWHM: 30 ns

Resolution

12 bit

Rise Time Protection

selectable from 1 µs to 16 µs

Conversion time per channel

1.2 µs

Differential Non-Linearity

±1%

Integral Non-Linearity

±2 LSB (±0.05%)

Related Products

V1741

64 Ch Peak Sensing ADC

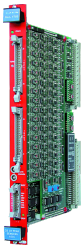
N957

8k Multi-Channel Analyzer

V785N

16 Channel Multievent Peak Sensing ADC

V785



32 Channel Multievent Peak Sensing ADC

V1785

8 Ch Dual Range Multievent Peak Sensing ADC

Gallery


8CH PEAK
SENSING
ADC
Mod.C420
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A
0
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2
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TRG B
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7
SER. N.

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