L&T Electrical & Automation

d sine - DZ1 | Moulded Case Circuit Breakers

User Centric Innovation

A technology idea often forms the foundation of innovation in a product and the success of its outcome is determined by the users' experience. Talking to customers and taking their feedback gives an assurance that the innovation would meet the expected and even aspired results. The dsine DZ range is an outcome of users' feedback that has been recorded, analysed and incorporated in its design and development journey.

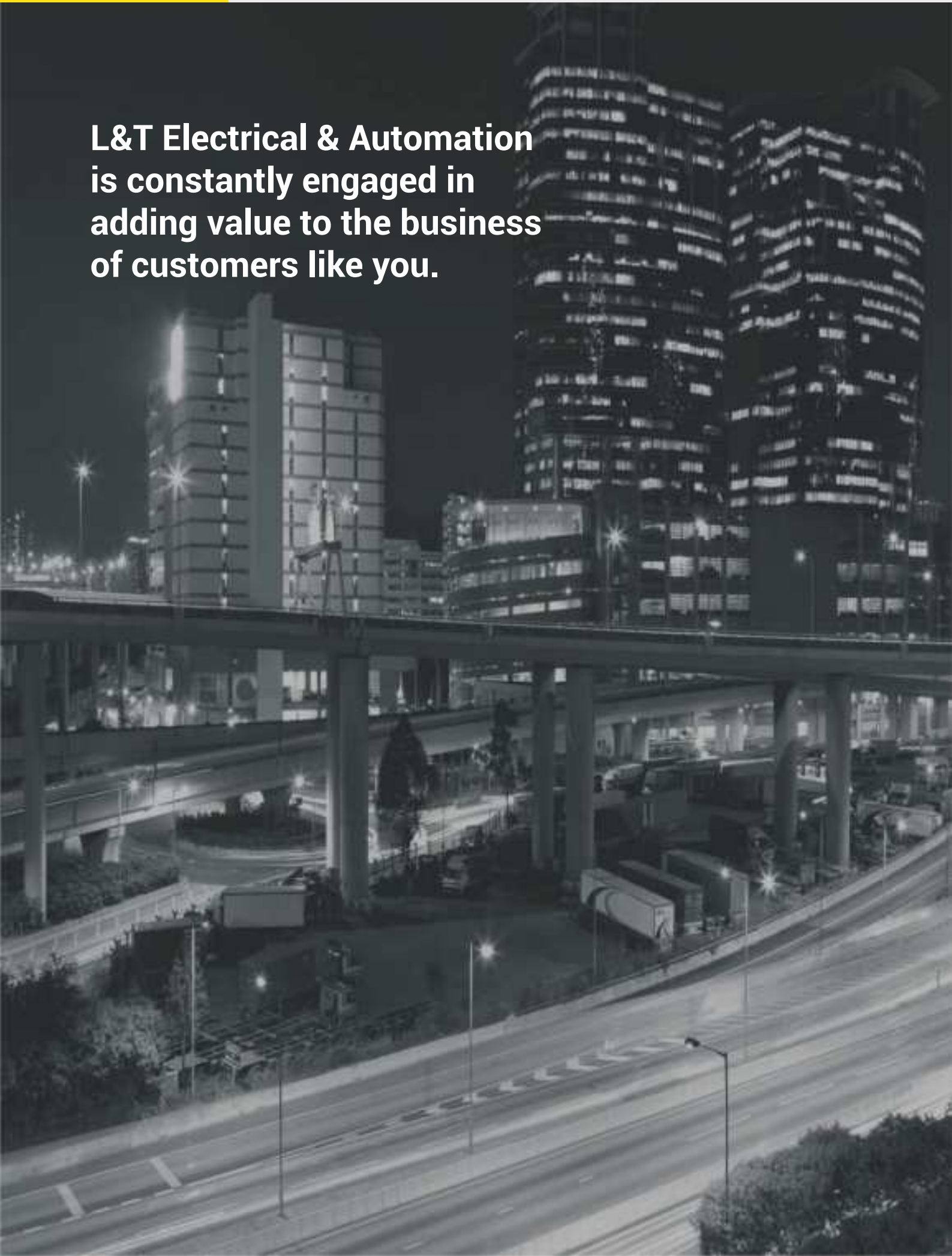
About

L&T Electrical & Automation

L&T Electrical & Automation (E&A) is a market leader for electrical distribution, monitoring and control solutions in the low voltage category.

Popular among customers as L&T Switchgear, E&A offers a wide range of low and medium voltage switchgear, motor starters, electrical systems, industrial automation, building electrical solutions, energy management solutions, electrical modernization solutions and metering solutions. It products and solutions cater to key sectors of economy like industries, utilities, infrastructure, building and agriculture.

E&A's manufacturing operations at Navi Mumbai, Ahmednagar, Vadodara, Coimbatore and Mysuru in India adhere to global practices of excellence and receive support from well-equipped in-house design and development centres as well as tooling facilities that contribute to precision in manufacturing.



L&T Electrical & Automation is constantly engaged in adding value to the business of customers like you.

CONTENTS

User Centric Innovation

The dsine DZ range is designed to meet the requirements of today's evolving electrical systems in modern installations. Protection units in thermal magnetic as well as microprocessor versions offer comprehensive protection for all needs.

Range features:

- Rated Current: 16 A to 160 A
- Available in 3 Pole & 4 Pole
- Protection using both thermal magnetic & microprocessor based release
- Various types of terminations
- Switch disconnector and motor backup versions
- No load line bias
- Ambient temperature compensation upto 55°C *
- Ics=100% of Icu
- Suitable for isolation
- Wide range of internal and external accessories
- Conforms to IS 60947-2, IEC 60947-2 and EN 60947-2

DZ1		
Protection Release	**Ratings (A)**	**Breaking Capacity (kA) Ics= 100% of Icu**
Microprocessor	25, 40, 63, 100, 160	36, 50
Thermal Magnetic	16, 20, 25, 32, 40, 50, 63, 80, 100, 125, 160	
Only Magnetic	16, 20, 25, 32, 40, 50, 63, 80, 100, 125, 160	

* No Deration up to 55°C

Protection Release Features

- Wide range of protections using thermal magnetic and microprocessor based trip unit
- Long time (overload) setting starts from 0.25In for iTRP-1 release and 0.67In for thermal magnetic release
- Transparent release cover

Thermal Magnetic Release:

- Adjustable overload setting
- Adjustable short circuit setting*
- True RMS sensing

TM - A	
LI	**A**
Rated Current (A)	16, 20, 25, 32, 40, 50, 63, 80, 100, 125, 160
Frame	DZ1
Over Load (Phase)	
Current Setting Ir (Ir = x In)	0.67 to 1 x In
Instantaneous	
Current Setting Ii (Ii = x In)	6 to 12 x In*

