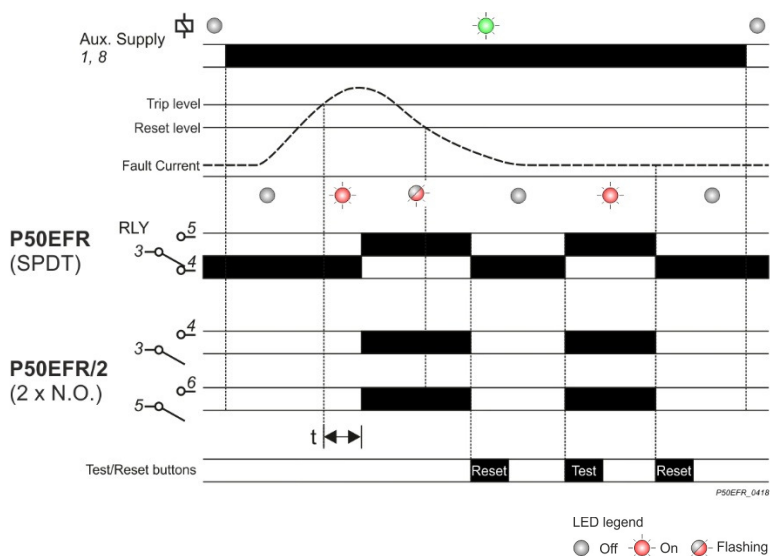


Terminal Protection to IP20



- ❑ Panel (Flush) Mount enclosure
- ❑ Adjustable side clips provide quick method of mounting (no fixing screws required)
- ❑ 2 models available (SPDT or 2 x N.O. relay outputs)
- ❑ Adjustable Trip current setting (0.1 – 2A)
- ❑ Adjustable Definite Time setting (0.05 – 1s)
- ❑ True RMS
- ❑ Separate “Test” and “Reset” push buttons
- ❑ Relay energises when fault exceeds set trip threshold
- ❑ LED indication for Power Supply and Trip status
- ❑ SPDT relay output - 8A (Part No. P50EFR)
- ❑ 2 x N.O. relay outputs - 3A (Part No. P50EFR/2)
- ❑ Single supply voltage option – 115V or 230V AC

### FUNCTION DIAGRAM



### INSTALLATION AND SETTING

Installation work must be carried out by qualified personnel.

- BEFORE INSTALLATION, ISOLATE THE SUPPLY.
- Remove the P50EFR from the packaging.
- Lift the raised part of the side clip and slide towards the rear of the housing to remove. Carry this out on both sides.
- Insert the P50EFR in to the panel cut-out and fit the side clips back on to the housing.
- Slide the clips towards the front of the unit until they come in to contact with the reverse side of the panel. The unit is now secured in place.
- Connect the wires to the rear terminals as required following the diagram shown on the next page and for the relevant model shown.
- Ensure the Auxiliary supply voltage to be connected to terminals 1 and 8 matches the rating of the product.

#### Setting up

- The unit should be set according to the requirements of the application.

#### Applying power

- Apply power and the green “Power on” LED will illuminate.
- Assuming no fault present, the output relay(s) will remain in the de-energised state.
- If a fault is detected, the red LED will remain constantly lit for the set delay “t”. If the unit trips, the red LED will then flash.

#### Fault simulation (Test mode)

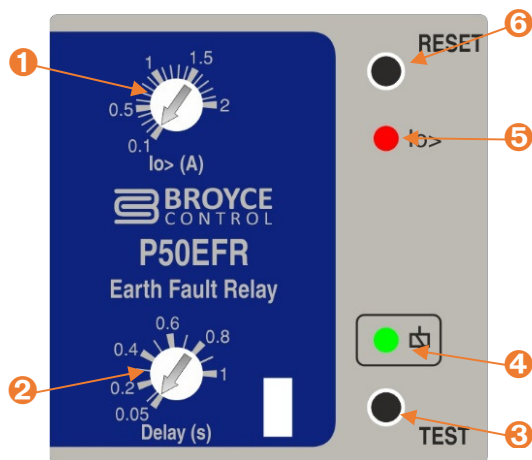
- The unit can be placed into a fault condition by pressing the “Test” button on the front of the unit. The output relay(s) will energise.
- Press the “Reset” button on the front to reset the unit. The output relay(s) revert back to the de-energised state.
- The unit can also be reset by interrupting the power supply.
- To satisfy regulations, it is recommended that the device be tested periodically to ensure correct operation.

#### Troubleshooting

- If the unit fails to operate correctly check that all wiring and connections are good.

