TECO

Digital Electronic Over Current Relays

New Digital EOCR with Communlcation

Digital Type

- Improved measurement accuracy (1% Class)
- High-frequency component filtering (leakage, ground fault)
- High Sensitivity, Instantaneous Operation / Leakage Current Protection (30msec / 30mA)
- Harmonic Distortion Measurement (THD) and Alarm Output
- Temperature / Humidity sensor built-in
- LED on the main unit indicates operation / stop / trip
- Modbus-485 communication (up to 200 connections possible)
- Protection against short-circuit of the power source due to transient voltage and alarm output

- 3DM2 / FDM2
- i3DM / iFDM
- i3M420/iFM420

Monitoring
- PDM

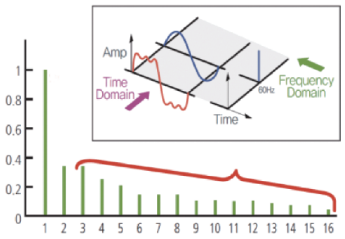
- Current transformer
- 100 ~ 960A

EOCR-SE2/SS/SSD/DS3(T)

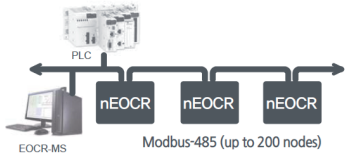
- Electronic motor protection relay
- New technology against thermal overload realys
- Easy to use

SMART EOCR enhances existing protection and incorporates customer requirements

Monitoring THD and alarm output



Communication,
Monitoring
Modbus-485 Communication (up to 200 connections possible)



Application

Residential Building
- Building
- Office
- Commercial Building
- Residential Building
- Hospital

Industrial
- Petrochemical
- Semiconductor
- Electronic
- Chemical
- Pharmaceutical
- Glass
- Cement
- Steel
- Paint
- Food

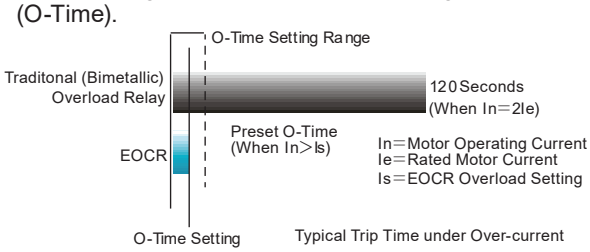
Public Construction
- Power Plant
- Sewage Treatment
- Airport
- MRT/Railway
- Shipbuilding

Features

- Compact Design
- MCU Based
- Multiple Protection Functions
- Wide Current Adjustment Range (10:1)
- Ammeter Function & Trip Indication
- Easy Troubleshooting & Run Monitor
- Manual Instantaneous / Electrical Remote Reset
- Test Function
- Ambient Insensitive
- Fail-safe Operation

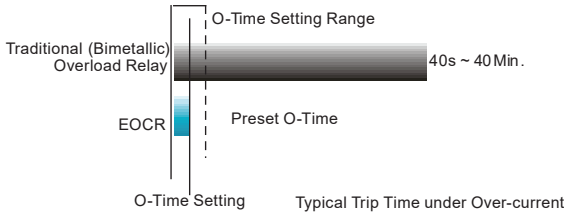
Over-current Protection

Over-current protection is provided by tripping the relay when motor operating current (In) exceeds over-current setting (Is) of EOCR for a period longer than the preset operating time (O-Time).



Phase Loss Protection

During a phase loss, the motor winding current may increase by 150% or more.
As the motor winding current increases, the winding temperature may increase and possibly damage the winding insulation.
The quick trip time on EOCR helps to prevent over-current damage to the windings.



Ammeter Function & Trip Indication

Indication LED on the dial plate provides trip indication and ammeter functions.
The LED starts to flash at the point where motor current is equal to current setting level (Is), so user can verify motor current by reading the LOAD adjustment scale on the dial plate.
This also provides an accurate current setting. The LED is illuminated when motor current exceeds current setting (Overload Status).
After tripping has occurred, the LED stays on until the relay is reset.
The trip indication is also an important feature of a multiple relay & contactor (starter) installation.

Manual / Electrical Remote Reset

Manual Reset : Pushing RESET button on the dial plate or interrupting power supply provides manual instantaneous reset.

Electrical Reset : Electrical remote reset is also provided by panel-mounted RESET button.

Low Energy Consumption

EOCR-SS uses only 250mA of power, much less than thermal bimetallic overload relays. The result is significant cost savings over the life of relays up to 20 times cost saving than TOR (Thermal Overload Relays)

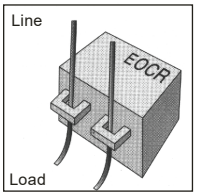
Wide Adjustable Range

EOCR has a wide current adjustment range of over 10:1. It enables three type models to cover a wide range from 0.1A up to 600A thus reducing the number and type of relays that must be inventoried for spare purposes.

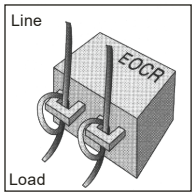
Looping Option

Some motor size may require only one-third or one-fourth of particular EOCR current range. These installations can be accommodated by looping the motor wire 2 or 3 times through the integral current transformers of the EOCR. This reduces the number and type of relays inventoried for spare purposes. Each additional loop will increase the current measured as indicated by the following chart.

Type	No. of Loops	Time of Passing	Current Set. Range(A)
05	0	1	0.50～6.0A
Looping Option	1	2	0.25～3.0A
	2	3	0.17～2.0A
	3	4	0.12～1.5A
	4	5	0.10～1.2A



Straight-through-Wiring



Looping Option (1-Loop)

Option for External Current Transformer

05 type of each model fitted to an external current transformer and can achieve higher ampere ranges. (Ext. CT Option)

	Type	Current Ratio of Ext. CT	Current Setting Range
	05	–	0.5～6A
Ext. CT Option	100	100 : 5	10～120A
	200	200 : 5	20～240A
	300	300 : 5	30～360A
	400	400 : 5	40～480A

Ext. CT

Specification

Model		EOCR-SS	EOCR-SE2	EOCR-DS3(T)	EUCR	EOCR-SSD	EOCR-3DM2-Z EOCR-FDM2-Z	EOCR-i3DM-Z EOCR-iFDM-Z	EOCR-i3M420-Z EOCR-iFM420-Z
Protection function	Overcurrent	●	●	●		●	●	●	●
	Undercurrent				●		●	●	●
	Phase loss	◎⑤	◎⑤	●⑥		◎⑥	●⑥	●⑥	●⑥
	Imbalance						●	●	●
	Phase reversal			●⑥			●⑥	●⑥	●⑥
	Jam	◎	◎	●		●	●	●	●
	Stall						●	●	●
Time-current characteristic	Definite	●	●	●	●	●	●	●	●
	Inverse						●	●	●
CT type	2CT	●	●		●	●			
	3CT			●			●	●	●
Wiring method	Built-in CT	●	●	●	●	●	●	●	●
	Contactor			● (DS3T)					
Mounted	DIN Rail	●	●	●	●	●	●	●	●
	Flush mount						●	●	●⑦
	Contactor mounted			●			●⑦	●⑦	●⑦
Tripping indication	LED indication	●	●	●	●				
	LCD digital indication					●	●	●	●
Troubleshooting instructions				●			●	●	●
Communication								●	●
Alert output							●	●	
4-20 mA output									●
Certification		CE	CE	CE	CE	CE	CE	CE	CE