* 16 A to 50 A : Fixed Magnetic 375 A

Microprocessor Releases:
i TRP-1

- Wide range of overload setting starting from 0.25In
- Adjustable Trip class
- Neutral overload protection
- Short circuit setting with delay or Instantaneous option
- Adjustable Instantaneous Setting
- Thermal Memory with option of Defeat
- Provision for release testing

iTRP-1	
LS/I	
Rated Current (A)	25, 40, 63, 100, 160
Frame	DZ1
Over Load (Phase)	
Current Setting Ir (Ir = x In)	0.25 to 1 x In (in step of 0.05)
Time delay, tr (Inverse)	10s at 6Ir, 3s at 6Ir , 10s at 7.2 Ir, 3s at 7.2Ir
Protection Mode	ON/OFF
Thermal Memory	ON/OFF
Over Load (Neutral)	
Current Setting In (In = x Ir)	OFF / 1.0 x Ir
Time delay, tr (Inverse)	As per Overload Curve Setting
Protection Mode	ON/OFF
Short Circuit	
Current Setting Is (Is = x Ir)	1.5 to 12 x Ir (in step of 0.5)
Time delay, ts	As per I^2t curve /150 msec
I^2t	ON/OFF
or Instantaneous	
Current Setting Ii (Ii = x In)	1.5 to 12 x In (in step of 0.5)

Microprocessor Releases:
i TRP-2

- Wide range of overload settings from 0.25In
- Adjustable neutral overload protection
- Short circuit setting with delay
- Adjustable instantaneous setting
- Thermal memory defeat
- Provision for release testing
- Individual fault indication LEDs

ITRP-2	
LSIN	
Rated Current (A)	25, 40, 63, 100, 160
Frame	DZ1
Over Load (Phase)	
Current Setting Ir (Ir = x In)	0.25 to 1 x In (in step of 0.05)
Time delay, tr (Inverse)	10s at 6Ir,
Protection Mode	ON/OFF
Thermal Memory	Enable/Disable
Over Load (Neutral)	
Current Setting In (In = x Ir)	OFF / 0.5/ 1.0/ 2.0 x Ir
Time delay, tr (Inverse)	As per Overload Curve Setting
Protection Mode	ON/OFF
Short Circuit	
Current Setting Is (Is = x Ir)	1.5, 3, 4.5, 5.5, 6, 7, 8.5, 10 x Ir
Time delay, ts	100ms/200ms
I^2t	ON/OFF
Protection Mode	ON/OFF
Instantaneous	
Current Setting Ii (Ii = x In)	6 & 12 In
Protection Mode	ON/OFF

Microprocessor Releases:
i TRP-3

- Wide range of overload settings from 0.25In
- Adjustable neutral overload protection
- Short circuit setting with delay
- Adjustable instantaneous setting
- Thermal memory defeat
- Provision for release testing
- Individual fault indication LEDs
- Inbuilt earth fault protection

ITRP-3	
LSIN	
Rated Current (A)	25, 40, 63, 100, 160
Frame	DZ1
Over Load (Phase)	
Current Setting Ir (Ir = x In)	0.25 to 1 x In (in step of 0.05)
Time delay, tr (Inverse)	10s at 6Ir,
Protection Mode	ON/OFF
Thermal Memory	Enable/Disable
Over Load (Neutral)	
Current Setting In (In = x Ir)	OFF / 0.5/ 1.0/ 2.0 x Ir
Time delay, tr (Inverse)	As per Overload Curve Setting
Protection Mode	ON/OFF
Short Circuit	
Current Setting Is (Is = x Ir)	1.5, 3, 4.5, 5.5, 6, 7, 8.5, 10 x Ir
Time delay, ts	100ms/200ms
I^2t	ON/OFF
Protection Mode	ON/OFF
Instantaneous	
Current Setting Ii (Ii = x In)	6 & 12 In
Protection Mode	ON/OFF
Earth Fault	
Current Setting Ir (Ir = x In)	0.2, 0.4, 0.5, 0.7 x In
Time delay, tr (Inverse)	100ms/200ms
Protection Mode	ON/OFF

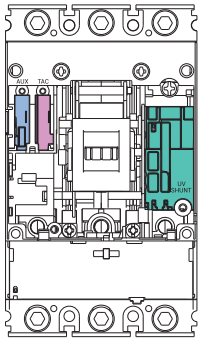
Accessories

Internal Accessories

DZ MCCBs offer a wide range of accessories. There are upto 3 cavities for variety of accessories, this allow customers to use all possible combinations and provide maximum flexibility.

There is no need to open main cover and no live parts are accessed, during installation.

Frame DZ1



Internal Accessories	Contacts/Voltage (Vac)	Frame	Maximum available cavaity (nos)
Auxiliary Contact	1 C/O	DZ1	1 (Left)
Trip Alarm Contact	1 C/O	DZ1	1 (Left)
Shunt Release - Size 1	24, 48, 110, 240, 415 V	DZ1	1 (Right)
Under Voltage Release - Size 1	24, 48, 110, 240, 415 V	DZ1	1 (Right)

Shunt Release

It allows opening of MCCB by means of an electrical command. Operation of the release is guaranteed for a voltage between 70% and 110% of the rated power supply voltage value Ue, both in AC & DC.

Shunt Release - Size 1 for DZ1		
Voltage (Vac) 50/60 Hz	**Pick up Power (VA)**	**Hold On power (VA)**
415	6	4
240	4	2
110	4	2
48	4	2
24	4	2

UV Release

The Under-voltage release causes the MCCB to trip if the operational voltage falls to a value between 35% and 70% of its rated voltage or not applied. UV release mechanically locks the closing mechanism of MCCB & makes it impossible to close on under-voltage or no voltage, both manually & electrically. With the under-voltage release de-energized, it is not possible to close the MCCB. UV release can also be used for interlocking schemes (for DG synchronization, paralleling of transformers, etc.) also.

Shunt Release - Size 1 for DZ1		
Voltage (Vac) 50/60 Hz	**Pick up Power (VA)**	**Hold On power (VA)**
415	6	3
240	3	2
110	3	2
48	4	2
24	4	2

External Accessories

Rotary Operating Mechanism (ROM)

Rotary Operating Mechanism (ROM) for dsineDZ MCCBs are available in both direct as well as extended versions.

Features:

- Clear ON/OFF/TRIP indication
- Direct access to "Push to Trip" button
- Adjustment of misalignment in the extended version by +/- 6 mm
- Adaptability to any quadrant use
- Door interlock in ON condition, with defeat facility
- Door interlock in OFF condition with padlock feature
- Three padlocks can be used with diameter from 5mm to 8mm.
- Door sensing
- Mechanical interlocking with variety of keylocks like Ronis, Kirk, Allen-Bradley, Fortress, Castle, etc.
- Ingress protection (IP) of IP42 and IP54 in direct and extended versions respectively

Mechanical Interlock (MIL):

In source change-over systems, Mechanical Interlock (MIL) prevents connectionto both sources at the same time. When two MCCBs are working in parallel, there may be a requirement to interlock two MCCBs mechanically so that when one is being turned ON, theother remains in OFF position, so that only one MCCB may be closed at a time. MIL also finds its application in ASTS for additional safety, especially in an environment having high vibrations. MILs are used along with Electical interlock.

The new dsine DZ has three versions of Mechanical Interlocks depending upon their philosophy of interlocking.

1) Mechanical Interlock – Front Slider

Two MCCBs installed side by side can be interlocked using Front MIL. Interlocking is carried out by means of front slider kit which prevents the unintentional operation of interlocked MCCB through mechanical feedback.

