

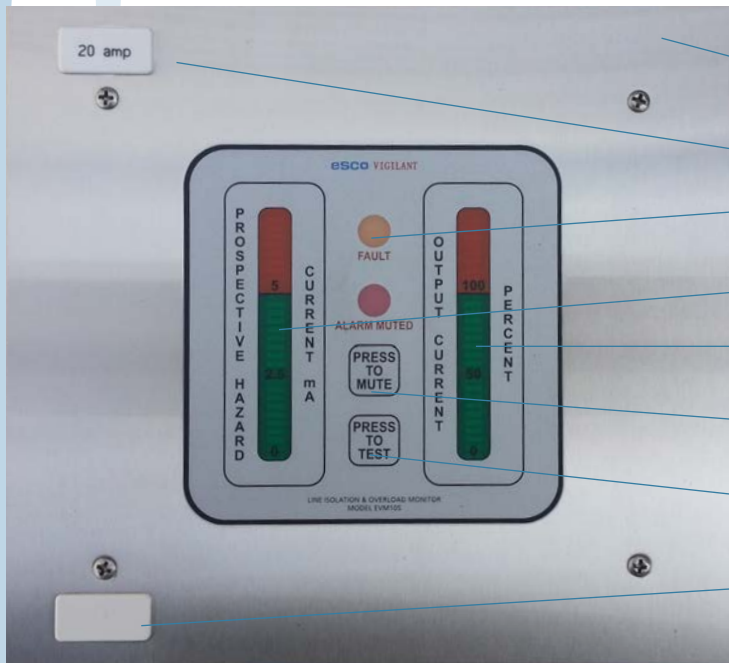
## VIGILANT (LIOM) LINE ISOLATION & OVERLOAD MONITOR

### Medicon Vigilant Line Isolation & Overload Monitors (LIOM) designed to indicate & protect critical areas from possible faults

Line Isolation and Overload Monitors (LIOM) enables the integrity of the Isolation Transformer to be monitored and an alarm raised to warn of impending danger if an impedance occurs between any part of the isolated supply and earth. The LIOM simultaneously measures the impedance between both of the lines and earth and calculates the "worst case" current that would flow through that line with the higher impedance should the other line then become shorted to earth by a second fault.

The current that would flow if that second fault occurs is known as the Prospective Hazard Current (PHC). Should the PHC exceed the preset level of 5mA, then an audible and visual alarm will occur, but the supply will not be interrupted. If this alarm occurs, the medical staff can in light of the patient's condition, choose to continue with the procedure, bearing in mind that it is only a prospective hazard. Measures can however be taken by the medical staff to rectify the situation by disconnecting all non-essential equipment from the system, one of which may be causing the problem.

In addition to monitoring isolation, LIOM's are required to continuously monitor the total current being drawn from the transformer to prevent an overload situation occurring. Again, this is a warning system and does not cause an interruption to supply. Obviously if short circuit conditions occur then a circuit breaker supplying the primary of the transformer will prevent serious damage occurring.



Brushed Stainless Steel finish (standard)  
Powder Coating (optional extra cost)

Rating ID Label clip-in feature (included standard)

Increased Alarm Signals and Visual Indication  
provide Audible or Visual Alerts

Prospective Hazard Current  
LED Bar Graph illuminates - displaying current in mA

Output Current - LED Bar Graph illuminates  
displaying current being used as a percentage %  
of the maximum available from the system

Alarm conditions indicate both an audible or visual alert of  
Fault Indication, Mute, Alarm Mute, and Alarm Auxiliary

Press to Test - Button for separate operation

Blank Circuit ID Label clip-in feature (included standard)  
Software available for individual label provision  
Laser Engraved upto 30 characters - 3 Rows (extra cost)

### EVM105-240-48

Line Isolation & Overload Monitor  
4.8kVA - 240Va.c. Stainless Steel (MSP) Panel Mounted

Model No	EVM-105-240-36	EVM-105-240-48	EVM-105-240-72
Rating	16 Amp (max)	20 Amp (max)	30 Amp (max)
Power Supply	3.6kVA	4.8kVA	7.2kVA
Voltage / Frequency	240Va.c. 50 Hz	240Va.c. 50 Hz	240Va.c. 50 Hz
Prospective Hazard Current	0-10mA	0-10 mA	0-10 mA
Operating Temperature	-10 to 45°C	-10 to 45°C	-10 to 45°C
Installation (Flush)	ESCO Beta Series Wall Box BEWB4 (supplied standard with all LIOM's) other mounting options available upon request		

