

## ELV - WIDEBAND EARTH LEAKAGE RELAY

Compliant with AS/NZS 2081:2011, Section 6

### Applications

The Ampcontrol ELV is the next generation of earth leakage relays and provides earth leakage protection (earth fault protection) as per AS/NZS 2081:2011. It has been designed for use on earth fault-limited systems, and particularly coal mining applications. The relay is also suitable for other applications where equipment or system-wide earth leakage protection is required.

### Features

- AS/NZS 2081:2011 (Section 6) compliant
- Wide operating bandwidth (5 Hz to 10 kHz)
- Wide current range (down to 30 mA)
- Fail safe operation
- Continual monitoring of the toroid
- Adjustable trip level and time delay settings
- Uses patented technology (AU2011264414) to characterise earth leakage currents giving superior fault discrimination, particularly in applications involving switching power electronics and variable speed drives



\* Dial colour may vary

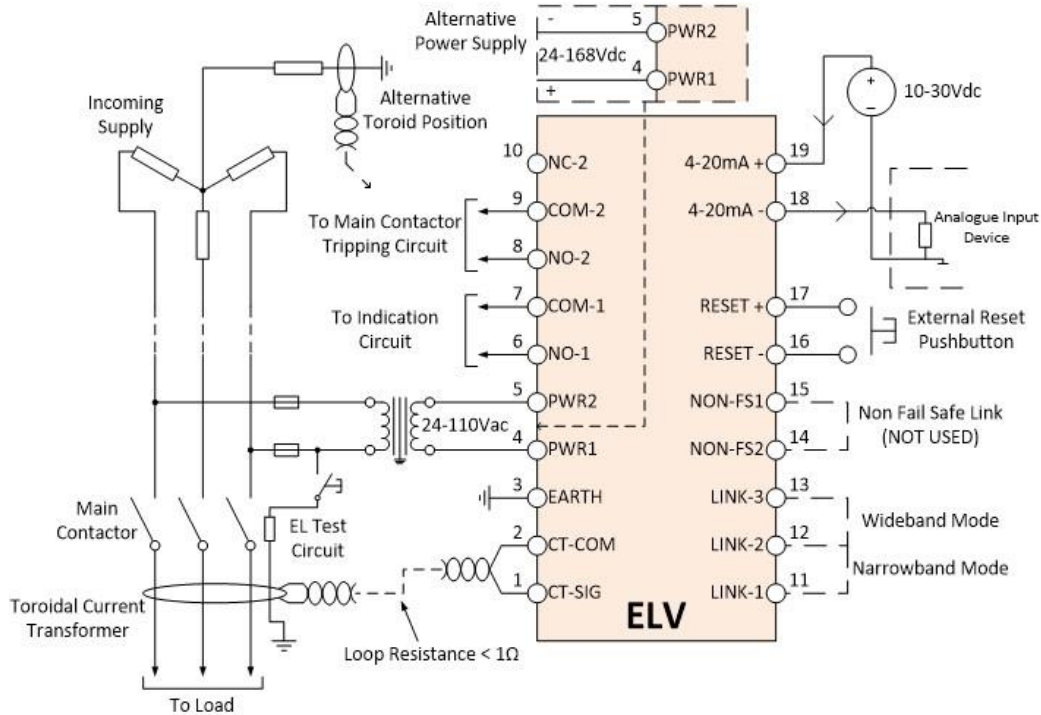
### Product description

The ELV Earth Leakage Relay provides a definite time operating characteristic with adjustable trip sensitivity and time delay. The relay latches when tripped and provides normally open and change-over relay contacts. The relay supports an external reset switch, and a 4-20 mA interface allows external monitoring.

The user has the ability to switch the relay between wideband (up to 10 kHz), narrowband (power frequency) and weighted frequency mode (up to 10 kHz, high frequency compensated).