Some of the salient features are:

• Min. 26 mm clearance between 3P and 4P with spreaders

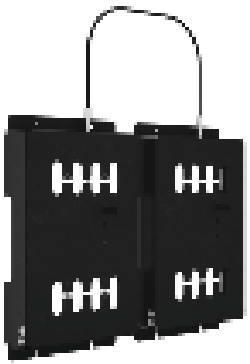
• Three padlocks ranging from ø5 mm to ø8 mm in 3 conditions (IO-OO-OI)

• Common design for 3P and 4P

• Suitable for all types of terminations applicable to basic MCCB

Note: MCCBs mounted with EOMs and ROMs are not compatible with Front Slider MIL

2) Mechanical Interlock – Rear Base Plate with cable



Two MCCBs can be interlocked using this Rear Base plate MIL with cable of length options - 1m, 3m and 5m. Interlocking is carried out by means of mechanism located behind the base plate of installed MCCBs and feedback cable. This gives flexibility to the operator or user to access the front controls and status indication of MCCB and cable gives flexibility to installed at any distance up to 5m.

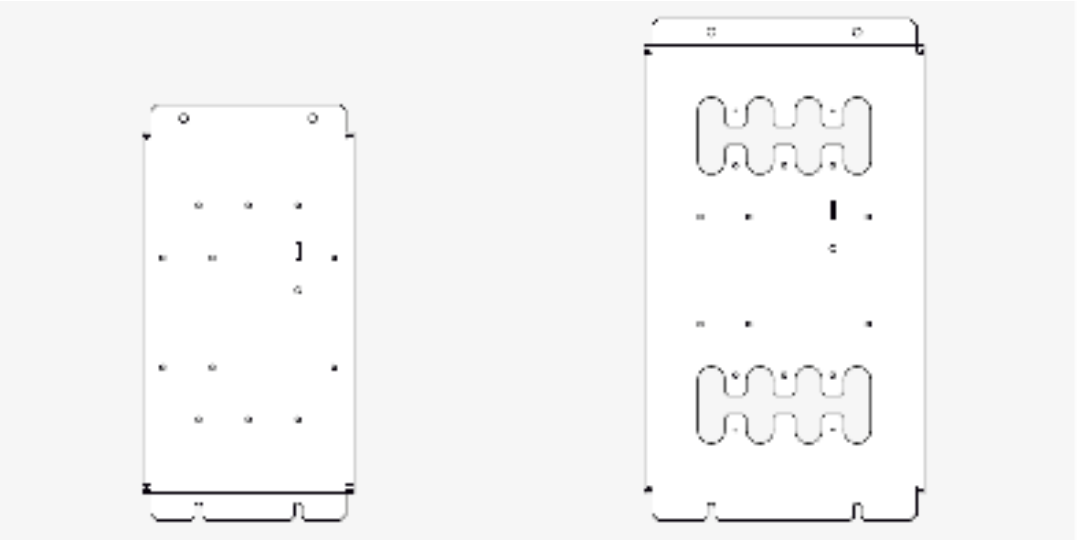
Some of the salient features are:

- Min. 26 mm clearance between 3P and 4P with spreaders and Rear termination with link to the base plate
- Possible to interlock different MCCBs
- Common design for 3P and 4P
- Suitable for all types of terminations applicable to basic MCCB
- Suitable for withdrawable Plug-in and Draw-out modules, with all type of MCCB terminations applicable
- Suitable for MCCBs having ROMs and EOMs
- Suitable for horizontal or vertical mounting orientations
- Cables are provided in the length of 1m, 3m and 5m depending onrequirements.

Maintenance Guidelines:

- Minimum cable bending radius of 80mm to be maintained.
- Cables should not be looped.
- Cable should not be disturbed after calibration.
- Cable should be supported appropriately at required locations toprevent sagging.
- Re-calibration and verification to be done every 30 days to ensurethere is no abuse with cable calibration.
- Calibration should be done by authorised service engineers only

BASEPLATE SELECTION



BASEPLATE A
(UNSUITABLE FOR REAR TERMINATION)

BASEPLATE B
(SUITABLE FOR ALL TYPES OF TERMINATIONS)

CABLE SELECTION MATRIX

		DZ1	
		A	B
DZ1	A	L	L
	B		M

Both the Cables : L and M come in the lengths of 1m, 3m and 5m

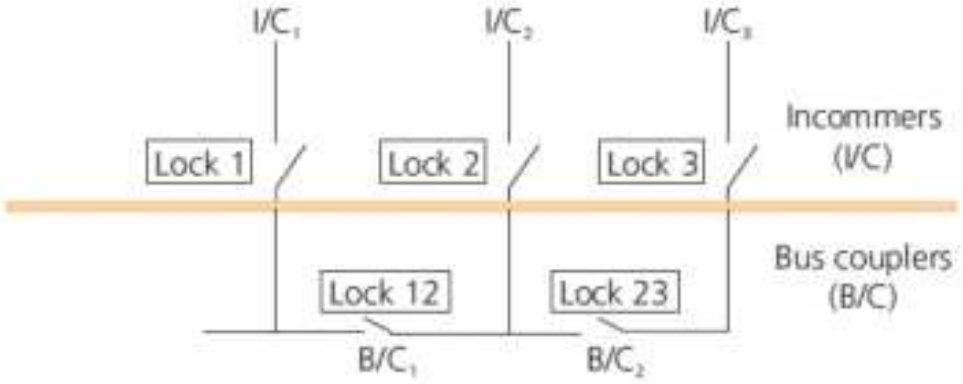
3. Mechanical Interlocking using Key Locks:

For mechanical interlocking through extended rotary operating mechanism, a panel mounted key lock is available. The selection of the key lock as per the table:

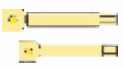
Key Lock Selection:

Type of lock	Exclusively operable by key nos.
1	1
2	2
3	3
12	1, 2 & 12
23	2, 3, & 23

I/C or B/C	Key Lock
2 I/C	Any 1 type of lock for both MCCBS
2 I/C and 1 B/C	Lock 1 and Lock 2 for I/C and Lock 12 for B/C
3 I/C and 2 B/C	Locks 1, 2, 3 for I/Cs and Locks 12, 23 for B/Cs



Terminations

	DIRECT TERMINAL	Cable	2.5 mm to 25 mm^2
		Link	(11 to 16)mm wide x (2 to 5)mm thick
		Tightening Torque	max 6N-m at MCCB termination
	BOX CLAMP #	Flexible	2.5 mm to 70 mm^2
		Rigid	2.5 mm to 95 mm^2
		Tightening Torque	max 6N-m at MCCB termination
	SPREADER #	Cable	25mm^2 to 95mm^2
		Link	(16 to 25)mm wide x (3 to 6)mm thick
		Tightening Torque	max 6N-m at MCCB termination
	REAR TERMINAL #	Cable	95mm^2
		Link	(16 to 25)mm wide x (2 to 4)mm thick
		Tightening Torque	max 6N-m at MCCB termination

Basic Breaker is suitable for DIRECT termination.
For all other types of termination
+ LINK / LUG width(W): 25 < W < 30mm

Plug-in-Module

MCCBs with plug-in module are used in applications which demand higher levels of service continuity such as hospitals, process industries, automobile industry, etc. where immediate replacement is required. In such cases, MCCB with plug-in base can be safely removed from the system without removing the power connections or terminations and replaced with new MCCB.
Once MCCB is removed from the plug-in base, it offers complete isolation from the supply and maintains the safety of personnel working on down-stream feeders.

