

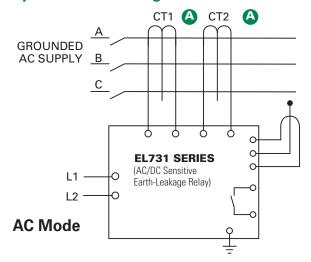
EL731 SERIES

AC/DC Sensitive Earth-Leakage Relay





Simplified Circuit Diagram



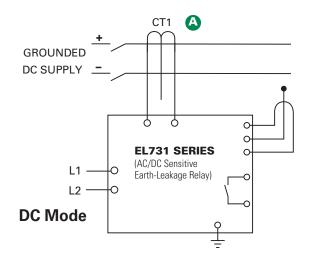
For detailed wiring diagram, see adjacent page.

Ordering Information

ORDERING NUMBER	CONTROL POWER	COMMUNICATIONS
EL731-00-X0	120/240 Vac/Vdc	None
EL731-01-X0	120/240 Vac/Vdc	DeviceNet™
EL731-02-X0	120/240 Vac/Vdc	Profibus®
EL731-03-X0	120/240 Vac/Vdc	EtherNet/IP™
EL731-04-X0	120/240 Vac/Vdc	Modbus® TCP
EL731-10-X0	48 Vdc & 24 Vac	None
EL731-11-X0	48 Vdc & 24 Vac	DeviceNet™
EL731-12-X0	48 Vdc & 24 Vac	Profibus®
EL731-13-X0	48 Vdc & 24 Vac	EtherNet/IP™
EL731-14-X0	48 Vdc & 24 Vac	Modbus® TCP
EL731-20-X0	24 Vdc	None
EL731-21-X0	24 Vdc	DeviceNet™
EL731-22-X0	24 Vdc	Profibus [®]
EL731-23-X0	24 Vdc	EtherNet/IP™
EL731-24-X0	24 Vdc	Modbus® TCP

Description

The EL731 is a microprocessor-based AC/DC Sensitive Earth-Leakage Relay that offers complete coverage for all frequencies from 0 to 6,000 Hz. Two CTs are required for the entire frequency range, or one CT can be used for only low-or high-frequency detection. An RTD/PTC sensor input allows over-temperature protection for a motor or drive. The EL731 offers metering, password-protected alarm and trip settings and optional network communications. It is primarily used to add low-level ground-fault protection to variable-speed drives, and to dc circuits.



Accessories



EFCT Series Earth-Fault Current Transformer

Required zero-sequence current transformer specifically designed for low level detection.



AC700-CUA Series Communication Adapter

Optional network-interface and firmwareupgrade communications adapters field-install in EL731.



AC700-SMK DIN-rail & Surface-mount Adapter EL731 plugs into adapter for back-plane mounting.

ACCESSORIES	REQUIREMENT
EFCT Series CT	One Required
AC700-CUA Series Com. Unit	Optional
AC700-SMK Surface-Mount Kit	Optional
AC700-CVR-00 Watertight Cover (IP66) for Panel-Mount Applications	Optional
PGA-0520 Analog Meter	Optional

Note: When building a part number, replace the "X" with "1" for AS/NZS 2081:2011 Compliant product, "0" otherwise.



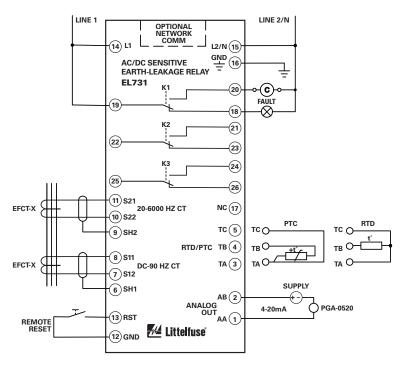
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Features & Benefits

FEATURES	BENEFITS	
Adjustable pickup (30-5,000 mA)	Adjustable trip setting provides a wide range of low-level protection and system coordination	
Frequency range (0-90 Hz, 20-6,000 Hz)	Operate in either AC or DC mode or both. Use single or combined ranges. Separate metering	
32-char OLED display	Earth-leakage metering, setup and programming	
Local LED indication	Visual Trip, Alarm, CT connection indication	
CT-Loop monitoring	Alarms when CT is not connected	
Analog output (4-20 mA)	Connect to DCS. Allows connection to an optional meter (PGA-0520) or control system	
Adjustable time delay	Adjustable trip delay for quick protection and system coordination	
Alarm and trip settings	Detect a deteriorating condition before damage occurs	
Temperature-sensor input	Drive or motor temperature protection	
Output contacts	3 programmable: Operate 2 alarm and 1 trip circuit	
Network communication	Optional connection to plant network	
Harmonic filtering	Eliminates nuisance tripping due to harmonic noise	
Microprocessor based	No required calibration saves maintenance cost	
Universal power supply	Provides flexibility for numerous applications	

Wiring Diagram



Specifications

Supply Voltage

Reset

IEEE Device Numbers AC ground fault (50G/N, 51G/N),

DC ground fault (79G), PTC overtemperature (49), RTD temperature (38, 49) 120/240 Vac/Vdc, 24 Vdc,

48 Vdc/24 Vac **Trip Level Settings** 30-5,000 mA AC and DC

Alarm Level Settings 30-5,000 mA AC and DC **Trip Delay** 0.05-2 s **Output Contacts** 3 Form C (programmable) Contact Operating Mode Fail-safe & non-fail-safe

Front panel and remote Freq. Response, CT1 0-90 Hz

Freq. Response, CT2 20-6,000, 190-6,000, 20-90, 20-3,000 Hz; selectable

Current Transformer EFCT-x series **CT Detection** Open & short detection **Terminals** Plug-in, wire clamping, 24 to 12 AWG (0.2-2.5 mm²)

EtherNet/IP™, DeviceNet™, Profibus®, **Communications**

Modbus® TCP (optional) **Analog Output** 4-20 mA (selectable 0-5 A or

0-100% trip-level setting) **Conformal Coating** Standard feature

Dimensions H 48 mm (1.9"); **W** 96 mm (3.8"); **D** 129 mm (5.0")

UL Listed (E340889), CSA,

Approvals RCM (Australia), CE Warranty 5 years

Panel; Surface and DIN (with optional Mounting AC700-SMK)

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