

SDCM3

Spectrometer Processing Electronics

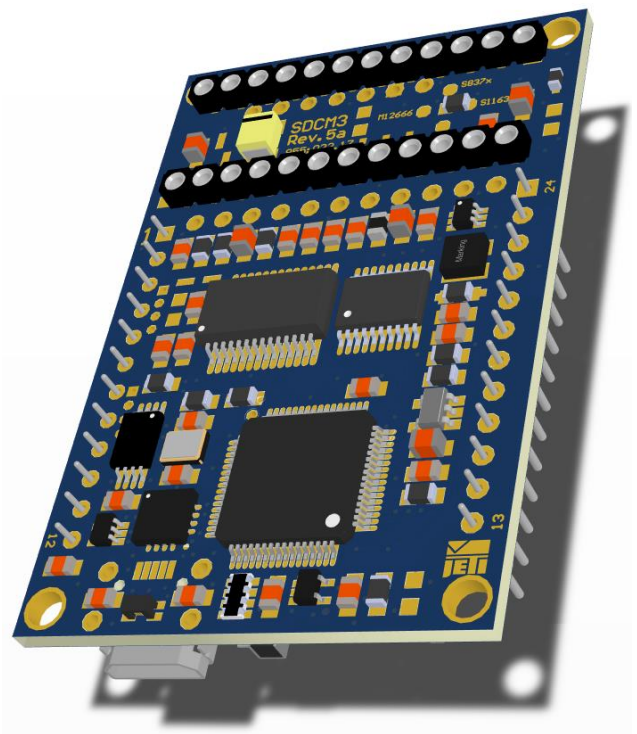
The **SDCM3** spectrometer processing electronics is a versatile powerful 32-bit RISC processor based operation electronics for miniature spectrometers.

It can control three CMOS linear imaging arrays, mounted on a mini-spectrograph.

It's ideally featured for embedded or mobile spectroscopic applications.

The SDCM3 spectrometer processor electronics has the following advanced features:

- 96 MHz MIPS 4K core based RISC CPU with 512 kB flash program memory and 128 kB RAM
- Possibility of in field programming by integrated bootloader
- Firmware, that can be used in general application or user specific OEM applications in spectroscopy
- SCPI compliant control syntax for setting of operation parameters, configuration, measurement, data format, endianes, etc.
- 16 bit 5 MS/s ADC with programmable offset correction and gain
- Power supply via USB or external 5 V
- Power down feature by digital input or by SCPI command to reduce the current consumption, useful in mobile, battery powered devices
- USB Full speed communication interface with up to 3 Mbit/s via virtual COM port driver
- LV LV-TTLUART communication interface
- 8N1, 3 000 000, 1 000 000, 921 600, 230 400, 115 200 or 38 400 bit/s
- Digital trigger input LV-TTL
- Shutter/lamp control output LV-TTL
- SPI master or slave communication interface with up to 20 Mbit/s
- 5 V power supply output
- Optional microSD card (FATS formatted) for storing of measurements (with timestamps, needs RTCC)
- Optional real time clock/calendar (RTCC)