Features:

➡ Inbuilt safety interlock that prevents plugging in/out of MCCB when it is in ON condition
➡ Suitable for all types of terminations i.e. direct, spreader links, box clamps and rear terminals
➡ True position indication of MCCB - service or isolate
➡ Provision for both base mounting or 35 mm rail mounting
➡ Ingress Protection (IP):

- IP20 – MCCB plugged out condition
- IP40 – MCCB plugged in condition

MOTOR OPERATORS

Motor Operators are widely used for remote switching and auto source changeover schemes. Motor operators find applications in industry segment, infrastructure and building segment with critical installation areas like hospitals. DZ1 Motor Operators are the most compact, quick operating motor operators with switching time ≤ 150 ms ensuring reliable source changeover. These motor operators can cater to MCCBs with current ratings up to 160A.

SALIENT FEATURES

- Compact motor operator with size 87 x 75 x 100 mm (HxWxD)
- Operates within a wide voltage band (150 VAC – 270 VAC)
- Features a pop-up type padlock. Padlocking is possible in both ON and OFF state of MCCB.
- Three distinct modes of operation as follows:
  - **Auto mode –** Unit can operate electrically. Manual operations and padlocking are disabled
  - **Manual Mode –** Unit can be operated manually. Electrical operations and padlocking are disabled.
  - **Lock Mode –** Unit cannot be operated. Auto and Manual modes are disabled. Padlocking is possible.
- Ingress protection complying IP40
- Single hand hinge-out feature with retention snaps for easy access to the internal accessories of MCCB like UV/SR & AUX/TAC. No need to un-mount EOM for mounting / replacing internal accessories.
- Ergonomic supplementary handle for easy manual operations.
- Endurance life up to 30000 (100% mechanical life of MCCB) operations for reliable switching.
- Easy access to MCCB termination. No need to un-mount EOM for assembly and maintenance of MCCB termination.
- Compatible with Plug-in Module and Cable Base Plate MIL

SPECIFICATIONS

Specification	DZ1
Operating voltage (V AC)	240 V AC
Operating voltage (% of rated)	75-110 %
Closing time (ms)	<100
Opening time(ms)	<100
Power consumption (VA)	500
Life/no of operation	30000
IP Protection	IP40
Operating frequency	2/min
Min control pulse time(ms)	50-150

Technical Data Sheet

Frame			DZ1-160	
Type			D	N
Current Range In (A)			16-160	
Release			TM(VTVM)/Microprocessor *	
Poles			3P/4P	
Impulse Withstand Voltage Uimp (kV)			8	
Rated Operational Voltage Ue (V AC) (MAX) @ 50 / 60 Hz			415	
Rated Operational Voltage Ue (V DC) (MAX)			500	
Rated Insulation Voltage Ui (V AC)			800	
Utilization Category			A	
Standard			IS 60947-2, IEC 60947-2, EN 60947-2	
Rated Short Circuit Breaking Capacity	Icu(kA)	220 / 230 V AC 50 / 60 Hz	**45**	**65**
		400 / 415 V AC 50 / 60 Hz	**36**	**50**
	Ics as % of Icu	220 / 230 V AC 50 / 60 Hz	100%	
		400 / 415 V AC 50 / 60 Hz		
Making Capacity (kA) @ 415 V AC			75.6	105
Life	Mechanical		30000	
	Electrical @ 415 V AC		10000	
Operating Frequency (Hz)			50/60	
Opening Time			< 10 msec	
Finger proof Terminals			YES	
Suitable for Isolation			YES	
IP Class			IP20/IP40$ and IP54 with Extended ROM	
Pollution Degree			III	
Load-Line Bias			NO	
Ambient Temperature			- 5°C to 55°C	
Storage Temperature			- 15°C to 70°C	
Mounting Positions in Vertical Plane			Vertical and 90° in both directions	
Dimensions (H x W x D) (mm)	3 Pole		130 x 75 x 60	
	4 Pole		130 x 100 x 60	
Weight (kg) 3P/4P			0.9/1.1	
Accessories	Internal	Auxiliary Contact 1 C/O	01 no. Aux	
		Trip Alarm Contact 1 C/O	**01 no. TAC**	
		Shunt Release	**01 no. Shunt or 01 no. UV**	
		Under Voltage Release		
	External	Rotary Operating Mechanism(Direct/Extended)	✓	
		Mechanical Interlock Kit	✓	
		Spreader Terminals	✓	
		Rear Terminals#	✓	
		Box-Clamp#	✓	
		Plug-in	✓	
		Motor Operator	✓	

*VTVM - Variable Thermal Variable Magnetic
*16 A to 50 A: Fixed Magnetic 375A
$ IP20: At the Terminals, IP40: At Front Face
# For details contact nearest branch office

Altitude Correction Factors

Altitude does not significantly affect circuit breaker characteristics upto 2000 m.
Above this altitude, it is necessary to take into account the decrease in the dielectric strength and cooling capacity of air.

The following tables give the altitude correction factors for various circuit breaker characteristics :

Altitude Correction Factors		
Altitude	Rated Continuous Current (In)	Rated Voltage (Ue)
(m)	x (In)	x (Ue)
2000 & below	1.00	1.00
2500	0.99	0.95
3900	0.95	0.80

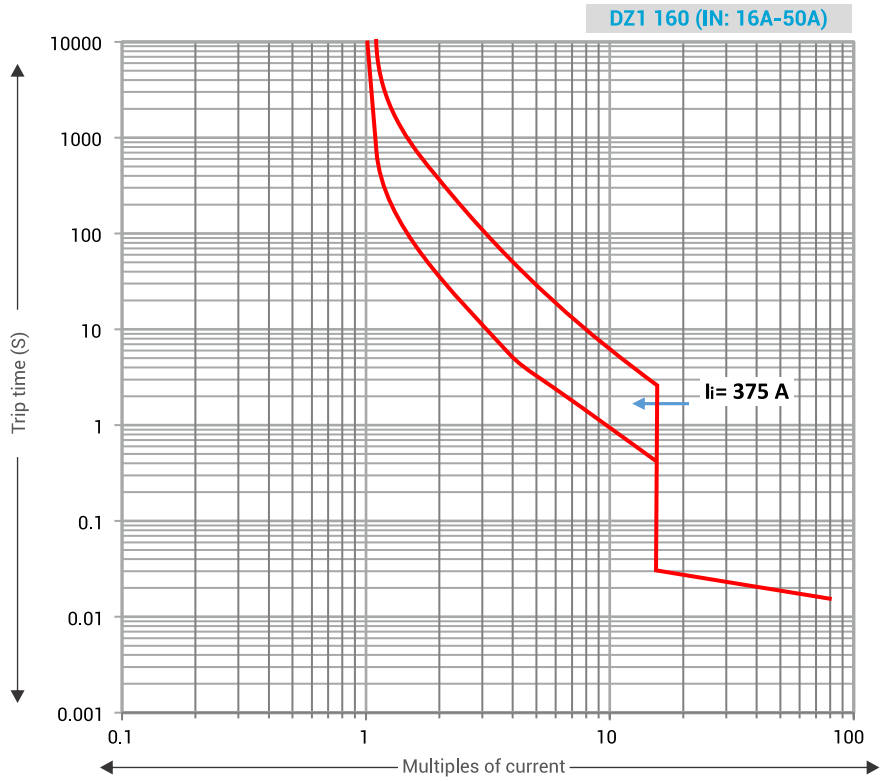
Altitude Correction Factors		
Altitude	Rated Insulation Voltage (Ui)	Rated Impulse Voltage (Uimp)
(m)	(V)	(kV)
2000 & below	800	8.0
2500	664	6.7
3900	560	5.6

