# Low voltage moulded case circuit breakers with residual current protection

#### Main features and advantages

Breaking capacities as on **MCCBs** 







Adjustable residual current tripping thresholds between 30mA and 3A. Adjustable time delay for residual current protection between 60ms and 700ms including INST (instantaneous) and NT (No Trip).



Type A: Tripping is ensured for residual sinusoidal AC in the presence of residual pulsating DC.



Voltage Presence LED Indicator and Trip Indicator (the yellow button pops up to indicate tripping due to residual current)



Test Button (to test the residual current detection and tripping system)



Dielectric test device plug (to allow dielectric testing with the EB2R closed - ON)

of In

Adjustable overload

protection Ir can be set

between 63% and 100%





#### Main advantages

- Combined protection against overloads, short circuits and earth leakage integrated in one device
- The new EB2R save the space
- The EB2R has the same dimensions and fixing as the EB2 MCCBs
- $\blacksquare \ \ \text{The EB2R eliminates the need for either an external relay with current transformers or add-on block}$
- Residual current is adjustable
- Earth leakage protection time delay is adjustable
- Wide range of accessories (as MCCB only shunt/undervoltage trip units can not be fitted to EB2R)

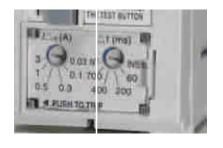
Product series	description	unit	condition	EB2R	EB2R
Model-type				125L	250L
Number of Poles				3, 4	3,4
Nominal current ratings					
	l <sub>n</sub>	(A)	50°C	20, 32, 50	160, 250
				63, 100, 125	
Electrical characteristics					
Rated operational voltage	U <sub>e</sub>	(V)	AC 50/60 Hz	525	525
Rated impulse withstand voltage	U <sub>imp</sub>	(kV)		8	8
	p				
Ultimate breaking capacity	l <sub>cu</sub>	(kA)	525V AC	8	10
(IEC, JIS, AS/NZS)	- Cu		440V AC	15	15
			400/415V AC	25	25
			220/240V AC	35	35
Service breaking capacity	l <sub>s</sub>	(kA)	525V AC	6	7.5
(IEC, JIS, AS/NZS)	ο.	\·/	440V AC	12	12
			400/415V AC	19	19
			220/240V AC	27	27
			220,2101710	27	
Protection					
Adjustable thermal, adjustable magnetic	_			_	_
Residual current protection, Type A				<del>-</del>	
Utilization category				A	A
Installation	-	-		n .	n n
Front connection	_			_	_
Attached flat bar				<del>-</del>	<del>-</del>
Solderless terminal (cable clamp)				•	
Rear connection				•	•
Plug-in				_	
DIN rail mounting					_
Dimensions	h	(mm)		155	165
Dimensions	w	(mm)	3 pole	90	105
	**	(11111)	4 pole	120	140
	d	(mm)	r poic	68	68
Weight	W	(kg)	3 pole	1.1	1.5
ricignit	VV	(ng)	4 pole	1.4	1.9
Operation			7 poic	1.4	1.7
Direct Opening Action				_	_
Toggle operation					-
Variable depth / direct mount operating handle					
Mechanical interlocks				-	<u>-</u>
Motor operator					
· · · · · · · · · · · · · · · · · · ·	Florenies	cuelsa	440\/ AC	*	20000
Endurance	Electrical	cycles	440V AC	30000	30000
	Mechanical	cvcles		30000	30000

