



- Versions with type A and type B operating characteristics
- Modular, flush and internal panel mount version, with or without flag indicator, configurable pre-alarm indication and fail safe operation
- Versions with or without display
- Wide range of supply voltages
- Versions with automatic toroid connection control
- Type A and type B toroids
- Adjustable fault current  $I_{\Delta n}$
- Adjustment and choice of tripping range for both fault current and delay time.

**Type A**

Modular version with display, with 1 operation threshold .....	20 - 2
Modular version with display, with 2 operation thresholds .....	20 - 2
Modular version, with 1 operation threshold .....	20 - 2
Flush-mount version with 1 operation threshold .....	20 - 3
Flush-mount version with 2 operation thresholds .....	20 - 3
Panel mount version with 1 operation threshold .....	20 - 3

**Type B**

Modular version with display, with 2 operation thresholds .....	20 - 4
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<b>Toroidal current transformers</b> .....	<b>20 - 5</b>
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<b>External multiplier</b> .....	<b>20 - 5</b>
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<b>Accessories</b> .....	<b>20 - 5</b>
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<b>Dimensions</b> .....	<b>20 - 6</b>
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<b>Wiring diagrams</b> .....	<b>20 - 8</b>
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<b>Technical characteristics</b> .....	<b>20 - 10</b>
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**SEC. - PAGE**



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**MODULAR VERSION WITH DISPLAY TYPE A**

RM1DA, RM2DA type

- Backlit LCD display
- Fault current measurement
- Version with 1 or 2 operation thresholds
- External toroidal transformer
- Adjustable tripping  $I\Delta n$  and delay time
- Version with adjustable third harmonic filter.



Page 20-2

**MODULAR VERSION TYPE A**

RM1 type

- 1 operation threshold
- External toroidal transformer
- Fixed tripping  $I\Delta n$  and delay time.

RM type

- 1 operation threshold
- External toroidal transformer
- Adjustable tripping  $I\Delta n$  and delay time.



Page 20-3

**FLUSH-MOUNT VERSION TYPE A**

R1D, R2D, R3D and R4D type

- Version with 1 or 2 operation thresholds.
- External toroidal transformer
- Adjustable tripping  $I\Delta n$  and delay time
- Positive fail safe
- Version with fault current measurement
- Version with digital display
- Version with flag indicator
- Version with shunt tripping circuit.



Page 20-3

**COMPACT PANEL MOUNT VERSION TYPE A**

RC type

- 1 operation threshold
- Incorporated toroidal transformer
- Adjustable tripping  $I\Delta n$  and delay time
- 35mm to 110mm diameter.



Page 20-4

**MODULAR VERSION WITH DISPLAY TYPE B**

RM2DB type

- Backlit LCD display
- Measure fault current in AC and DC components
- 2 operation thresholds
- External toroidal transformer
- Adjustable tripping  $I\Delta n$  and delay time
- Harmonics analysis.



Page 20-5

**TOROIDAL CURRENT TRANSFORMERS**

RT type

- Type A
- Solid core
- 35mm to 210mm diameter.

RTA type

- Type A
- Split core
- 110mm and 210mm diameter.

RTB type

- Type B
- Solid core
- 35mm to 210mm diameter.



Page 20-5

**EXTERNAL MULTIPLIER**

RX10 type

- 10-fold multiplier.

### Modular version with display type A



RM1DA...



RM2DA...

**new**

Order code	Rated auxiliary supply voltage	Output contacts	Qty per pkg	Wt
	[V]	$\frac{1}{2}$ SPDT	n°	[kg]

1 OPERATION THRESHOLD.  
Modular, 35mm DIN (IEC/EN/BS 60715) rail mounting.  
External CT.

<b>RM1DA230</b>	230VAC	1	1	0.300
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2 OPERATION THRESHOLDS.  
Modular, 35mm DIN (IEC/EN/BS 60715) rail mounting.  
External CT.

<b>RM2DA230</b>	230VAC	2	1	0.200
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#### General characteristics

- Earth leakage relay type A
- True RMS measurements (TRMS)
- Adjustable third or twenty-first harmonic filter (only for RM2DA230)
- Modular DIN 43880 housing, 2 modules (RM1DA230) or 3 modules (RM2DA230), suitable for fixing on 35mm DIN rail (IEC/EN/BS 60715) execution
- 31RT... series external toroid
- Display of the differential current values
- Backlit LCD display with indication of the relay status via display color (green, yellow, red)
- Green power LED indicator (ON)
- Yellow pre-alarm LED indicator (only for RM2DA230)
- Red LED indicator for trip intervention (only for RM2DA230)
- TEST and RESET buttons on the front or remote contact closure (only for RM2DA230)
- 1 (RM1DA230) or 2 (RM2DA230) independent relay outputs, the second output can be set as a pre-alarm threshold
- Operation with positive safety for each relay (settable)
- Digital inputs for test function and remote reset (only for RM2DA230)
- Instantaneous trend graph of the current measurement (only for RM2DA230)
- Fault current intervention event log
- Possibility to protect settings via password
- IEC degree of protection: IP20 terminals, IP40 on front.

