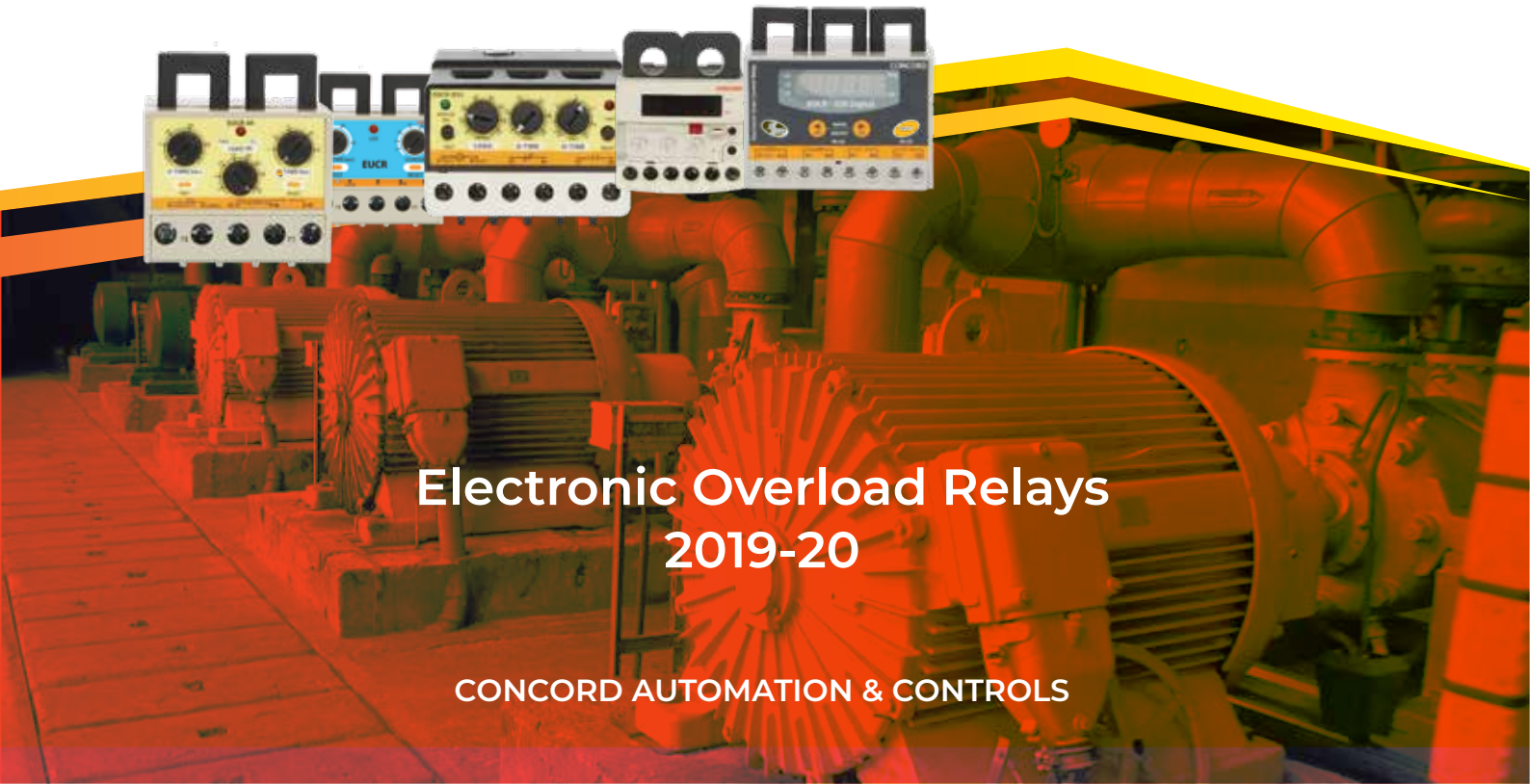
CONCORD

NO MORE
MOTOR FAILURES



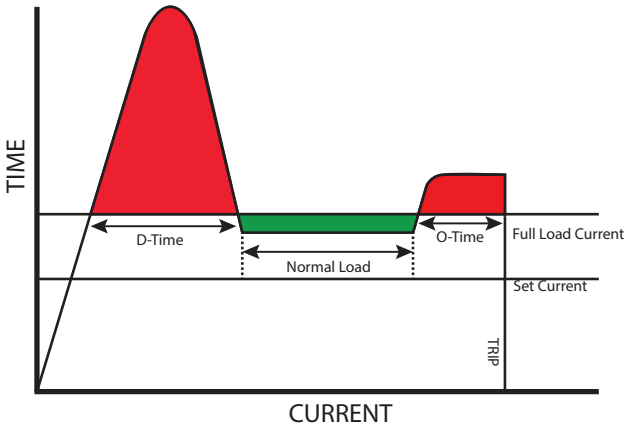
Electronic Overload Relays
2019-20

CONCORD AUTOMATION & CONTROLS

CONCORD has been the pioneer in the field of Electronic Motor Protection technology in the Indian market with innovative and useful products for the Industry since 1997. We design build and supply a vast array of Electronic Protection Relays and our vision is to become the best supplier for Motor protection and Motor management for its customers nationwide.

D-TIME (starting Delay Time)

The D-Time is the time taken by the motor before it reaches it's normal running current. During start the motor draws much higher levels of current and D-Time setting is to ensure that the EOCR does not cause any nuisance tripping's before this set time has elapsed.



O-TIME (Operating Time on Overload)

O-Time is the operating time in the event of Overload. When motor current exceeds the desired set current value, the EOCR detects the increase and trips the motor within the set O-Time preventing excess heating and long periods of Overload.

TEST FUNCTION

The TEST function facility on the front face of the relay is provided to check the health status of the relay without electrically energizing the relay. On pressing the TEST button the internal relay will trip after the D-Time +O-Time setting have elapsed. After using this test facility, the RESET button has to be pressed to operate the relay.

