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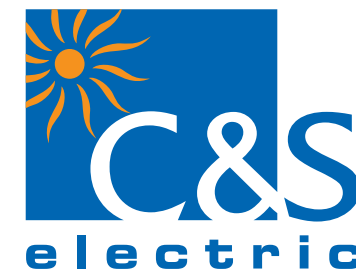
MPCB_EXCEED
01/02/2025

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We touch your electricity everyday!

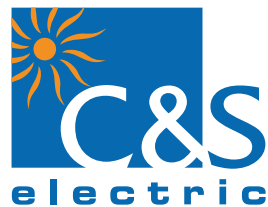
exceed

TOGGLE TYPE / ROTARY TYPE



Motor Protection Circuit Breaker

We touch your electricity everyday!



C&S Electric Ltd. is one of the leading manufacturer of electrical and electronic equipment in India. It is one of India's largest exporters of industrial switchgear & power busbar products. C&S Electric products are used in applications ranging from power generation, transmission and distribution, protection and final consumption.

C&S Electric has the following product verticals:

- LV Switchgear
- LV Switchboards
- LV & MV Busducts
- LV Bustrunking
- Protection and Measurement Devices

MANUFACTURING FACILITIES



C&S Controlgear Plant at Noida



C&S Switchgear Plant at Noida



World-Class Manufacturing Plants at SIDCUL, Haridwar

MARKET LEADER

C&S is one of the leading supplier in the LV Switchgear business segment and a market leader in the busbar business with more than 50% share in Indian market.

10 MANUFACTURING PLANTS

C&S Electric have 10 state-of-the-art manufacturing facilities in Noida, Haridwar & Guwahati, which are equipped with latest tools and systems to ensure highest level of quality and services.

600+ STOCKISTS

A dedicated network of channel partners, ensuring access to the farthest corners of India, with an obsession for customer services. In addition C&S products are available in 8000+ retail counters nationally.

EXPORTS TO OVER 85 COUNTRIES

C&S exports the entire range of products across all 7 continents, thus reaffirming its position as one of India's largest exporters of industrial electrical products.

5000+ WORKFORCE

5000+ Workforce including over 371 engineers, dedicated sales team of 424 people & millions of satisfied customers.

R&D

4 Govt. approved labs/centres, over 20,000 sqft. space dedicated to R&D, 70 R&D engineers, state of the art testing & design facilities ... & most of the all a passion for innovation & excellence.

Quality Assurance



14001:2015



9001:2015



45001:2018

MPCB

Motor protection circuit protection breaker is an electromechanical protection device which is designed to protect the motor. It is combination of overload relay and a circuit breaker. It provide the protection against short circuit and over current.

Overview

C&S offers Motor Protection Circuit Breakers (MPCB) in compliance with IEC requirement.

- This compact device combine the functions of,
- Fuseless short circuit protection (Magnetic Tripping)
 - Thermal Overload Protection Class 10
 - Switching & Signaling
 - Rotary Handle With Trip Position
 - Wide range of accessories