## Line Isolation & Overload Monitors Specifications

### Power Consumption

Input Voltage	220-240 VAC
Output Voltage	220-240 VAC
Voltage Regulation	3%
Frequency	50Hz
Efficiency	96%

### Power Input / Rating

EVM105-240-36	3.6kVA / 16 Amp (max)
EVM105-240-48	4.8kVA / 20 Amp (max)
EVM105-240-72	7.2kVA / 30 Amp (max)

### Standards Approvals

AS/NZS3000  
AS/NZS3003  
AS/NZS4510

### Environmental Conditions

Audible Alarm Fault Level (adjustable) > 85dbA  
Pre Installation Audible limits set by installer prior to installation  
Wall thickness/sheeting/insulation will vary Audible output

Visual Alarm Indication (LED) with rising Bar Graph as a scale of milliamps & percentage (Output Current / PHC)

Seismic Rating AS1170.4  
UTS Approval Ref Certificate 2013001232

**Sub-Circuit Cabling** Sub-Circuit Cabling from the Isolation Transformer to the LIOM Line Isolation & Overload Monitor shall not exceed 52m in length

**Infection Control** Properties included as standard features

### Panel Type (Flush Mount)

Flush MSP Brushed Stainless Steel Panel finish (standard) 1.2mm Thick

### Dimensions

EVM105 220mm W x 200mm H x 70mm D  
Beta Series Wall Box 200mm W x 180mm H x 76mm D

### Weight

1.7 kg including Wall Box)



Operating Theatre Environments requiring vital protection and early indication



### EVM105-240-48

Vigilant LIOM - Line Isolation & Overload Monitor for monitoring Earth Leakage & Supply Voltage (supplied separately) with Audible & Visual Alerts

MEDICON  
VIGILANT



## Line Power Supply Transformers designed to work in conjunction with Line Isolation Monitors

EI Series - Isolation Transformers for critical areas compliment the Vigilant range of Line Isolation & Overload Monitors for the best isolated power supply available.

### EI-3600

Isolated Power Supply Transformer 3.6 kVA (sold separately)

### EI-4800

Isolated Power Supply Transformer 4.8 kVA (sold separately)

### EI-7200

Isolated Power Supply Transformer 7.2 kVA (sold separately)

To view our complete range - download a copy of our latest Catalogue or visit our website or to discuss your needs contact your local ESCO sales specialist.

## VIGILANT (LIOM) LINE ISOLATED POWER SUPPLY TRANSFORMERS

### Line Isolated Power Supply Transformers designed to provide clean & consistent power to critical areas

Power supplies to Medical Treatment areas have special requirements that provide additional safety for patients particularly where a more direct electrical path to the heart may occur via catheters and probes

The normal AC power supply system is referenced to earth, that is current in the active or live conductor will flow to earth through any path that is not insulated

With an isolated power supply system the current available from the secondary winding of the Isolation Transformer is not earth seeking and as such will not flow from either of the active conductors to earth as long as the other active conductor is insulated from earth

For an isolated supply system to remain effective, constant monitoring is necessary to ensure that the hard wired part of the system, or more commonly, the equipment plugged into the system are providing a partial or full path to earth



#### EI-3600

Isolated Power Supply Transformer (available separately)  
3.6kVA - 240Va.c. in wall mountable Ventilated Cabinet



#### EI-4800

Isolated Power Supply Transformer (available separately)  
4.8kVA - 240Va.c. in wall mountable Ventilated Cabinet



#### EI-7200

Isolated Power Supply Transformer (available separately)  
7.2kVA - 240Va.c. in wall mountable Ventilated Cabinet