#### ADJUSTMENTS

- Configurable tripping set-point ( $I_{\Delta n}$ ): 0.030...30A
- Configurable tripping delay time (t): 0.2...10s.

#### Certification and compliance

Compliant with standards: RM1DA230: IEC/EN 61010, IEC/EN 61000-6-2 IEC/EN 61000-6-3, IEC/TR 60755, EN 60947-2 (Annex M). RM2DA230: EN 61326-1:2013-01 EN 61326-2-1:2013-01 EN 61326-2-2:2013-01 EN 61326-2-3:2013-01 EN 61326-2-4:2013-01 EN 61326-2-5:2013-01 EN 60947-2:2017-10 (Annex M) EN 61543/A2:2006-02, EN 61543/A11, EN 61543/A12.

### Modular version type A



RM1...



31RM...



31RMT...

Order code	Rated auxiliary supply voltage	Output contacts	Qty per pkg	Wt
	[V]	$\frac{1}{2}$ SPDT	n°	[kg]

1 OPERATION THRESHOLD.  
Modular, 35mm DIN (IEC/EN/BS 60715) rail mounting.  
External CT. Fixed tripping set point and time.

<b>RM1415</b>	110-240-415V	1	1	0.175
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1 OPERATION THRESHOLD.  
Modular, 35mm DIN (IEC/EN/BS 60715) rail mounting.  
External CT.

<b>31RM48</b>	24-48VAC/DC	1	1	0.190
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<b>31RM415</b>	110-240-415V	1	1	0.190
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1 OPERATION THRESHOLD.  
Modular, 35mm DIN (IEC/EN/BS 60715) rail mounting.  
 $\varnothing 28\text{mm}/\varnothing 1.1''$  incorporated CT. Configurable fail safe.

<b>31RMT415</b>	110-240-415V	2	1	0.375
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- ⓘ Supply voltage:
- 110...125VAC (50/60Hz)/DC
  - 220...240VAC (50/60Hz)
  - 380...415VAC (50/60Hz).

#### General characteristics

- Earth leakage relay type A
- Configurable fail safe operation for RMT type only
- Green power LED indicator (ON)
- Red relay tripped LED indicator (TRIP)
- Front TEST and RESET buttons
- Configurable automatic or manual resetting
- Modular DIN 43880 housing, 2 modules, with transparent cover, suitable for fixing on 35mm DIN rail (IEC/EN/BS 60715)
- IEC degree of protection: IP20 terminals, IP40 on front with cover.

#### SETTINGS FOR RM1

- Selectable tripping set-point ( $I_{\Delta n}$ ): fixed 0.3A or 0.5A
- Selectable tripping time (t): fixed 0.02s or 0.5s.

#### ADJUSTMENTS FOR 31RM AND 31RMT

- Configurable tripping set-point ( $I_{\Delta n}$ ): 0.025...0.25A  
0.25...2.5A  
2.5...25A  
25...250A (with external multiplier 31RX10 for RM only)
- Configurable tripping delay time (t): 0.02...0.5s  
0.2...5s.

#### Certification and compliance

Certification obtained: EAC.  
Compliant with standards: IEC/EN/BS 60947-2.

### Flush-mount version type A



R1D...



R2D...



R3D...



R4D...

### Panel mount version type A



31RC60...



31RC110...

Order code	Rated auxiliary supply voltage	Output contacts	Qty per pkg	Wt
	[V]	$\frac{1}{2}$ SPDT	n°	[kg]

1 OPERATION THRESHOLD.  
Flush mount. External CT.

<b>R1D415</b>	110-240-415V ①	1	1	0.280
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2 OPERATION THRESHOLDS.  
Flush mount. External CT. Fail safe.

<b>R2D415</b>	110-240-415V ①	2	1	0.395
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2 OPERATION THRESHOLDS.  
Flush mount. External CT.  
Fail safe. Flag Indicator.

<b>R3D415</b>	110-240-415V ①	2	1	0.405
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2 OPERATION THRESHOLDS.  
Flush mount. External CT.  
Fault current measurement. Digital display.  
Fail safe. Flag indicator.

<b>R4D415</b>	110-240-415V ①	2	1	0.570
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- ① Supply voltage:  
 - 110...125VAC (50/60Hz)/DC  
 - 220...240VAC (50/60Hz)  
 - 380...415VAC (50/60Hz).

#### General characteristics

- R1D415**
- Earth leakage relay type A
  - Green power LED indicator (ON)
  - Red relay tripped LED indicator (TRIP)
  - Front TEST and RESET buttons
  - Configurable automatic or manual resetting
  - Flush mount 96x96mm/3.78"x3.78" housing with transparent cover
  - IEC degree of protection: IP20 terminals, IP40 on front with cover.

#### ADJUSTMENTS FOR R1D

- Configurable tripping set-point (I $\Delta$ n): 0.025...0.25A, 0.25...2.5A, 2.5...25A, 25...250A (with external multiplier 31RX10)
- Configurable tripping delay time (t): 0.02...0.5s, 0.2...5s.