Range

32 AF - TCMS-32HR / HIR

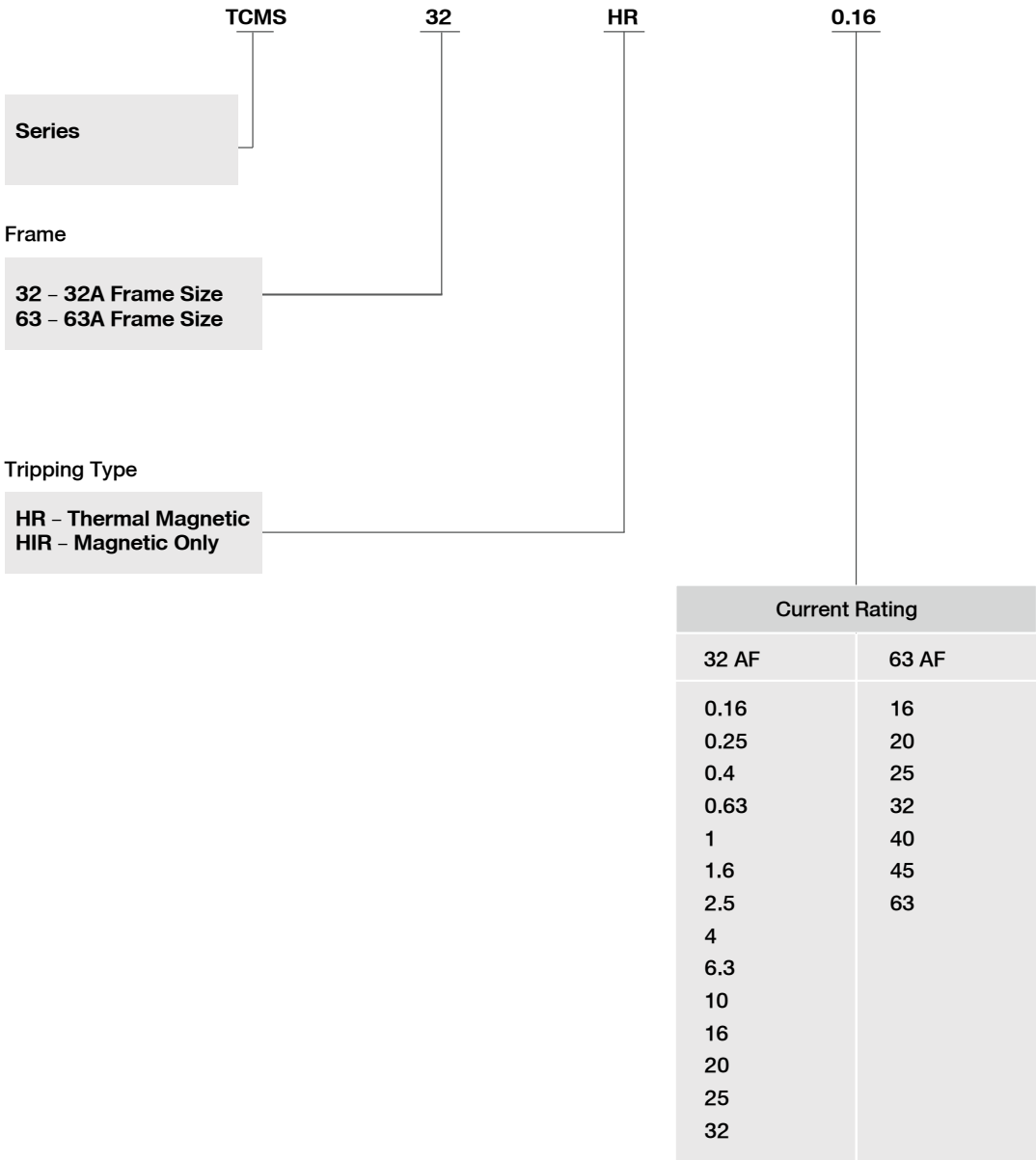
Motor Protection Circuit Breakers upto 32A with 14 Relay Scales Thermal+ Magnetic Tripping or Only Magnetic Tripping

63 AF - TCMS-63HR / HIR

Motor Protection Circuit Breakers upto 63A with 8 Relay Scales Thermal+ Magnetic Tripping or Only Magnetic Tripping



Ordering Code



32 AF MPCB Technical Specifications



Relay Range (A)	Rated Operational Current (A)	Heat Dissipation (W)	Single Phase HP Ratings		Three Phase HP Ratings				Magnetic Response Current (Short Circuit Release settings) (A)	Short Circuit Breaking Capacity (KA)		Cat No.
			115V	230V	200V	230V	480V	600V		@440V ICU/ICS	600V ICU/ICS	
0.1-0.16	0.16	5							2.1	50	25	TCMS-32HR-0.16
0.16-0.25	0.25	5							3.3	50	25	TCMS-32HR-0.25
0.25-0.4	0.4	5							5.2	50	25	TCMS-32HR-0.4
0.4-0.63	0.63	5						1/4	8.2	50	25	TCMS-32HR-0.63
0.63-1		6					1/2	1/2	13	50	25	TCMS-32HR-1
1-1.6	1.6	6		1/10	1/4	1/3	3/4		21	50	25	TCMS-32HR-1.6
1.6-2.5	2.5	6		1/6	1/2	1/2		11/2	32.5	50	25	TCMS-32HR-2.5
2.5-4	4	6	1/8	1/3	3/4		2	3	52	50	25	TCMS-32HR-4
4-6.3	6.3	6	1/4	3/4	11/2	11/2	3	5	82	50	25	TCMS-32HR-6.3
6.3-10	10	7	1/2	11/2	3	3	71/2	10	130	50	25	TCMS-32HR-10
10 -16	16	8		3	5	5	10	15	208	50	25	TCMS-32HR-16
16-20	20	8		3	5	71/2	15	20	260	50	25	TCMS-32HR-20
20-25	25	8	11/2	3	71/2	71/2	15	20	325	50	25	TCMS-32HR-25
25-32	32	8	2	5	10	10	20	25	416	50	25	TCMS-32HR-32

