



M-TRONIX
B R A M C O
SAFETY INNOVATORS



elec2-d EARTH LEAKAGE & EARTH CONTINUITY RELAY

PRODUCT OVERVIEW

The elec2-d relay provides high-integrity earth leakage (EL) and earth continuity (EC) protection for mining and industrial power systems. Designed and engineered in Australia, it delivers precise, reliable performance for VVVF drives and fixed-speed circuits while meeting key AS/NZS and IEC standards.

The elec2-d is a din rail mounted relay.

Key Benefits

- Mining-grade reliability
- Fast installation
- High electrical immunity
- Proven compliance to AS2081:2011
- Designed for long system life

FEATURES

Earth Leakage (EL)

- 16-bit microcontroller
- Frequency: 50–60 Hz (standard) / 5–100 Hz (VSD mode)
- Failsafe or non-failsafe modes
- Latch or non-latch
- Adjustable trip current
- Adjustable trip delay
- Open-circuit toroid monitoring
- Status LEDs: Trip / Warning / Frequency / Power / Open Toroid
- 4–20 mA or 2–10 V analog output
- Local or external latch reset
- Compatible with m-tronix ELT3 (1000T) toroids

Earth Continuity (EC) and Pilot Control (PC)

- Operational loop resistance $\leq 45 \Omega$
- High immunity to pilot cable capacitance/inductance
- Compatible with diode termination and Smart Pilot Node
- EC relay energised when pilot circuit healthy
- Remote start via 100Ω resistor
- Status LEDs: Power / Pilot Open / Pilot Closed / Pilot Short / Ready
- 2 x C/O contacts

APPLICATIONS

- Longwall operations
- Continuous miners
- Conveyors
- Pumping systems
- VVVF drive systems
- Industrial motor control

TECHNICAL SPECIFICATIONS

Electrical

Parameter	Specification
Supply Voltage	24–48 VAC/DC or 110–240 VAC
Frequency Range	50–60 Hz (std), 5–100 Hz (VSD mode)
Trip Current	Adjustable
Trip Delay	Adjustable
Analog Output	4–20 mA / 2–10 V

Earth Continuity

Parameter	Specification
Max Loop Resistance	45Ω
Fault Detection	Open / Closed / Short
Remote Control	100Ω resistor

Toroid Options

Toroid Model	Diameter	Part Number
1000T	40 mm	A01334
1000T	72 mm	A01335
1000T	130 mm	A01336

ENCLOSURE

Dimensions: 75mmW x 100mmH x 109.5mmD

Material:

- High impact resistant polycarbonate construction
- IP20 Rating

Terminals: Cage screw terminals

Weight: 333gms

COMPLIANCE

- AS/NZS 2081 (Earth Leakage & Continuity)
- Relevant IEC protection standards
- Designed and manufactured in Australia

ORDERING INFORMATION

Part Number	Description
A01615	ELEC2 – 110–240 VAC
A01617	ELEC2 – 24–48 VAC/DC
MT01334	Toroid (1000T) – 40 mm
MT01335	Toroid (1000T) – 72 mm
MT01336	Toroid (1000T) – 130 mm

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