RESET FUNCTION

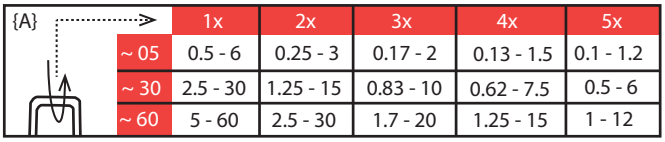
By pressing the RESET button or disconnecting the electrical supply will trip the relay immediately. Once the relay has tripped due to any Over Load or any fault, the relay has to be reset to start the motor again.

SALIENT FEATURES

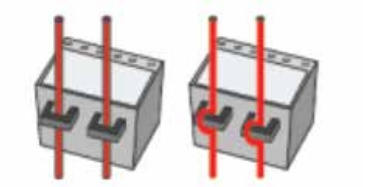
- Compact Design
- 2/3 Integral Current Transformers
- Multiple Protection Features
- Wide Current Adjustment Range
- Solid State/MCU Based Circuits
- Ammeter Function
- Trip Indication/Fault Diagnosis
- Highly Accurate
- Looping Options
- Manual/Electrical Remote Reset
- Test Function
- Suitable for use with External CT's upto 600A
- Ambient Insensitive
- Low Energy Consumption

LOOPING OPTION

Looping option is required in case the amount of current measurement is desired to be more accurate and precise. The wire from the main line when passing through the internal EOCR CT is looped one or more times depending upon the current range of the relay to suit the application.



	1x	2x	3x	4x	5x
~ 05	0.5 - 6	0.25 - 3	0.17 - 2	0.13 - 1.5	0.1 - 1.2
~ 30	2.5 - 30	1.25 - 15	0.83 - 10	0.62 - 7.5	0.5 - 6
~ 60	5 - 60	2.5 - 30	1.7 - 20	1.25 - 15	1 - 12



EXTERNAL CT OPTION

By using External CT's with Secondary rating of 5A the EOCR can be used to monitor and protect motors with normal running currents of upto 600A. This is used with an 05 Type relay with current setting range of 0.5-6A. In digital models the display current values are selectable as desired.

EOCR - 1P SINGLE PHASE PREVENTOR with Electronic Overload Relay

FEATURES

- India's First and Only CT design based SPP
- Designed for Trip within 5 secs in case of Phase Loss
- Preset Starting Delay / Operating Time Preset 5 secs
- Independent Mounting - DIN Rail or Base

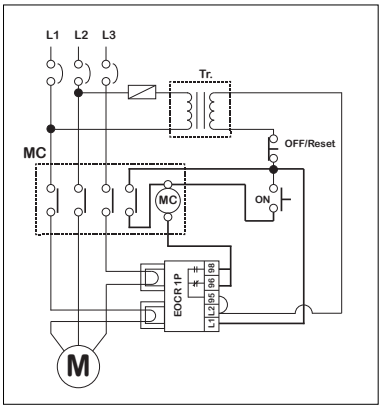
PROTECTION FUNCTIONS

Single Phasing	O-Time
Over Load	O-Time
Locked Rotor	O-Time + D-Time

SPECIFICATIONS

Current Setting	Type	Range
	05	0.5-6A
	30	3-30A
	60	5-60A
	100A and above With External CT	
Time Setting	Start(D-Time)	Preset 5 Secs
	Trip(O-Time)	Preset 5 Secs
Control Voltage	220	90-260VAC
	440	320-480VAC
Contact Rating	Mode	1SPDT(1C)
	Rating	3A 250VAC
	Status	Normally Energized
Time current Characteristic	Definite	
Operating (Trip Indication)	2 LED	
Mounting	35mm DIN Rail/Base	

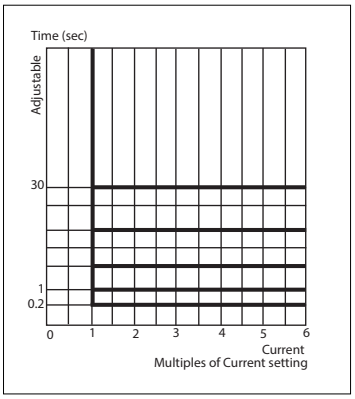
WIRING DIAGRAM



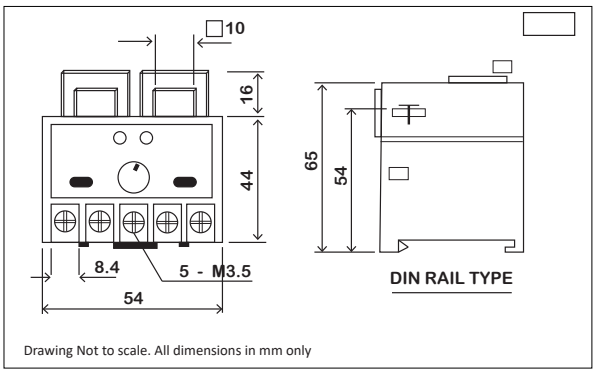
APPLICATIONS

LT Motors, Pumps, Industrial Fans, Machine Tools, OEM's, Compressors, Conveyors, Goods and Lift Hoists, Mixers, Grinders, Panels etc.

Current Time Characterstics



Overall Dimensions



TRIPPING CHARACTERISTIC- DEFINITE

Refer to Curve above

EOCR SS – SOLID STATE PROTECTION RELAY

FEATURES

- 2 Integral Current Transformer's
- Electronic Shear Pin Function
- Independently Adjustable D-Time and O-Time
- Independent Mounting

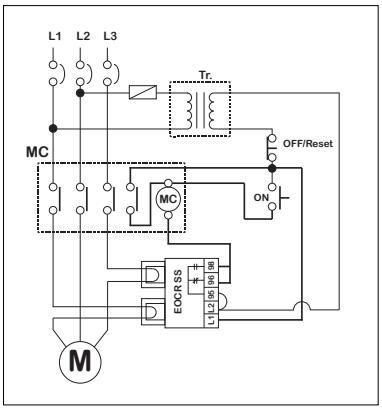
PROTECTION FUNCTIONS

Overcurrent	O-Time
Phase Loss	O-Time
Locked Rotor	O-Time + D-Time

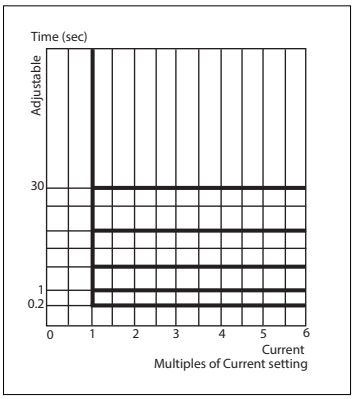
SPECIFICATIONS

Current Setting	Type	Range
	05	0.5-6A
	30	3-30A
	60	5-60A
	100A and above With External CT	
Time Setting	Start(D-Time)	0.2-30sec
	Trip(O-Time)	0.2-10sec
Control Voltage	220	90-260VAC
	440	320-480VAC
Contact Rating	Mode	1SPDT(1C)
	Rating	3A 250VAC
	Status	Normally Energized
Time current Characteristic	Definite	
Operating (Trip Indication)	2 LED	
Mounting	35mm DIN Rail/Base	