32 AF MPCB Technical Specifications

Relay Range (A)	Rated Operational Current (A)	Heat Dissipation (W)	Single Phase HP Ratings	Three Phase HP Ratings			Magnetic Response Current (Short Circuit Release settings) (A)	Short Circuit Breaking Capacity (KA)		Cat No.
			230V	400/415V	500V	690V		@440V ICU/ICS	@500/525V ICU/ICS	
0.1-0.16	0.16	5				0.08	2.08	100/100	100/100	TCMS-32HIR-0.16
0.16-0.25	0.25	5		0.08	0.08	0.1608	3.25	100/100	100/100	TCMS-32HIR-0.25
0.25-0.4	0.4	5		0.12	0.1608	0.2412	5.2	100/100	100/100	TCMS-32HIR-0.4
0.4-0.63	0.63	5	0.08	0.1608	0.335	0.335	8.19	100/100	100/100	TCMS-32HIR-0.63
0.63-1		6	0.16	0.335	0.4959	0.737	13	100/100	100/100	TCMS-32HIR-1
1-1.6	1.6	6	0.241	0.737		1.474	21	100/100	100/100	TCMS-32HIR-1.6
1.6-2.5	2.5	6	0.495		1.474	2	32.5	100/100	100/100	TCMS-32HIR-2.5
2.5-4	4	6		2	2.949	4	52	100/100	100/100	TCMS-32HIR-4
4-6.3	6.3	6	1.474	2.949	4	5.3619	82	100/100	100/100	TCMS-32HIR-6.3A
6.3-10	10	7	2.949	5.36	5.3619	10	130	50/38	50/38	TCMS-32HIR-10A
10 -16	16	8	4.959	12	16.75	20	208	35/25	10/8	TCMS-32HIR-16A
16-20	20	8	4.959	12	16.75	20	260	35/25	10/8	TCMS-32HIR-20A
20-25	25	8	7.372	16.75	20	29.5	325	35/25	10/8	TCMS-32HIR-25A
25-32	32	8	10	20	24.798	40	416	35/25	10/8	TCMS-32HIR-32A

Rated Operating Frequency	50/60	Hz
Electrical Life	100000	Operations
Maximum Operating Rate	15	ops./Hr.
Mechanical Life	100000	Operations
Ambient Operating Temperature	- 20 - 60°C(-4 to 140°F)	
Ambient Storage Temperature	- 20 - 80°C(-58 to 176°F)	
Altitude	2000m/6562ft.	
Shock	15	g