#### R2D415 - R3D415 - R4D415

- Earth leakage relay type A
- 2 output relays each with changeover contact, configurable as 2 tripping or 1 tripping and 1 alarm
- Configurable fail safe pre-alarm and operation
- Automatic toroid connection control
- Green power LED indicator (ON)
- Red relay tripped LED indicator (TRIP)
- Red tripping pre-alarm LED indicator (ALARM)
- Front TEST button
- Manual resetting by front RESET button or remote contact closing
- Automatic resetting by remote contact closing or rear jumper connection
- Flag indicator (TRIP MEMORY) (R3D-R4D only)
- Digital fault current measurement and display with configurable tripping value memory (R4D only)
- Shunt tripping circuit operating test (TCS) (R4D only)
- Flush mount 96x96mm/3.78"x3.78" housing with transparent cover
- IEC degree of protection: IP20 terminals, IP40 on front with cover.

#### ADJUSTMENTS FOR R2D and R3D

- Configurable tripping set-point (I $\Delta$ n): 0.025...0.25A, 0.25...2.5A, 2.5...25A, 25...250A (with external multiplier 31RX10)
- Pre-alarm set-point: fixed 70%
- Configurable tripping delay time (t): 0.02...0.5s, 0.2...5s.

#### ADJUSTMENTS FOR R4D

- Configurable tripping set-point (I $\Delta$ n): 0.03...0.3A, 0.3...3A, 3...30A, 30...300A (with external multiplier 31RX10)
- Pre-alarm set-point: fixed 70%
- Configurable tripping delay time (t): 0.03...0.5s, 0.3...5s.

#### Certification and compliance

Certification obtained: EAC.  
Compliant with standards: IEC/EN/BS 60947-2.

Order code	Rated auxiliary supply voltage	Output contacts	Qty per pkg	Wt
	[V]	$\frac{1}{2}$ SPDT	n°	[kg]

1 OPERATION THRESHOLD.  
Compact panel mount. CT incorporated.

<b>31RC@48</b>	24-48VAC/DC	1	1	0.485
<b>31RC@415</b>	110-240-415V ①	1	1	0.485

- ① Supply voltage:  
 - 110...125VAC (50/60Hz)/DC  
 - 220...240VAC (50/60Hz)  
 - 380...415VAC (50/60Hz).
- ② Replace with the digit of the required diameter (35-60-80-110mm/ 1.38-2.36-3.15-4.33").

#### General characteristics

- R1D415**
- Earth leakage relay type A
  - Green power LED indicator (ON)
  - Red relay tripped LED indicator (TRIP)
  - Front TEST and RESET buttons
  - Configurable automatic or manual resetting
  - Compact housing for fixing on panel mounting plate
  - IEC degree of protection: IP20 terminals.

#### ADJUSTMENTS FOR RC

- Configurable tripping set-point (I $\Delta$ n): 0.025...0.25A, 0.25...2.5A, 2.5...25A
- Configurable tripping delay time (t): 0.02...0.5s, 0.2...5s.

#### Certification and compliance

Certification obtained: EAC.  
Compliant with standards: IEC/EN/BS 60947-2.

### Modular version with display type B



RM2DB...

**new**

Order code	Rated auxiliary supply voltage	Output contacts	Qty per pkg	Wt
	[V]	$\frac{1}{2}$ SPDT	n°	[kg]

2 OPERATION THRESHOLDS.  
Modular, 35mm DIN (IEC/EN/BS 60715) rail mounting.  
External CT.

<b>RM2DB230</b>	230VAC	2	1	0.200
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#### General characteristics

- Earth leakage relay type B
- True RMS measurements (TRMS)
- Adjustable third or twenty-first harmonic filter (only for RM2DA230)
- Modular DIN 43880 housing, 3 modules, suitable for fixing on 35mm DIN rail (IEC/EN/BS 60715) execution
- It can be used with just a single external toroid from the RTB series...
- Display of differential current values, both AC and DC components
- Backlit LCD display with indication of the relay status via display color (green, yellow, red)
- Green power LED indicator (ON)
- Yellow pre-alarm LED indicator
- Red LED indicator for trip intervention
- TEST and RESET buttons on the front or remote contact closure
- 2 independent relay outputs, the second output can be set as a pre-alarm threshold
- Operation with positive safety for each relay (settable)
- Digital inputs for test function and remote reset
- Self-test function to verify the correct connection of the toroidal current transformer
- Possibility to protect settings via password
- IEC degree of protection: IP20 terminals, IP40 on front.

#### ADJUSTMENTS

- Configurable tripping set-point ( $I_{\Delta n}$ ): 0.030...30A
- Configurable tripping delay time (t): 0.2...10s.

#### Certification and compliance

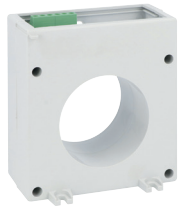
Compliant with standards: RM2DB230: EN 61326-1:2013-01, EN 61326-2-1:2013-01, EN 61326-2-2:2013-01, EN 61326-2-3:2013-01, EN 61326-2-4:2013-01, EN 61326-2-5:2013-01, EN 60947-2:2017-10 (Annex M), EN 61543/A2:2006-02, EN 61543/A11, EN 61543/A12.