WIRING DIAGRAM



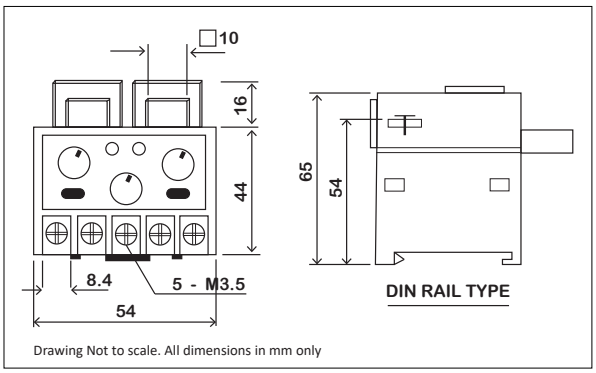
Current Time Characterstics



APPLICATIONS

LT Motors, Pumps, Fans, Machine Tools, OEM's Panels etc

Overall Dimensions



TRIPPING CHARACTERISTIC- DEFINITE

Refer to Curve above

NOTE:

For use above 60A, select 05 model and choose Suitable External CT having secondary current 5A

EOCR AR – AUTOMATIC RESET RELAY

FEATURES

- 2 Integral Current Transformer's
- Electronic Shear Pin Function
- Independently Adjustable O-Time and R-Time
- Independent Mounting

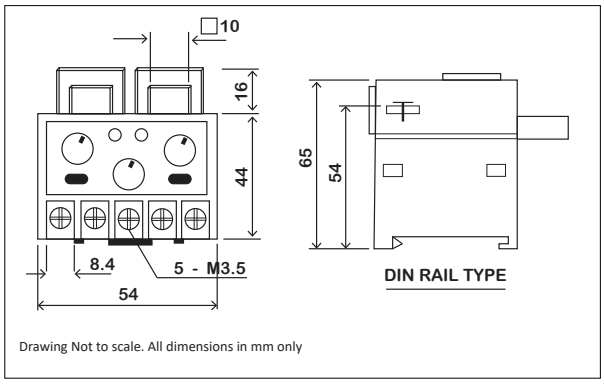
SPECIFICATIONS

Current Setting	Type	Range
	05	0.5-6A
	30	3-30A
	60	5-60A
	100A and above With External CT	
Time Setting	Trip(O-Time)	0.2-30sec
	Reset(R-Time)	1-150sec
Control Voltage	220	90-260VAC
	440	320-480VAC
Contact Rating	Mode	1SPDT(1C)
	Rating	3A 250VAC
	Status	Normally Energized
Time current Characteristic	Definite	
Operating (Trip Indication)	1 LED	
Mounting	35mm DIN Rail/Base	

APPLICATIONS

LT Motors, Pumps, Fans, Machine Tools, OEM's Panels etc.

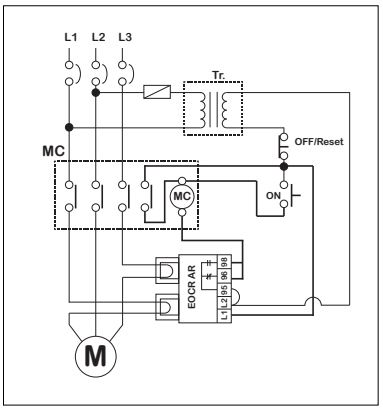
Overall Dimensions



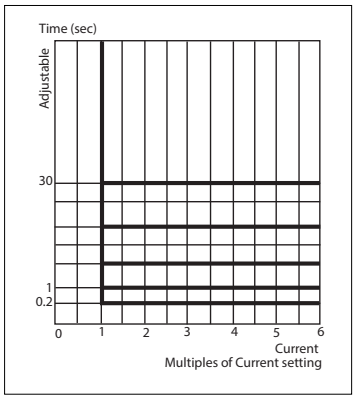
PROTECTION FUNCTIONS

Overcurrent	O-Time
Phase Loss	O-Time
Locked Rotor	O-Time + D-Time

WIRING DIAGRAM



Current Time Characterstics



TRIPPING CHARACTERISTIC- DEFINITE

Refer to curve above

NOTE:

For use above 60A, select 05 model and choose Suitable External CT having secondary current 5A

EUCR – SOLID STATE – ELECTRONIC UNDER CURRENT RELAY

FEATURES

- 2 Integral Current Transformer's
- Under load/Dry Run Protection
- Wide Current Adjustment Range
- Definite Trip Time Characteristic
- Manual/Remote Reset

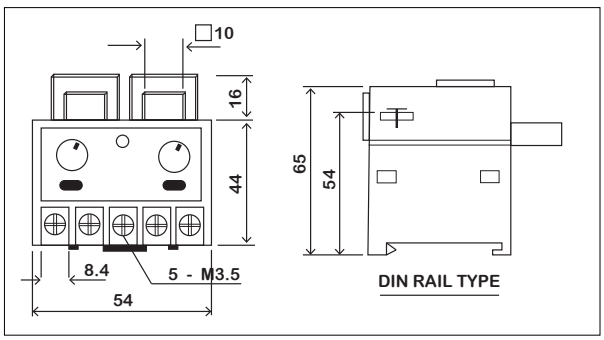
SPECIFICATIONS

Current Setting	Type	Range
	05	0.5-6A
	30	3-30A
	60	5-60A
	100A and above With External CT	
Time Setting	Trip Time 0.2-30 sec	
Control Voltage	220	90-260VAC
	440	320-480VAC
Contact Rating	Mode	1SPDT(1C)
	Rating	3A 250VAC
	Status	Normally Energized
Time current Characteristic	Definite	
Operating (Trip Indication)	1 LED	
Mounting	35mm DIN Rail/Base	

APPLICATIONS

Belt Driven Systems, Pumps, Fans, Machine Tools, OEM's Panels etc.

