



I-Con Tech International, Incorporated

Blk 12 Lot 15&16 Villa Olympia Main Road, San Vicente, San Pedro Laguna.

Tel: (632) 553-3915 Fax (632) 553-3914

We are committed to provide BEST Products and Services



FEED YOUR MIND:

ONFILTER

BASIC PRODUCT REVIEW

PRESENTED BY:

ROY A. MARTINEZ – PRODUCT MANAGER



I-Con Tech International, Incorporated

Blk 12 Lot 15&16 Villa Olympia Main Road, San Vicente, San Pedro Laguna.

Tel: (632) 553-3915 Fax (632) 553-3914

We are committed to provide BEST Products and Services

Electromagnetic interference (EMI) on power lines and ground creates serious problems for operation of equipment, causes errors and lock ups as well as Electrical Overstress (EOS) which is the main source of damage to sensitive components, according to Intel.

OnFilter designs and manufactures EMI filters for many application:

- **AC Power lines**
- **Ground**
- **DC Power**
- **PWM-driven motors (Servo & VFD)**



I-Con Tech International, Incorporated

Blk 12 Lot 15&16 Villa Olympia Main Road, San Vicente, San Pedro Laguna.

Tel: (632) 553-3915 Fax (632) 553-3914

We are committed to provide BEST Products and Services

OnFilters offers power line EMI adapters for safe measurements of EMI on live power lines.

EMI filters are different from the typical EMI filters already present in an equipment. Those filters work well mostly in special EMC

Test laboratories, but do little in actual use. OnFilters designed filters to be most effective in real-life environment, not just in the specialized labs –

see "[OnFILTER Advantage](#)" technical paper for details.

OnFILTER dedicates a lot of its resources into R&D – Just check the [Library](#) section for technical papers on the subject of EMI and EOS.

Said products are designed and manufactured in the U.S.A. Majority of products are UL, CE and RoHS compliant.



I-Con Tech International, Incorporated

Blk 12 Lot 15&16 Villa Olympia Main Road, San Vicente, San Pedro Laguna.

Tel: (632) 553-3915 Fax (632) 553-3914

We are committed to provide BEST Products and Services

"The filters made a major difference in our manufacturing dept. and cut cost in tester repairs."

J.M., Engineer, Electronic assembly and test, U.S.A.

Article in SMTnet "EMI-Caused EOS Sources in Automated Equipment"

SMTnet reprinted V. Kraz, OnFILTER's president, "EMI-Caused EOS Sources in Automated Equipment.

" You can download this article.



I-Con Tech International, Incorporated

Blk 12 Lot 15&16 Villa Olympia Main Road, San Vicente, San Pedro Laguna.

Tel: (632) 553-3915 Fax (632) 553-3914

We are committed to provide BEST Products and Services

1.0 CleanSweep® AC Power Line EMI filters



AC power lines connect all electrical equipment in a facility together. Electrical noise, or electromagnetic interference

(EMI) generated in one place propagates far throughout the facility disrupting operation of equipment. OnFILTER' CleanSweep® AC power line EMI filters are very effective in blocking EMI on power lines from reaching sensitive equipment. They also prevent EMI generated by a "noisy" source from polluting your AC power network.



I-Con Tech International, Incorporated

Blk 12 Lot 15&16 Villa Olympia Main Road, San Vicente, San Pedro Laguna.

Tel: (632) 553-3915 Fax (632) 553-3914

We are committed to provide BEST Products and Services

Here is a summary of Potent features of CleanSweep® filters family:

a) Optimal performance in real-life installations

Most equipment already has built-in EMI filters for the purpose of compliance with EMC regulations. But it is obviously not very helpful.

This [App. Note](#) provides specifics on why regular EMI filters still allow for plenty of noise outside of test lab, while CleanSweep® filters block EMI where it matters - in your facility.

b) Bi-directional EMI suppression

CleanSweep® filters not only prevent EMI on power lines from getting into your sensitive equipment, they block "noisy" equipment from polluting our power line and ground with EMI too.



I-Con Tech International, Incorporated

Blk 12 Lot 15&16 Villa Olympia Main Road, San Vicente, San Pedro Laguna.