## Toroidal current transformers



31RT... 31RT...



RTB...

**new**

Order code	Diameter	Openable	Qty per pkg	Wt
	[mm/in]		n°	[kg]

Type A.

<b>31RT35</b>	35/1.38"	No	1	0.200
<b>31RT60</b>	60/2.36"	No	1	0.245
<b>31RT80</b>	80/3.15"	No	1	0.410
<b>31RT110</b>	110/4.33"	No	1	0.400
<b>31RT210</b>	210/8.27"	No	1	1.200
<b>31RTA110</b>	110/4.33"	Yes	1	0.540
<b>31RTA210</b>	210/8.27"	Yes	1	1.820

Type B.

<b>RTB35</b>	35/1.38"	No	1	0.322
<b>RTB60</b>	60/2.36"	No	1	0.392
<b>RTB80</b>	80/3.15"	No	1	0.602
<b>RTB110</b>	110/4.33"	No	1	0.680
<b>RTB210</b>	210/8.27"	No	1	0.955

### Certification and compliance

Certification obtained: EAC (only for 31RT...).  
Compliant with standards: IEC/EN/BS 60947-2.

## External multiplier



31RX10

Order code	Description	Qty per pkg	Wt
		n°	[kg]
<b>31RX10</b>	10-fold multiplier suitable for R1D, RM, R2D, R3D and R4D types only	1	0.300

### General characteristics

- To connect between toroid and relay.

### Certification and compliance

Certification obtained: EAC.  
Compliant with standards: IEC/EN/BS 60947-2.

## Accessories



DMXP03

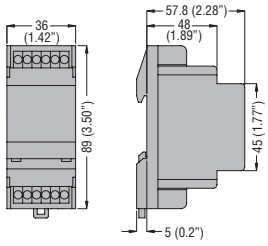
Order code	Description	Qty per pkg	Wt
		n°	[kg]
<b>DMXP03</b>	Panel mounting for 3 modules devices	1	0.052

# 20 Earth leakage relays

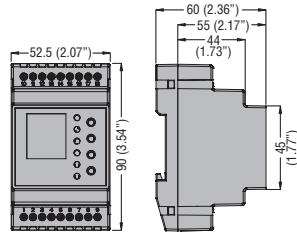
Dimensions [mm (in)]

