



- The ISO-pathfinder for 24VDC and 110-690VAC Non-grounded systems
- Measures earth fault without breaking the loop
- Only for energised circuits
- 6mm DC clamp for app. 0,5-120mA range
- 23mm AC / DC clamp for app. 5mA-4A/30A range
- 68mm AC clamp for app. 10mA - 1000A range
- Easy operation

**Specifications**

<b>SmartCase-ELD350</b>	
Enclosure:	Pelicase 1500
Dimensions:	470x357x176mm
Weight:	6,8kg
Approval standards:	EN60529:1991, IEC60529:1989 IP67, ATA, Stanag 4280 Defstan 81-41
Temperature:	-20 to +60°C



<b>MML3500</b>	
System Voltage:	DC: 18-30VDC AC: 110V-750VAC
Fuse:	DC: 0,5A DC automatic AC: 5A AC automatic
Current consumption:	<50mA
Temperature:	-10 to +50°C
Front protection:	IP40
Dimensions:	245x170x100mm
Weight:	1.8kgs
Standards:	Comply with IEC60092-54, IEC60068/60092 and IEC61000/60533



**Application tip:**  
The MEGA-2506 is suitable for verification of mA signals (like 4-20mA) without breaking the loop.

**Description**

The SmartCase-ELD350 is a portable tool for location of ground faults in 24VDC battery systems 24V circuits in alarm systems and in all 110V to 690V AC non-grounded systems.

The SmartCase-ELD350 can only detect earth leakages in live circuits. All components come in a waterproof and unbreakable Pelicase 1500.

**SmartCase-ELD350 contains:**

- MML3500 main power unit
- MEGA2506 DC clamp meter (Ø 6mm)
- MEGA2523 AC/DC clamp meter (Ø 23mm)
- MEGA2568 AC clamp meter (Ø 68mm)
- Cables for AC & DC (3 x Red, 1 x Black & 1 x Yellow/Green, 2m)
- Crocodile clamp (1 x)
- Test pins (3 x Grey)

**Benefits of using ELD-350**

You may use the most advanced alarm and monitoring system to obtain total overview and control. However, unknown insulation grounds fault may give erroneous readings distorting your comfort zone.

Use the ISO-pathfinder ELD-350 to easily map the status of leakage paths to ground, verifying the accuracy of your total system.

MML3500 is a self-powered earth current reference unit giving a feedback loop for the AC/DC clamp sensors to be able to locate first failure. Measured feedback current is limited to approx. 225mA for DC systems and 1A for AC systems.

Only one circuit can be measured at the time, and default it is set to read positive pole leakage. Operator must press the sense button to check for earth leakage current on the negative pole.

MEGA2568 have a 68mm jaw for larger cable dimensions in AC systems with ranges from 200mA to 1000A. Measures leakage currents from app. 10mA and up.

MEGA2523 have a 23mm jaw for medium size cable dimensions. Use the AC or DC mA range. Measured leakage currents from app. 5-10mA and up to 30A.

MEGA2506 is a small high resolution clamp meter to detect very low leakage currents from app. 0,5-120mA. The 6mm jaw limits the measured cable dimensions to app. 1,5mm<sup>2</sup>.



**Operation Instruction for DC system**

- 1 - Connect **MML3500** to positive and negative pole and PE (earth).
- 2 - Use the crocodile clamp/wire for the ground (PE) connection. A solid common earth terminal is essential for correct measurement.
- 3 - Check that GREEN LED (Power) is lit for correct connection.
- 4 - Turn on the clamp meter **MEGA2506** or **MEGA2523** (depending on cable dimension) and do a zero calibration first.
- 5 - Put the jaw to the first load feeder (both positive and negative wire must go through the clamp meter).

**NB!** If shielded cable is used, the shield must not be grounded during earth fault measuring.

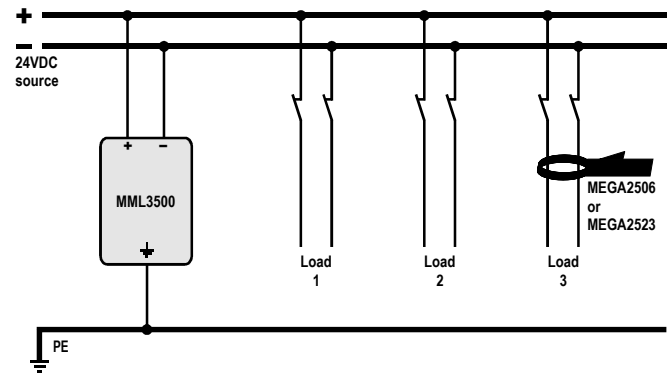
- 6 - If there is no mA reading on the clamp meter then your positive pole is healthy.
- 7 - Press the black push button (NEG sense) on **MML2500** to measure the negative pole. If there is still no mA reading both the poles on this circuit is healthy.
- 8 - Move the clamp meter to the next feeder and do step 4, 5, 6 and 7 again.
- 9 - Continue through all your 24VDC feeders to locate and map your DC leakages.

