

MSX16

Modular Signal Expansion Unit

- 16-channel modular signal acquisition unit (front-end) for PC
- compatible with SONY SIR-1000 high-speed digital data recorder
- up to 8 dual-channel input modules
- Smart Sensor interface for various types of transducers
- extremely compact and easy to use
- 3-way power supply (AC, DC, internal battery)
- weighting filters for each channel scalable from 2-128 channels (16 per unit)



MSX16

Flexible and scalable multi-channel data acquisition and signal generation system for use in research, development and production environments

MSX16 is eminently suitable for situations in which extreme power and stability are of the essence. Up to eight MSX16 units can be combined, each of which can contain up to eight intelligent sensor modules (two channels per module), thus allowing up to 128 channels to be controlled as required.

MSX16 has been developed for use primarily in the following fields:

- car manufacturers and their subcontractors
- design and development
- quality assurance
- engineering services
- vibration and acoustics
- environmental and labor protection
- scientific research

Example application areas:

- programmable filter bank / signal conditioner
- PC-based real-time FFT for each channel
- multi-channel data acquisition / signal generation
- multidimensional sound intensity / power measurement
- process and equipment monitoring
- balancing of rotating components
- passing-by noise

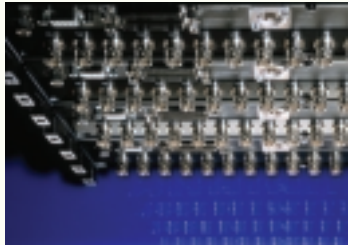
Interface

The MSX16 unit can be used easily in conjunction with common notebooks or PCs via its standardised PC-Card or short-PCI interface.





One of the key features of the MSX16 is its flexibility. Its combination of modular hardware and software components makes it suitable for a wide range of applications. Various standard input modules (Smart Sensor interface according to IEEE P1451.4) are available, including ICP, microphones, charge input, tacho... Custom development of input modules (sensor interfaces) is also possible. In addition to standard software packages, SINUS offers development and consultancy services based on the MATLAB™ interface provided.



- ICP® Input Module
ICP / direct voltage compatible
2 channels per module
Bar meter indication for each channel

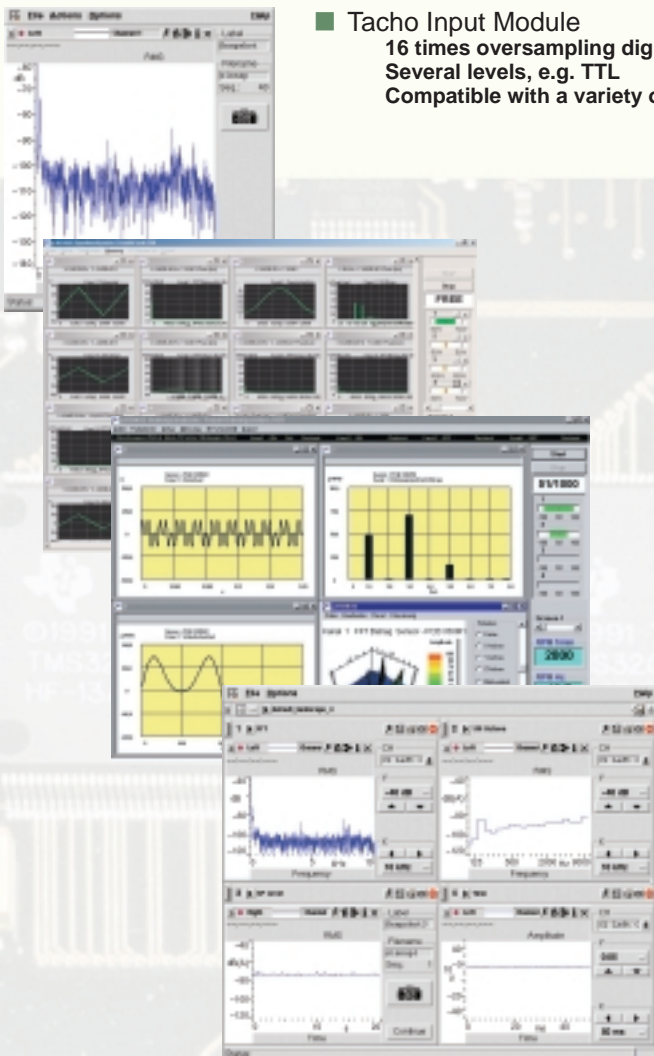
- Microphone Input module
Low-noise microphone amplifiers
ICP / direct voltage compatible
2 channels per module
Bar meter indication for each channel