Note: ①● : Standard ◎ : Indicates protection with overcurrent protection.
②SS,SE2,SSD,DS3,DS3T,EUCR : Current setting 60A above:+External CT(option) / 3DM2-Z,FDM2-Z,i3DM-Z,iFDM-Z : Current setting 80A above:+External CT (option)
③Due to the mass production of electronic products, please contact the reginonal sales for the delivery time.
④1E Relay : Overcurrent protection
⑤2E Relay : Overcurrent, Phase loss protection,
⑥3E Relay : Overcurrent protection, Phase loss protection, Reversal protection.
⑦Terminal type is required.

Ordering Example

E O C R — □ □ □ □ — □ □ — □ □ □

- Model name
  - SS
  - SE2
  - SSD
  - DS3
  - DS3T
- Current range
  - 05 : 0.5-6A
  - 30 : 3-30A
  - 60 : 5-60A (SSD Type 10-60A)
- Control voltage
  - 220 : 24~240V AC/DC

E O C R — □ □ □ □ — □ □ □ — □ □

- Model Name
  - 3DM2
  - FDM2
  - i3DM
  - iFDM
  - i3M420
  - iFM420
- Control voltage
  - 220 : 100~240V AC/DC
- CT type
  - W : Window type
  - H : Botton hole type
  - T : Terminal type
- Revision
  - Z : New type

Specification

SS	SE2	SSD	DS3(T)	3DM2-Z FDM2-Z	i3DM-Z iFDM-Z	i3M420-Z iFM420-Z	Current code	Current setting(A)	Collocation contactor	Three-phase rated current (A) AC3 220V	Maximum rated current (220V)
●	●	●	●	●	●	●	5	0.5~6A	CU-11/12	12A	12A
●	●	●	●	●	●	●	30	3~30A	CU-11/12	12A	12A
●	●	●	●	●	●	●			CU-16/17	16A	16A
●	●	●	●	●	●	●			CU-18	23A	23A
●	●	●	●	●	●	●			CU-22	27A	27A
●	●	●	●	●	●	●	60	5~60A	CU-11/12	12A	12A
●	●	●	●	●	●	●			CU-16/17	16A	16A
●	●	●	●	●	●	●			CU-18	23A	23A
●	●	●	●	●	●	●			CU-22	27A	27A
●	●	●	●	●	●	●			CU-32R	35A	35A
●	●	●	●	●	●	●			CU-38	39A	39A
●	●	●	●	●	●	●			CU-40R	44A	44A
●	●	●	●	●	●	●			CU-50R	55A	55A
●	●	●	●	●	●	●	05+CT(100:5)	10~120A	CU-65R	65A	65A
●	●	●	●	●	●	●			CU-80	75A	75A
●	●	●	●	●	●	●			CU-90	85A	85A
●	●	●	●	●	●	●			CN-100-R	115A	115A
●	●	●	●	●	●	●	05+CT(150:5)	15~180A	CN-125-R	138A	138A
●	●	●	●	●	●	●			CN-150R	151A	151A
●	●	●	●	●	●	●			CN-180	180A	180A
●	●	●	●	●	●	●	05+CT(200:5)	20~240A	CN-220	225A	225A
●	●	●	●	●	●	●	05+CT(300:5)	30~360A	CN-300	300A	300A

Note : i3DM-Z&iFDM-Z : Thermal protection/ Inverse available up to 32Amps without external CTs.

EOCR-SS

EOCR-SE2

EOCR-DS3

EOCR-DS3T

EOCR-SSD

EOCR-i3DM-Z (Window type)

EOCR-i3DM-Z (Botton hole type)

EOCR-i3DM-Z (Terminal type)

EOCR-iFDM-Z (Window type)

EOCR-SS

EOCR-SS

- 2 Integral Current Transformer
- Normally relay energized (N type)
- Independently Adjustable Starting Trip Delay (D-TIME) & Operating Time (O-TIME)

Protection

Protective Item	Operating (Trip) Time
Over-current	O-TIME
Phase-Loss	O-TIME
Locked Rotor	O-TIME

Specification

Current Setting	Current Range
	SS-05 : 0.5～6A
	SS-30 : 3～30A
	SS-60 : 5～60A
	60A above : SS-05+ External CT
Trip Time Setting	D-TIME : 0.5～30 sec
	O-TIME : 0.5～10 sec
Rated Insulation Voltage	600VAC
Control Voltage (50/60Hz)	220V : 24～240VAC/DC
Output Relay	Contact status : 1a1b 3A/250VAC , 5A/30VDC/ "Normally energized (N type)" "De-energized (R type)"
Reset	Manual : Pressing reset button or control voltage interruption
	Electronic : Reset after stopping power supply
Ambient Temperature (Operating)	−20～+60℃
Ambient Temperature (Storage)	−30～+80℃
Dielectric Strength	Between casing & circuit : Over 2kV (50/60Hz) for 1 min.
	Between open contacts : 1kV (50/60Hz) for 1 min.
	Between circuit : 2kV (50/60Hz) for 1 min.
Consumed Power	below 2W
Time Characteristic	Definite
Trip Indication	2 LED Lights
Mounting	35mm Din Rail or Screw Mounted

EOCR-SE2

EOCR-SE2

- 2 Integral Current Transformer
- Cost-effective product

Protection

Protective Item	Operating (Trip) Time
Over-current	O-TIME
Phase-Loss	O-TIME
Locked Rotor	O-TIME

Specification

Current Setting	Current Range
	SE2-05 : 0.5～6A
	SE2-30 : 3～30A
	SE2-60 : 5～60A
	60A above : SE2-05+ External CT
Trip Time Setting	O-TIME : 0.5～15 sec
Rated Insulation Voltage	600VAC
Control Voltage (50/60Hz)	220V : 24～240VAC/DC
Tolerance	Current : ±10%
	Time : ±15%
Output Relay	Contact status : 1c 3A/250VAC , 5A/30VDC "De-energized (R type)" NC : 95 96
Reset	Manual : Pressing reset button or control voltage interruption
	Electronic : Reset after stopping power supply
Ambient Temperature (Operating)	−20～+60℃
Ambient Temperature (Storage)	−30～+80℃
Dielectric Strength	Between casing & circuit : Over 2kV (60Hz) for 1 min.
	Between open contacts : 1kV (60Hz) for 1 min.
	Between circuit : 2kV (60Hz) for 1 min.
Consumed Power	below 2W
Time Characteristic	Definite
Trip Indication	2 LED Lights
Mounting	35mm Din Rail or Screw Mounted
Insulation	Between casing and circuit : over 10MΩ,DC 500V