## MODULAR VERSION EARTH LEAKAGE RELAYS

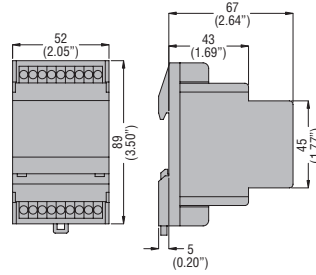
### RM1DA230



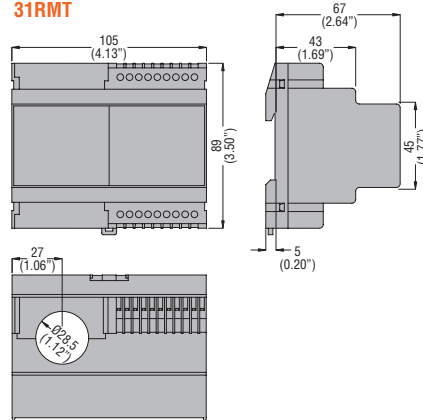
### RM2DA230 - RM2DB230



### RM1 - 31RM

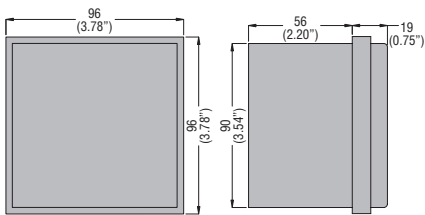


### 31RMT

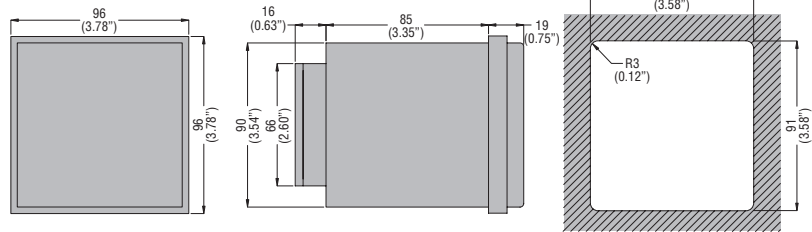


## FLUSH-MOUNT VERSION EARTH LEAKAGE RELAYS

### R1D - R2D - R3D

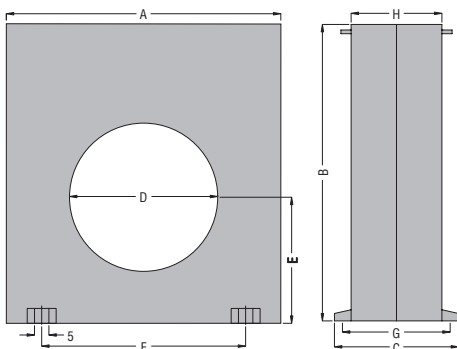


### R4D



## PANEL MOUNT VERSION EARTH LEAKAGE RELAYS

### 31RC...



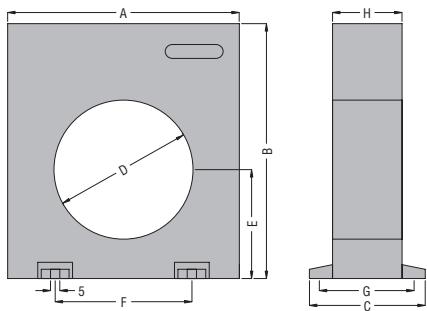
TYPE	A	B	C	D	E	F	G	H
31RC35	100 (3.94")	110 (4.33")	70 (2.75")	35 (1.38")	47 (1.85")	60 (2.36")	60 (2.36")	50 (1.97")
31RC60	100 (3.94")	110 (4.33")	70 (2.75")	60 (2.36")	47 (1.85")	60 (2.36")	60 (2.36")	50 (1.97")
31RC80	150 (5.90")	160 (6.30")	70 (2.75")	80 (3.15")	70 (2.75")	110 (4.33")	60 (2.36")	50 (1.97")
31RC110	150 (5.90")	160 (6.30")	70 (2.75")	110 (4.33")	70 (2.75")	110 (4.33")	60 (2.36")	50 (1.97")

# 20 Earth leakage relays

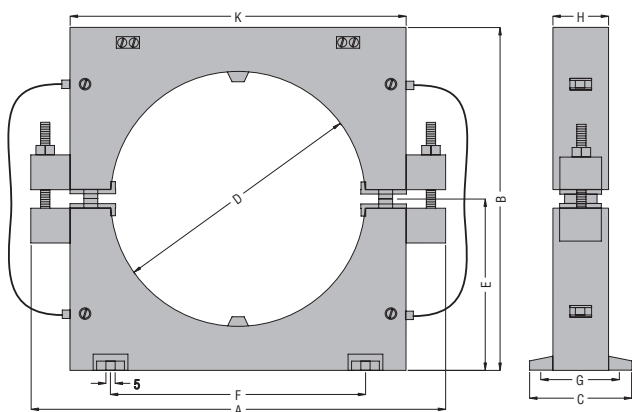
Dimensions [mm (in)]

## TOROIDAL CURRENT TRANSFORMERS AND EXTERNAL MULTIPLIER

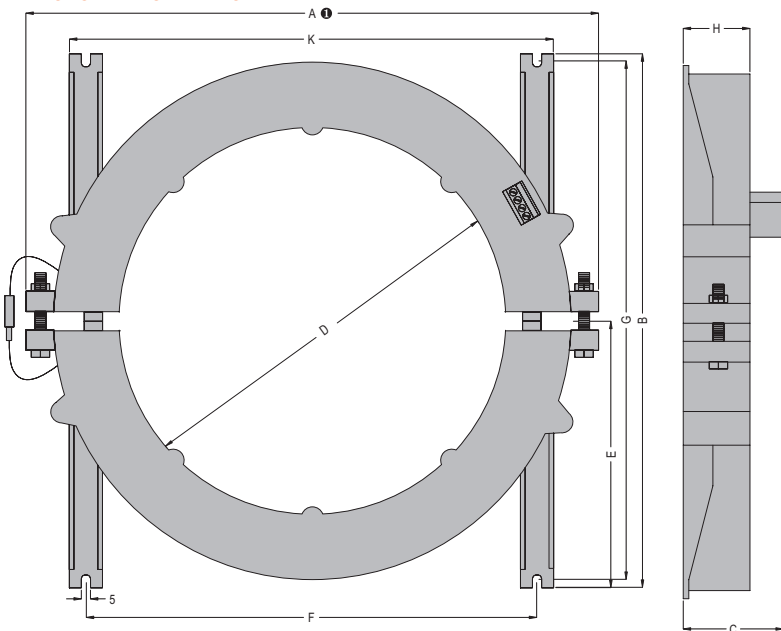
31RT35 - 31RT60 - 31RT80 - 31RT110 - 31RX10  
RTB035 - RTB060 - RTB080 - RTB110



### 31RTA110



### 31RT210 - 31RTA210 - RTB110



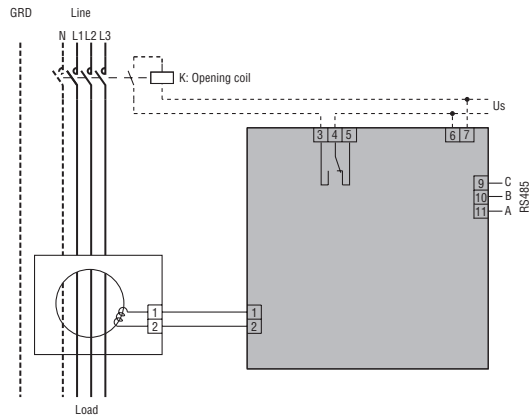
● With screws, for 31RTA210 split-core type; fixed structure, without screws, for 31RT210 type.