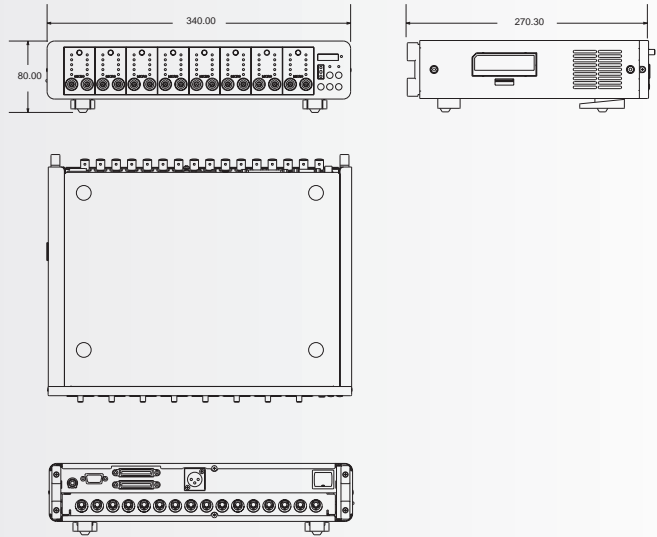
- Charge Input Module
General-purpose low-noise charge amplifiers
2 channels per module
Bar meter indication for each channel



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- Tacho Input Module
16 times oversampling digital input
Several levels, e.g. TTL
Compatible with a variety of RPM-Sensors





MSX16, power supply, laptop PC and accessories - it's all in the bag!

Technical Specifications

982000.5 Main Frame

Analog Channels

Number of Slots for Input Modules	8 (16 channels)
Internal Sampling Frequency	48 kHz, per channel
Quantization	16 Bit linear
Frequency Response	± 0.5 dB, 0dB @ 1 kHz
Dynamic Range	80 dB or more
Distortions	0.01 % or less
Cross Talk	-80 dB or less
Inter-Channel Phase Difference	1° or less
DC Accuracy	
Offset	± 0.15 % or less
Gain	± 0.2 % or less
DC Linearity	± 0.1 % or less
Digital Weighting Filters	A, B, C, D, M, Mi, Others on request!
Input Filters	
AC	0.3 Hz
HPF	10 Hz
LPF	2.5 kHz
Output	
Connector	BNC
Level	± (1, 2, 5) Vpk
Impedance	50 Ohms

Power Requirements

DC Voltage	11 to 30 V
Current	2 A @ 12 V

Dimensions and Other Specifications

Dimensions W x H x D	340 x 65 x 250 mm
Operation Temperature	0 to 40 °C
Operation Humidity	20 to 80 % RH
Vibration Resistance	40 G, 11 ms, half sinus
Safety Regulations	EN 61010, UL 3101
EMC Compliance	FCC Class A, EN55011-1, EN61000-3-2, EN50082-2

982120.7 ICP Input Module

Number of Channels	2
Input Connectors	2 x BNC
Input Range	± (0.1, 0.2, 0.5, 1, 2, 5, 10) V
Input Couplings	DC, AC, LPF, HPF
ICP Current Supply	2 mA constant current

982121.5 Microphone Input Module

Number of Channels	2
Input Connector	2 x LEMO7
Input Ranges	± (0.1, 0.2, 0.5, 1, 2, 5, 10) V
Input Coupling	DC, AC, LPF, HPF
Polarization Power Supply	0 or 200 V
Preamplifier Power Supply	± 14 V
ICP Current Supply	2 mA constant current

982122.1 Charge Input Module

Number of Channels	2
Input Connector	2 x microdot
Input Range	100 pC to 10 nC
Input Coupling	AC, LPF

982123.1 Charge Input Module / BNC

Number of channels	2
Input Connector	2 x BNC
Input Range	100 pC to 10 nC
Input Coupling	AC, LPF

982124.8 Tacho Input Module

Number of Channels	2
Input Connector	2 x BNC
Level	TTL
Clock Frequency	768 kHz