

EMI/PLC Adapter for Power Lines and Ground

Safely Measure EMI and PLC Anywhere with Your Oscilloscope or a Spectrum Analyzer

MSN15 power line EMI adapters completely block power line 50/60 Hz voltage and let through only high frequency signals allowing for safe observation and measurements of high-frequency signals on power lines and ground—often called EMI (Electromagnetic Interference).

Measurements of these signals without special adapters are perilous—high voltage on the AC mains can easily damage instrumentation. Plus, high mains' voltage makes it nearly impossible to trigger on the weaker high-frequency signals. Measurements of noise on ground are often distorted by ground loops.

MSN15 offers true balanced input galvanically isolated from its output. This allows for accurate measurements of electrical noise on ground and between different grounded points of equipment without influence of grounding of your instrument, completely avoiding ground loops.



Applications

- Measurements and metrology
- Power line communication (PLC)
- Data security
- Electronic manufacturing
- Semiconductor fabrication
- ESD/EOS control
- Test and measurements
- EMC compliance
- Data centers
- Industrial robotics
- Medical
- Military and aerospace
- Wherever EMI is an issue

Features

- Safe measurements of high-frequency signals on live power lines and ground
- Galvanic isolation from power line
- True balanced input
- Output overvoltage protection
- 50 Ohms output

EMI Power Line “Probe”

Consider MSN15 as your probe for your oscilloscope, spectrum analyzer or signal strength meter for safe measurements of high frequency signals riding on live power lines and on different grounds

Power Line Isolation

MSN15 provides complete galvanic isolation from high voltage on power lines - your instrument is not exposed to AC voltage

Balanced Input

MSN15 offers true balanced input reducing errors from ground coupling of your oscilloscope or spectrum analyzer

Wide Frequency Response

MSN15 offers broad frequency response suitable for measurements of most EMI signals on power lines and ground, such as from switched mode power supplies, servo and VFD motors, dimmers and alike, as well as most PLC signals

Overvoltage Protection

Noise on power lines, especially transient spikes, can reach significant amplitude. MSN15 has unique protective circuit limiting such spikes to no more than 15V of either polarity without sacrificing its performance at lower amplitudes

EMI Adapter for Power Lines and Ground Model MSN15

Specification

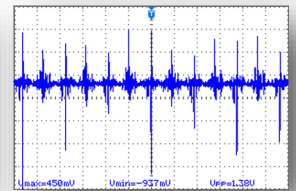
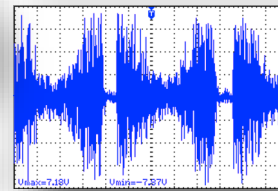
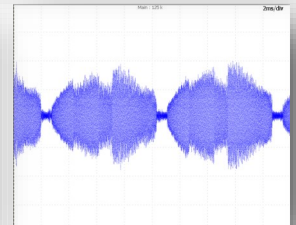
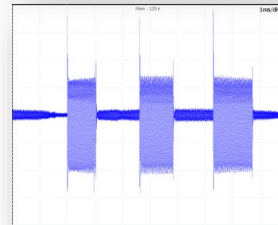
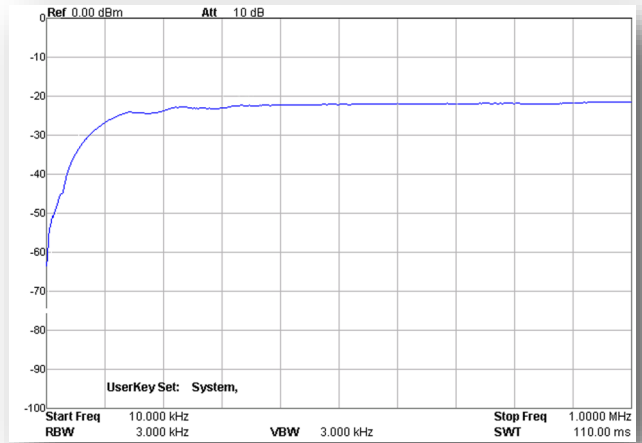
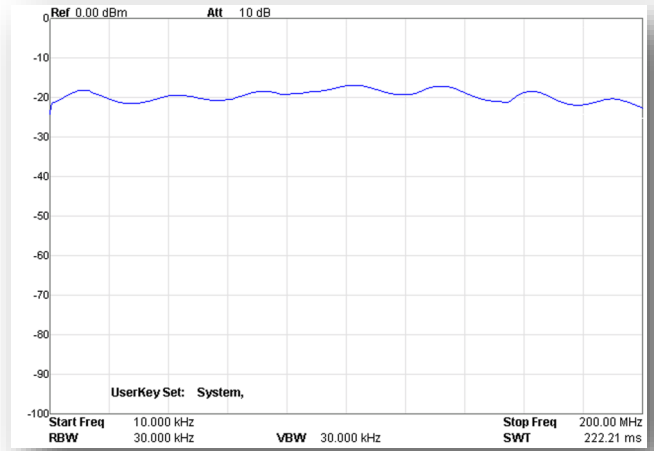
MSN15 EMI adapters enable safe measurements of high frequency signals on live power lines and on ground without creating ground loops.

| Parameter | Value |
|--------------------------------------|-------------------------------|
| Max. Rated Voltage, RMS | 250VAC Max., 50/60Hz |
| Frequency Response | 30kHz...200MHz |
| Transfer Ratio (50 Ohms termination) | 10:1 (-20 dB) |
| Input | Balanced, Galvanic Separation |
| Output Impedance | 50 Ohms |
| Output Connector | BNC |
| Output Signal Limiter | <15V Peak |

Instrument Overvoltage Protection

Power lines may have transient signals in excess of 1 kV. To protect your instruments MSN15 limits output signals to no more than 15V peak (typ.) We also include BNC T-adaptor and 50 Ohms terminator so that you can use 1 MOhms input of your oscilloscope that can handle high signal levels.

For high-bandwidth instruments, such as spectrum analyzers and some oscilloscopes that have only 50 Ohms input and 3 to 5 V max. input level, we recommend to use commonly-available BNC 20 dB attenuator to provide full protection for your instrument.



MSN15 comes with the following:



- ✓ BNC coax cable, 6' (1.8m)
- ✓ 50 Ohms BNC terminator
- ✓ BNC T-adaptor

Examples of Typical EMI on Power Lines and



OnFILTER, Inc.
730 Mission Dr. Ste. 102
Santa Cruz, CA 95060 U.S.A.
Tel. +1.831.824.4052
FAX +1.206.350.7458
www.onfilter.com
info@onfilter.com

CE MSN15 is certified for compliance with IEC/EN 61010-1:2010, Third Edition, AMD1:2016; 61010-2-030:2011 .

