

## MEC-1 EARTH CONTINUITY RELAY – METALLIFEROUS

### Electrical Protection

#### Applications

The MEC-1 is a cost effective earth continuity relay solution, designed for the metalliferous market. The relay continually monitors the integrity of the earth connection in a mining trailing or reeling cable and is normally installed in a substation or distribution box.

#### Features

- AS/NZS 2081: 2011 Compliant
- 24 VAC / DC operation
- 5x diagnostic LEDs
- Trip time settings – 50 ms, 100 ms, 200 ms, 300 ms, 400 ms, 500 ms
- Trip resistance settings – 10  $\Omega$ , 15  $\Omega$ , 20  $\Omega$ , 25  $\Omega$ , 35  $\Omega$ , 45  $\Omega$
- Selectable remote start
- Selectable trip latching
- Diode termination



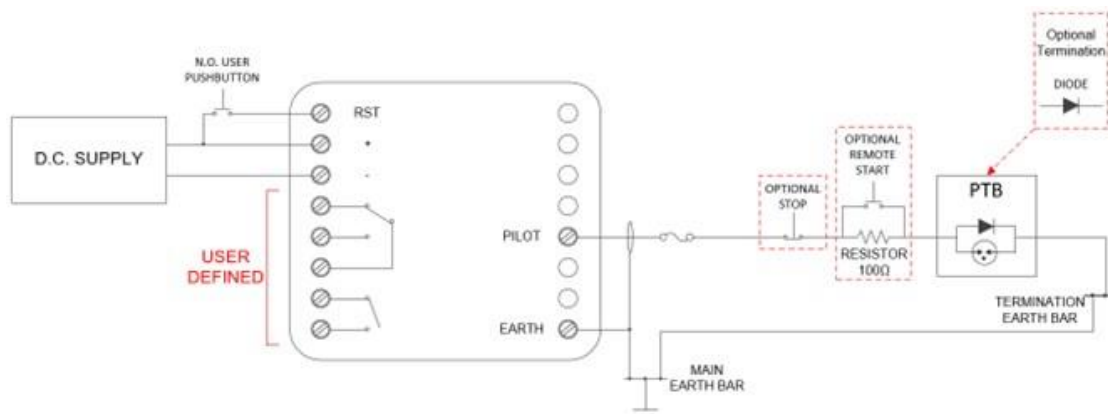
#### Product description

The MEC-1 is an electrical protection relay designed for operation in metalliferous mining applications. It provides earth continuity protection functions that ensure the electrical distribution system in the mine operates safely in accordance with AS/NZS 2081:2011.

Typically the MEC-1 relay will be connected to the pilot conductor of a trailing or reeling cable. With the pilot conductor terminated to earth through a diode, the relay measures the resistance of the pilot-earth loop (series resistance), to ensure the integrity of the earth conductors, and the pilot to earth resistance (shunt resistance), to ensure the integrity of the pilot-earth loop. If either the series resistance exceeds, or the shunt resistance falls below, the configured settings, a trip will remove power.

The MEC-1 relay is based on microprocessor digital logic, and features a user friendly LED and switch interface. It is installed within a compact, DIN rail mounted unit with pluggable connectors for easy change out if required.