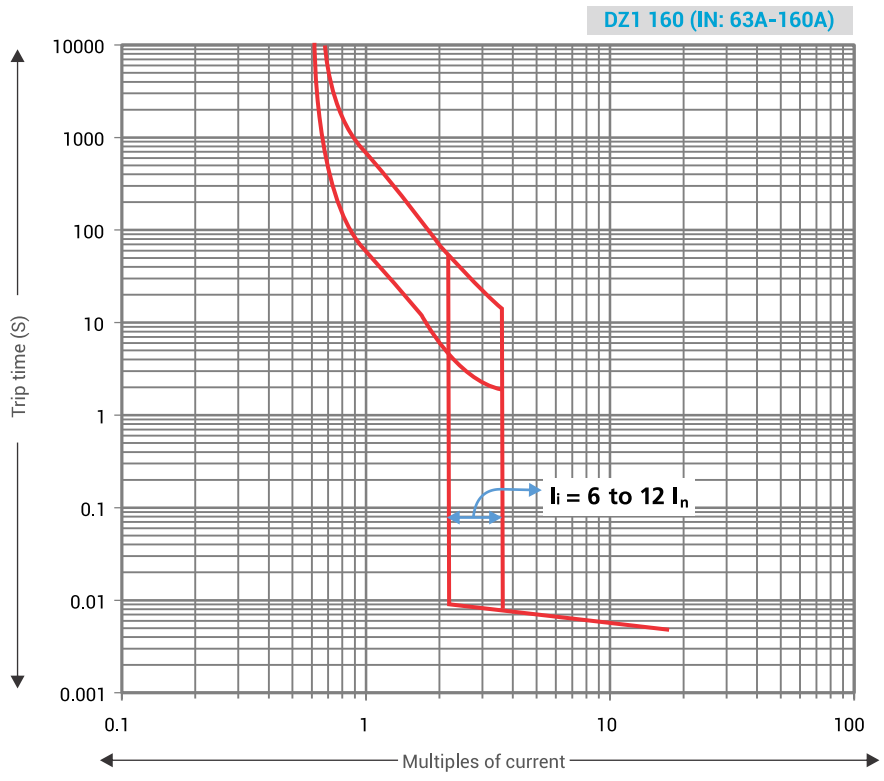
Characteristic Curves

Trip Curves

Thermal Magnetic Release

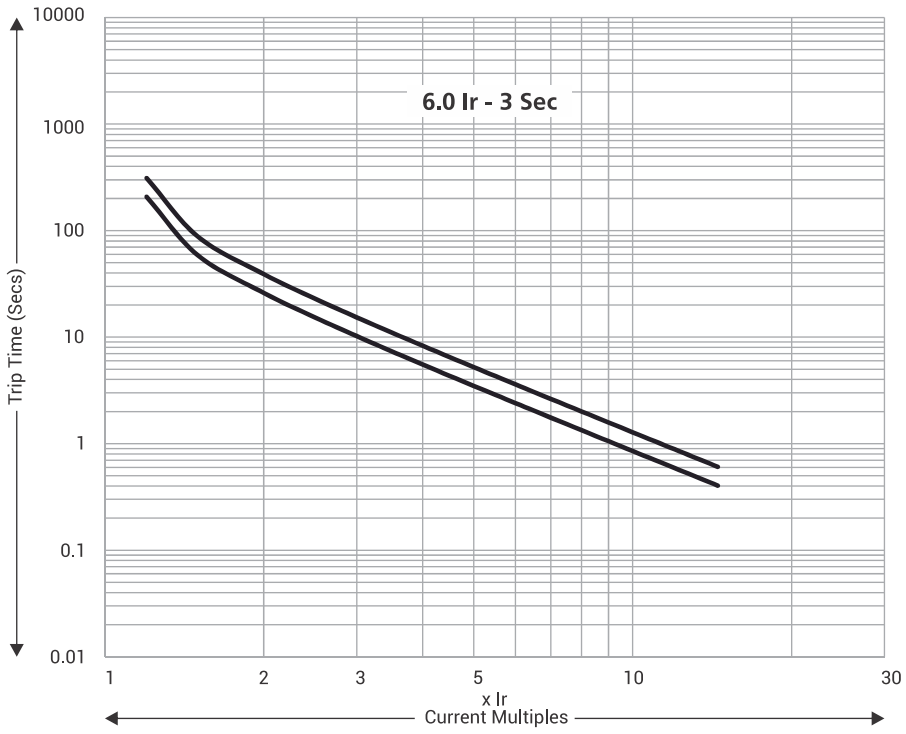
*i*TMAF @12In



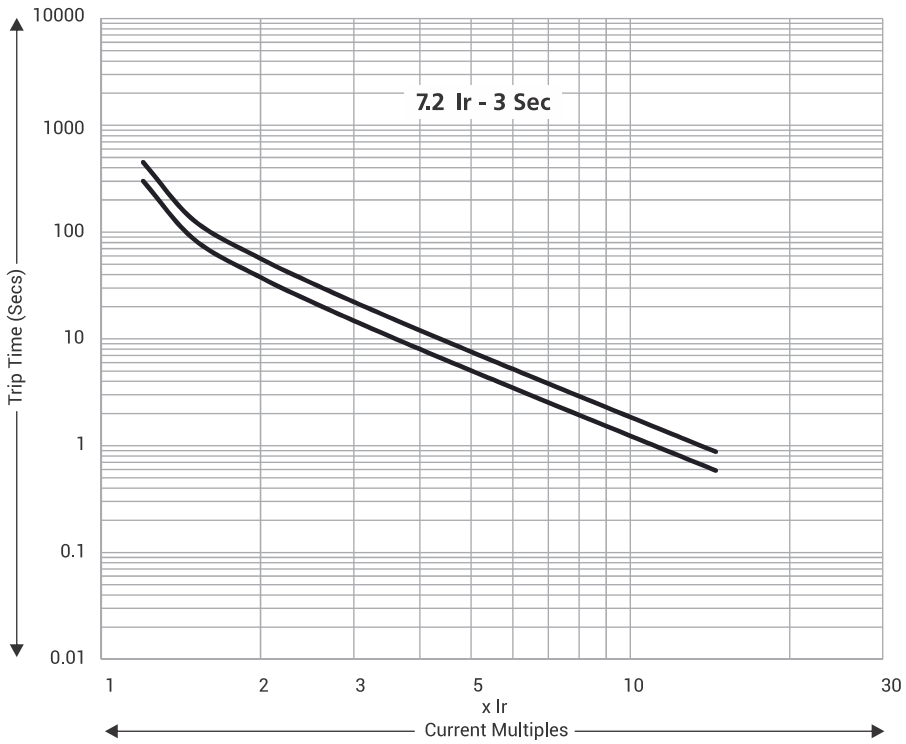


Microprocessor Release (TRIP)