EOCR-DS3(T)

EOCR-DS3T

EOCR-DS3

- 3 Integral Current Transformer
- Independently Adjustable Starting Trip Delay (D-TIME) & Operating Time(O-TIME)

Protection

Protective Item	Operating (Trip) Time
Over-current	O-TIME
Phase-Loss	4 sec
Locked Rotor	D-TIME
Phase Reversal	0.3 sec
Time Characteristic	Definite

Specification

Current Setting	Current Range
	DS3(T)-05 : 0.5～6A
	DS3(T)-30 : 3～30A
	DS3(T)-60 : 5～60A
	60A above : DS3-05+External CT
Trip Time Setting	D-TIME : 0.5～50 Sec.(Adjustable)
	O-TIME : 0.5～10 Sec.(Adjustable)
Rate Insulation Voltage	600VAC
Control Voltage (50/60Hz)	220V : 24～240VAC/DC
Output Relay	Contact status : 1a1b 3A/250VAC "Normally relay energized (N type)" "De-energized (R type)"
Reset	Manual : Pressing reset button or control voltage interruption
	Electronic : Reset after stopping power supply
Ambient Temperature (Operating)	−20～+60℃
Ambient Temperature (Storage)	−30～+80℃
Dielectric Strength	Between casing & circuit : 2kV (50/60Hz) for 1 min.
	Between open contacts : 1kV (50/60Hz) for 1 min.
	Between circuit : 2kV (50/60Hz) for 1 min.
Consumed Power	below 2W
Time Characteristic	Definite
Trip Indication	2-LED Lights
Mounting	35mm Din Rail (DS3) Screw Mounted (DS3T)

EOCR-DS3(T)

Feature

- Compact Design
- MCU Based
- Multiple Protective Functions
- Wide Current Adjusment Range (10:1)
- Ammeter Function & Trip Indication
- Easy Trobuleshooting & Run Monitor
- Manual Reset / Electrical Remote Reset
- Test Function
- Ambient Insensitive
- Normally relay energized (N type)

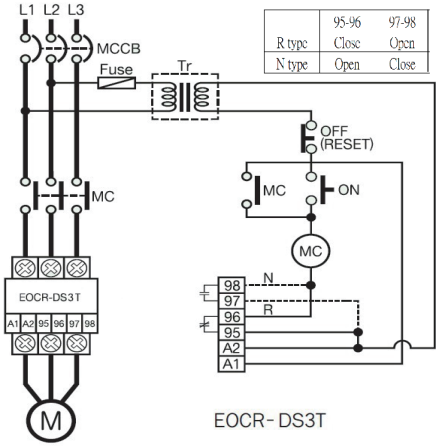
Run Monitor & Troubleshooting with 2-LED's Light

2 LED Lamps on the dial plate provide easy troubleshooting and run-monitor functions

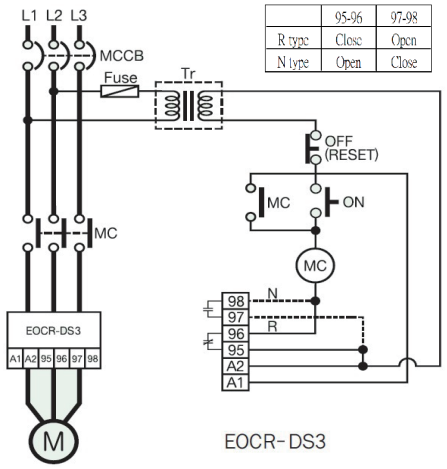
Motor Status				LED Output / Pulse Signal			
				Green LED		Orange LED	
1	Stop (Power Input)			On		Off	
2	Starting			Flash		Flash	
3	Normal Running			On		Off	
4	Overloading			On		Flash	
5	Trip	Over-current		Off		On	
		Locked Rotor		Off		Flash	
		Phase Loss	R	Off		Flash	
			S	Off		Flash	
			T	Off		Flash	
	DS3(T)	Phase Reversal		2LED's flash alternatively			

Typical wiring schematic

* In case line voltage in 380V or 440V. the isolated step-down transformer for power supply to EOCR should be used.

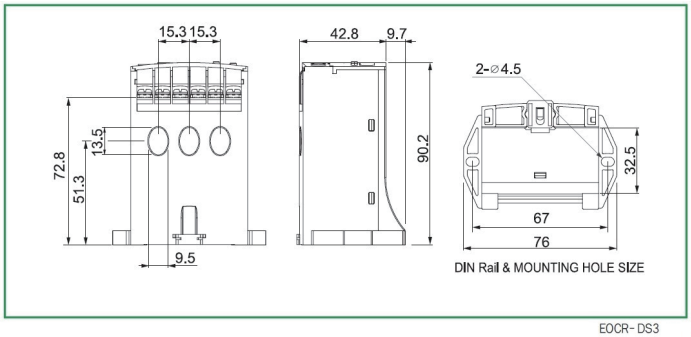


EOCR-DS3T

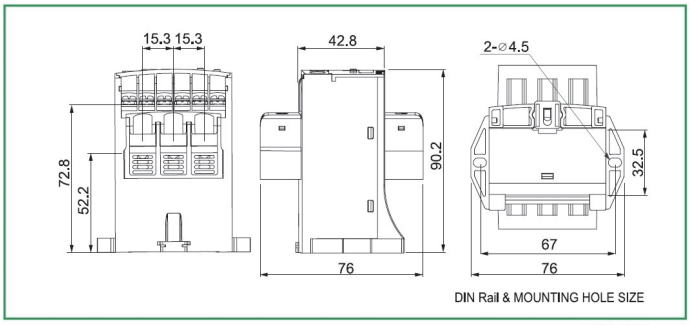


EOCR-DS3

Dimensions

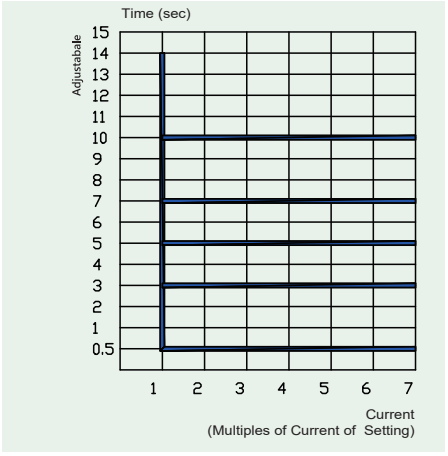


EOCR-DS3



EOCR-DS3T

Definite characteristic



EUCR

Image for reference only.