63 AF MPCB Technical Specifications



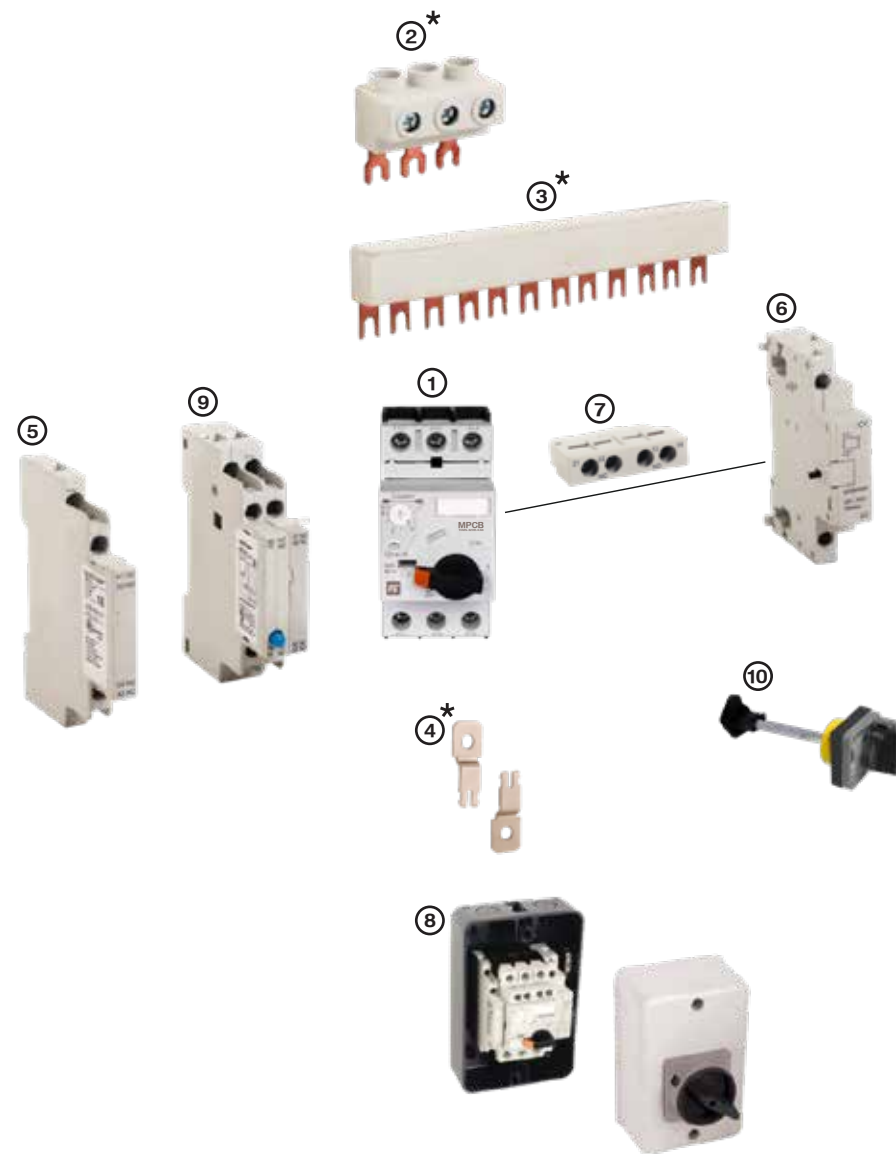
Relay Range (A)	Rated Operational Current (A)	Heat Dissipation (W)	Three Phase HP Ratings	Magnetic Response Current (Short Circuit Release settings) (A)	Short Circuit Breaking Capacity (KA)		Cat No.
			400/415V		@440V ICU/ICS	@500/525V ICU/ICS	
11 -16	16	4	10	208	50/38	12/12	TCMS-63HR-16
14- 20	20	4	10	260	50/38	12/12	TCMS-63HR-20
18 - 25	25	4	14.745	325	50/25	12/12	TCMS-63HR-25
22 - 32	32	4	20	416	50/25	10/10	TCMS-63HR-32
28 - 40	40	6.7	24	520	50/25	10/10	TCMS-63HR-40
36 - 45	45	6.7	24	585	50/25	10/10	TCMS-63HR-45
40 - 50	50	6.7	29.5	650	50/25	10/10	TCMS-63HR-50
45 - 63	63	6.7	40	819	50/25	10/10	TCMS-63HR-63

63 AF MPCB Technical Specifications

Relay Range (A)	Rated Operational Current (A)	Heat Dissipation (W)	Single Phase HP Ratings		Three Phase HP Ratings			Magnetic Response Current (Short Circuit Release settings) (A)	Short Circuit Breaking Capacity (KA)	Cat No.
			115V	230V	400/415V	500V	690V			
11 - 16	16	4		2	3	5	10	208	40	TCMS-63HIR-16
14 - 20	20	4	11/2	3	5	5	10	260	40	TCMS-63HIR-20
18 - 25	25	4	2	3	5	7 1/2	15	325	40	TCMS-63HIR-25
22 - 32	32	4	2	5	7 1/2	10	20	416	40	TCMS-63HIR-32
28 - 40	40	6.7	3	5	10	10	20	520	40	TCMS-63HIR-40
36 - 45	45	6.7	3	7 1/2	10	15	30	585	40	TCMS-63HIR-45
40 - 50	50	6.7	3	7 1/2	10	15	30	650	40	TCMS-63HIR-50
45 - 63	63	6.7	5	10	15	20	40	819	40	TCMS-63HIR-63

