

Introduction

This instruction manual is related to installation, wiring using and maintenance of ELCBs.

Notes of Safety

Before using this ELCBs, you should first thoroughly read this manual, in order to understand appropriate usage and handling.

This instruction manual classify rank of safe heading to Danger and Caution.



: In case of using by mistake, it's possible to be died or got badly injured.



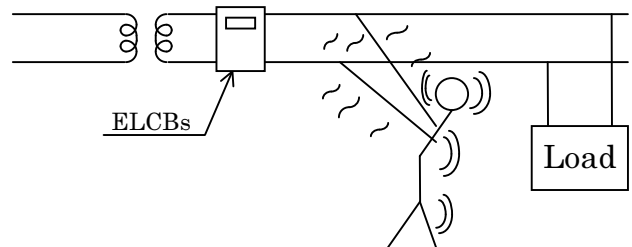
: In case of using by mistake, it's possible to be got a alight wound, or to be damaged physically.

Written by CAUTION, according to circumstance, it's possible to result in serious damage.

Notes of Installation



- ELCBs cannot assure electric-shock prevention from two energized lines.



- Don't touch electric connecting. There is in danger of electric-shock..

 **CAUTION**

- In case circuit breaker has tripped. Operate it after get rid of the cause.
- Check whether tripped by pushing the test button one month. In case of non-tripped, it's damaged. Operate the ELCB to off and you make contact with a profession.
- Maintenance should be done a professional.
There is in danger of electric-shock.

Notes of Installation

 **CAUTION**

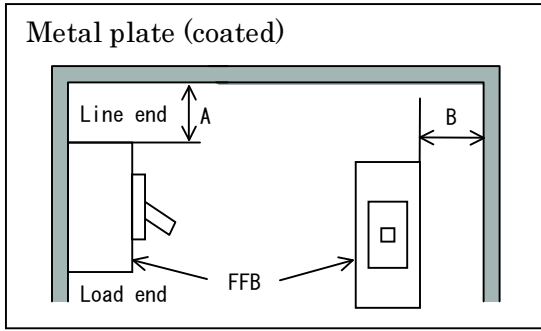
- Construct electrical construction by qualified person.
- At the time of wiring, Check the wire is anenegized. There is in danger of electric-shock..
There is in danger of electric-shock.
- Neutral terminal of ELCBs for 1 ϕ 3W and 3 ϕ 4W should be connected with neutral wire, or it's possible to fire.
- Connect with rated voltage power supply.
- A detective line for faults in phase should be connected with neutral wire of load.
- Don't install at abnormal environment. There is in danger of a fire.
- Be careful so that foreign article and rain may not get in when install.
- At the time of wiring, Don't tighten more than appropriate tightening torque. There is in danger of ELCBs is damaged.
- Use the bolts of the attachment. There is in danger of a fire when using excluding the bolts of the attachment.

1. Before installation

Before installation, be sure whether Type, Rating current, Frequency marked on the name plate are agree with ordered specifications and whether there are no fallen off parts or any damaged portions.

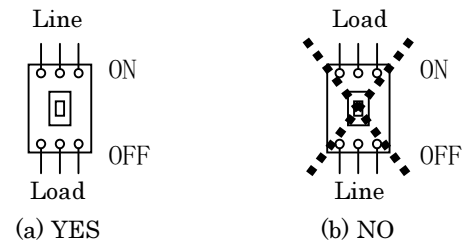
2. Installation

Insulation clearance on line end of ELB is as follows:



Classification	ELB Frame	Minimum Dimensions(mm)	
		A	B
1	30A Frame 50A Frame RXK100-S (less than 50A) RXK100-H (less than 50A)	30	25
2	60A Frame, 100A Frame 125A Frame RXK100-S (excess 50A) RXK100-H (excess 50A)	40	40
3	225A Frame 250A Frame	50	40
4	400A Frame 600A Frame 800A Frame(EX,RX)	80	50
5	800A Frame(RF) 1000A Frame 1200A Frame	150	100

(1) Line and Load connections must not be reversed.