- Under current protection
- Wide current setting range
- Operating current check
- Definite operation time characteristics
- Manual (instant)/electrical (remote) reset
- Strong environmental resistance
- Super energy-saver
- Only R-Type products are manufactured (Non-fail-safe mode)
- Operates by under current if there is no current flow on the line (when the frontal No Load Trip switch is set to On)

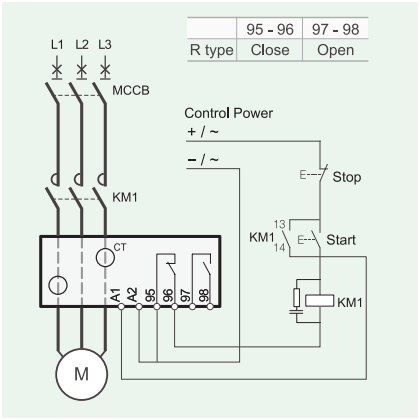
Protection

Protected Items	Operation Time
Under Current (light-load)	O-TIME

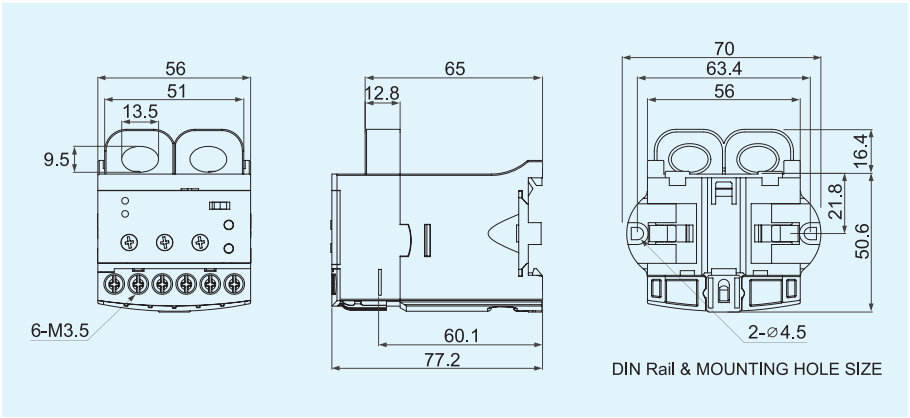
Specification

Current Setting		Type	Setting Range
		5	0.5~6A
		30	3.0~30A
		60	5.0~60A
Time Setting	Operation Time	O-TIME	0.5~30 sec
		R-TIME	0.5~120 sec, oFF
Reset			Manual/auto electrical reset
Operation Time Characteristic			Definite
Operating Power Supply	Voltage		24~240V AC/DC
	Frequency		50/60Hz
Auxiliary Contact	Format		2-SPST (1a1b)
	State		Normally de-energized (R type)
	Rating		AC250V/3A resistive load
Attachment			35mm DIN Rail/Panel

Typical wiring schematic



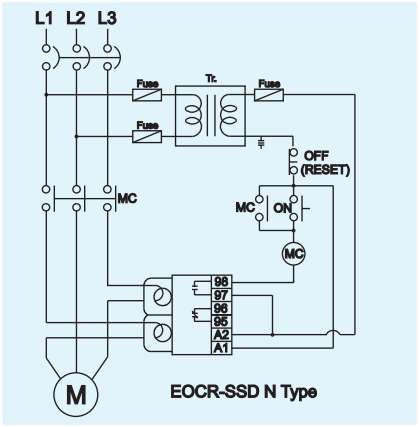
Dimensions

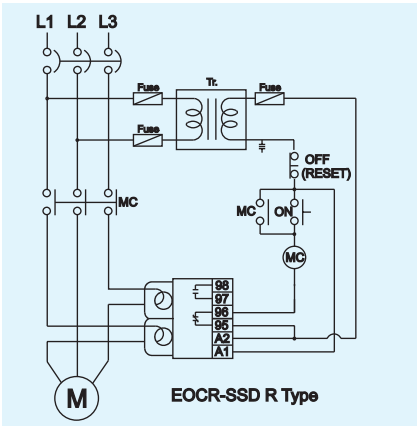


EOCR-SSD

- MCU(Micro Controller Unit) based / 2-CT Type
- Current Setting Renge - 05Type : 0.5 ~ 6A / 30Type : 3 ~ 30A / 60Type : 10 ~ 60A
- CT is required when the current exceeds 60A
- Digital display : trip cause / easy troubleshooting
- Reset : Manual (instantaneous) / Electrical (remote)
- Load selection by DIP switch : Single phase(1P) / Three phase(3P)
- Fail safe(N) / Non-fail safe(R)

Typical wiring schematic





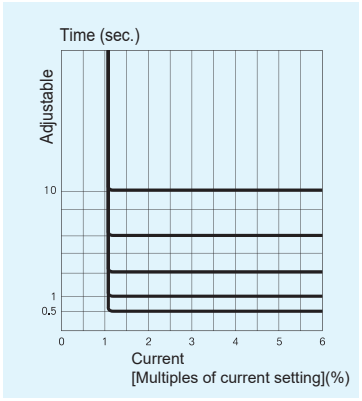
Protection

Protective Item	Trip Time	Description
Over-current	O-Time	Is< In
Phase Loss	3sec	[(MAX - MIN) / MAX] ×100>90
Locked Rotor	0.5sec after elapse dt	≥ 3times OC setting value

Specification

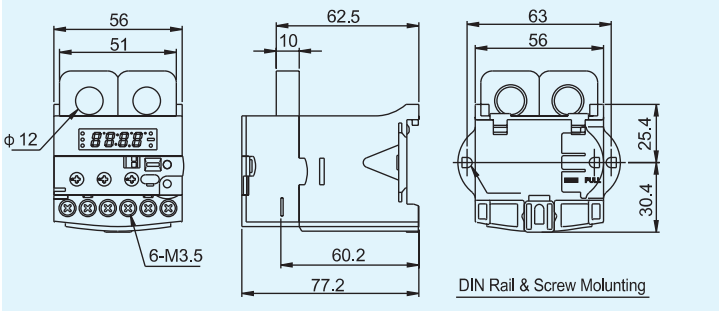
Over-current Setting	Current	05	0.5 ~ 6A
		30	3 ~ 30A
		60	10 ~ 60A
	Starting delay time	D-Time	1 ~ 30sec
	Trip time	O-Time	0.5, 1 ~ 10sec
Reset			Manual / Electrical
Operating t-c characteristic		Over-current	Definite
Tolerance		Current	I<1A : ± 0.05A, I ≥ 1A : ± 5%
		Time	t≤ 3S : ± 0.2s, t>3s : ± 5%
Environment	Temperature	Operation	-20 ℃ ~60 ℃
		Store	-30 ℃ ~80 ℃
	Humidity		30~85% RH non-condensing
Control Power			110 : 110VAC ±15%, 50/60Hz
			220 : 220VAC ± 15%, 50/60Hz
			440 : 440VAC ± 15%, 50/60Hz
			24:240VAC/DC
Contact Rating		2-SPST	3A / 250VAC , Resistive
Insulation	Between casing and circuit		Over 10Ω , DC500V
Dielectric Strenghth	Between casing and circuit		2000VAC 60Hz, 1min
	Between open contacts		1000VAC 60Hz, 1min
	between circuit		2000VAC 60Hz, 1min
Installation			35mm Din Rail or Panel Mounting