Tel: (632) 553-3915 Fax (632) 553-3914

We are committed to provide BEST Products and Services

c) Unique filtering in ground circuit, not only in power lines

Your facility ground can be just as noisy as your live and neutral AC lines. CleanSweep® filters offer substantial reduction of ground noise along with live/neutral noise reduction.

d) Transient surge suppression

Regular surge suppressors do not suppress spikes under 330V (120VAC lines) or 440V (250VAC lines), CleanSweep® filters see any spikes, large or small, as EMI events, very effectively suppressing them and providing additional safety for your equipment - see this [App. Note](#).

e) Plug-and-Play

Most of CleanSweep filters are plug-and-play - plug the filter into your outlet and plug your equipment into the outlet of the filter. Worldwide plug/outlet configurations are available. Some models have terminal block interface for special type connections.



I-Con Tech International, Incorporated

Blk 12 Lot 15&16 Villa Olympia Main Road, San Vicente, San Pedro Laguna.

Tel: (632) 553-3915 Fax (632) 553-3914

We are committed to provide BEST Products and Services

Some AC Power Line EMI Filters Products

- **CleanSweep 10A Filters**
- **CleanSweep 20A Filters**
- **CleanSweep 30A Filters**
- **CleanSweep 3A Filters**



I-Con Tech International, Incorporated

Blk 12 Lot 15&16 Villa Olympia Main Road, San Vicente, San Pedro Laguna.

Tel: (632) 553-3915 Fax (632) 553-3914

We are committed to provide BEST Products and Services

2.0 AC 3A Filters for Soldering Products



Soldering process involves metal-to-metal contact between the soldering iron which is connected to a power line and your sensitive components.

Ever-present noise on the mains and ground may cause significant current between the tip of the iron and the components, creating electrical overstress (EOS) that causes component damage, including latent damage. Intel named EOS "the number one cause of damage to IC components" in its [Manufacturing Enabling Guide](#).

CleanSweep® APxxxxLG-series EMI filters that are specially designed for soldering applications reduce this EOS current down to negligible levels enabling safe soldering of even the most sensitive components. These filters create electrically quiet "eco-zone" between the AC supply of the soldering iron and ground of the circuit board.

Use of CleanSweep® filters for soldering is very simple: plug your soldering iron through small-size filter and connect ground of your workbench or board under assembly to ground terminal of filter.



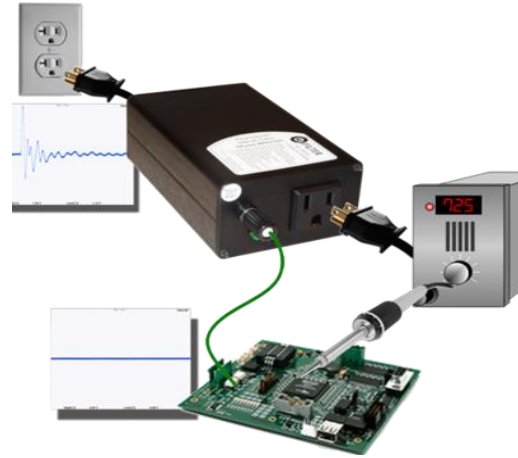
I-Con Tech International, Incorporated

Blk 12 Lot 15&16 Villa Olympia Main Road, San Vicente, San Pedro Laguna.

Tel: (632) 553-3915 Fax (632) 553-3914

We are committed to provide BEST Products and Services

2.1 CleanSweep AC Filter for Soldering Irons



OnFILTER' CleanSweep® AC filters for soldering applications work with virtually all AC-powered professional soldering irons. They are rated up to 3A RMS and from 100VAC to 250VAC depending on the specific model. These filters are small and in obtrusive and require no maintenance.

Use of CleanSweep® filters for soldering is very simple: plug your soldering iron through the filter and connect ground of your workbench or board under assembly to ground terminal of filter.

Whether your facility power and ground are "dirty" or your own workbench contains EMI sources, such as microscope light, heat gun and others, CleanSweep AC filters for soldering applications provide noise-free power and ground to your soldering iron and reduce EMI-cause electrical overstress.

For technical papers on the subject please visit the [Library](#) section.



I-Con Tech International, Incorporated

Blk 12 Lot 15&16 Villa Olympia Main Road, San Vicente, San Pedro Laguna.

