

LMS product information

LMS SCADAS Mobile

LMS/SCM/SCM05/010710

Five Slot Mainframe [SCM05]



Frame

The SCM05 is a laptop size modular front-end, accommodating two tachometer inputs, two signal generator outputs and five slots for up to 40 input channels. Its compact size, low weight and battery operation makes it the ideal portable multi-channel sound and vibration analyzer. With a throughput rate up to 14MSamples/sec, the SCADAS Mobile offers full bandwidth throughput to the host for all channels.

Measure anywhere

Because of its robustness, exceptional environmental specifications, flexible power requirements and wide operating temperature range, the SCADAS Mobile can be employed in virtually any mobile test campaign.

Ultra quiet, no fan cooling

Having no cooling fan, the SCADAS Mobile is the ideal system for critical acoustic measurements. The combination of three advanced techniques eliminates fans:

- The input modules are based on low power components, reducing power consumption to less than 0.5W per channel.
- Heat is dissipated via an integrated cooling block on the rear of the frame. The heat from the printed circuit boards is transferred via the back plane connectors and via cold walls and heat pipes.
- An intelligent power management system, monitoring system activity, sets SCADAS Mobile in power-down mode when no measurements are done.

Battery operation

SCADAS Mobile includes a built-in battery for a guaranteed mains independent operation of 60 minutes (40-channel configuration). The battery is charged automatically when external power is connected.

Features and benefits

- Ultra compact laptop size
- Rugged housing for rough environments
- Wide operational temperature range from -20°C to +55°C
- Built-in battery for 60 minutes mains independent operation
- 14MSamples/sec throughput via Ethernet interface
- Ultra quiet, no fan cooling
- Modular system for up to 40 input channels
- Wide range DC power supply
- On board dual tachometer input
- On board dual signal generator output

Specifications SCM05

Number of slots:

SCM05 has six slots, five slots are available for input modules; one slot is reserved for the system controller

Power input:

Auto ranging DC input from 9.6VDC to 42VDC; AC operation uses an external mains adapter

Power management:

ON/OFF switch, automatic sleep mode

Power consumption:

40W maximum

Internal battery:

Rechargeable Li-ion battery; rating 21.6V-1.6Ah; charge time is five hours @ 0.5A when the SCM05 is switched on, and two hours @ 1A when it is switched off; the battery is charged automatically when external power is applied; autonomous operation time depends on the number of channels with a minimum of 60 minutes for 40 channels

Cooling:

Heat conduction via printed circuit board connectors; sides of the printed circuit boards are cooled via cold walls connected with heat pipes to cooling block at the rear

Tacho input:

- Dual analog and digital tacho modes
- Input pulse rates in analog mode up to 40kHz and in digital mode up to 204.8kHz
- Tacho accuracy of 1.2nsec
- Input range from 200mV to 40V
- Supporting ICP type tacho sensor
- Voltage sensor supply 5V and current supply 5mA @ 28V

Signal generator:

- Two short circuit protected single ended outputs via grounded LEMO socket
- 24-bit bit-stream DAC
- Dynamic range is 110dB referred to maximum output signal for 20kHz bandwidth
- Interpolation filters are a combination of analog reconstruction filters and digital interpolation filters with noise shaping
- Signal generation up to 40kHz
- Maximum output voltage of $\pm 10V$ can be attenuated in software down to $\pm 300mV$

Ethernet interface:

The 1Gbit connection provides a throughput rate up to 14MSamples of 24 bit per second

Dimensions:

Width: 340 mm
Height: 78 mm
Depth: 295 mm

Weight:

6.2 kg in full configuration
5.1 kg in 8-channel configuration

Temperature:

Operating: -20°C to +55°C
Storage: -20°C to +70°C

Relative humidity:

Up to 95% non-condensing at 23°C and 50% at 45°C

Vibration MIL-STD-810F:

20-2000Hz (random): 7.7g_{rms}

Shock MIL-STD-810F:

60g_{pk} applying an 11ms sawtooth shock pulse; 3 shocks per direction

Degree of protection:

IP32 according to EN60529

Ordering information:

SCM05:	SCADAS Mobile mainframe with five free slots
SCM06S:	SCADAS Mobile slave frame with six free slots
SCM-MS:	SCADAS Mobile master/slave interface option for SCM05
SCM-GPSCN:	SCADAS Mobile GPS and single CAN-bus package
SCM-IE:	SCADAS Mobile incremental encoder interface option



LMS SCADAS Mobile is a product of LMS Instruments

The SCM05 and SCM06S frames comply with the standards:

EN61010
EN50081-1
EN50082-1