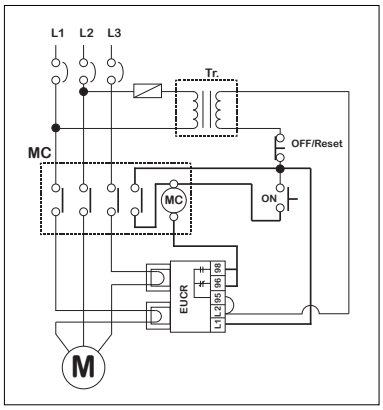
Overall Dimensions



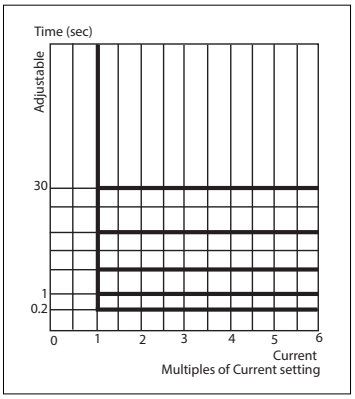
PROTECTION FUNCTIONS

Undercurrent	U-Time

WIRING DIAGRAM



Current Time Characterstics



TRIPPING CHARACTERISTIC- DEFINITE

Refer to curve above

EOCR SSD DIGITAL MICROPROCESSOR BASED PROTECTION RELAY

FEATURES

- 2 CT based Digital Protection Relay
- Current Display of max. current in any case
- Highly accurate protection for Locked Rotor
- Compact Size and Ambient Insensitive
- Independent settings for D-Time and O-Time

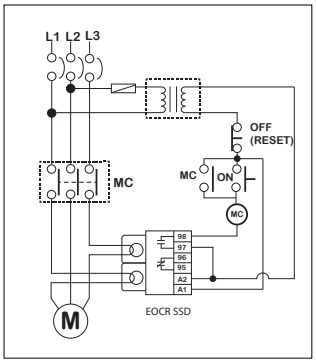
PROTECTION FUNCTIONS

Overcurrent	O-Time
Phase Loss	Within 4 Sec
Locked Rotor	0.5 sec after D-Time has elapsed

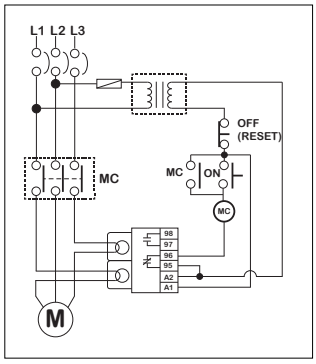
SPECIFICATIONS

Current Setting	Type	Range
	05	0.5-6A
	30	3-30A
	60	10-60A
Starting Delay Time (D-Time)	1 ~ 30 sec	
Operating Time (O-Time)	1-10 sec	
Reset	Manual/Remote	
Overcurrent Trip	Definite	
Control Voltage	110VAC/220VAC	
Contact Rating	2SPST 3A/250VAC	
Fault Diagnosis	7 segment LED Display	
Mounting	35mm DIN Rail/Base	

WIRING DIAGRAM

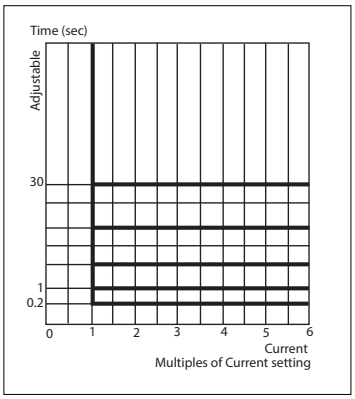


EOCR SSD N Type



EOCR SSD R Type

Current Time Characterstics



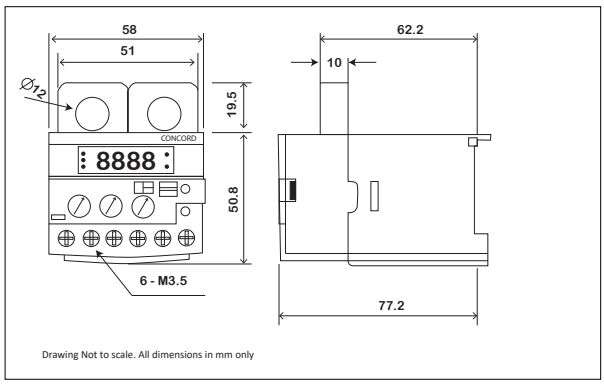
NOTE:

For use only upto 60A, cannot be used with External CT for higher amperage application

APPLICATIONS

LT Motors, Pumps, Fans, Machine Tools, OEM's Panels etc.

Overall Dimensions



TRIPPING CHARACTERISTIC- DEFINITE

Refer to curve above

EOCR SSDN DIGITAL MICROPROCESSOR BASED PROTECTION RELAY

FEATURES

- 2 CT based Digital Protection Relay
- Current Display of max. current in any case
- Highly accurate protection for Locked Rotor
- Compact Size and Ambient Insensitive
- Independent settings for O-Time and U-Time

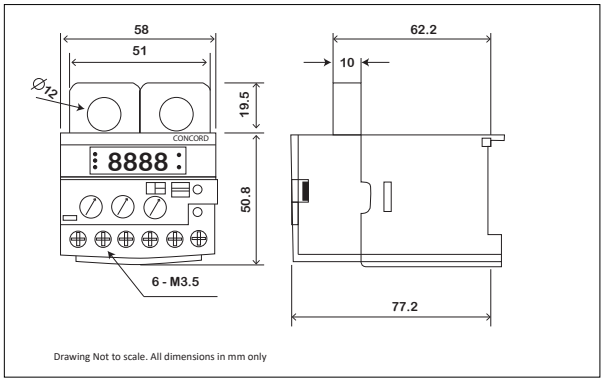
SPECIFICATIONS

Current Setting	Type	Range
	05	0.5-6A
	30	3-30A
	60	10-60A
Starting Delay Time (D-Time)	Fixed (5 sec)	
Operating Time (O-Time) Overcurrent & Undercurrent	1-10 sec	
Reset	Manual/Remote	
Overcurrent Trip	Definite	
Control Voltage	110VAC/220VAC	
Contact Rating	2SPST 3A/250VAC	
Fault Diagnosis	7 segment LED Display	
Mounting	35mm DIN Rail/Base	

APPLICATIONS

LT Motors, Pumps, Fans, Machine Tools, OEM's Panels etc.