Rated Operating Frequency	50/60	Hz
Electrical Life	50,000	Operations
Maximum Operating Rate	15	ops./Hr.
Mechanical Life	100000	Operations
Ambient Operating Temperature	- 20 - 60°C (-13 to 140°F)	
Ambient Storage Temperature	- 50 - 80°C (-58 to 176°F)	
Altitude	2000m/6562ft.	
Shock	15	g

32 AF / 63 AF - Accessories Overview



1. TCMS-32 motor protective circuit breaker (screw terminal)
2. *Feeder terminal TCMS-32
3. *Gammoning link
4. *Mounting foot kit
5. Left side mounted auxiliary (screw terminal)
6. Under voltage release or shunt release (screw terminal)
7. Front mounted auxiliary (screw terminal)
8. Enclosure
9. Left side mounted Trip indicating auxiliary (screw terminal)
10. Extended rotary handle

Note: For * mark accessories please contact to branch

MPCB - Accessories List

Front Mount Auxiliary 1 NO + 1 NC



For use with	Auxiliary contacts		Catalog
	NO	NC	
TCMS-32	1	1	TFXR11
TCMS-63			

Left Side Mount Auxiliary



For use with	Auxiliary contacts		Catalog
	NO	NC	
TCMS-32	1	1	TLXR11
TCMS-63	2		TLXR20
		2	TLXR02

Trip Indication Auxiliary (Left Side Mount)



For use with	Description	Catalog
TCMS-32 TCMS-63	- Equipped with 2 auxiliary contacts (1NO+1NC) for overload trip signalling and 2 other auxiliary contacts (1NO+1NC) for short circuit trip signalling - To reset the circuit breaker after a short circuit the flag must be manually reset after the cause of the failure has been solved - Lateral auxiliary contacts can be assembled together with the trip signalling block - Left side mounting only	TLAR3211

Shunt Release



For use with	Description	Voltage & Frequency	Catalog
TCMS-32 TCMS-63	-Operating voltage <0.7 1.1x Ue -Right side mounting	20-24V 50/60Hz 100-127V 50/60Hz 200-240V 50/60Hz	TRSR 20~24V 50/60Hz TRSR 40~100V 127/60Hz TRSR 40~200V 240/60Hz

Undervoltage Release



For use with	Description	Voltage & Frequency	Catalog
TCMS-32	-Operating voltage >0.85 1.1 x Ue	240V 50Hz/277V 60Hz	TRUR 50Hz 230~240V 60Hz 277V
TCMS-63	-Non operating voltage <0.35 0.7 x Ue	24V 50Hz/28V 60Hz	TRUR 50Hz 24V 60Hz 28V
		110V 50Hz/120V 60Hz	TRUR 50Hz 110V 60Hz 120V
		180V 50Hz/208V 60Hz	TRUR 50Hz 180V 60Hz 208V
		208V 50Hz/240V 60Hz	TRUR 50Hz 208V 60Hz 240V
		415V 50Hz/480V 60Hz	TRUR 50Hz 400~415V 60Hz 480V

Rotary Operating Handle



For use with	Description	Handle Color	Catalog
TCMS-32	- Panel door can be opened in ON position (Thermometry) - Degree of protection: IP65/NEMA4X - Shows circuit breaker position "I" (ON) or "O" (OFF) - Adjustable shaft length. There are 2 standard shaft sizes 150mm & 300mm	Black & Grey	MEH32HR-GB
TCMS-63	- To assemble the handle on the circuit breaker the shaft must have a length of at least 80mm - Up to 3 pad locks can be used in OFF position. This blocks circuit breaker operation & opens panel door - Handle can be mounted on panels with a thickness of 1 to 5mm	Black & Grey	MEH63HR-GB

Enclosure - Small



For use with	Description	Terminals	Handle Color	Catalog
TCMS-32	- Empty plastic enclosure - Protection degree Ip65 - Two cable entry knockouts, top & bottom - Two cable entry, back - Handle can be locked with up to 3 padlocks in the OFF position - Colour : Cover (Grey) & base (Black)	Ground & Neutral	Black & Grey	EPH32HR1BG

