



Neutral Link Monitor

Leaders in Innovative Protection Systems, Bramco's nlm3 is **compliant** to the latest statutory and industry standards. The Bramco Neutral Link Monitor relay (nlm3) is a NER integrity protection device designed to continuously monitor the current limitation system on the secondary star point to earth connection of a supply transformer.

The unit can also be utilized to monitor a direct connection to earth from the star point. The NLM3 monitors the NER Resistance integrity, excess phase voltage rise, neutral earth leakage current, with the ability to adjust trip times for protection coordination.

nlm3 Features:

The nlm3 connects directly to AC supply systems with line voltages up to 1100 Volt without any additional barrier assembly.

It can also be utilized on systems with line voltages up to 4160 Volt with the addition of a barrier assembly.

Earth Leakage Current is monitored in the neutral to earth circuit using an external EL toroid (Toroid not included).

LED indication of Power On, NER integrity, Excess Voltage and Earth Leakage current

The unit is configured as fail safe and latch on fault.

- Back up protection is provided by detecting voltage rise across the NER
- Trip Delay Times are individually adjustable for:
 - o Earth leakage
 - o NER integrity
 - o Over-voltage
- Adjustable earth leakage current trip
- Adjustable excess voltage trip
- Adjustable NER resistance limits
- Earth leakage frequency response range selectable: 50 – 60Hz or 5 – 100Hz
- Open circuit toroid protection
- Reset push button input provided
- Time-stamped log of trip events
- Password protection for setting all parameters.

Mounting: • Convenient DIN Rail Mounting with screw terminals.

Material: • High impact PVC housing.

Communications: • RS485 serial port Modbus ASCII / RTU

Instrumentation output: • 4-20 ma or 2-10 volt

Specifications:

Power Input: • 24-48VAC (50/ 60HZ) /DC
• 110-240VAC (50/ 60Hz)
• Voltage Tolerance: -25% to +20%

NER Resistance Values: • NER 10 to 650 ohms depending on system voltage and limiting current required.
• Consult the factory for your system needs.

Earth Leakage System Voltages: Models to suit
• 415 /1100V - 240/635V phase
• 3.3kV/4.16kV - 1900/2500V phase

NER trip value adjustment: • 50% to +100%
(as required in **AS/NZS 2081:2011**)

Trip Tolerance: • 10% to +0%

Earth Leakage Current Range: • 30-500mA

Trip Delay Timer: • 50 to 500 milliseconds for over-voltage and earth leakage.
• 2 to 10 seconds for NER integrity

Excess Voltage Trip: • 5 - 50% phase voltage

Relay Contacts: • 2 pole changeover 5A 250V AC (100VA Max) for earth leakage
• 2 pole changeover 5A 250V AC (100VA Max) for over-voltage and NER integrity

Operating Temperature: • 0 - 60° C

Enclosure

Dimensions: • 150mmW x 75mmH x 110mmD

Material: • High impact resistant polycarbonate
• IP 20 Rated

Weight: • 900g





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Ordering Information:

A01243	Neutral Link Monitor - nlm3
A01334	40mm Toroid 1000T (see factory for alternate sizes)
A01447	Isolation Barrier 3.3kV

Compliance:

- AS/NZS 2081:2011
- Electrical Equipment for Mines
 - Electrical Protection Devices.

The nlm3 comes with a 2 year warranty.

Bramco Contacts

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Connection Diagram:

