

# Bender NGRM Neutral Grounding Resistor Monitors



Bender NGRM products provide NGR failure detection and ground-fault protection for resistance grounded systems. These are frequently installed in low- and medium-voltage power systems. Field experience, user input, application research, and basic research culminate in the highest quality, best benefits, and best value intended to exceed our customers' expectations.

NGRM-series monitors adapt well to multiple-source systems—their digital input can be used to switch them to a passive measurement mode when necessary.



**NGRM500** for HRG  
**NGRM550** for LRG



**NGRM700** for HRG  
**NGRM750** for LRG

NGRM Features	NGRM500	NGRM550	NGRM700	NGRM750
Accurate NGR resistance measurement	✓	✓	✓	✓
NGR short detection, 10-90% of nominal	✓		✓	
NGR open detection	✓	✓	✓	✓
Resistance metering	✓	✓	✓	✓
Multi-source system monitoring	✓	✓	✓	✓
Ground-fault current detection	✓	✓	✓	✓
AC/DC capable	✓	✓	✓	✓
Spectrum analysis up to 64th harmonic	✓	✓	✓	✓
Definable band-pass filter	✓	✓	✓	✓
Leakage-current metering	✓	✓	✓	✓
Neutral-voltage AC/DC ground-fault detection	✓	✓	✓	✓
Phase-voltage monitoring			✓	✓
HMI for metering and settings	✓	✓	✓	✓
Detachable, panel-mount			✓	✓
NGR current, voltage, harmonics, resistance	✓	✓	✓	✓
Configurable to trip system on GF, RF, or both	✓	✓	✓	✓
Standard Ethernet, Modbus RTU, and webserver	✓	✓	✓	✓
Password protection	✓	✓	✓	✓
Rated for systems up to 5,000 m above sea level			✓	✓
Global technical support	✓	✓	✓	✓

# Which Monitor Best Suits Your Needs?

## Features and Benefits



**NGRM500**  
**NGRM550**

The **NGRM500** detects NGR failure and ground faults in high-resistance-grounded power systems. The **NGRM550** is used for low-resistance-grounded power systems.

### Features

- Open and short (HRG only) NGR-failure detection
- AC/DC ground-fault detection
- Integrated web server, Modbus TCP/IP, and Modbus RTU
- HMI (Human-Machine Interface) that displays measured values and provides easy programming in selectable languages

### Benefits

- Improves safety by monitoring of the grounding connection
- AC/DC ground-fault protection/detection to properly monitor non-linear loads, such as adjustable-speed drives
- Preventative maintenance – sensitive ground-fault pickup levels allow early warning of insulation degradation
- Simplified design - Controls pulsing contactor in pulsing HRG systems
- Compact DIN rail mount solutions for application in smaller control panels also removes the necessity of wiring to the panel door



**NGRM700**  
**NGRM750**

In addition to the features of the NGRM500/550, the **NGRM700** and **NGRM750** offer unique packaging that allows easy installation of the base unit and a removable HMI for panel mounting.

### Additional Features

- Designed for high-altitude use
- Detachable HMI
- Phase to-phase and phase-to-ground voltage monitoring

### Additional Benefits

- Altitude rating of 5,000 m above sea level
- Program and display information without opening doors
- Faulted-phase indication