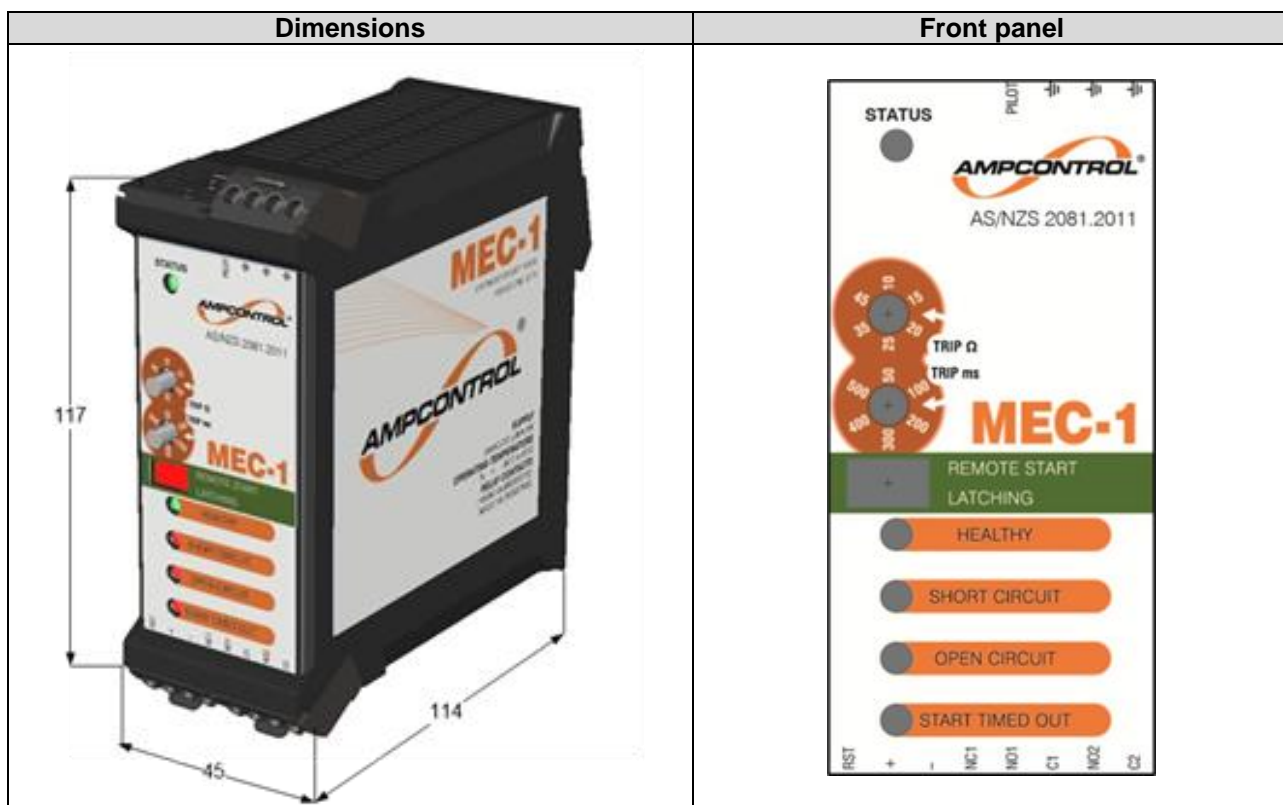
#### Diagram



MEC-1 EARTH CONTINUITY RELAY TECHNICAL DATASHEET

Version: 2, Date 13/09/2023

SPECIFICATIONS	
<b>Power supply inputs</b>	
<b>Voltage</b>	24 VAC /DC $\pm$ 20 %, 5 W
<b>Ambient Temperature</b>	-20 °C to + 65 °C
<b>Outputs</b>	
<b>Relay Contacts</b>	2 x NO / 1 x NC / 2 x COM
<b>Limits</b>	1 A @ 110 VAC – 1 A @ 30 VDC (Resistive)
<b>Earth Continuity Protection: AS/NZS 2081: 2011</b>	
<b>Series Resistance Trip Settings (<math>\pm</math> 3 <math>\Omega</math>)</b>	10 $\Omega$ , 15 $\Omega$ , 20 $\Omega$ , 25 $\Omega$ , 35 $\Omega$ , 45 $\Omega$
<b>Shunt Resistance</b>	1.25 k $\Omega$
<b>Trip Time Settings</b>	50 ms, 100 ms, 200 ms, 300 ms, 400 ms, 500 ms
<b>Optional Start Button</b>	100 $\Omega$ , 1 %, 5 W
MECHANICAL	
<b>Weight</b>	503 gms
<b>IP rating</b>	IP20



ORDERING	
Part Number	Description
167261	MEC-1 EARTH CONT
Accessories	
115119	MODULE PTB DIODE PILOT TERMINATION
169732	RES 100 R 5 W 1 %

**DISCLAIMER**

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