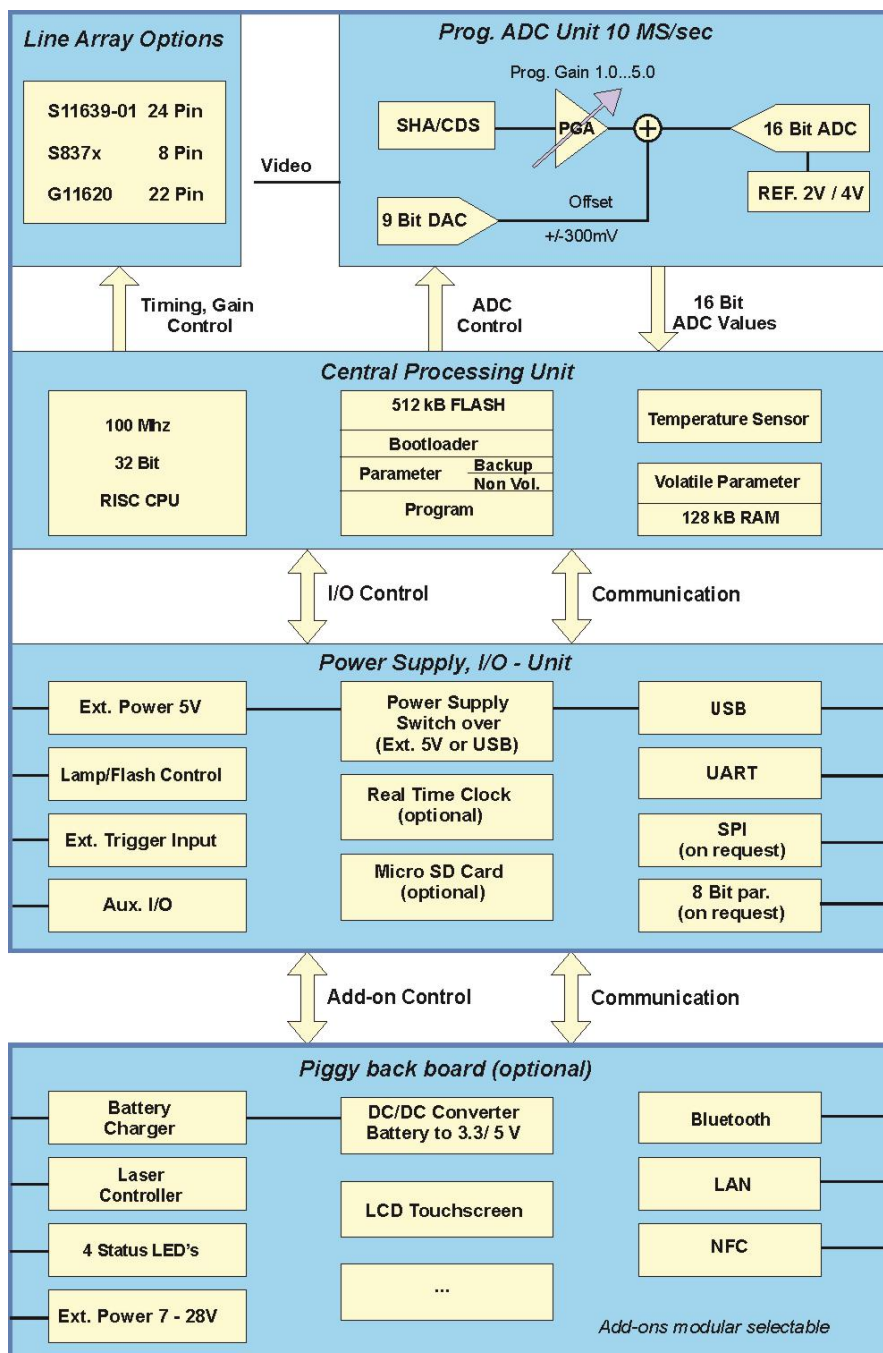
Optional add-on piggy back board with:

- Bluetooth 2.1 + EDR Interface Class 2
- 10/100Mbit Ethernet module using TCP/IP protocol
- Li-polymere battery charger from USB-power
- DC/DC converter from Li-polymer battery
- NFC-Controller for nearfield communication with accessories or environment
- PWM output with 5V or programmable current up to 150mA (e.g. for Laser diode, LED as Light source etc.)
- FPC 10 pin connector for graphical touch screen color-LCD (SK-FT 834) WQGA



Specifications

Power supply	USB powered or 5 V DC externally
Operation current	up to 500 mA
ADC Resolution	16 bit, 2 bit RMS (without oversampling), 4 bit INL, no missing code
Sampling speed	max. 5 MS/s
Sampling mode	Sample and Hold: 1, 4 - fold prog. oversampling or Correlated Double Sampling
Analog inputs	2 (odd and even), programmable for positive or negative video signals
Input full scale range	2 V or 4 V, programmable
Gain	1 ... 5 programmable in 64 steps
Offset	External compensation or programmable up to +/- 300 mV



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Technical data may be changed without notice