TYPE	A	B	C	D	E	F	G	H	K
31RT35 - RTB035	100 (3.94")	110 (4.33")	50 (1.97")	35 (1.38")	47 (1.85")	60 (2.36")	43 (1.69")	30 (1.18")	—
31RT60 - RTB60	100 (3.94")	110 (4.33")	50 (1.97")	60 (2.36")	47 (1.85")	60 (2.36")	43 (1.69")	30 (1.18")	—
31RT80 - RTB80	150 (5.90")	160 (6.30")	50 (1.97")	80 (3.15")	70 (2.75")	110 (4.33")	43 (1.69")	30 (1.18")	—
31RT110	150 (5.90")	160 (6.30")	50 (1.97")	110 (4.33")	70 (2.75")	110 (4.33")	43 (1.69")	30 (1.18")	—
31RT210 - RTB110	310 (12.20")	290 (11.41")	54 (2.12")	210 (8.27")	145 (5.71")	240 (9.45")	280 (11.02")	36 (1.42")	258 (10.16")
31RTA110	180 (7.09")	150 (5.90")	45 (1.77")	110 (4.33")	75 (2.95")	110 (4.33")	38 (1.50")	25 (0.98")	145 (5.71")
31RTA210	310 (12.20")	290 (11.41")	54 (2.12")	210 (8.27")	145 (5.71")	240 (9.45")	280 (11.02")	36 (1.42")	258 (10.16")
31RX10	100 (3.94")	110 (4.33")	50 (1.97")	—	—	60 (2.36")	43 (1.69")	30 (1.18")	—

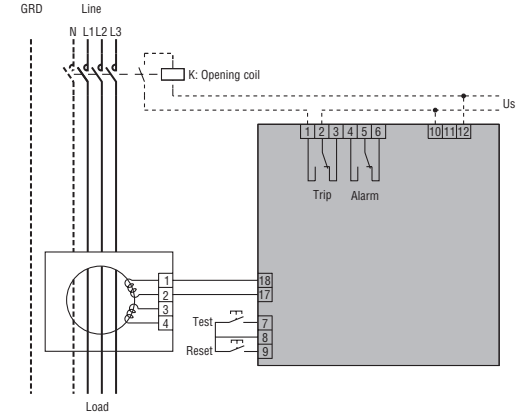


### EARTH LEAKAGE RELAYS

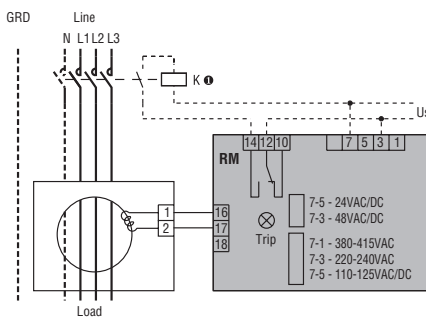
#### RM1DA230



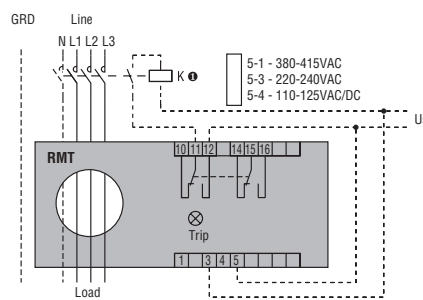
#### RM2DA230



#### RM1415 - 31RM...

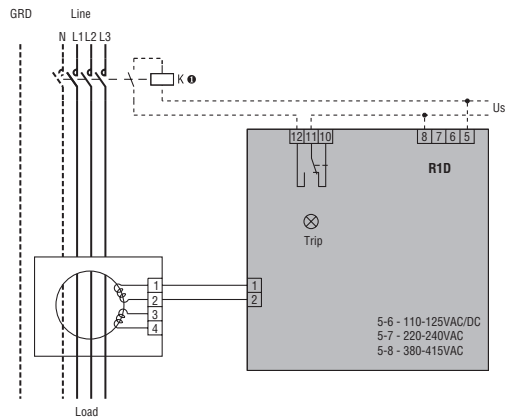


#### 31RMT415

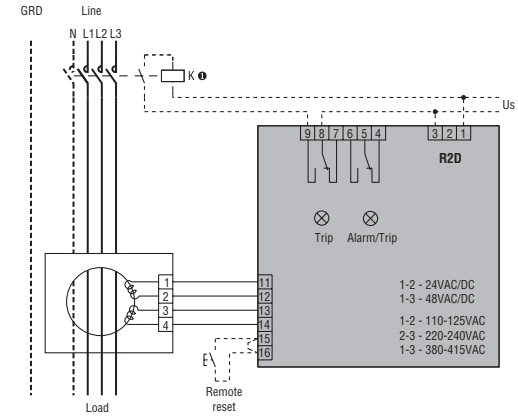


● The coil connection can vary depending on the connected type of device (contactor, breaker with shunt trip release or breaker with undervoltage trip release).

