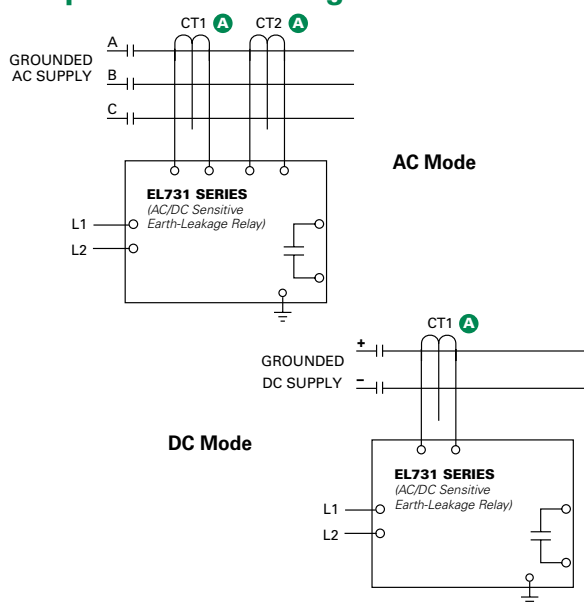


# EL731 SERIES

## AC/DC Sensitive Earth-Leakage Relay



### Simplified Circuit Diagram






### Description

The EL731 is a microprocessor-based AC/DC Sensitive Earth-Leakage Relay that offers complete coverage for all frequencies from 0-15,000 Hz. Two CT's 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. The EL731 offers metering capabilities, password-protected alarm and trip settings and optional network communications.

### Features & Benefits

FEATURES	BENEFITS
<b>Adjustable Pickup (30-5,000 mA)</b>	Adjustable trip setting provides a wide range of low-level protection and system coordination
<b>Frequency Range (0-100 Hz, 20-15,000 Hz)</b>	Operate in both AC or DC mode. Use single or combined ranges. Separate metering. Complete coverage in AC mode
<b>32-char OLED Display</b>	Earth-leakage metering, setup and programming
<b>Local LED Indication</b>	Visual Trip, Alarm, CT connection indication
<b>CT-Loop Monitoring</b>	Alarms when CT is not connected
<b>Analog Output (4-20 mA)</b>	Connect to DCS. Allows for connecting an optional meter (PGA-0500) or control system
<b>Adjustable Time Delay</b>	Adjustable trip delay for quick protection and system coordination
<b>Alarm and Trip Settings</b>	Detect a deteriorating condition before damage occurs
<b>Temperature-Sensor Input</b>	Drive or motor temperature protection
<b>Output Contacts</b>	3 programmable: Operate 2 alarm and 1 trip circuit
<b>Network Communication</b>	Optional connection to plant network.
<b>Harmonic Filtering</b>	Eliminates nuisance tripping due to harmonic noise
<b>Microprocessor Based</b>	No required calibration saves maintenance cost
<b>Universal Power Supply</b>	Allows operation in application where one side of PT is faulted, provides flexibility for numerous applications

### Accessories

- A**  **EFCT Series Earth-Fault Transformer**  
Required zero-sequence current transformer specifically designed for low level detection.
- B**  **AC700-CUA Series Communication Adapter**  
Optional network-interface and firmware-upgrade communications adapters field-install in EL731.
- C**  **AC700-SMK DIN-rail & Surface-mount Adapter**  
EL731 plugs into adapter for back-plane mounting.

### Ordering Information

CATALOG/ SYSTEM NO.	CONTROL POWER	COMMUNICATIONS
EL731-00-00	120/240-Vac/Vdc	None
EL731-01-00	120/240-Vac/Vdc	DeviceNet™
EL731-02-00	120/240-Vac/Vdc	Profibus®
EL731-03-00	120/240-Vac/Vdc	Ethernet/IP
EL731-04-00	120/240-Vac/Vdc	Modbus
EL731-10-00	48 Vdc & 24 Vac	None
EL731-11-00	48 Vdc & 24 Vac	DeviceNet™
EL731-12-00	48 Vdc & 24 Vac	Profibus®
EL731-13-00	48 Vdc & 24 Vac	Ethernet/IP
EL731-14-00	48 Vdc & 24 Vac	Modbus
EL731-20-00	24 Vdc	None
EL731-21-00	24 Vdc	DeviceNet™
EL731-22-00	24 Vdc	Profibus®
EL731-23-00	24 Vdc	Ethernet/IP
EL731-24-00	24 Vdc	Modbus

ACCESSORIES	REQUIREMENT
EFCT Series CT	Required
AC700-CUA Series Com. Unit	Optional
AC700-SMK Surface-Mount Kit	Optional

### Specifications

<b>IEEE Device Numbers</b>	AC ground fault (50G/N, 51G/N), DC ground fault (79G) PTC overtemperature (49), RTD temperature (38, 49)
<b>Supply Voltage</b>	120/240 Vac/Vdc; 24 Vdc, 48 Vdc
<b>Trip Level Settings</b>	30-5,000 mA, AC and DC
<b>Alarm Level Settings</b>	30-5,000 mA, AC and DC
<b>Trip Delay</b>	0.05-2 s
<b>Output Contacts</b>	3 Form C (programmable)
<b>Contact Operating Mode</b>	Fail-safe & non-fail-safe
<b>Reset</b>	Front panel and remote
<b>Freq. Response, CT1</b>	0-90 Hz
<b>Freq. Response, CT2</b>	20-15,000, 190-15,000, 20-90 Hz; selectable
<b>Current Transformer</b>	EFCT-x series
<b>CT Detection</b>	Open & short detection
<b>Terminals</b>	Plug-in, wire clamping, 24 to 12 AWG (0.2-2.5 mm <sup>2</sup> )
<b>Communications</b>	Ethernet/IP, DeviceNet™, Profibus®, Modbus (optional)
<b>Analog Output</b>	4-20 mA (selectable 0-5 A or 0-100% trip-level setting)
<b>Conformal Coating</b>	Standard feature
<b>Dimensions</b>	<b>H</b> 48 mm (1.9"); <b>W</b> 96 mm (3.8"); <b>D</b> 129 mm (5.0")
<b>Warranty</b>	5 years
<b>Mounting</b>	Panel; Surface and DIN (with optional AC700-SMK)