Definite characteristic



Definite Time Characteristic of EOCR-SSD

Dimension



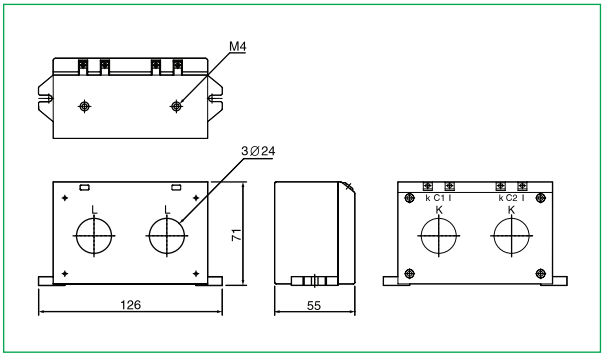
2CT-□□□ Current Transformer

- Fitted to EOCR relays for Large Amp Motor Protection
- 1.0 Measuring Class
- For EOCR Only

Specification

Model	2CT-100	2CT-150	2CT-200
Current Ratio	100 : 5A	150 : 5A	200 : 5A
Class	1.0	1.0	1.0
Burden	5VA	5VA	5VA
Insulation Voltage	600VAC		
Dielectric Strength	2kV		
Insulation	10MΩ(500VDC)		
Mounting	Panel		

Dimensions



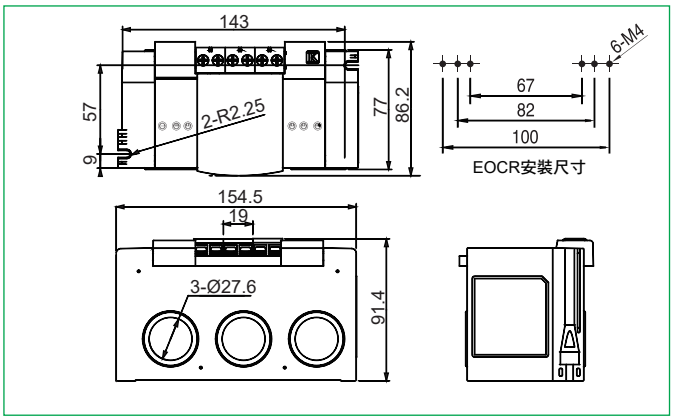
3CT-□□□Z Current Transformer

- Fitted to EOCR relays for Large Amp Motor Protection
- 3.0 Measuring Class
- For EOCR Only

Specification

Model	3CT-H1-100-ZTQ	3CT-HH-150-ZTQ	3CT-H2-200-ZTQ	3CT-H3-300-ZTQ	3CT-H4-400-ZTQ
Current Ratio	100：5A	150：5A	200：5A	300：5A	400：5A
Class	3.0	3.0	3.0	3.0	3.0
Burden	1.25VA	1.25VA	1.25VA	1.25VA	1.25VA
Insulation Voltage	600VAC				
Dielectric Strength	2kV				
Insulation	10MΩ(500VDC)				
Mounting	Panel				

Dimensions



New digital

Specification

Model		3DM2-Z/ FDM2-Z	i3DM-Z/ iFDM-Z (Communication)	i3M420-Z/iFM420-Z (Communication)
Control voltage		AC/DC 100 ~ 240V	AC/DC 100~240V	AC/DC 100~240V
Frequency		50/60 Hz	50/60 Hz	50/60 Hz
Single phase		●	●	●
Three phase		●	●	●
CT connection	Window hole	●	●	●
	Bottom hole	●	●	●
	Terminal	●	●	●
Protection function	Over current	●	●	●
	Under current	●	●	●
	Stall	●	●	●
	Jam	●	●	●
	Phase loss	●	●	●
	Phase reversal	●	●	●
	Imbalance	●	●	●
	Thermal inverse	—	●	●
Auxiliary functions	Alert output	A, F, H	A, F, H	—
	4-20mA output	—	—	●
	Bar-graph	●	●	●
	Display	5 Digit 7 Segment	5 Digit 7 Segment	5 Digit 7 Segment
	Password function	—	●	●
	Fail safe ON/OFF	●	●	●
	Trip cause display and Store	●	●	●
	Total running hour	●	●	●
	Reset	Manual/Auto/Electric	Manual/Auto/Electric	Manual/Auto/Electric
Comm. protocol		—	MODBUS RS-485	MODBUS RS-485

EOCR-3DM2-Z / FDM2-Z

EOCR-3DM2-Z Window type

EOCR-FDM2-Z Window type

EOCR-3DM2-Z Bottom hole type

EOCR-FDM2-Z Bottom hole type

EOCR-3DM2-Z Terminal type

EOCR-FDM2-Z Terminal type

General features

- Micro-controller unit based
- Real time processing / High precision
- Protections : Over current, Under current, Phase loss, Phase reversal, Stall, Jam, Current Imbalance
- Thermal protection / Inverse available up to 32Amps without external CTs.
- Auxiliary functions : Fail safe, Pre-alarm (3DM2-Z/FDM2-Z), Accumulated running hour, 3 faults records & limitation of auto-restart.
- Bar graph indication of a load current to the current setting.
- Available application on single and 3 phase motor
- RoHS Compliance
- For FDM2-Z, normal protections are guaranteed even if PDM is disconnected.