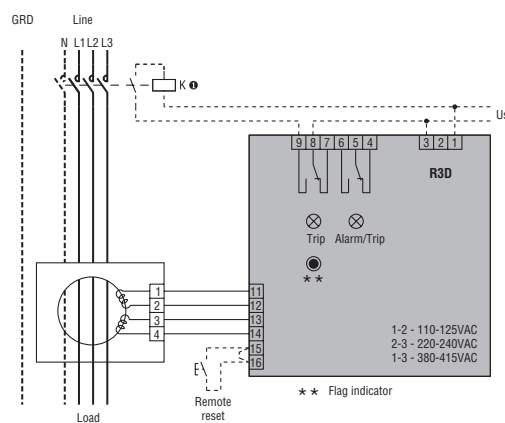
#### R1D415



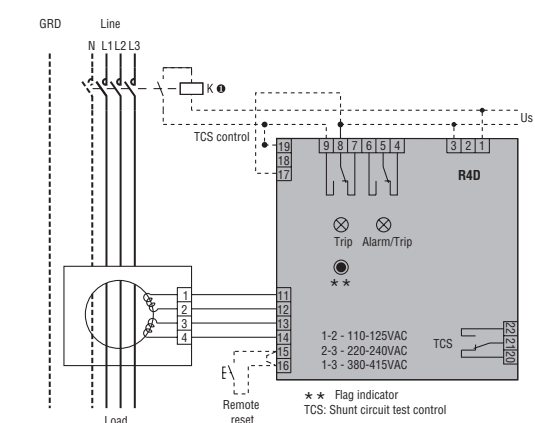
#### R2D415



#### R3D415



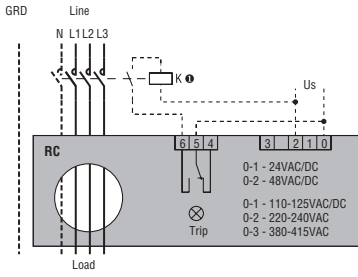
#### R4D415



● The coil connection can vary depending on the connected type of device (contactor, breaker with shunt trip release or breaker with undervoltage trip release).

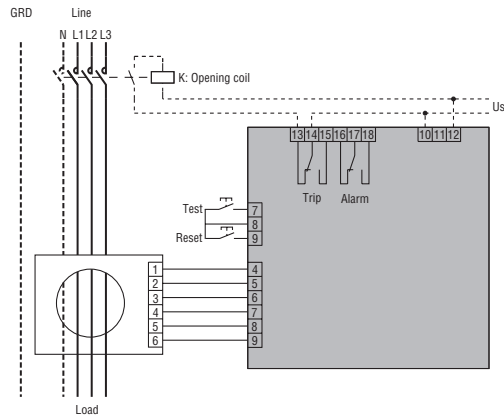
Type	Us	Us wiring	TCS wiring
R4D415	110-125VAC	1-2	17-18
	220-240VAC	2-3	17-18
	380-415VAC	1-3	17-19

### 31RC...



① The coil connection can vary depending on the connected type of device (contactor, breaker with shunt trip release or breaker with undervoltage trip release).

### RM2DB230



TYPE	RM1DA230	RM2DA230	R1D <sup>①</sup>	R2D <sup>①</sup>	R3D <sup>①</sup>
DESCRIPTION	Modular, 1 operating threshold	Modular, 2 operating thresholds	Flush mount with transparent cover, 1 operating threshold	Flush mount with transparent cover, 2 operating thresholds constant toroid-relay circuit control	Flush mount with transparent cover, 2 operating thresholds constant toroid-relay circuit control
CONTROL CIRCUIT	External (see types given on page 20-5)				
Toroidal transformer					
Adjustments					
Tripping set-point (I $\Delta$ n)	0.030...30A		0.025...0.25A (x0.1) 0.25...2.5A (x1) 2.5...25A (x10) 25...250A(external multiplier)		
Pre-alarm set-point	Programmable		—	70% I $\Delta$ n (fixed)	70% I $\Delta$ n (fixed)
Tripping delay time (t)	0.02...10s		0.02...0.5s (tx1) 0.2...5s (tx10)		
Selection of multiplier for I $\Delta$ n and t	—	—	By dip-switches		
Resetting	Configurable automatic or manual by button on front	Automatic by remote contact closing or rear jumper connection Manual by button on front or remote contact closing	Configurable automatic or manual by button on front <sup>②</sup>	Automatic by remote contact closing or rear jumper connection Manual by button on front or remote contact closing	
Shunt circuit control	—	—	—	—	—
AUXILIARY SUPPLY					
Auxiliary voltage U <sub>s</sub> (0.85 - 1.1 U <sub>s</sub> limit)	— 220...240VAC	— 90...250VAC 120...350VDC	— 110...125VAC/DC 220...240/380...415VAC	— 110...125/220...240/380...415VAC	—
Rated frequency	50...60Hz				
Power consumption (maximum)	2VA	6VA	4VA		
RELAY OUTPUTS					
State	Configurable normally de-energised or energised	Configurable normally de-energised or energised	Normally de-energised	Configurable normally de-energised or energised	Configurable normally de-energised or energised
Contact arrangement	1 changeover SPDT (trip)	2 changeover SPDT each (configurable: 1 trip and 1 alarm)	1 changeover SPDT (trip)	2 changeover SPDT each (configurable: 2 trip or 1 trip and 1 alarm)	
Rated contact capacity IEC I <sub>th</sub>	5A 250VAC				
Mechanical life	20x10 <sup>6</sup> cycles	10x10 <sup>6</sup> cycles	50x10 <sup>6</sup> cycles		
Electrical life	3x10 <sup>5</sup> cycles				
INSULATION					
Power frequency withstand voltage	2.5kV for 60s				
INDICATIONS					
Auxiliary voltage available (ON)	Green LED	Green LED and green backlight	Green LED		
Relay tripping (TRIP)	Red backlight	Red LED and red backlight	Red LED		
Trip prealarm (ALARM)	Yellow backlight	Yellow LED and yellow backlight	—	Red LED	Red LED
Mechanical (TRIP MEMORY)	—	—	—	—	Flag indicator
Shunt circuit tripping (TCS)	—	—	—	—	—
CONNECTIONS					
Type of terminals	Fixed				
Tightening torque maximum	0.5Nm (4.5lb.in)				
Conductor section min...max	0.2...2.5mm <sup>2</sup> (24...12AWG)				
AMBIENT CONDITIONS					
Operating temperature	-10...+60°C				
Storage temperature	-20...+80°C				
Relative humidity	≤90%	≤95%	≤90%		
HOUSING					
Material	Self-extinguishing polycarbonate				