Model No	EI-3600	EI-4800	EI-7200
Power Rating	3.6kVA	4.8kVA	7.2kVA
Watts Loss	<45W @ no load	<60W @ no load	<90W @ no load
Total Losses	120W @ full load	160W @ full load	225W @ full load
Efficiency / Regulation	96% / 3%	96% / 3%	96% / 3%
Input Voltage / Frequency	230/40/50/60Va.c. 50/60Hz	230/40/50/60Va.c. 50/60Hz	230/40/50/60Va.c. 50/60Hz
Noise Level	<20dbA	<20dbA	<20dbA
Operating Temperature	-10 to 45°C	-10 to 45°C	-10 to 45°C
Dimensions	300W x 350H x 235mmD	300W x 350H x 235mmD	350W x 350H x 400mmD
Installation (surface)	Ventilated Cabinet (wall mountable)	Ventilated Cabinet (wall mountable)	Ventilated Cabinet (wall mountable)
Case Temperature	45°C @ full load	45°C @ full load	45°C @ full load



## Isolated Power Supply Transformers Specifications

### Power

Input Voltage	230/240/250/260 VAC
Output Voltage	240 VAC
Voltage Regulation	3%
Frequency	50/60Hz
Efficiency	96%

### Power Consumption

EI-3600	3.6kVA @ 100% Duty
EI-4800	4.8kVA @ 100% Duty
EI-7200	7.2kVA @ 100% Duty

<b>Standards Approvals</b>	AS/NZS3000	AS/NZS3003
	AS/NZS61558.2	AS/NZS4510

### Environmental Conditions

Insulation	Class H, 180°C
Noise Level	< 20dbA
Case Temperature	45° c @ Full Load

Seismic Rating	AS1170.4
UTS Approval Ref Certificate	2013001232

**Sub-Circuit Cabling** Sub-Circuit Cabling from the Isolation Transformer to the LIOM Line Isolation & Overload Monitor shall not exceed 52m in length

### Construction

Aluminium (Top) Cover	Powdercoated Finish - 175mm D
Heavy Gauge Steel (Base)	Powdercoated Finish - 60mm D

**Wiring Access** 25mm Cable Entry/Exit (Knock-Outs) on all sides

### Ventilated Surface (Wall Mounted) Enclosure

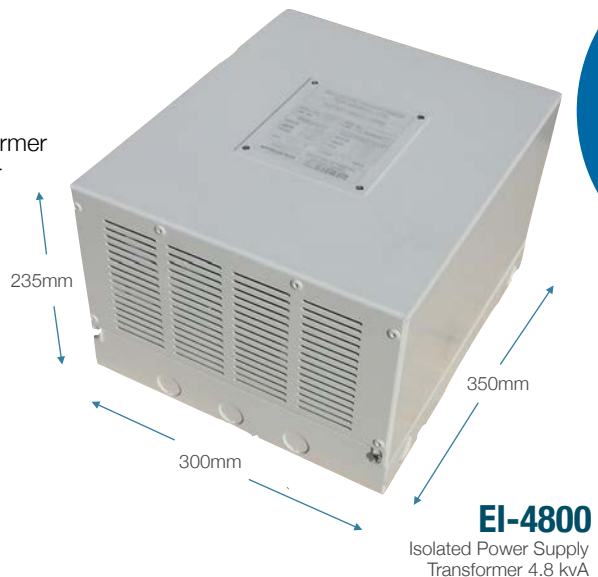
<b>Dimensions</b>	EI-3600	300mm W x 350mm H x 235mm D
	EI-4800	300mm W x 350mm H x 235mm D
	EI-7200	350mm W x 350mm H x 400mm D

Ventilation Strips on both Top and Bottom of cabinet designed to allow air movement through the enclosure to aid heat rise and cooling

<b>Weight</b>	EI-3600	3.6kVA (33kg)
	EI-4800	4.8kVA (40kg)
	EI-7200	7.2kVA (60kg)



Operating Theatre Environments requiring vital protection and early indication



## (LIOM) Line Isolation & Overload Monitor designed to work in conjunction with Isolated Power Supply Transformers

To view our complete range - download a copy of our latest Catalogue or visit our website or to discuss your needs contact your local ESCO sales specialist.

### EVM105-240-36 EVM105-240-48 EVM105-240-72

Vigilant LIOM - Line Isolation & Overload Monitors provide alarms and visual warnings whilst monitoring Earth Leakage & Supply Voltage (available separately in either 3.6 / 4.8 / 7.2 kVA ratings)

To view our complete range - download a copy of our latest Catalogue or visit our website or to discuss your needs contact your local ESCO sales specialist.

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