Tel: (632) 553-3915 Fax (632) 553-3914

We are committed to provide BEST Products and Services

2.2 Related Papers

1. Origins of EOS in Manufacturing Environment and Its Classification
2. App. Note: OnFILTER Advantage - Summary of CleanSweep AC Filter Technology
3. EOS Exposure of Components in Soldering Process
4. Intel® Manufacturing Enabling Guide, Section 3: ESD/EOS 2010
5. App. Note: CleanSweep AC EMI Filter in Surge Protection
6. App. Note: How to Specify CleanSweep AC Power Line Filter
7. App. Note: CleanSweep AC Filters and UPS
8. App Note: CleanSweep Filters for Soldering Applications

Data Sheet for CleanSweep AC Filter for Soldering Irons



I-Con Tech International, Incorporated

Blk 12 Lot 15&16 Villa Olympia Main Road, San Vicente, San Pedro Laguna.

Tel: (632) 553-3915 Fax (632) 553-3914

We are committed to provide BEST Products and Services

3.0 Ground Filter Products

GLE30-1



GLE04-01



Just like power lines, ground wires connect the entire facility together. All human-reachable surfaces of electrical equipment must be at ground potential for safety reason. While safety practices are always a good idea, a side effect of such connection is that if one piece of equipment injects noise into ground for whatever reason (miswiring, improper design, poor maintenance, etc.), this noise propagates throughout the facility and enters other equipment. Ground filters are capable of blocking this noise while maintaining all safety practices.

Any company that concerned about noise in the production environment, ground filter is a good way to mitigate the problem.



I-Con Tech International, Incorporated

Blk 12 Lot 15&16 Villa Olympia Main Road, San Vicente, San Pedro Laguna.

Tel: (632) 553-3915 Fax (632) 553-3914

We are committed to provide BEST Products and Services

3.1 Equipment grounding

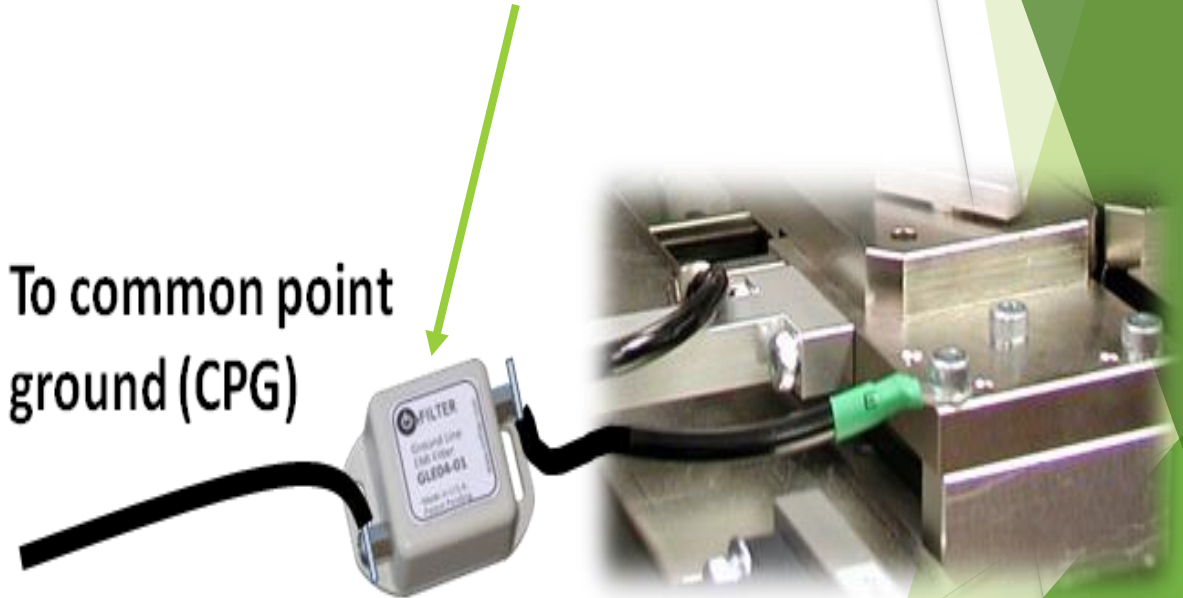
GLE30-1



3.2 Tools grounding

GLE04-01

To common point
ground (CPG)





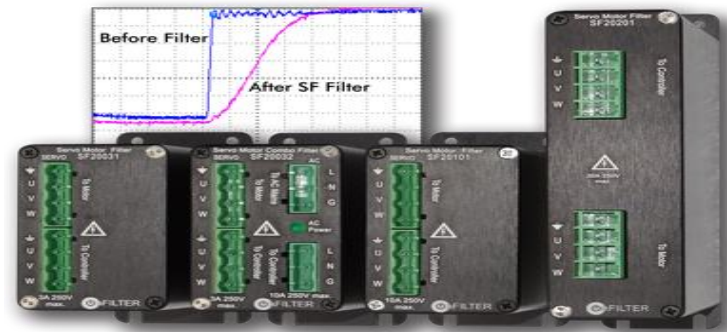
I-Con Tech International, Incorporated

Blk 12 Lot 15&16 Villa Olympia Main Road, San Vicente, San Pedro Laguna.