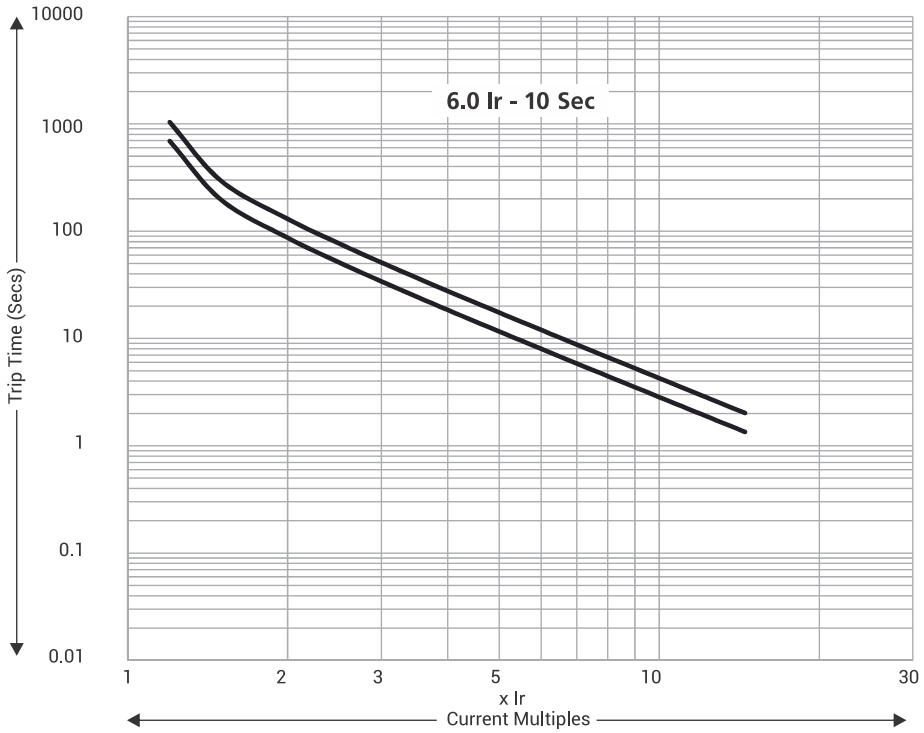
Overload 6Ir @ 3s



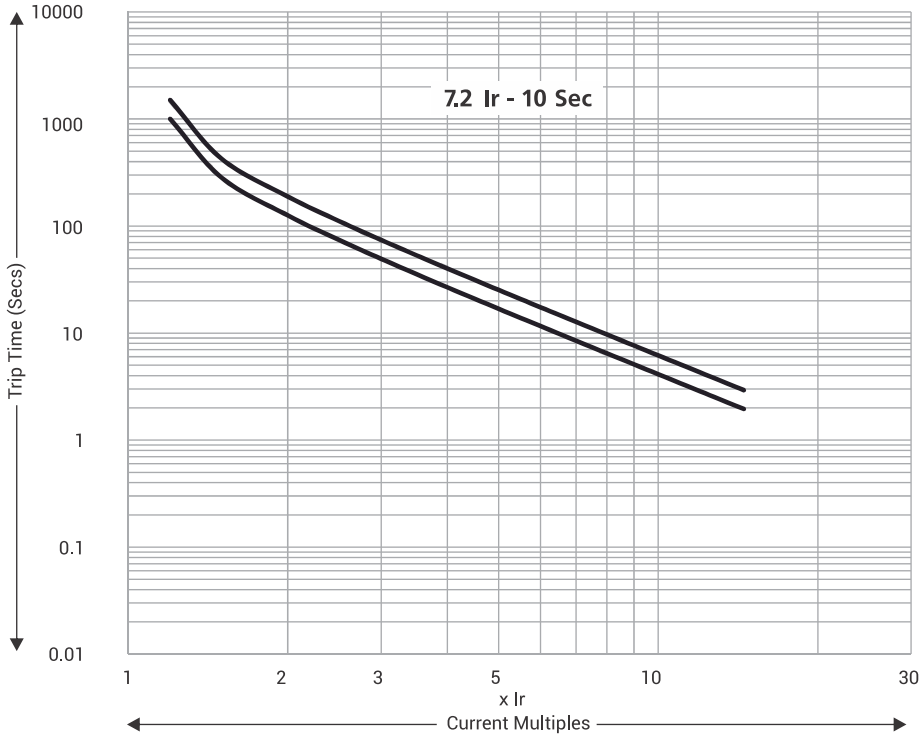
Overload 7.2Ir @ 3s



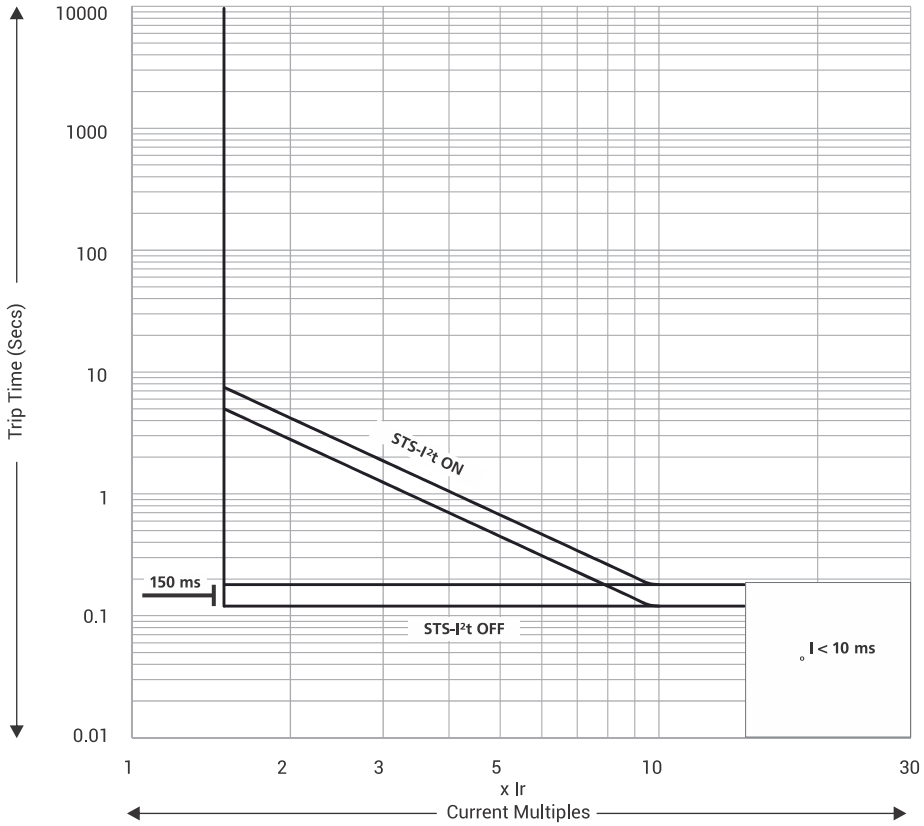
Overload 6Ir @ 10s



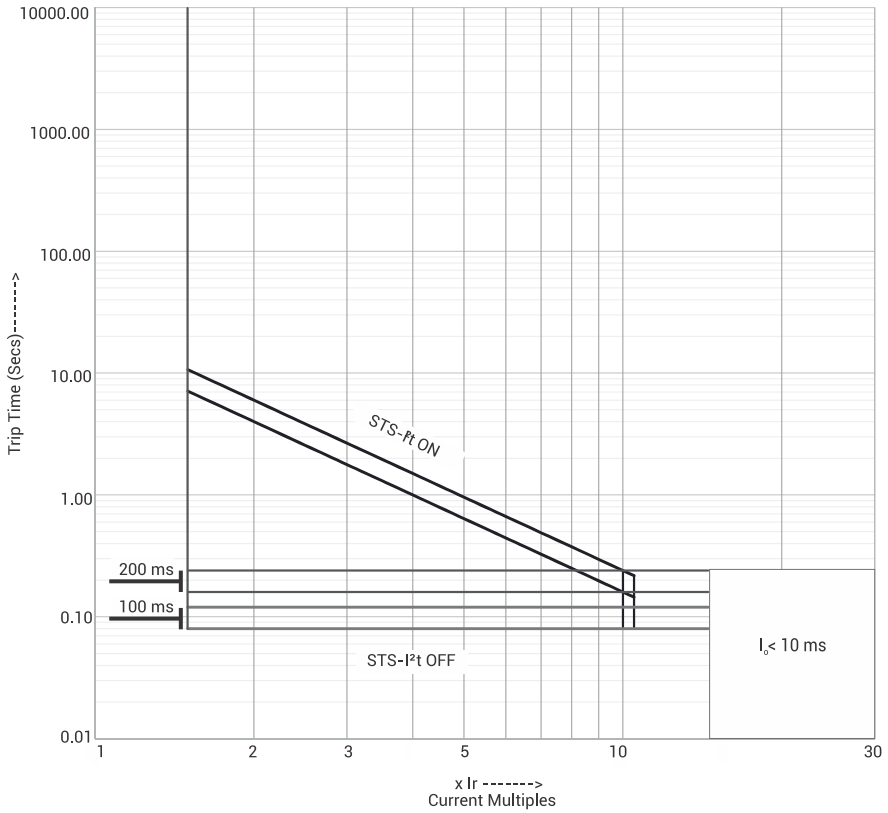