**NB!** Any reading on **MEGA2506** below app. 0,5mA is negligible. For **MEGA2523** expected leakage current to be located is about 5-10mA and up to amps.

**Importance:**

- For your own safety, connections between **MML3500** and the DC system should only be done with power switched off. If **MML3500** have to be connected to a live DC system, properly PPE and training is necessary to prevent accidents.
- It is important to keep the clamp meter jaws clean to obtain correct measurement. Use a fabric cloth to wipe off dust and particles.
- Check regularly that you have zero reading. Zero calibration may be done several times during the measuring process.

**Connection of MML3500 to DC system**



**Operation Instruction for AC system**

- 1 - In 3-wire systems, connect **MML3500** to L1, L2, L3 and PE (earth).  
In 2-wire systems, connect **MML3500** to only L1, L2 and PE (earth).
- 2 - Use the crocodile clamp/wire for the ground (PE) connection. A solid common earth terminal is essential for correct measurement.
- 3 - Check that GREEN LED (Power) is lit for correct connection.
- 4 - Turn on the clamp meter **MEGA2523** or **MEGA2568** (depending on cable dimension) and do a zero calibration first.
- 5 - Put the jaw to the first load feeder (all phases in the circuit (L1, L2, L3 or L1, L2) must go through the clamp meter).

**NB!** If shielded cable is used, the shield must not be grounded during earth fault measuring.

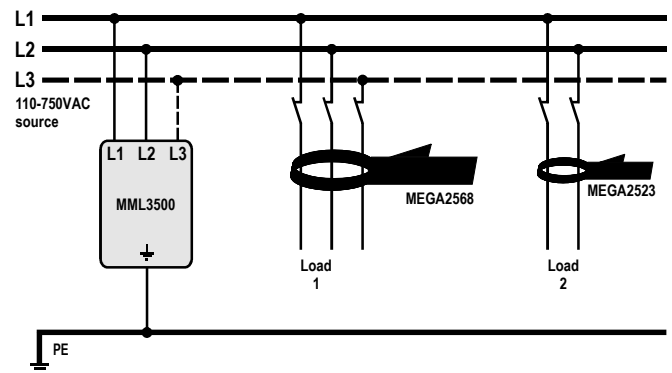
- 6 - If there is no mA reading on the clamp meter then your circuit is healthy.
- 7 - Move the clamp meter to the next feeder and do step 4, 5 and 6 again.
- 8 - Continue through all your AC feeders to locate and map your AC leakages.

**NB!** For the **MEGA2523** expected leakage current to be located is about 5-10mA and up to amps. For the **MEGA2568** expected leakage current to be located is about 10mA and up to amps.

**Importance:**

- For your own safety, connections between **MML3500** and the AC system should only be done with power switched off. If **MML3500** have to be connected to a live AC system, properly PPE and training is necessary to prevent accidents.
- It is important to keep the clamp meter jaws clean to obtain correct measurement. Use a fabric cloth to wipe off dust and particles.
- Check regularly that you have zero reading. Zero calibration may be done several times during the measuring process.

**Connection of MML3500 to AC system**



The MEGACON policy is one of continuous improvement, consequently equipment supplied may vary in detail from this publication.



Specifications for Clamp Meters

<b>MEGA2568</b>	
AC A	0-200mA-2A-20A-200A-1000A AC
AC A resolution	0,1mA-1mA-0,01A,0,1A,1A
Conductor size	Ø68mm max.
Accuracy	+/-1,5%+2D
Applicable standards	IEC 61010-1CAT.III 300V, IEC 61010-1CAT.II 600V,
Operating/storage temperature & humidity	-10 to +50 degrees <85%
Power source	1x9V 6F22
Dimensions	250x130x50mm
Weight	App. 570g (Incl. batteries)



<b>MEGA2523</b>	
AC A	4/30A (manual range), True RMS
AC A resolution	0,1 mA
DC A	4/30A (manual range), True RMS
DC A resolution	1 mA
Accuracy	+/-2% +3d
Conductor size	Ø23mm max.
Applicable standards	IEC 1010 Category III 300V, Category II 600V
Operating/storage temperature & humidity	-10 to +50 degrees <75%
Power source	2 x LR6(AA) 1,5V
Current consumption	Approx. 10mA
Dimensions	183x64x36mm
Weight	App. 190g (Incl. batteries)



<b>MEGA2506</b>	
DC A	20/120mA (Autoranging)
DC A resolution	0,01mA
Conductor size	Ø6mm max.
Accuracy	+/-0,2%rdg +/-5dgt (0.00-21.00mA) +/-1% +/-5dgt (21-120mA)
Applicable standards	IEC 61010-1, 61010-2-030 CAT.II 300V, IEC 61010-0-032, IEC 61326-1, 61326-2-2 IEC 60529 IP40
Operating/storage temperature & humidity	-10 to +50 degrees <85%
Power source	4 x LR6(AA) 1,5V, battery life is app.60 hours (with backlight and LED off)
Dimensions	111x61x40mm (Display unit) 104x34x20mm (Sensor) 700mm: Sensor cable
Weight	App. 290g (Incl. batteries)



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