Tel: (632) 553-3915 Fax (632) 553-3914

We are committed to provide BEST Products and Services

4.0 Servo Motors and VFD



Servo Motor and VFD Filters Products

- **10A Servo/VFD Filters**
- **20A Servo/VFD Filters**
- **3A Servo/VFD Combo Filter**
- **3A Servo/VFD Filter**



I-Con Tech International, Incorporated

Blk 12 Lot 15&16 Villa Olympia Main Road, San Vicente, San Pedro Laguna.

Tel: (632) 553-3915 Fax (632) 553-3914

We are committed to provide BEST Products and Services

Operation of PWM (Pulse Width Modulated)-driven motors, such as servo and variable frequency drives (VFD), causes a number of problems in equipment, including damage to the motor's bearings from leakage currents via electrical discharge machining (EDM) and to motor's insulation.

OnFILTER's SF-series filters substantially reduce high-frequency leakage currents in motors and in wiring, assisting in compliance with the requirements of IEC60034-17/-25. They also reduce interfering frequency noise within the tool resulting from operation of PWM-driven motors

PWM-generated noise also causes errors in operation of electronic equipment. Electronic components processed on PWM-driven tools such tools as IC Handlers, wire bonders, SMT pick-and-place machines and many others can be subject to electrical overstress (EOS), affecting yield and reliability.



I-Con Tech International, Incorporated

Blk 12 Lot 15&16 Villa Olympia Main Road, San Vicente, San Pedro Laguna.

Tel: (632) 553-3915 Fax (632) 553-3914

We are committed to provide BEST Products and Services

OnFILTER' SF-series EMI dV/dt filters for servo and variable-frequency drives uses patent-pending technology which allows for reduction of noise unachievable by regular motor filters. SF series filters are superior to mechanical attachments to the motor which don't reduce EMI levels in equipment.

SF series filters greatly reduce high-frequency currents on equipment ground, as well as overall EMI in the tool, lowering risk of EOS and reducing errors in automated equipment and testers.



I-Con Tech International, Incorporated

Blk 12 Lot 15&16 Villa Olympia Main Road, San Vicente, San Pedro Laguna.

Tel: (632) 553-3915 Fax (632) 553-3914

We are committed to provide BEST Products and Services



Servo Motor and VFD Filters Products

- 10A Servo/VFD Filters
- [20A Servo/VFD Filters](#)
- [3A Servo/VFD Combo Filter](#)
- [3A Servo/VFD Filter](#)

Any equipment containing electronics there are "offenders" such as stepper and variable frequency motors, relays and solenoids and poorly-designed switched power supplies. There are the "victims" such as sensors and sensitive electronics circuits. This results in internally-generated noise that interferes with normal operation of equipment itself.

In order to alleviate this problem, OnFILTER offers specially-designed DC filters that provide significant attenuation of high-frequency internally-generated noise. Connect it at the supply input to your sensitive equipment sections to get the most noise reduction.



I-Con Tech International, Incorporated

Blk 12 Lot 15&16 Villa Olympia Main Road, San Vicente, San Pedro Laguna.