① Type A, sensitive to residual sinusoidal AC and pulsating DC currents.

② Remote resetting by removing power for more than 1 second.

③ Digital display of fault current measurement and tripping value memory.

	R4D <sup>00</sup>	RM1... <sup>0</sup>	31RM... <sup>0</sup>	31RMT... <sup>0</sup>	31RC... <sup>0</sup>	RM2DB...
	Flush mount with display and cover, 2 operating thresholds - constant toroid-relay circuit control	Modular with transparent cover, 1 operating threshold	Modular with transparent cover, 1 operating threshold	Modular with transparent cover, 1 operating threshold	Compact, 1 operating threshold	Modular, 1 operating thresholds
	External (see types given on page 20-5)			Incorporated Ø28mm/1.1"	Incorporated 35-60-80-110mm/ 1.38-2.36-3.15-4.33" standard diameter	External (see types given on page 20-5)
	0.03...0.3A (x0.1) 0.3...3A (x1) 3...30A (x10) 30...300A (external multiplier)	0.3A or 0.5A	0.025...0.25A (x0.1) 0.25...2.5A (x1) 2.5...25A (x10) 25...250A (external multiplier)	0.025...0.25A (x0.1) 0.25...2.5A (x1) 2.5...25A (x10)	0.025...0.25A (x0.1) 0.25...2.5A (x1) 2.5...25A (x10)	0.030...30A
	70% I <sub>Δn</sub> (fixed)	—	—	—	—	Programmable
	0.03...0.5s (tx1) 0.3...5s (tx10)	0.02s or 0.5s	0.02...0.5s (tx1) 0.2...5s (tx10)	0.02...0.5s (tx1) 0.2...5s (tx10)	0.02...0.5s (tx1) 0.2...5s (tx10)	0.02...10s
	By dip-switches					—
	Automatic by remote contact closing or rear jumper connection Manual by button on front or remote contact closing	Configurable A: Automatic or M: Manual by button on front				Automatic by remote contact closing or rear jumper connection Manual by button on front or remote contact closing
	Yes	—				—
	—	—	24-48VAC/DC	—	24-48VAC/DC	—
	110...125/220...240/ 380...415VAC	110...125VAC/DC 220...240/380...415VAC				90...250VAC 120...350VDC
	50...60Hz					
	4VA	3VA				4VA
	Configurable normally de-energised or energised	Normally de-energised	Normally de-energised	Configurable normally de-energised or energised	Normally de-energised	Configurable normally de-energised or energised
	2 changeover SPDT each (configurable: 2 trip or 1 trip and 1 alarm)	1 changeover SPDT (trip)	1 changeover SPDT (trip)	2 changeover SPDT each (both trip)	1 changeover SPDT (trip)	2 changeover SPDT each (configurable: 1 trip and 1 alarm)
	5A 250VAC					
	50x10 <sup>6</sup> cycles	50x10 <sup>6</sup> cycles			10x10 <sup>6</sup> cycles	
	3x10 <sup>5</sup> cycles					
	2.5kV for 60s					
	Green LED	Green LED				Green LED and green backlight
	Red LED	Red LED				Red LED and red backlight
	Red LED	—				Yellow LED and yellow backlight
	Flag indicator	—				—
	Red LED	—				—
	Removable, plug-in	Fixed				
	0.5Nm (4.5lb.in)					
	0.2...2.5mm <sup>2</sup> (24...12AWG)					
	-10...+60°C					
	-20...+80°C					
	≤90%					≤95%
	Self-extinguishing polycarbonate					