Specifications EOCR-3DM2-Z / FDM2-Z

Over current		Rated setting range (A)		Definite TCC : 0.5~80A : use external CT higher than 80A	
				Inverse TCC : 0.5~32A : use external CT higher than 32A	
Under current		Rated setting range (A)		0.5A ~ less than oc setting	
Operating time characteristics				Definite(Def) / Inverse(Inv)	
Time setting	Def	D-time		0~200s	
		O-time		0.2~30s	
	Auto-reset			0.5s~20min.	
	Reset mode			Manual reset (H-r) / Electric reset (E-r) / Auto-reset (A-r)	
Tolerance	Current			1＜1A：±0.05A, 1≧1A：±1%	
	Time			1≦3s：±0.2s, t＞3s：±1%	
Control power	Voltage			100~240VAC/DC (85% ~110%, Free voltage),	
	Frequency			50/60Hz	
	Power consumption			Lower than 5VA (3W)	
Output	Capacity			3A/250VAC resistive.	
	Composition			1a1b : OC	
				1a : AL	
Display	7 segment LED			3 phase amps, Cause of trip, Setting parameters indication.	
	Bar-graph			Load factor.	
Mounting				Panel mounting (3DM2-Z)	
				Flush mounting (FDM2-Z)	
Insulation		Between case & circuit		Over DC500V 10MΩ	
Dielectric strength		Between case & circuit		2kV, 50/60Hz, I Min.	
		Between contacts		1kV, 50/60Hz, I Min.	
		Between circuit		2kV, 50/60Hz, 1 Min	
Electrostatic discharge (ESD)		IEC61000-4-2		Level 3 : Air discharge : ±8kV, Contact discharge : ±6kV	
Radiated disturbance		IEC61000-4-3		Level 3 : 10V/m, 80 ~ 1000MHz	
Conducted disturbance		IEC61000-4-6		Level 3 : 10V,0.15 ~ 80MHz	
Surge		IEC61000-4-4		Level 3 : ±2kV, 1 Min.	
EFT/Burst		IEC61000-4-5		Level 3 : 1.2 x 50μs, ±4kV (0˚, 90˚, 180˚, 270˚)	
Emission		CISPR11		Class A (Conducted and radiated)	
Environment	Temperature	Store		-40˚C ~ +85˚C	
		Operation		-20˚C ~ +60˚C	
	Humidity			30~85% RH (Non-condensate)	
Dimension		Window type		70W × 74.5H × 83.8D	
		Bottom hole type		70W × 56.3H × 108.1D	
Weight				**3DM2-Z**	**FDM2-Z**
	Window type			265g	350g
	Bottom hole type			295g	390g
	Terminal type			295g	390 + 120(PDM) = 510g
	Display (W/3M cable) note.1			—	125g

Note: 3M cable is the standard option, and customized 5M cable is available upon request. For delivery lead time, please contact regional sales office.

EOCR-i3DM-Z / iFDM-Z

EOCR-i3DM-Z Window type

EOCR-iFDM-Z Window type

EOCR-i3DM-Z Bottom hole type

EOCR-iFDM-Z Bottom hole type

EOCR-i3DM-Z Terminal type

EOCR-iFDM-Z Terminal type

General features

- Micro-Controller Unit based
- Real time processing / High precision
- Protections : Over current, Under current, Phase loss, Phase reversal, Stall, Jam,Current imbalance,
- Thermal protection/ Inverse available up to 32Amps without external CTs.
- Auxiliary functions : Fail safe, Pre-alarm(i3DM-Z/iFDM-Z), Accumulated running hour, 3 fault records & limitation of auto-restart.
- Bar graph indication of a load current to the current setting.
- Available application on single and 3 phase motor.
- RoHS Compliance
- For iFDM-Z, normal protections are guaranteed even if PDM is disconnected.

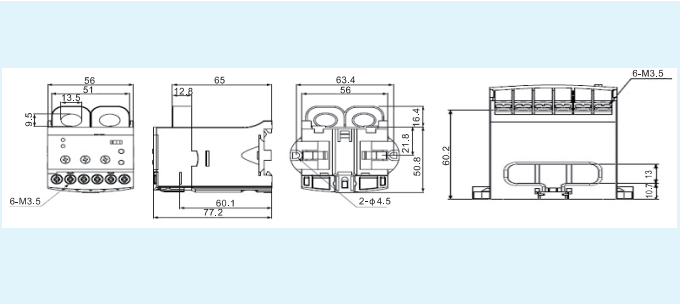
Specifications EOCR-i3DM-Z / iFDM-Z / i3M420-Z / iFM420-Z

Over current			Rated setting range (A)	Definite TCC : 0.5~80A : use external CT higher than 80A	
				Inverse TCC : 0.5~32A : use external CT higher than 32A	
Under current			Rated setting range (A)	0.5A ~ less than oc setting	
Operating time characteristics				Definite(Def) / Inverse(Inv) / Thermal (th)	
Time setting	Def	D-time		0~200s	
		O-time		0.2~30s	
	Auto-reset			0.5s~20min.	
	Reset mode			Manual reset (H-r) / Electric reset (E-r) / Auto-reset (A-r)	
Tolerance	Current			1＜1A：±0.05A, 1≧1A：±1%	
	Time			1≦3s：±0.2s, t＞3s：±1%	
Control power	Voltage			100~240VAC/DC (85% ~110%, Free voltage), 24VAC/DC (±5%) .	
	Frequency			50/60Hz	
	Power consumption			Lower than 5VA (3W)	
Output	Capacity			3A/250VAC resistive.	
	Composition			1a1b : OC	
				1a : AL (i3DM-Z / iFDM-Z)	
				4-20mA (i3M420-Z / iFM420-Z)	
Display	7 segment LED			3 phase amps, Cause of trip, Setting parameters indication.	
	Bar-graph			Load factor.	
Communication				Modbus/ RS-485	
Mounting				Panel mounting (i3DM-Z / iFM420-Z)	
				Flush mounting (iFDM-Z / iFM420-Z)	
Insulation			Between case & circuit	Over DC500V 10MΩ	
Dielectric strength			Between case & circuit	2kV, 50/60Hz, I Min.	
			Between contacts	1kV, 50/60Hz, I Min.	
			Between circuit	2kV, 50/60Hz, 1 Min	
Electrostatic discharge (ESD)			IEC61000-4-2	Level 3 : Air discharge : ±8kV, Contact discharge : ±6kV	
Radiated disturbance			IEC61000-4-3	Level 3 : 10V/m, 80 ~ 1000MHz	
Conducted disturbance			IEC61000-4-6	Level 3 : 10V,0.15 ~ 80MHz	
Surge			IEC61000-4-4	Level 3 : ±2kV, 1 Min.	
EFT/Burst			IEC61000-4-5	Level 3 : 1.2 x 50μs, ±4kV (0˚, 90˚, 180˚, 270˚)	
Emission			CISPR11	Class A (Conducted and radiated)	
Environment	Temperature	Store		-40˚C ~ +85˚C	
		Operation		-20˚C ~ +60˚C	
	Humidity			30~85% RH (Non-condensate)	
Dimension			Window type	70W × 74.5H × 83.8D	
			Bottom hole type	70W × 56.3H × 108.1D	

