



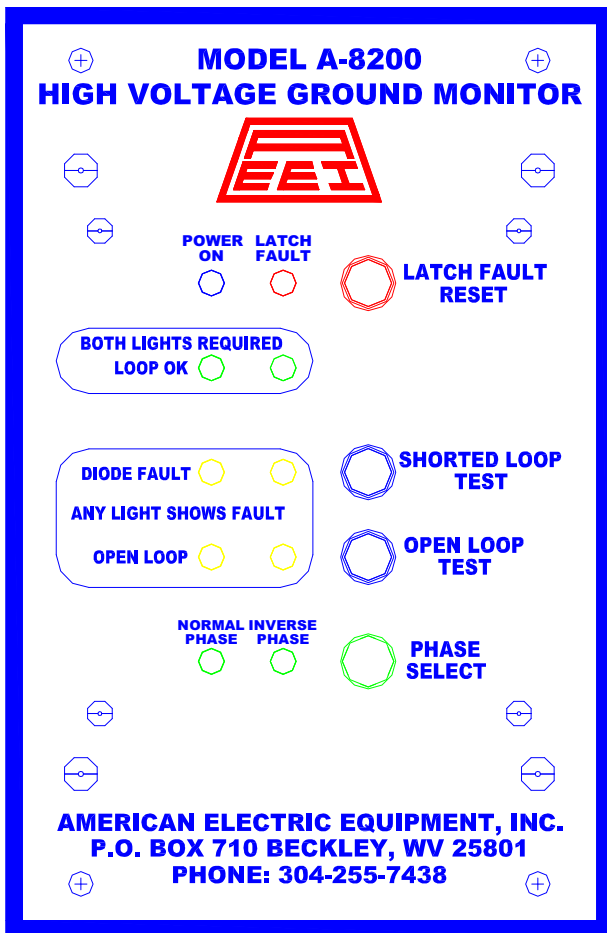
AMERICAN ELECTRIC EQUIPMENT, INC.

P.O. BOX 710 BECKLEY, WV 25801

PHONE: 304-255-7438

FAX: 304-255-7448

A-8200 HIGH VOLTAGE GROUND MONITOR
Document A-9208 JUNE 22, 2006



Features

- ✓ High power output
- ✓ 24 volt DC loop voltage
- ✓ No adjustment required to place into operation
- ✓ Redundant loop circuitry for failsafe operation
- ✓ Robust terminating diode with transient protection
- ✓ Pilot to ground short detection
- ✓ Terminating diode fault detection
- ✓ Latched Fault indication with reset button
- ✓ 3000 VAC ground loop and power supply dielectric isolation
- ✓ Transient protection on ground loop and power supply circuits

Description

The A-8200 High Voltage Ground Monitor is a solid state ground check monitor for mine power systems. It has been specifically designed for use in demanding environments including power systems with long cable lengths, high induced currents, and large Variable Frequency Drive (VFD) loads.

Operation

Connect monitor and terminating diode as shown on drawing. No monitor adjustment is required.

When power is applied to the monitor the monitor POWER ON AND LATCHED FAULT indicating lights will be lit. If the pilot to ground loop is good the contacts will change state. Pressing LATCH FAULT RESET will turn off the LATCHED FAULT light if the loop is good. If the loop is good two LOOP OK lights will be illuminated. Both lights are required since the loop monitors are completely redundant.

A NORMAL PHASE or INVERSE PHASE light will also be illuminated.

Faults

There are two types of faults, both provided with a test pushbutton:

1. DIODE FAULT

These lights will illuminate in the event of a shorted or bypassed terminating diode. They will also illuminate in the event of a pilot to ground short.

2. OPEN LOOP

These lights will illuminate in the event of loop resistance exceeding allowable values. The maximum resistance value is approximately 23 ohms.

Any indicating light in the four light fault matrix that is lit indicates a trip condition. There are multiple lights per fault due to the redundant monitoring circuitry.

Any fault of any type will light the LATCH FAULT light. Fault lights will go off when faults are removed except for the LATCH FAULT light. The LATCH FAULT RESET

Faults(Continued)

pushbutton must be pressed to turn off the LATCH FAULT light.

Contacts

Contacts change state when the monitor is energized if the loop is good and at any time there is a change of state of the loop. When the monitor is in a POWER ON/LOOP OK state the NO contact will be closed and the NC contact will be open.

Undervoltage Protection

The monitor can be used to provide undervoltage protection to a circuit. Contacts will change state on power loss if the monitor is picked up prior to power loss.

Phase Reversal Switch

The PHASE SELECT pushbutton has the effect of reversing polarity on the loop signal. NORMAL PHASE or REVERSE PHASE lights indicate current polarity. Polarity does not matter except in an environment of extreme induced pilot wire currents. If such currents exist, pressing the PHASE SELECT pushbutton and going to the opposite polarity may be of benefit in preventing accidental tripping of the monitor.

Testing

The OPEN LOOP TEST and SHORTED LOOP TEST pushbuttons can be used to test the monitor without disconnecting wires.

OPEN LOOP TEST simulates a rise in pilot to ground loop resistance by inserting a test resistance in the pilot to ground loop.

SHORTED LOOP TEST simulates a loss of terminating diode/pilot to ground short condition by shorting the PILOT and GROUND connections.

ORDERING INFORMATION

MONITOR PART NUMBER: A-8200

MONITOR WITHOUT UNDERVOLTAGE PROTECTION: A-8200S

TERMINATOR PART NUMBER: A-8200-T

AMERICAN ELECTRIC EQUIPMENT
P.O. BOX 710
BECKLEY, WV
PHONE: 304-255-7438
FAX: 304-255-7448