The ELV Earth Leakage Relay is housed in a stainless-steel case and can be either 'DIN Rail' or 'Panel' mounted through a 69 x 39 mm cut out. When panel mounted the front of the ELV relay is designed to provide IP56 ingress protection. An attachment to prevent unauthorised adjustment of the trip settings is available separately.

Diagram



**SPECIFICATIONS**

<b>Supply Voltage</b>			
<i>Voltage</i>	24-110 VAC +/- 20 %, 50 Hz 24-168 VDC +/- 10 %		
<i>Power Consumption</i>	< 3 W		
<i>Operating Temperature</i>	0 °C to 60 °C		
<i>Humidity</i>	Between 10 % relative humidity and the dew point, non-condensing		
<b>Operating Frequency</b>			
	<b>Narrow Bandwidth</b>	<b>Weighted/Wide Bandwidth</b>	
<i>Frequency</i>	50 Hz	5 Hz – 10 kHz	
<i>Accuracy</i>	10 % @ 50 Hz	10 % @ 50 Hz	
<b>Operating Modes</b>			
	<b>Narrow Bandwidth</b>	<b>Wide Bandwidth</b>	<b>Weighted Bandwidth</b>
<i>Links (Bridged)</i>	1-2	2-3	1-3 or no links bridged
<b>Compliance</b>			
AS/NZS 2081	Section 6 – Earth Fault Protection Devices		
<b>Relay Contacts</b>			
<i>Contacts</i>	1 x NO / 1 x CO		
<i>Ratings</i>	250 V, 1.6 A, 400 VA		
<i>Relay to Toroid</i>	< 1Ω		
<b>4-20 mA Output</b>			
<i>4-20 mA Output</i>	The 'Loop Powered' current represents the leakage current as a % of the trip level. 4mA => 0% leakage, 20 mA => 120 % leakage (100 % = 17.33 mA)		
<i>Loop Supply Voltage</i>	10 – 30 VDC		
<i>Max. Loop Resistance</i>	700 Ω at 24 VDC loop supply		
<i>Accuracy</i>	+/- 2 % of full scale		

**SPECIFICATIONS Cont'd**

<b>Mechanical</b>		
<i>Dimensions</i>	77 w x 47 h x 116 d (mm)	
<i>Cut-Out Dimensions</i>	69 w x 39 h (mm)	
<i>Weight</i>	500 g	
<i>IP Rating</i>	IP56 (when panel mounted)	
<b>Trip and Time Delay Settings</b>		
<i>Switch Position</i>	<i>Trip Level (mA) ±10 %</i>	<i>Time Delay (ms) +0 ms, -20 ms</i>
0	30	50
1	60	100
2	100	150
3	150	200
4	200	250
5	250	300
6	300	350
7	350	400
8	400	450
9	450	500
A	500	500
B	750	500
C	1000	500
D	1500	500
E	2000	500
F	2500	500
<i>Part Number</i>	<i>Description</i>	
170447	ELV Wideband Earth Leakage Relay	
179513	ELD, ELV, ELM Service Kit	
101399	DIN Rail Mounting Kit (Suit ELD, ELV & ELM)	
120255	ELC/F Adapter Kit (Suit ELM / ELD / ELV)	
164672	Lockable Cover (Suit ELD, ELV & ELM)	
175279	Adaptor BRAMCO to ELD/ELV/ELM	
121023	Clip ELD Panel Mount Retaining (1x)	
174378	Clip ELD DIN Rail Mount Retaining (1x)	
101108	40mm M5 Screw	
171010	Support Bracket	
115437	Toroid – 25 mm ID (DIN Rail Mounted)	
101649	Toroid – 60 mm ID (Alternative Item 101658)	
101656	Toroid – 112 mm ID	
<b>Find Out More</b>		
For more information on this product, contact Ampcontrol Customer Service on +61 1300 267 373 or <a href="mailto:customerservice@ampcontrolgroup.com">customerservice@ampcontrolgroup.com</a> or visit the Ampcontrol website: <a href="http://www.ampcontrolgroup.com">www.ampcontrolgroup.com</a>		

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