

# MEC-1

## Earth Continuity Relay – Metalliferous

### SUMMARY

#### 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

1. AS/NZS 2081: 2011 Compliant
2. 24VAC/DC operation
3. 5 x diagnostic LEDs
4. Trip time settings – 50ms, 100ms, 200ms, 300ms, 400ms, 500ms
5. Trip resistance settings - 10Ω, 15Ω, 20Ω, 25Ω, 35Ω, 45Ω
6. Selectable remote start
7. Selectable trip latching
8. Diode termination



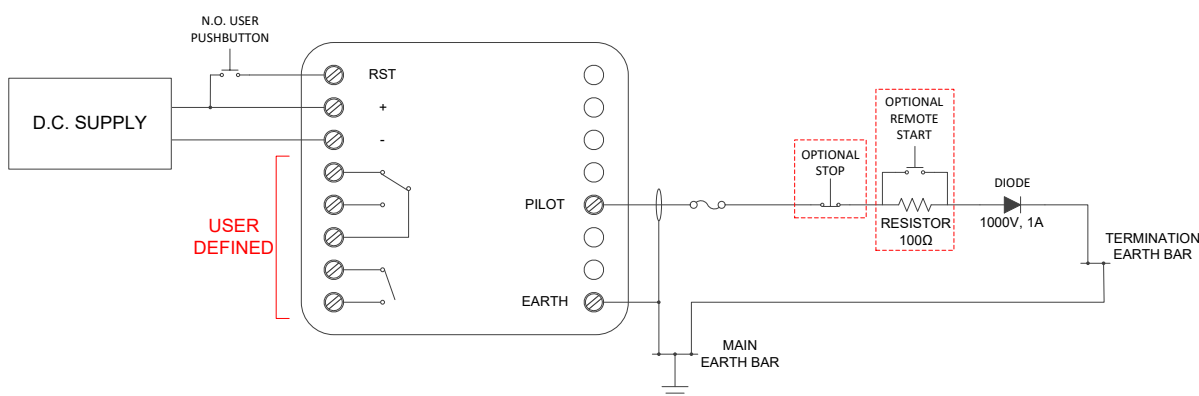
#### Product description

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.

#### Block diagram



## SPECIFICATIONS

Power supply inputs	
Voltage	24VAC/DC $\pm$ 20%, 5W
Ambient Temperature	-20°C to +65°C

Outputs	
Relay Contacts	2 x NO / 1 x NC / 2 x COM
Limits	1A @ 110Va.c. - 1A @ 30Vd.c (Resistive)

Earth Continuity Protection: AS/NZS 2081: 2011	
Series Resistance Trip Settings ( $\pm$ 3 $\Omega$ )	10 $\Omega$ , 15 $\Omega$ , 20 $\Omega$ , 25 $\Omega$ , 35 $\Omega$ , 45 $\Omega$
Shunt Resistance	1.25k $\Omega$
Trip Time Settings	50ms, 100ms, 200ms, 300ms, 400ms, 500ms
Optional Start Button	100 $\Omega$ , 1%, 5W

## MECHANICAL

Weight	503gms
IP Rating	IP20

Dimensions	Front panel

## ORDERING

Part Number	Description
167261	MEC-1 EARTH CONT

Accessories	
115119	MODULE PTB PILOT TERMINATION FOR ECB/D/M
169732	RES 100R 5W 1%
NA	Normally Open Reset Button - Contact Ampcontrol