Overload 7.2Ir @ 10s



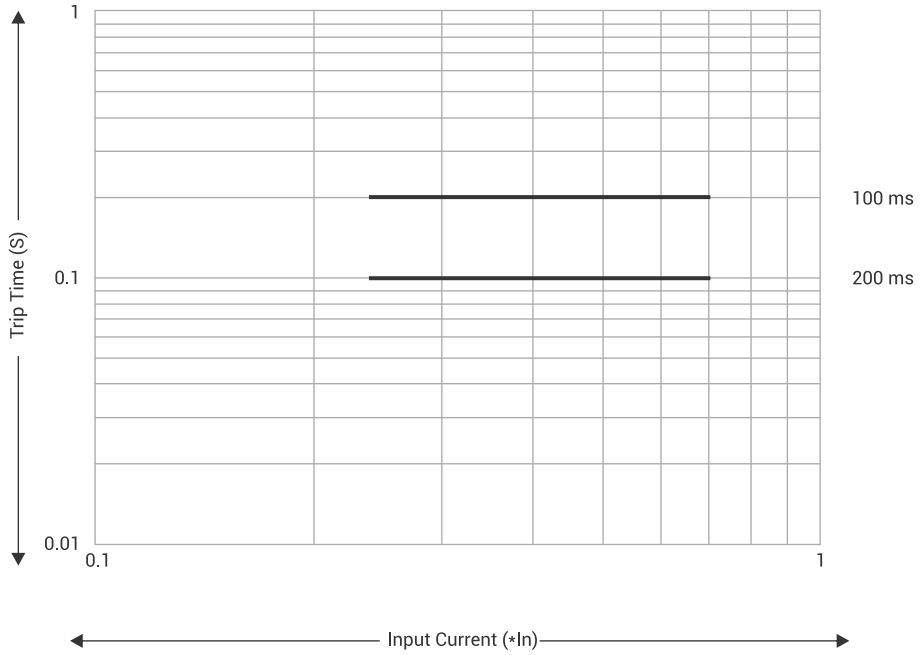
Short-Circuit & Instantaneous - *i*TRP-1



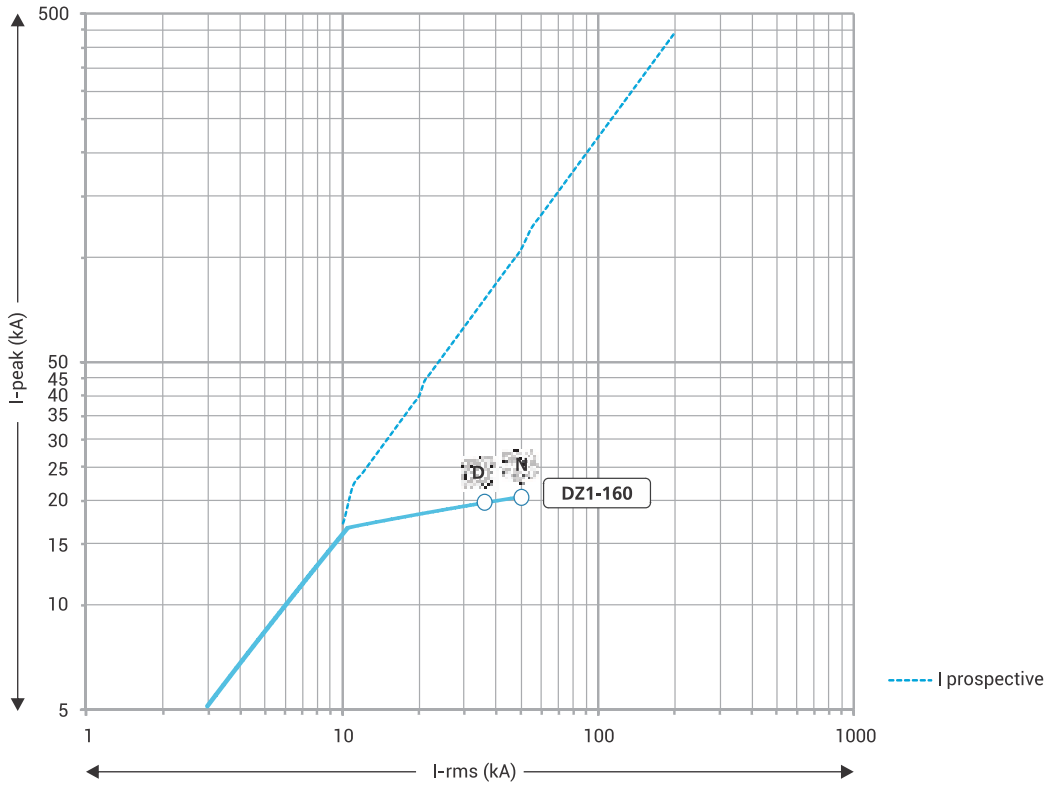
Short-Circuit & Instantaneous - *i*TRP-2 / *i*TRP-3