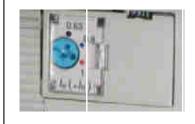
■ Standard • Optional - Not Available

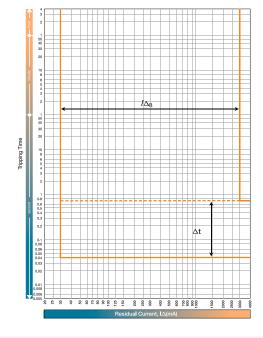


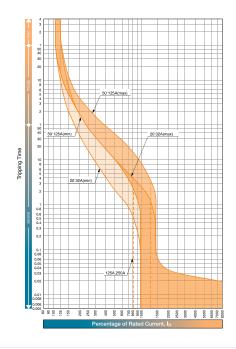
## EB2R adjustments

	Residual current I <sub>D</sub> is the adjustable tripping threshold for earth leakage protection. It can be set between 30mA and 3A. Available settings are 30mA, 100mA, 300mA, 500mA, 1000mA and 3000mA. Available settings are shown below  Time delay Δt is introduced to the residual current (earth leakage) protection characteristic. Available settings are; INST, 60ms, 200ms, 400ms, 700ms and NT.  INST means EB2R set to time delay Δt is introduced to the residual current (earth leakage) protection characteristic. Available settings are; INST means EB2R set to time delay Δt is introduced to the residual current (earth leakage) protection characteristic. Available settings are; INST means EB2R set to time delay Δt is introduced to the residual current (earth leakage) protection characteristic. Available settings are; INST means EB2R set to time delay Δt is introduced to the residual current (earth leakage) protection characteristic. Available settings are; INST means EB2R set to time delay Δt is introduced to the residual current (earth leakage) protection characteristic. Available settings are; INST means EB2R set to time delay Δt is introduced to the residual current (earth leakage) protection characteristic. Available settings are in the residual current (earth leakage) protection characteristic. Available settings are in the residual current (earth leakage) protection characteristic. Available settings are in the residual current (earth leakage) protection characteristic. Available settings are in the residual current (earth leakage) protection characteristic. Available settings are in the residual current (earth leakage) protection characteristic. Available settings are in the residual current (earth leakage) protection characteristic. Available settings are in the residual current (earth leakage) protection characteristic. Available settings are in the residual current (earth leakage) protection characteristic. Available settings are in the residual current (earth leakage) protection characteristic. Available settings		I <sub>n</sub> is the adjustable tripping threshold for overload protection. It can be set between 0,63 and 1,0 times I <sub>n</sub> . Available I <sub>n</sub> ratings are shown below	I, is the tripping threshold for short-circuit protection. It is fixed at the values shown below
Model	IΔ <sub>n</sub>	Δt (ms)	In (A)	l <sub>i</sub>
EB2R 125	0.03, 0.1, 0.3, 0.5, 1, 3	0(40), 60(195), 200(365), 400(620), 700(950), NT (∞)	20, 32, 50, 63, 100	12 x In (+/- 20%)
EB2R 125	0.03, 0.1, 0.3, 0.5, 1, 3	0(40), 60(195), 200(365), 400(620), 700(950), NT (∞)	125	10 x ln (+/- 20%)
EB2R 250	0.03, 0.1, 0.3, 0.5, 1, 3	0(40), 60(195), 200(365), 400(620), 700(950), NT (∞)	160	13 x ln (+/- 20%)
EB2R 250	0.03, 0.1, 0.3, 0.5, 1, 3	0(40), 60(195), 200(365), 400(620), 700(950), NT (∞)	250	10 x ln (+/- 20%)







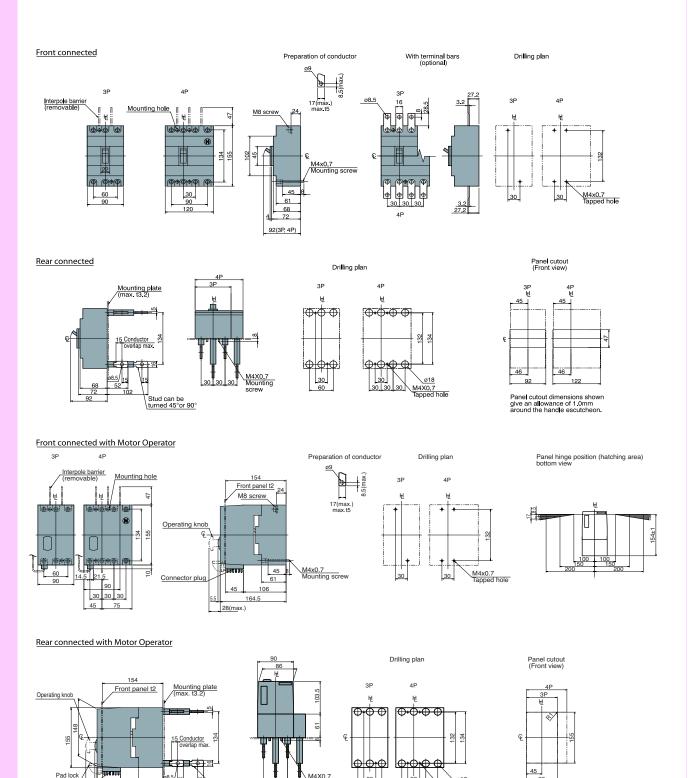




#### **ETIBREAK**

### **Dimensions**

#### EB2 & EB2R 125



Panel cutout dimensions shown give an allowance of 1.5mm around the handle escutcheon.

Stud can be turned 45°or 90°

Connector plug

28(max.)



#### EB2 160, EB2 250 & EB2R 250