### SETTING DETAILS

1. “Trip current Io>” (Current setting) adjustment
2. “Time delay” (Operating time) adjustment
3. “TEST” button
4. Green “Power On” (Normal) LED indication
5. Red “Tripped” LED indication
6. “RESET” button



### TECHNICAL SPECIFICATION

#### Auxiliary Power Supply (1, 8)

Supply voltage (Un):	115V or 230V AC (To be specified when ordering)
Frequency range:	50/60Hz
Supply variation:	85 – 115% of Un
<i>Auxiliary supply is galvanically isolated from the CT input</i>	
Overvoltage category:	III
Rated impulse withstand voltage:	4kV (1.2/50µs) IEC 60664-1
Power consumption (max.):	3VA

#### Monitored input (via external Current Transformer connected to terminals 2 and 7)

Rated current input (In):	5A (directly connected)
Rated frequency:	50Hz
Burden:	<0.4VA @ In
Overload:	4 x In (continuous)
CT recommendation:	Class P (with 5A secondary)

#### Device Characteristics

Measurement principle:	True R.M.S.
Trip current [Current setting] (Io):	0.10 – 2.0A (2 – 40%)
Time delay [Operating time] (t):	0.05 – 1.0s
Pick up value:	+2% of trip value
Accuracy:	
Trip current:	± 5%
Time delay:	± 5% (with a minimum of 50ms)
Repeat accuracy:	± 0.5% @ constant conditions

#### LED indication

Power Supply:	Green x1
Tripped:	Red x1

#### Test and Reset

“Test” method (assuming unit is in the non-tripped state):	Press once to trip the unit
“Reset” method (assuming unit is in the tripped state and fault current cleared):	Press once to reset the unit

#### Temperature rating

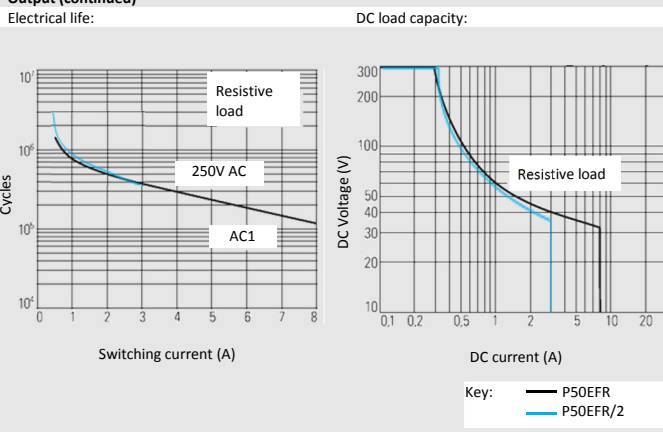
Operating:	<b>P50EFR</b> -10 to +60°C	<b>P50EFR/2</b> -10 to +55°C
Storage:	-30 to +70°C	
Relative humidity:	+95% max.	

#### Output - Model No./Type

Model No./Type	P50EFR	P50EFR/2
Rear Terminal No.	(3, 4, 5)	(3, 4 / 5, 6)
Contact arrangement:	1 x SPDT	2 x SPNO
AC1 (250V)	8A (2000VA)	3A (750VA)
AC15 (250V)	2.5A	1.5A
DC1 (25V)	8A (200W)	3A (75W)

### TECHNICAL SPECIFICATION (continued)

#### Output (continued)



Dielectric voltage:	1kV AC (rms) IEC 60947-1
Rated impulse withstand voltage:	4kV (1.2/50µs) IEC 60664-1

#### Housing

Material:	Grey flame retardant Lexan UL94 V0
Weight:	≈ 225g
Protection:	IP40 (front face) / IP20 (rear)
Mounting:	Panel mount. Cut-out (see information below)
Max. panel thickness:	10mm

#### Rear Terminals

Conductor size:	0.3 – 2mm <sup>2</sup> (22 – 14AWG)
Wire stripping length:	≈ 6mm
Recommended tightening torque:	1.3Nm (12lb-in)

#### Standards

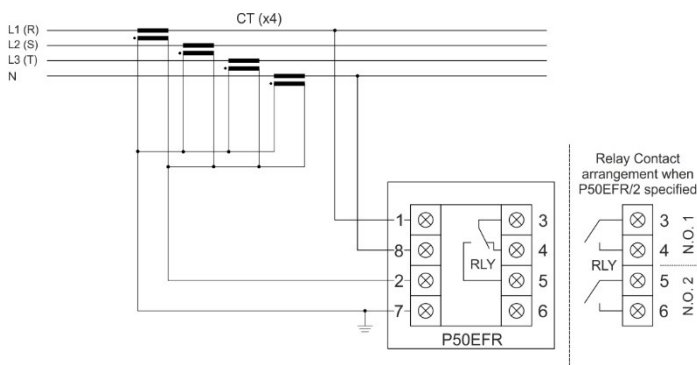
Product:	IEC 255-3, IEC 60255-151
EMC:	IEC 60255-26, IEC 61000-4 Series
	CE and RoHS Compliant. C-tick

#### Ordering:

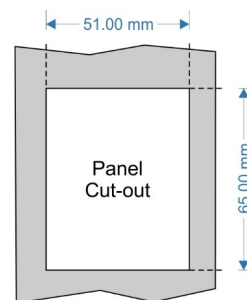
Please specify product part number and voltage when ordering.  
For example:

**P50EFR/2 230V AC**

### CONNECTION DIAGRAM



### CUT-OUT



### DIMENSIONS