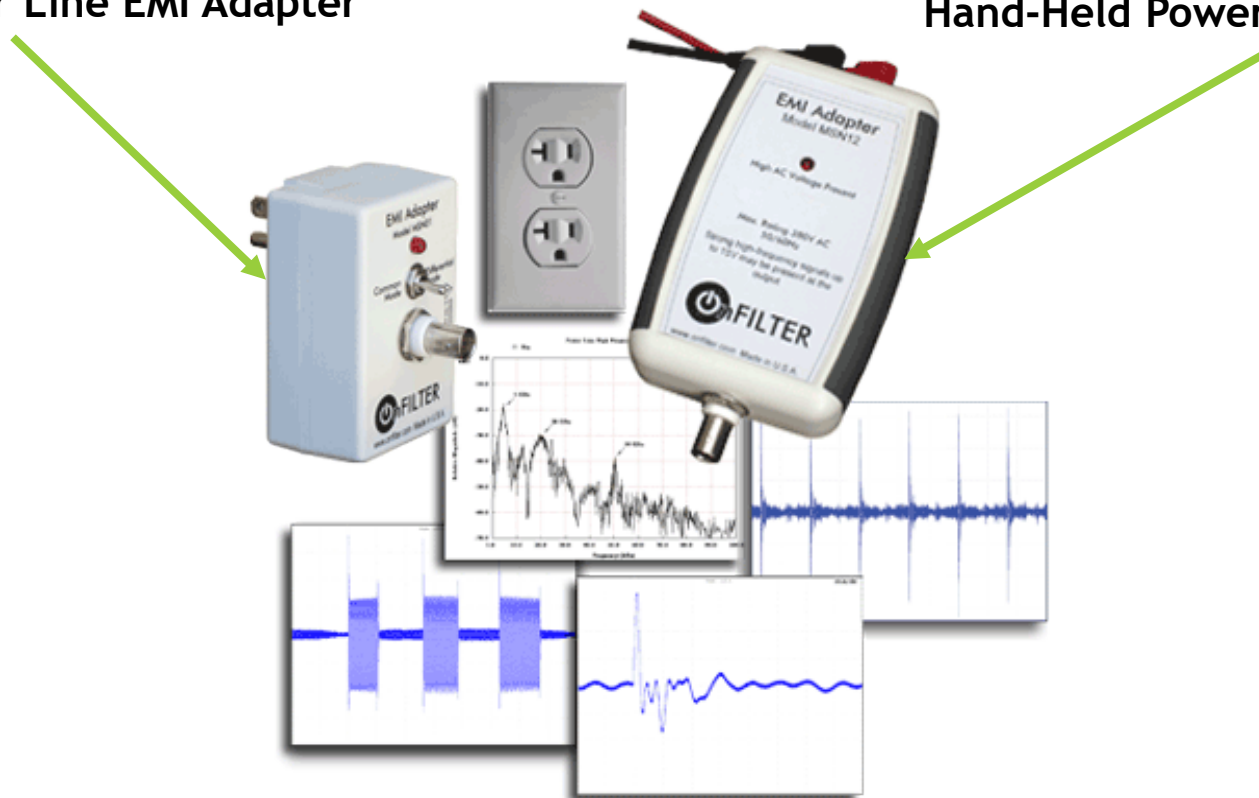
Tel: (632) 553-3915 Fax (632) 553-3914

We are committed to provide BEST Products and Services

6.0 EMI Adapters for Power lines

Plug-In Power Line EMI Adapter

Hand-Held Power Line EMI Adapter



Hand-Held Power Line EMI Adapter
Plug-In Power Line EMI Adapter



I-Con Tech International, Incorporated

Blk 12 Lot 15&16 Villa Olympia Main Road, San Vicente, San Pedro Laguna.

Tel: (632) 553-3915 Fax (632) 553-3914

We are committed to provide BEST Products and Services

How much EMI noise is on your power lines indeed? How to assess the levels of noise and its properties when it is obviously bad idea to connect your oscilloscope or a spectrum analyzer directly to your power lines?

Our EMI interface adapters provide a barrier for high mains voltages but good passage for the noise signal so that you can connect your sensitive instrument to power lines for analysis and quantification. We offer adapters for differential ("normal") and common-mode noise.

With your oscilloscope (we recommend a high-speed digital storage scope) you will be able to observe the transient signals on your power lines. This is often much more beneficial than to use spectrum analyzer because majority of EMI signals on power lines are transient (spikes and alike) which the spectrum analyzer can easily miss.



I-Con Tech International, Incorporated

Blk 12 Lot 15&16 Villa Olympia Main Road, San Vicente, San Pedro Laguna.

Tel: (632) 553-3915 Fax (632) 553-3914

We are committed to provide BEST Products and Services

Industries	AC EMI Filters	Soldering Filters	Ground Filters	Servo Filters	DC Filters	EMI Adapters	Remarks
Electronic Assembly	X	X	X	X		X	Electronics Companies
Semiconductor and HDD	X	X	X	X		X	Semiconductors Companies
Industrial Robotics	X		X	X	X	X	Car Assembly, Airplane Assembly
Data Centers	X					X	Call Centers, Industrial Companies, MIS
Science, Universities, Labs	X					X	Pharmaceuticals, Hospitals, Laboratories