



Digital Solution for the ACCT

- Pulse waveform acquisition
- Pulse charge computation
- ACCT-E-RM-3R range control
- Can handle two ACCTs simultaneously

SNR at 160 MS/s: 72 dB typ.

GbE interface, UDP/IP and EPICS compatible*

* with a soft IOC (provided)

Why you should consider using MDS-ACCT:

The MDS-ACCT has been developed to provide a high-performance digitizer perfectly tailored to the ACCT and allow direct connection of the ACCT to the control room.

The ADC circuit has been optimized to ensure acquisitions as faithful as possible to the analog signal from the ACCT.

Its design allows it to adapt to many use cases, notably thanks to the simultaneous support of two ACCTs.

Up to 4 MDS-ACCT per 19" chassis, or one per tabletop chassis (picture here below)



MANUFACTURER

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DISTRIBUTORS

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Specifications

Connected sensors	Up to two ACCTs, single or 3-ranges analog electronics
Input full scale ranges	± 1 V into 50 Ω , or ± 10 V with -HZ option
Input channel	2 (simultaneous sampling)
ADC resolution	16 bits
Maximum sampling rate	160 MS/s
Bandwidth	DC - 3 MHz (± 0.1 dB) typ. DC - 30 MHz (-3 dB)
Linearity	Better than ± 0.1 %
SNR	72 dB typ.
Repetition rate	10 000 acquisition/s max. (depends on the buffer size)
Maximum buffer size	6.25 μ s (160 MS/s) 100 μ s (10 MS/s) More with sample averaging
Ethernet	GbE, RJ-45 DHCP or configurable IP
Trigger in level	2 V - 5 V into 50 Ω
Reset signal level	1 V - 5 V (1 k Ω to GND)



Rear panel IOs

Ethernet interface

UDP/IP Communication

The data packets transmitted by the MDS-ACCT are formatted in a simple ASCII text, making them easy to inspect with packet analysis tools and to process using common programming environments such as Python or LabVIEW.

```
idn=Bergoz - MDS-ACCT #13-00001
packet_number=226
trigger_number=226
local_timestamp_ns=250000000456
...
in1_160M_nA=[1260, 1534, 5489, 14786, 15627, ...
```

Truncated packet example

The packet contents can be configured to include only the information relevant to your application, minimizing network load and allowing optimization of the maximum acquisition rate.

EPICS, GUI and other resources

We provide a Python IOC application to integrate the MDS-ACCT into an EPICS control system. A CSS-Phoebus GUI is included for quick testing and evaluation.

Sample programs in Python and C are also available for high-frequency data acquisition beyond EPICS performance limits.

Order codes

MDS-ACCT	Modular Digital Solution for 2 ACCT
MDS-TTC	Tabletop chassis with 1 wired station (180 x 355 x 160)
MDS-RFC/x	19"x3U RF-shielded chassis with x wired stations (max. 4)
MDS-C-XXX-SMA-BNC	SMA-BNC cable, XXXm
MDS-C-XXX-DB9-MF	DB9 Male-Female cable, XXXm

Options

-HZ	± 10 V High Impedance Inputs
-SF#xx	Customized software (see bellow)

Need something a bit different ?

Each project is unique. If you need a specific feature or a custom firmware modification, contact us so we can study customization of the MDS-ACCT to your requirements: info@bergoz.com

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