(2) Connection

Tighten conductor connecting screw appropriate tightening torque, showed instruction manual.

Appropriate Tightening Torque of Terminal Screw

(unit N·m)

Type	Appearance	Front connecting type					Rear connecting type									
		M5	M6	M8	M10	M12	Rear connecting Studs type (less than 100A frame)					Rear connecting Bar Studs type (more than 225A frame)				
							A					B				
EB-30E, EB-50E		2.5 ~3.5	-	-	-	-	-	-	-	-	-	-	-	-	-	
EX30, EX50, EX50B, EX50C																1.5 ~2.0
RX100 (less than 50A), RXK100-S (less than 50A), RXK100-H (less than 50A)		-	4.0 ~5.0	-	-	-	M5 2.5~3.5	-	-	-	M8 5.5~7.5	-	-	-	-	-
EX60, EX60B, EX100, EX100B, RX100 (excess 50A), EB-100E, RXK100-S (excess 50A), RXK100-H (excess 50A), RXK125-S, RXK125-H		-	-	5.5 ~7.5	-	-	-	-	4.0 ~5.0	-	-	-	8~10	-	-	-
EX225, EXK225, RX225F, RXK225-S, RXK225-H, RXK250-S, RXK250-H, RXW225	-	-	10~13	-	-	-	-	8.0 ~10	-	-	M8 10~13	-	-	-	-	-
EX400, RX400, EX400B, RX400B, RG-225BN(H)	-	-	-	20~27	-	-	-	-	10 ~13	-	M8 10~13	-	-	-	-	-
RG-400BN(H), RF-600FN, EX600B, RX600B, EX800B, RX800B	-	-	-	-	40~50	-	-	-	40 ~50	-	-	-	-	40 ~50	-	-
RF-800KN, RF-1000KN, RF-1200KN, RF-1000CBN, RF-1200CBN	-	-	-	-	40~50	-	-	-	-	-	-	-	-	40 ~50	-	-

3. Using

(1) Normal service condition

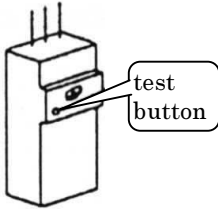
- Ambient temperature : ELB : -10°C to 40°C
- Relative humidity : 45% to 85%
- Altitude : 2,000m or lower
- Atmosphere : must be free corrosive gas, combustible gas, dust, vapor, salt, etc.

- (2) Push the test button once a month
- (3) In case ELCBs has tripped.
Operate it after get rid of the cause.

Measurement point		Test		Insulation resistance		Withstand voltage	
		ON	OFF	ON	OFF		
Handle position		ON	OFF	ON	OFF	ON	OFF
From live parts to ground		○	○	○	○	○	○
Interphase	R - S	○	○	○	○	○	○
	S - T	○	○	○	○	○	○
	R - T	Line side	△	○	×	○	○
		Load side	△	△	×	×	×
From line to load terminals		-	○	-	○	-	○

4. Maintenance

Inspection and Countermeasure

	Inspection Head	Countermeasure
1	Confirm that a terminal screw and a screw which tighten a electric wire don't loose.	If a looses, please tighten more. (The most suitable torque to tighten is shown in page 3.)
2	Inspect that terminal and part of conductor joint don't become faded by raise in unusual temperature or there is no crack on molded case and cover.	When you inspect on your eyes, if terminal, part of conductor joint and mold become faded(by overheated), or crack, change new product.
3	Inspect that there is no dust, adherent oil or cutting waste and wiring waste as conductive foreign substance on the surface of Earth Leakage Breaker, especially around terminal of upper power source.	After absorb the dust with cleaner, wipe the ELB with dry and clean cloth.
4	Confirm whether ON/OFF operation can be done by handle and tripped correctly by pushing the test button. 	About ELCBs which is "ON" position for a long time, handling switch is effective for prevention of increasing friction by handling of lubricant which is spread on switching mechanism and of unusual fever by movement action of contact.