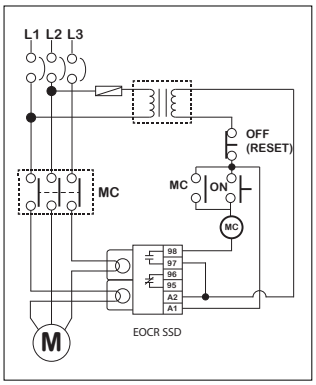
Overall Dimensions



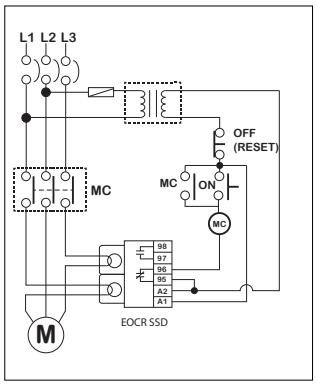
PROTECTION FUNCTIONS

Overcurrent	O-Time
Undercurrent	O-Time
Phase Loss	Within 4 Sec
Locked Rotor	0.5 sec after D-Time has elapsed

WIRING DIAGRAM

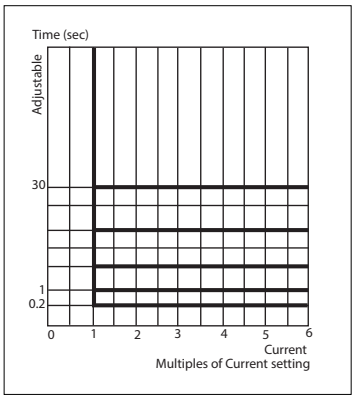


EOCR SSDN N Type



EOCR SSDN R Type

Current Time Characterstics



TRIPPING CHARACTERISTIC- DEFINITE

Refer to curve above

NOTE:

For use only upto 60A, cannot be used with External CT for higher amperage application

EOCR DS – MCU BASED PROTECTION RELAY

FEATURES

- 3 Integral Current Transformer's
- Independently Adjustable D-Time and O-Time
- Independent Mounting
- Run Monitor and Fault Diagnosis with 2 LED's

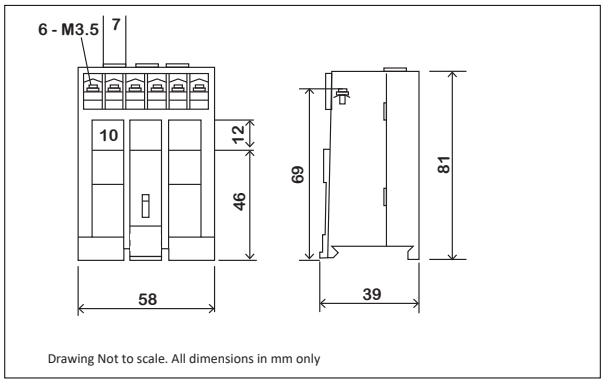
SPECIFICATIONS

Current Setting	Type	Range
	05	0.5-6A
	30	3-30A
	60	5-60A
	100A and above With External CT	
Time Setting	Start(D-Time)	0.2-30sec
	Trip(O-Time)	0.2-10sec
Control Voltage	220	180-260VAC
Contact Rating	Mode	1SPDT(1C)
	Rating	3A 250VAC
	Status	Normally Energized
Time current Characteristic	Definite	
Operating (Trip Indication)	2 LED with Fault Diagnosis	
Mounting	35mm DIN Rail/Base	

APPLICATIONS

LT Motors, Pumps, Fans, Machine Tools, OEM's Panels etc.

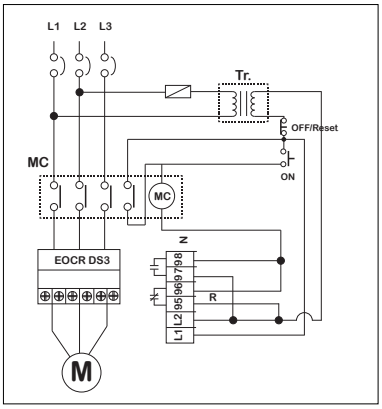
Overall Dimensions



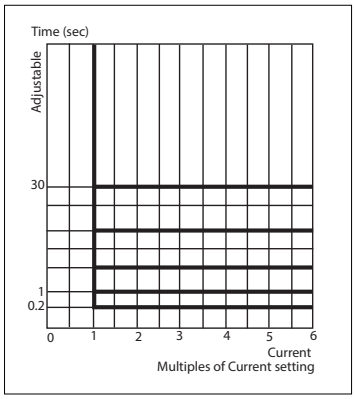
PROTECTION FUNCTIONS

Overcurrent	O-Time
Phase Loss	Within 4secs
Locked Rotor	Within D-Time
Phase Reverse	0.1sec

WIRING DIAGRAM



Current Time Characterstics



TRIPPING CHARACTERISTIC- DEFINITE

Refer to curve above

NOTE:

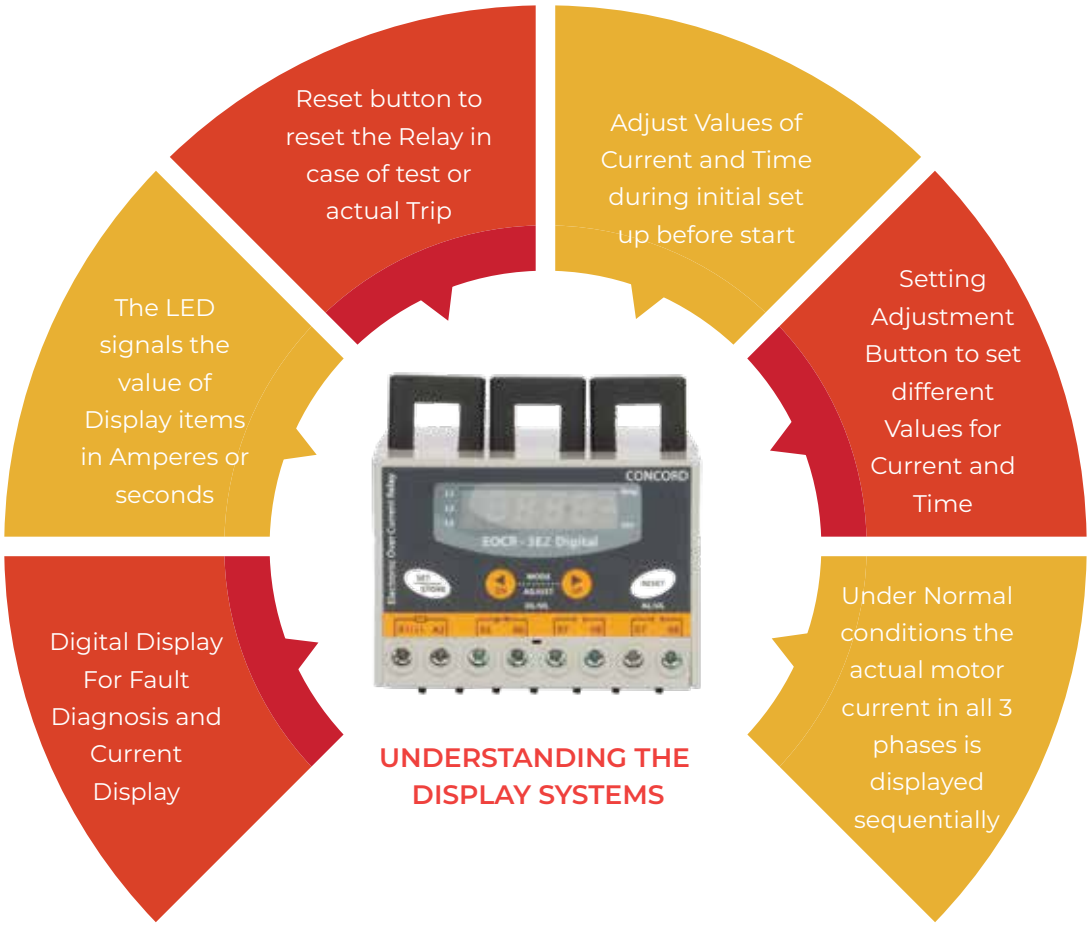
For use above 60A, select 05 model and choose Suitable External CT having secondary current 5A

ELECTRONIC PROTECTION RELAYS WITH DIGITAL DISPLAY AND FAULT DIAGNOSIS

INTRODUCTION

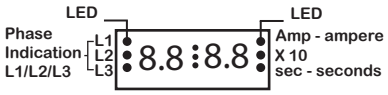
The complete range of Digital Motor Protection relays from CONCORD are designed for use with 3 Phase motors. The inherent design features are built to make Motor protection far easier and more accurate. The digital Display works as an Ammeter displaying the actual motor current and also acts as Diagnostic Display highlighting the various causes of motor tripping to assist the user in trouble shooting and drastic reduction in downtime whenever an Electrical fault occurs in the system.

These relays are built using a MCU – Microprocessor Control Unit and are suitable for use a very wide range of applications and motor sizes. The Test function button enables the user to use the same model for motor sizes ranging from 0.5A-600A. There by resulting in drastic reduction of inventories.

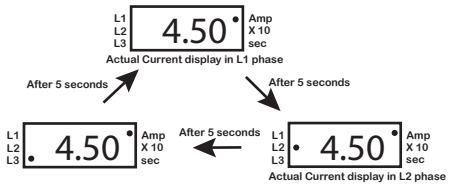


UNDERSTANDING THE DISPLAY SYSTEMS

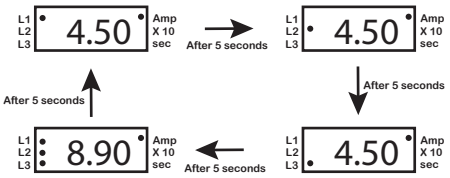
UNDERSTANDING THE DISPLAY SYSTEM



3 Phase Motor Currents/Leakage Current In 3EZ model are displayed sequentially on the LED Display as indicated below



EOCR 3DE MODEL

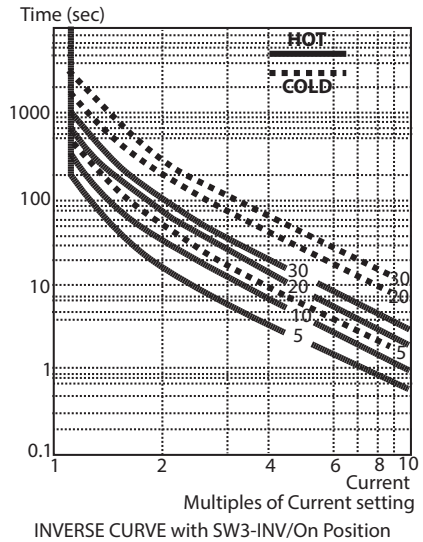


EOCR 3EZ MODEL

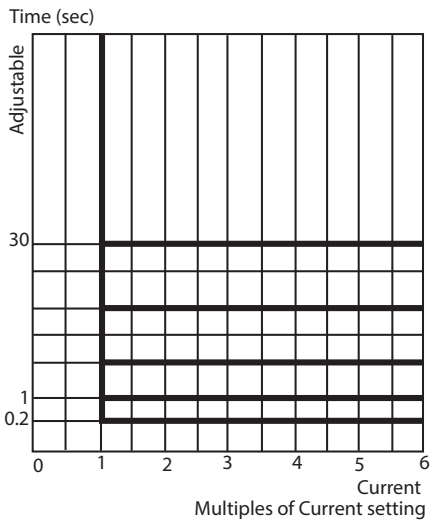
PROTECTION FUNCTIONS

Over Current detected in L1 phase	-oc-
Under Current detected in L2 phase	-uc-
Phase Loss Trip caused by L2 phase failure	-Pl-
Reverse Phase Trip caused by wrong phase sequence	-AP-
Phase Unbalance caused by phase unbalance in L1 phase	-ub-
Ground Fault Trip caused by Ground Fault/Leakagr current, only for EOCR 3EZ model	-Ec-
Locked Rotor Trip caused by Locking/ Jamming of Rotor during starting	-Lc-
Locked Rotor Trip caused by Locking/ Jamming of Rotor while Motor is running	-Sc-