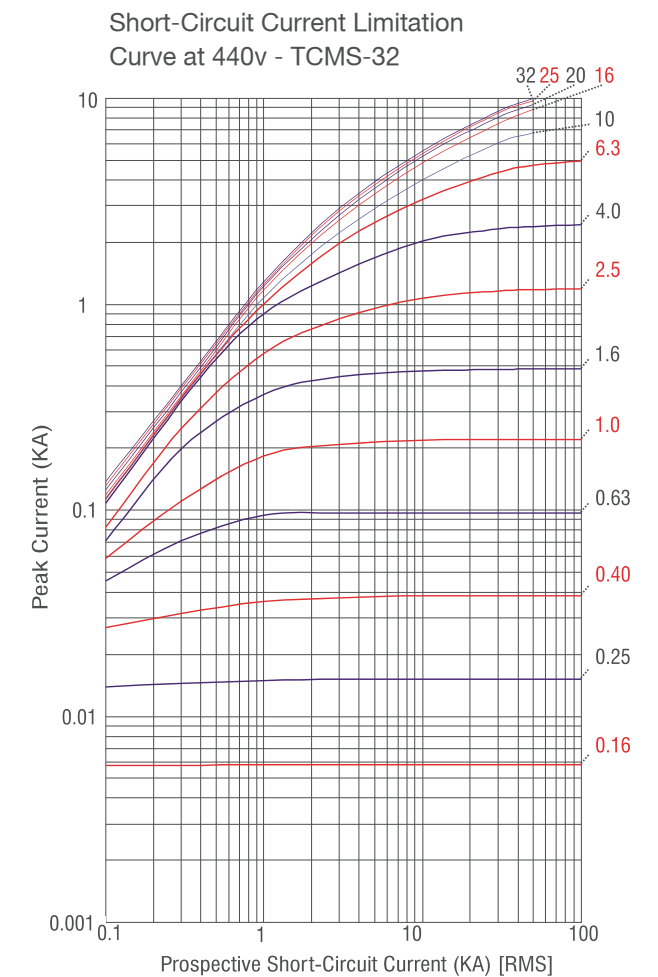
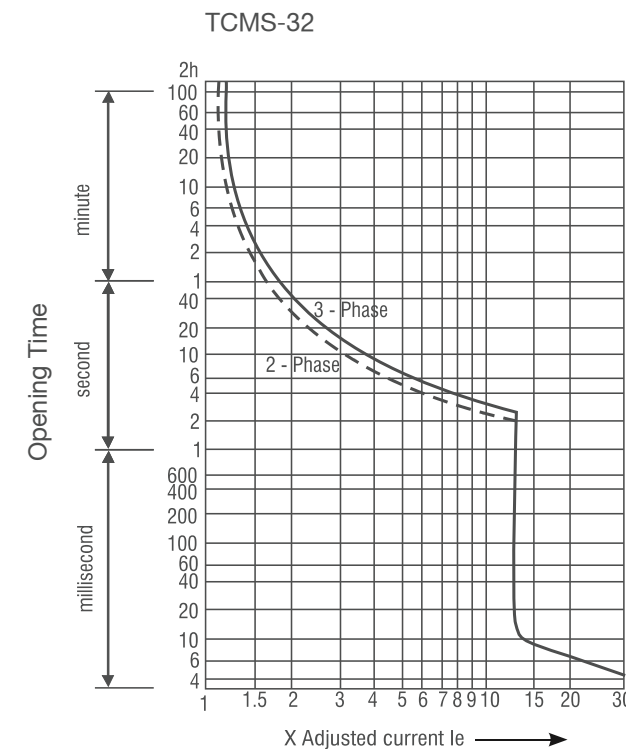
Enclosure - Big