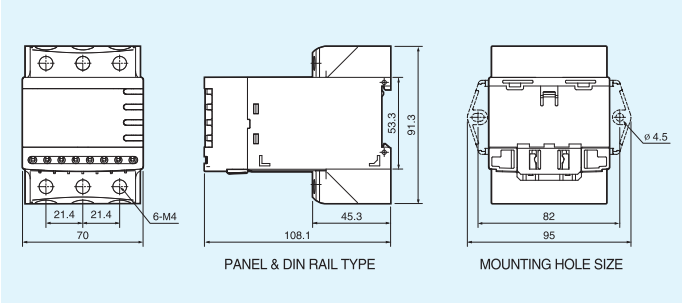
Weight	**i3DM-Z/i3M420-Z**	**iFDM-Z/i3M420-Z**
Window type	330g	420g
Bottom hole type	370g	460g
Terminal type	370g	460 + 120(PDM) = 580g
Display (W/3M cable) note.1	—	125g

Note: 3M cable is the standard option, and ustomized 5M cable is available upon request. For delivery lead time, please contact regional sales office.

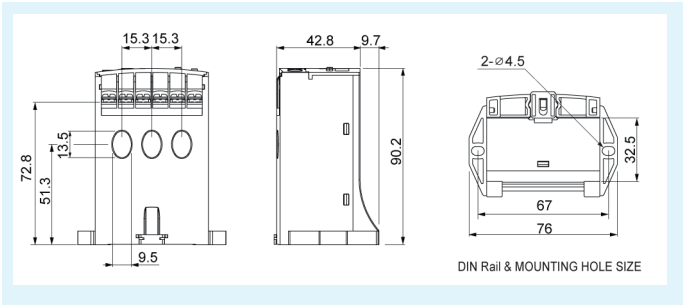
Dimension (mm)



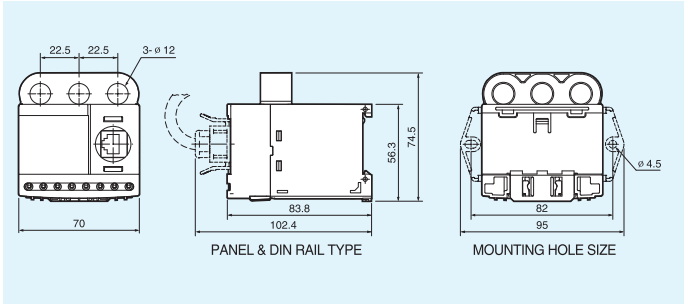
EOCR-SS



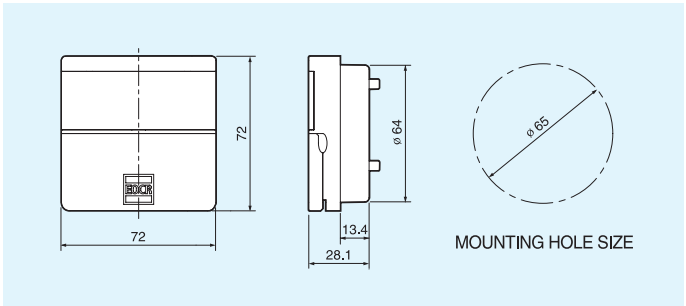
EOCR-3DM2-TZ (Terminal type)



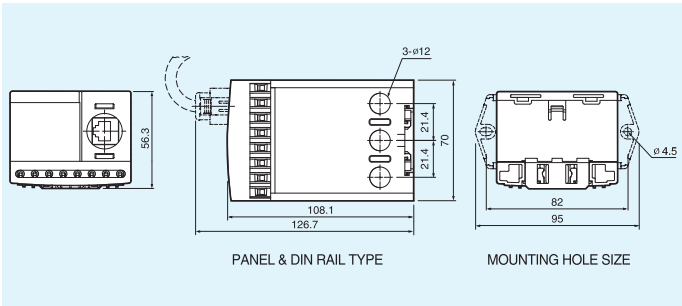
EOCR-SE2



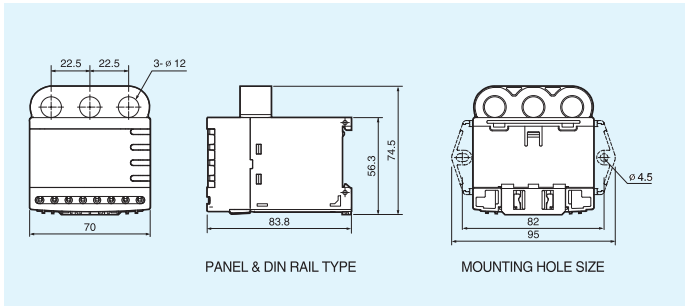
EOCR-FDM2-WZ (Window type)



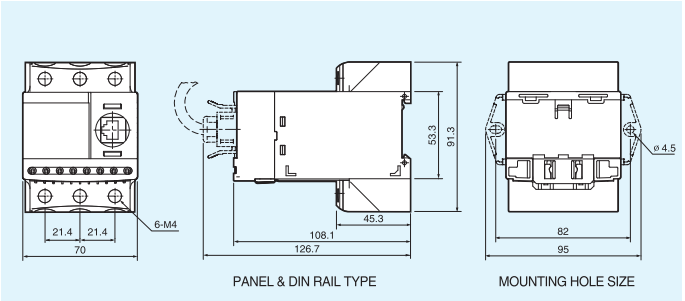
EOCR-PDM (Display)



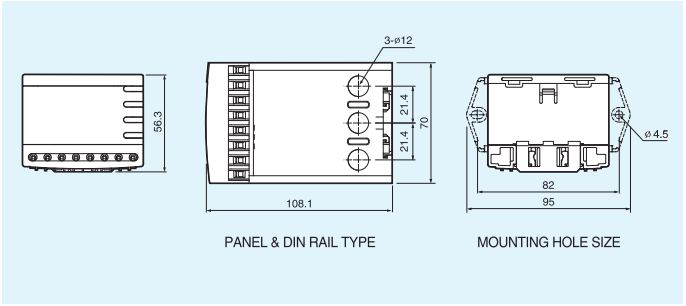
EOCR-FDM2-HZ (Bottom hole type)



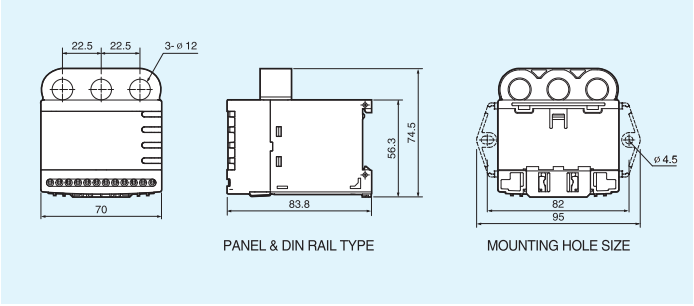
EOCR-3DM2-WZ (Window type)