Time Vs Current Characteristic Curve - User Selectable



INVERSE CURVE with SW3-INV/On Position



DEFINITE CURVE with SW3-DEF/Off Position

O-T Setting Curve	IEC 947-4 Trip Class
1-5	10A
6-10	10A
11-20	20A
21-30	30A

EOCR 3DE/3EZ Digital Microprocessor Based Protection Relay

EOCR 3DE

EOCR 3EZ

FEATURES

- MCU Based Design
- 3 Integral Current Transformers
- Multiple Protection Features
- Digital Ammeter and Fault Diagnosis
- Wide Current Adjustment range
- User selectable Time Current curves -Definite/Inverse
- Manual/remote reset
- Ambient Insensitive
- Alert Function before Trip

PROTECTION FUNCTIONS

Protection	3DE	3EZ
	Trip Time	Trip Time
Overcurrent	O-Time	O-Time
Undercurrent	0.5-30 sec	0.5-30 sec
Phase Loss	3 sec	3 sec
Phase Unbalance	8 sec	8 sec
Phase Reversal	0.1-0.3 sec	0.1-0.3 sec
Locked Rotor	D-Time	D-Time
Ground fault	NA	0.05-10 sec

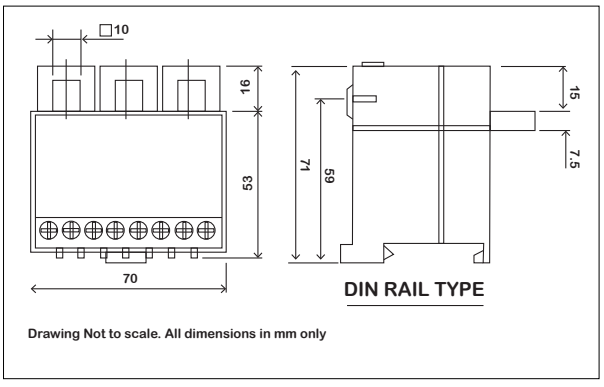
SPECIFICATIONS

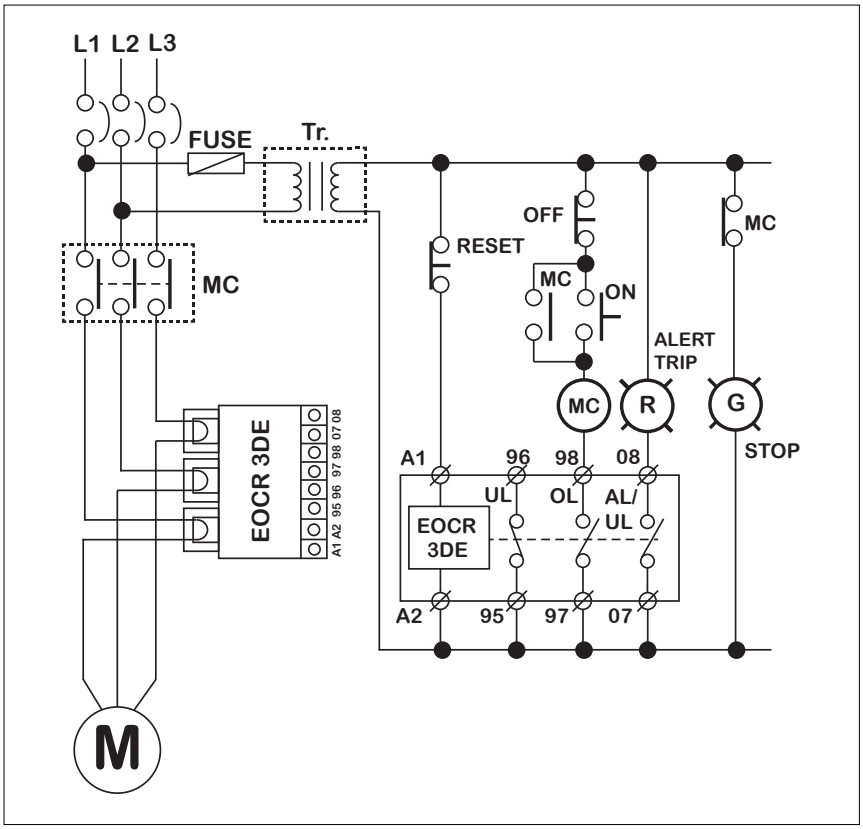
	3DE	3EZ
Current Setting	05/60A	05/60A
Above 60A	With Suitable External CT	
Ground Fault Setting	NA	A:0.02-3A, B:0.2-10A
Alert Setting	5-100%/OFF	NA
Start Delay Time (D-Time)	1-200 sec	
Trip Delay Time (O-Time)	INV 1-30 sec DEF 0.2-30 sec	
Control Voltage	110VAC/220VAC	
Control rating	2 SPST 3A/250V Resistive	
Trip Time	INV/DEF –Refer to previous page	
Characteristic		
Fault Diagnosis	7 segment LED Display	
Mounting	35mm DIN Rail/Base	

Setup Instructions

MODE	DN UP	Select the parameter you want to set or adjust by pressing UP and DOWN buttons on the face
SET	SET STORE	Press the SET/STORE button once for the parameter to be set to reach flickering in the display, which indicates that the new value can now be set
ADJUST	DN UP	Select required parameter values by pressing UP and DN button untill the desired value is acheived
STORE	SET STORE	Store the new values or settings by pressing the SET/STORE button once and the flickering will stop immediately which means the new value is now set
RESET	RESET	After all values have been set for your desired application, press the RESET button once before operating motor. Otherwise the display will reset automatically in 30 sec

