

# EPOCH™ Protection System



The NEPEAN EPOCH Protection System is the new generation in providing complete protection for electrical equipment in mining and industrial environments. Advanced microprocessor controlled technology ensures high accuracy and reliability exceeding Australian standard requirements. Typical applications: belt starter, DCB and substation electrical protection.

Protection / functionality provided by the system:

- Earth continuity
- Earth leakage
- Earth fault lookout
- Short circuit
- Overload
- Under voltage and over voltage
- Under current and over current
- Frozen contactor
- Contactor loss of vacuum
- Machine/motor over temperature
- Machine/motor re-start
- Machine/motor identification
- Fan interlocking
- Local and remote control of outlet



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# EPOCH™ Protection System

The protection system consists of one Memory Interface, a Control Interface and Power Interface per outlet. One system can control up to 16 outlets.

## Memory Interface

The Memory Interface provides a database of protection parameters for equipment that can be protected by the system. The unit additionally provides a single network connection point for all protected outlet, removing the need for individual Ethernet connections per outlet. The control wiring connections to this unit are those that are relevant to the full group of outlets, for example where a single main circuit breaker is used.

## Power Interface

The Power Interface performs the measurement and analysis of the power delivered to the load. The analysis results are transmitted to the control interface via high speed fibre optic link. Together, the Power Interface and the Control Interface controls an outlet.

## Display Interface

The EPOCH Intrinsically Safe Display is a full featured HMI device for use with the EPOCH system. Full colour graphics allow intuitive operation, even by those who are not necessarily familiar with the system.

The display is suited to being located in Hazardous Areas (Group 1, Zone 1), easing operation and reducing the need for valuable flameproof enclosure space. The system can be configured such that either one display is used for the system or a display is used per outlet.

## Control Interface

The Control Interface provides facilities for the equipment low-voltage control wiring to be connected for each outlet protected by the system. The unit is connected by a fibre-optic cable to the Power Interface, and by a high speed digital link to the Memory Interface.

As all control wiring for the outlet is grouped to this unit, the complexity and volume of wiring is greatly reduced. In combination with the fibre-optic connection to the Power Interface, this architecture provides extremely high immunity to interference, and excellent reliability.

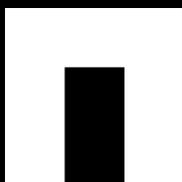
The Control Interface houses the Earth Continuity and Machine Identification functionality. As with all EPOCH equipment, these functions are achieved using highly refined algorithmic techniques and cutting-edge hardware.

## EPOCH Net

EPOCH Net is a software suite that aids in the monitoring and configuration of the EPOCH system via the Ethernet/IP interface.

## NEPEAN IS AUSTRALIA'S LARGEST

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For more information please contact:

**AUSTRALIA: 1800 NEPEAN**