



PE60

Spectrometer Electronics

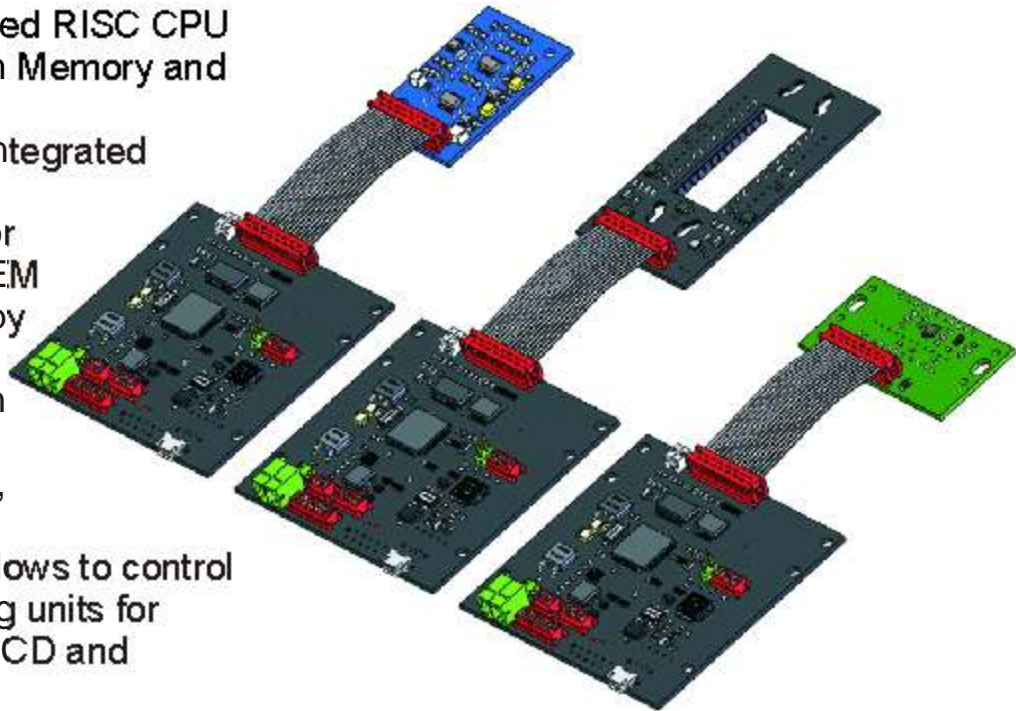
The **PE60** electronics is a versatile powerful 32 bit RISC processor board based operation electronics for spectrometers. It is especially suited for process control applications.

It can control most of the popular spectroscopy image sensors with JETI's wide range of available signal conditioning boards.

PE60 is stackable with additional boards to provide additional communication interfaces like Ethernet & RS485 and encoders or TEC control electronics for precise temperature regulation of image sensors equipped with peltier element.

The **PE60** spectrometer electronics has the following advanced features:

- ◆ 80 MHz MIPS 4K core based RISC CPU with 512 kB Flash Program Memory and 128 kB RAM
- ◆ In field programmable by integrated bootloader
- ◆ Firmware can be utilized for general or user specific OEM applications in spectroscopy
- ◆ SCPI compliant control syntax for setting operation parameters, configuration, measurement, data format, endianness, etc.
- ◆ Standardized JETI-Port allows to control the JETI signal conditioning units for CMOS, NMOS, CCD, BTCCD and InGaAs image sensors
- ◆ 16 bit 5 MS/s 2 channels ADC with programmable offset correction and gain, capable for sample/hold and correlated double sampling
- ◆ DC/DC converter on board to generate additional voltages for image specific sensor needs from supply voltage
- ◆ Communication interface USB High speed up to 40 MB/s, optional USB Full speed with up to 3 Mbit/s
- ◆ Communication interface TTL Level UART
- ◆ Communication interface SPI Master or Slave with up to 20 Mbit/s
- ◆ 3 analog inputs for additional sensors (e.g. spectrometer or ambient temperature)



Specifications

Power supply	USB powered or 9 ... 12 V DC or PoE (power over Ethernet with Ethernet/ Encoder/ RS485 satck pcb extension)
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/sec.
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 programable up to +/- 300 mV