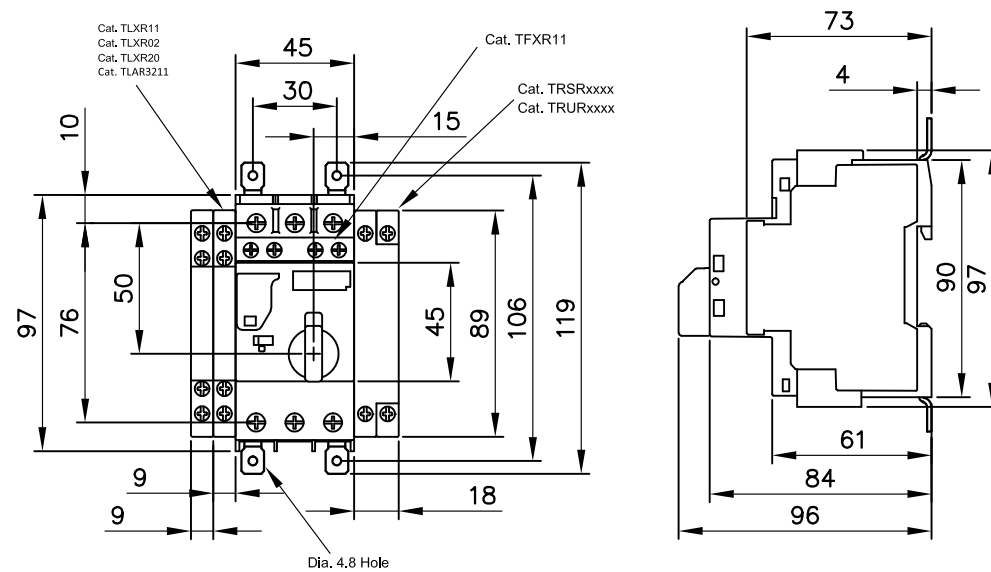
For use with	Description	Terminals	Handle Color	Catalog
TCMS-32	- Empty plastic enclosure - Protection degree Ip65 - Two cable entry knockouts, top & bottom - Two cable entry, back - Handle can be locked with up to 3 padlocks in the OFF position - Colour : Cover (Grey) & base (Black)	Ground & Neutral	Black & Grey	EPH32HR2BG

TCMS-32 - Typical Tripping Characteristics Curves

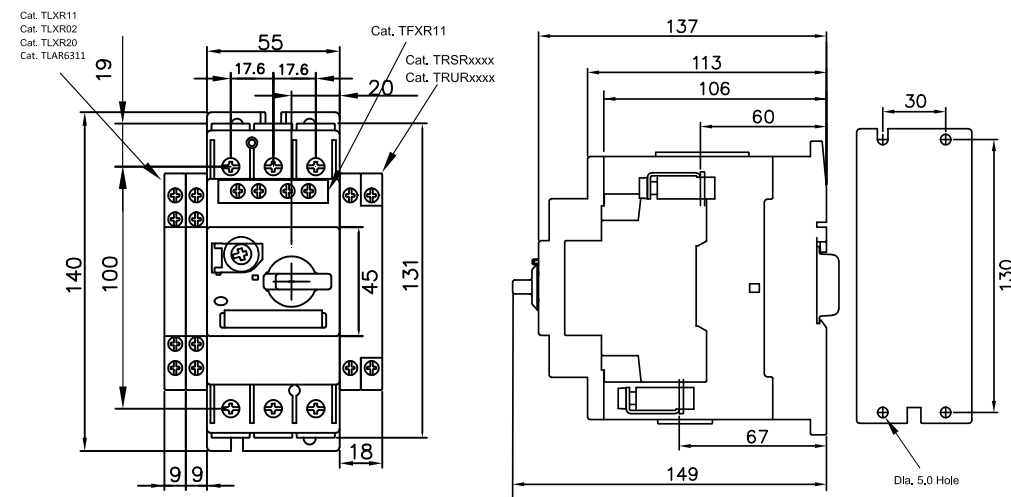
Cold Trip Times are Shown at 20° with Average Tolerance Values to the Rated Current



Dimension Details TCMS-32

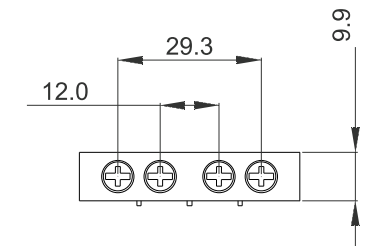
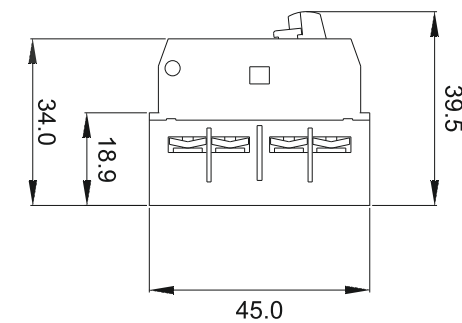


TCMS-63



Accessories

Front Mount - NONC



Left Side Mount

1NO 1NC, 2NO, 2NC

Trip Indicator Contact

