
TCM-1 Three-Channel AC Magnetic Field Sensor Signal Conditioner

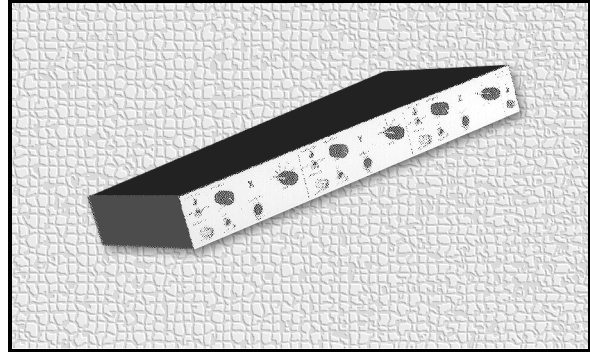
Portable Battery Powered AC Sensor Signal Conditioner

The **TCM-1** is a three-channel portable signal conditioner specifically tailored to provide power to and process the signals from MEDA's line of AC magnetic field sensors. The unit operates from either its internal battery or the power line. It incorporates two sets of power line rejection filters, switch selectable for 50 or 60 Hz and the corresponding first four harmonics.

The **TCM-1** AC couples and buffers the signals from the sensor probes and provides switches for inserting notch filters into the signal path and for selecting the notch filter set (50 or 60 Hz). Level control potentiometers allow continuous attenuation of the signals ahead of the final amplifiers. The final amplifiers provide switch-selected gains of 1, 3, 10, 30 and 100.

Overload lamps on the front panel alert the operator to saturation signal conditions on the input and the output.

The **TCM-1** will operate for 8 to 10 hours on internal batteries. A switch on the front panel can be used by the operator to select line power, battery power or battery charging. An indicator light signals the operator that the batteries are nearly discharged and that line power or fresh batteries are required. The **TCM-1** does provide for recharging of the internal NiCad batteries (see specifications for battery recommendations).



An aluminum valise case is available as an option for carrying the **TCM-1**, three magnetic field sensors and a pair of spare batteries.

Features

- Three Channels.
- Audio Bandwidth: 5 Hz to 10 kHz.
- Power Line Notch Filters: 60, 120, 180, 240,300 Hz or 50, 100, 150, 200, 250 Hz.
- Portable Battery Powered.
- Five Gain Settings: 1, 3, 10, 30, 100.
- Input and Output Overload Indicators.
- Battery Low Indicator.
- Internal Battery Charger.

For more information

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SPECIFICATIONS

Input

<i>Mating Connector</i>	LEMO FGG1B307CLAD72
<i>Voltage Range</i>	20 Volts peak-to-peak
<i>Coupling</i>	AC (-3dB @ 5 Hz)
<i>Magnetic Field Sensor Power</i>	±12 to ±16 VDC @ 30 mA nominal

Transfer Function

<i>Gain</i>	Selectable x1, x3, x10, x30, x100
<i>Gain Accuracy</i>	±1% with level control at x1
<i>Level</i>	Continuous adjustment from 0 to x1

Power Line Filters

<i>Frequencies</i>	First five (5) harmonics of selected power line frequency
<i>Notch Attenuation</i>	40 dB nominal
<i>Notch Bandwidth</i>	0.1 f _n (-3dB bandwidth)

Output

<i>Connector</i>	BNC
<i>Impedance</i>	50 Ω
<i>Range</i>	20 Volts peak-to-peak for loads ≥ 2KΩ

Batteries

<i>Rechargeable</i>	Two (2) 15 Volt 500 mAH NiCad (Alexander H4463B)
<i>Non-rechargeable</i>	Two (2) 15 Volt 1800 mAH Alkaline (Alexander H568) or two (2) 15 Volt 2500 mAH Mercury (Alexander H568M)

Power Requirements

<i>Battery Drain Current</i>	161 mA with power line filters in 144 mA with power line filters out
<i>Battery Voltage Indicator</i>	Turns on when total battery voltage is less than 25 VDC
<i>Power Line</i>	105 to 125 VAC @ 65 mA, or 210 to 250 VAC @ 32 mA, 50-400Hz

Physical

<i>Size</i>	3" H x 17" W x 8.5" D
<i>Weight</i>	6.75 lbs.