

# ECD series

## Earth Current Detector Units

ys6316  
revision D, 6<sup>th</sup> March 2008  
catalogue section 75



### Description

A range of economical AC earth leakage detection relays, designed to protect electrical equipment and wiring from earth fault currents. The units are typically used in conjunction with a circuit breaker or contactor.

**IMPORTANT: this unit is not suitable for use as a personnel protection device against direct contact with a high voltage supply.**

The ECD uses the 'residual current' principle of operation: the installation cables to be monitored are passed through an integral core balance transformer, which gives an output in the event of an earth leakage current. The detection circuit combines a stable amplification of the transformer output with an ability to give high sensitivity and fast operating speeds. Detection of an earth fault results in the energisation and latching of a single pole change-over relay. The unit is reset by momentarily removing the auxiliary power supply.

Protection from excessive fault current and supply transients is fitted as standard, as is filtering to allow use with chopped waveform and variable drive applications.

Each unit is housed in a robust, glass filled nylon case. An aperture in the casing allows the installation cabling to be passed through the integral core balance transformer. For larger diameter cabling, the ECD may be wired with remote core balance transformers.

The ECD is factory set to either 10mA, 30mA or 300mA trip currents, and is available in 230 VAC or 110 VAC supply voltage variants. A 'test' feature may be activated by a front facia push-button, or via wiring to remote panel button, switch or relay contacts.

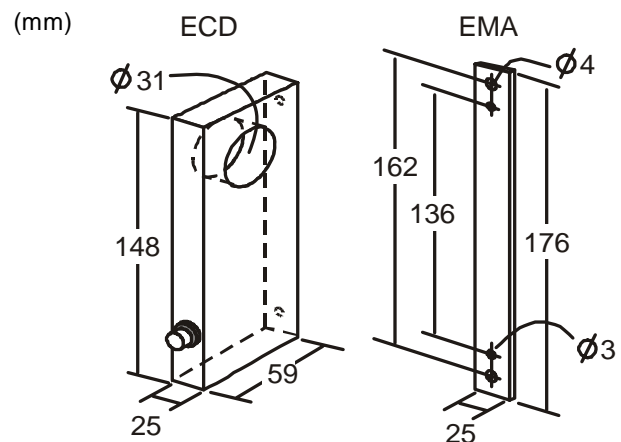
Electrical connection is by a colour coded, 6 way flying lead. The ECD can be physically mounted on a front panel or back-plate using two 3mm threaded inserts. An optional mounting assembly (model reference EMA) is also available for front access back-plate mounting.

- **Earth leakage protection for machinery and wiring**
- **Compact unit with integral current transformer**
- **10, 30 or 300mA nominal trip currents**
- **20mS nominal trip time**

### Specification

<b>Power supply:</b>	
operating voltages (ranges) <i>(all for 50/60Hz.)</i>	110V AC (100 – 120 V) 230 V AC (200 – 250 V)
power consumption	< 100mA
<b>Control:</b>	
trip current/time	see 'how to order' overleaf for available options
<b>Relay output:</b> <i>(ratings for resistive load)</i>	
	SPDT contacts, rated 3A @ 250V AC/30V DC, 1A @ 440V AC
<b>Physical:</b>	
operating temperature	–25 to +60°C
weight (with EMA )	approx. 330 g

### Dimensions and fixing



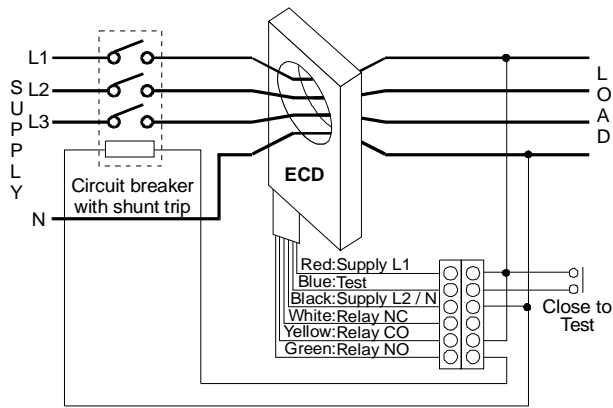
### Warranty

A two year limited warranty on materials and workmanship is given with this Murphy product. Details are available on request and at [www.fwmurphy.co.uk/warranty](http://www.fwmurphy.co.uk/warranty).

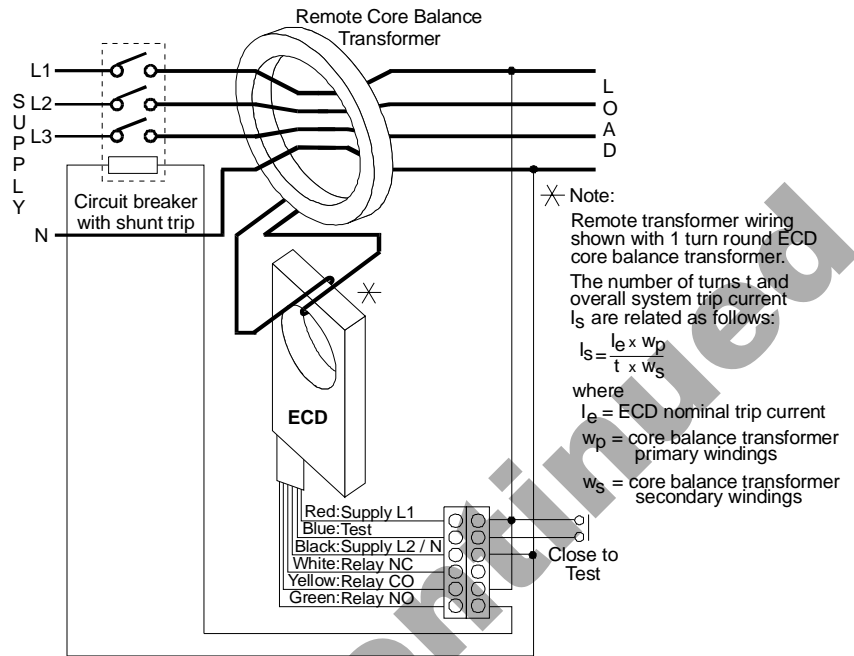
**MURPHY**

## Electrical connection

Using integral core balance transformer, auto reset



Using remote core balance transformer, auto reset



## How to order

Stock code	Description Supply voltage	Nominal trip current *	Nominal trip time *	Test button
76.70.1201	110 VAC	10 mA (fixed)	20 mS (fixed)	Integral or remote
76.70.1202	240 VAC	10 mA (fixed)	20 mS (fixed)	Integral or remote
76.70.1203	110 VAC	30 mA (fixed)	20 mS (fixed)	Integral or remote
76.70.1204	240 VAC	30 mA (fixed)	20 mS (fixed)	Integral or remote
76.70.1205	110 VAC	300 mA (fixed)	20 mS (fixed)	Integral or remote
76.70.1206	240 VAC	300 mA (fixed)	20 mS (fixed)	Integral or remote

\* Note: nominal trip currents and times are based on 50Hz use. When used with 60Hz systems, each ECD is approximately 10% more sensitive than the rated level.

## Accessories

Stock code	Model	Description
76.70.1088	EMA	ELD mounting plate and screws
76.70.1095	ERTB	Spare/remote test button



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In order to consistently bring you the highest quality, full featured products, we reserve the right to change our specifications and designs at any time.