EOCR-FDM2-TZ (Terminal type)

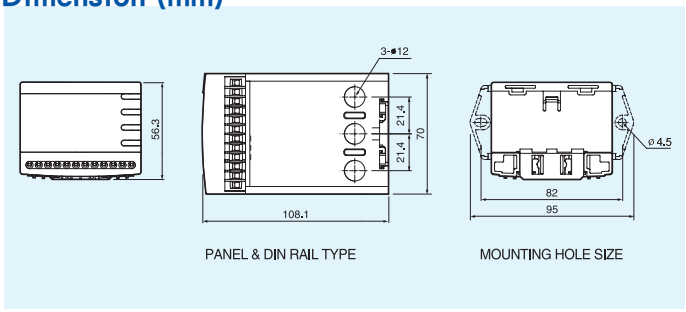


EOCR-3DM2-HZ (Bottom hole type)

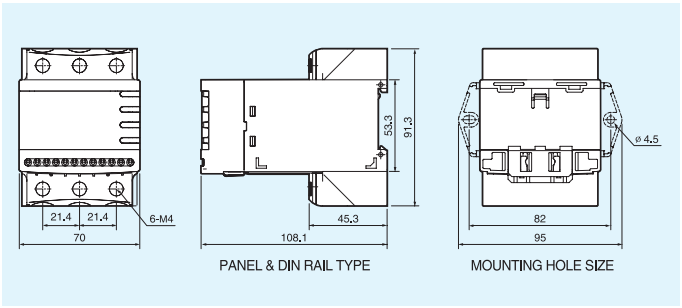


EOCR-i3DM-WZ / i3M420-WZ (Window type)

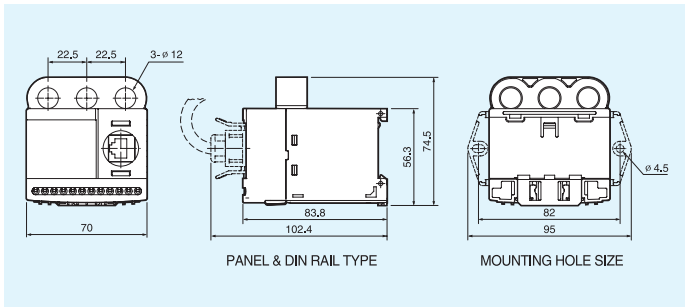
Dimension (mm)



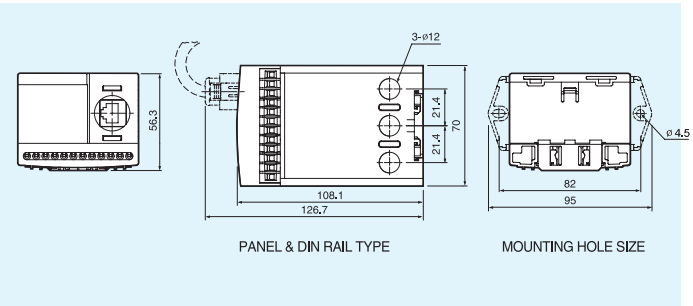
EOCR-i3DM-HZ / i3M420-HZ (Bottom hole type)



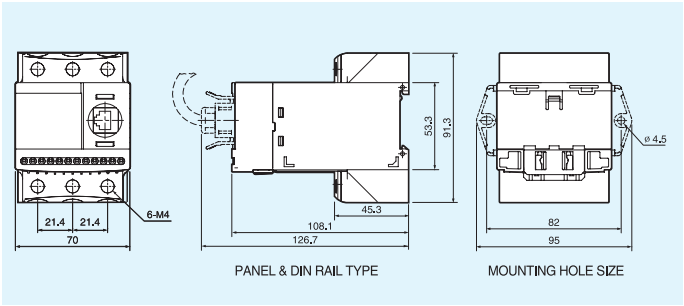
EOCR-i3DM-TZ / i3M420-TZ (Terminal type)



EOCR-iFDM-WZ / iFM420-WZ (Window type)

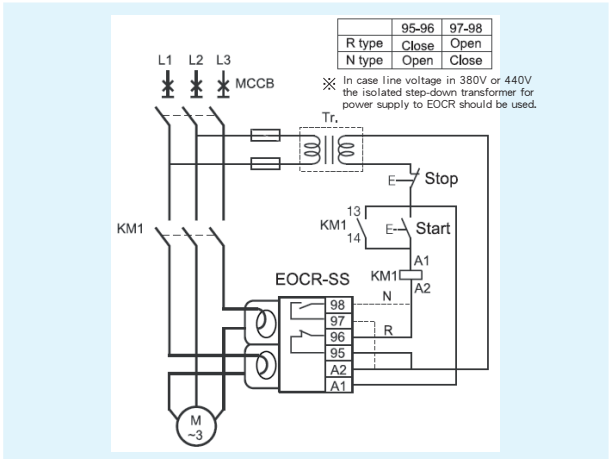


EOCR-iFDM-HZ / iFM420-HZ (Bottom hole type)

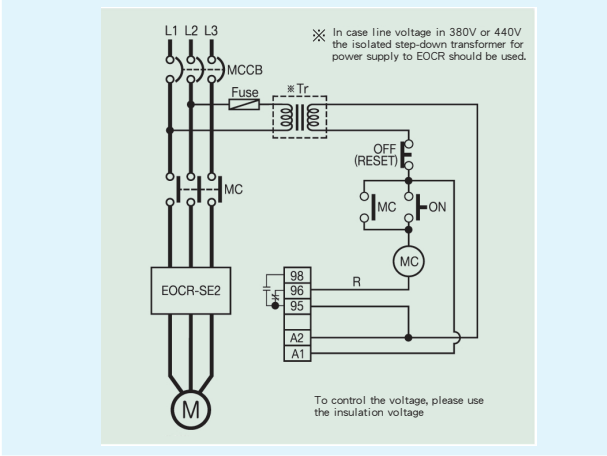


EOCR-iFDM-TZ / iFM420-TZ (Terminal type)

Typical wiring schematic



EOCR-SS



EOCR-SE2

TECO Electric & Machinery Co., Ltd.
10F, No. 3-1, Yuan Cyu St., Nan-Kang District, Taipei 115, Taiwan
TEL : 886-2-26553333 Ext. 2569 FAX : 886-2-6615-2033

https://tecoie.teco.com.tw/
Intelligence Energy

App Store 下載

Google Play 立即下載

Ratings and specifications covered in this brochure may be subject to change without notice by TECO.

GC-28-01 2023-08-15