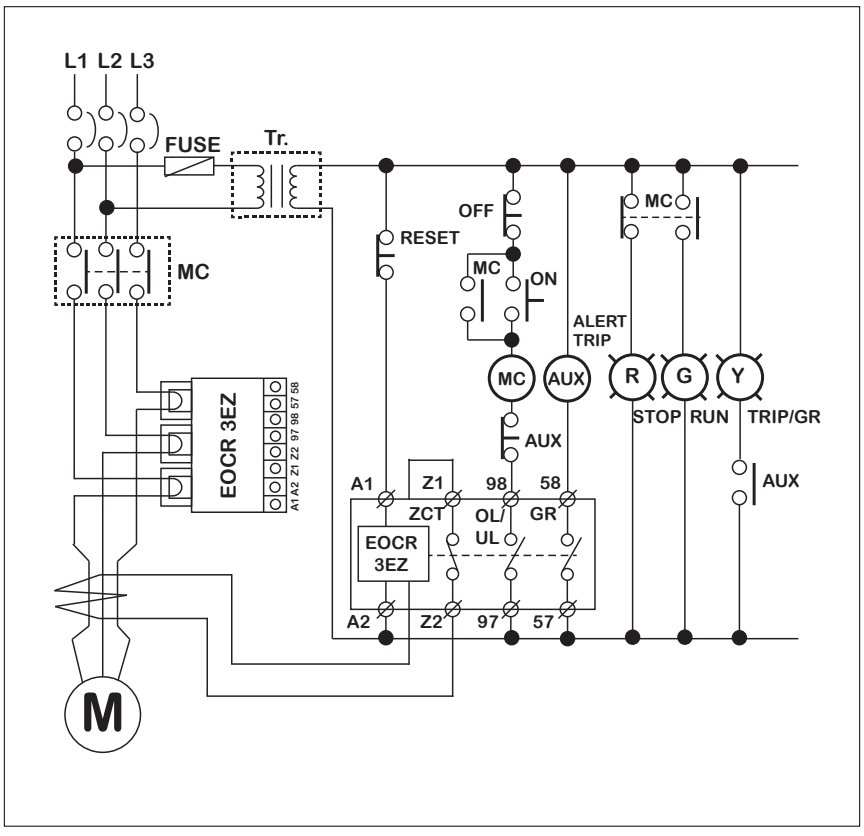
Overall Dimensions





WIRING DIAGRAM FOR EOCR 3DE

WIRING DIAGRAM FOR EOCR 3EZ



CURRENT TRANSFORMERS AND CBCT (ZCT)

2 HOLE COMBINED CT FOR EOCR ONLY

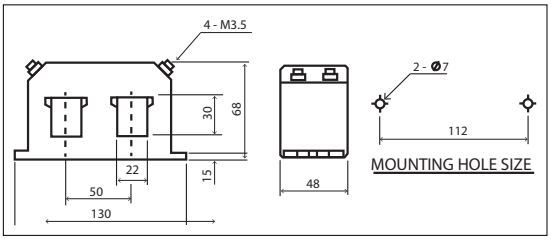
FEATURES

- For use with EOCR SS only for Large Ampere motors
- Measuring Classs 1.0

SPECIFICATIONS

Model	2CT 100	2CT 200	2CT 300	2CT 400
Current Ratio	100:5	200:5	300:5	400:5
Class	1.0	1.0	1.0	1.0
Burden	5VA	5VA	5VA	5VA
Insulation Voltage	600V AC			
Dielectric Strength	2KV			
Insulation	10M Ohm (500V DC Meggar)			
Mounting	Base Mounting Inside Panel			

Overall Dimensions



3 HOLE COMBINED CT FOR EOCR ONLY

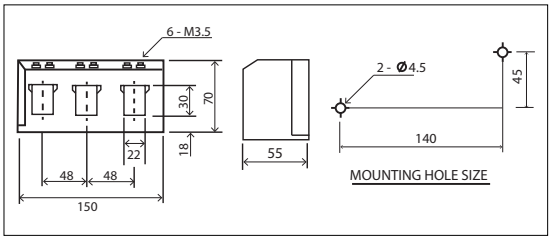
FEATURES

- For use with EOCR DS/3DE/EZ only for Large Ampere motors
- Measuring Classs 1.0

SPECIFICATIONS

Model	3CT 100	3CT 200	3CT 300	3CT 400
Current Ratio	100:5	200:5	300:5	400:5
Class	1.0	1.0	1.0	1.0
Burden	5VA	5VA	5VA	5VA
Insulation Voltage	600V AC			
Dielectric Strength	2KV			
Insulation	10M Ohm (500V DC Meggar)			
Mounting	Base Mounting Inside Panel			

Overall Dimensions

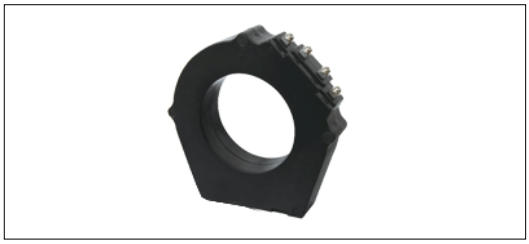


CBCT (ZCT) FOR EOCR 3EZ ONLY

FEATURES For use with EOCR 3EZ only for measuring Leakage current/ Ground Fault

SPECIFICATIONS:

Hole Dimension	Type	Hole
	ZCT - 35	35 mm
	ZCT - 80	80 mm
	ZCT - 120	120 mm
Primary GF Current		200 mA
Secondary GF Current		1.5 mA
Tolerance		+/- 10%
Burden		10 VA
Rated Voltage		600 V AC
Dielectric Strength		2 KV
Insulation		10 M Ohms (500 V AC Meggar)
Mounting		Base Mounting Inside Panel



For Dimensions please email to us for details

CONCORD

CONCORD AUTOMATION & CONTROLS

Plot No. 384, Sector 8, IMT Manesar,
Dist. Gurugram 122052, Haryana
Ph.: 0124 - 4775956, 57
M.: +91 9810659379
E.: info@cacindia.net
W.: www.cacindia.net

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