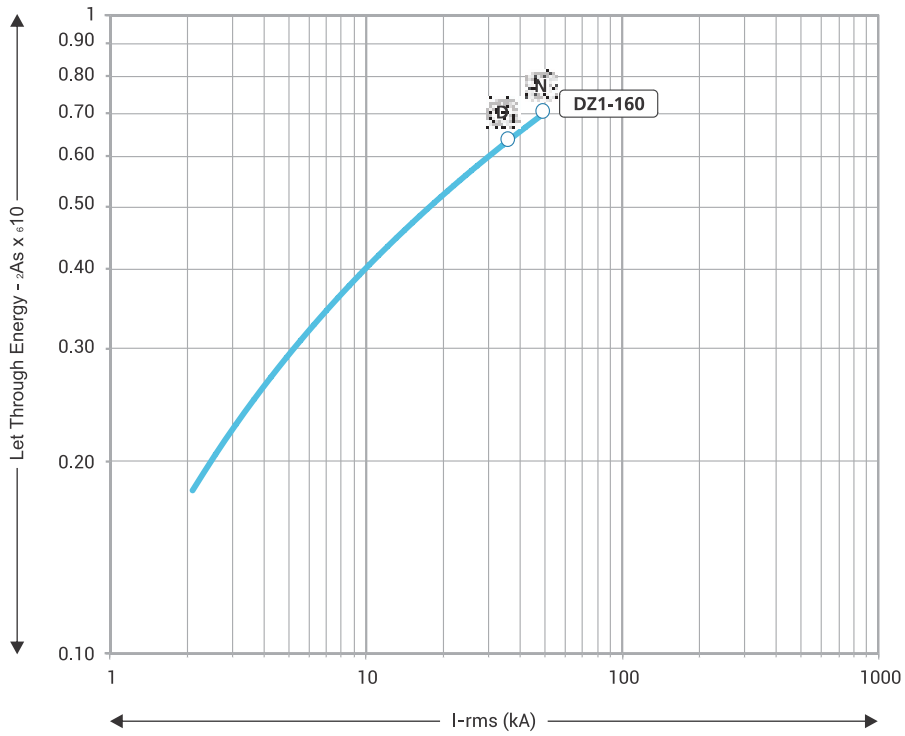
Earth Fault - *i*TRP-3



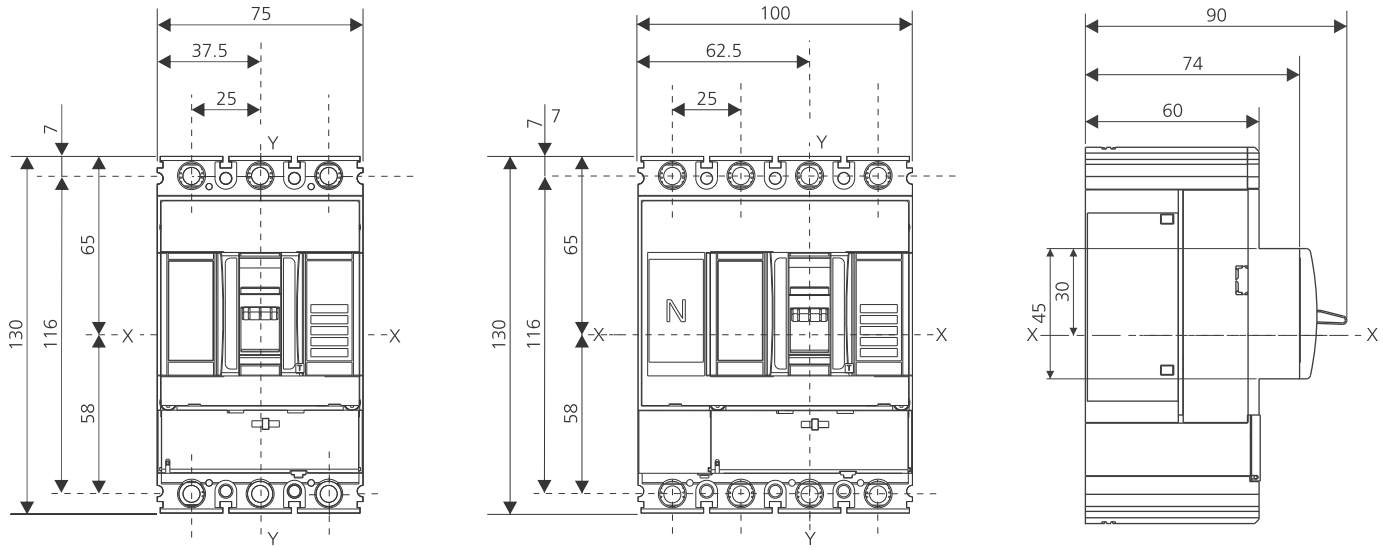
Current-Limiting Curve for d sine - DZ1 @ 415V



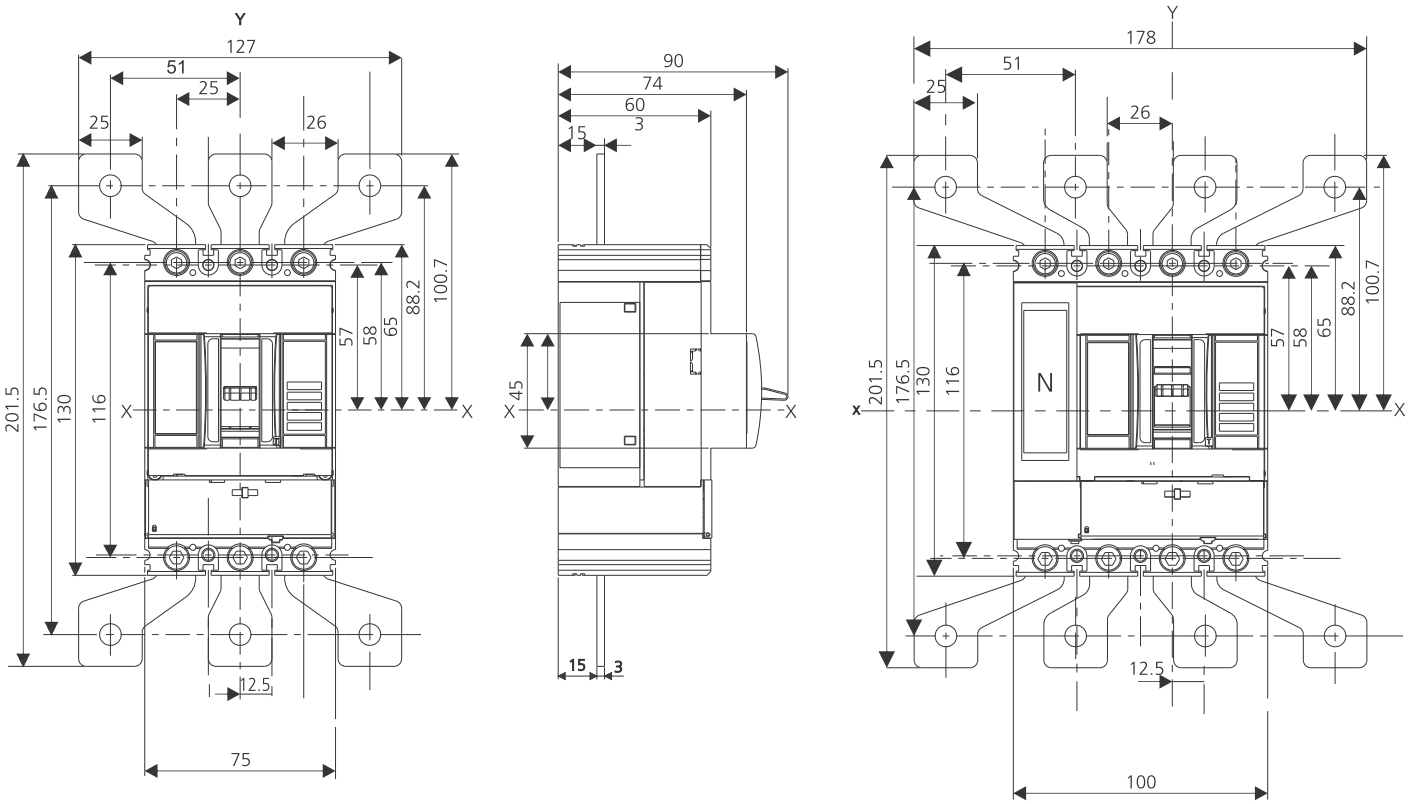
Energy-Limiting Curve for d sine - DZ1 @ 415V



Overall Dimensions

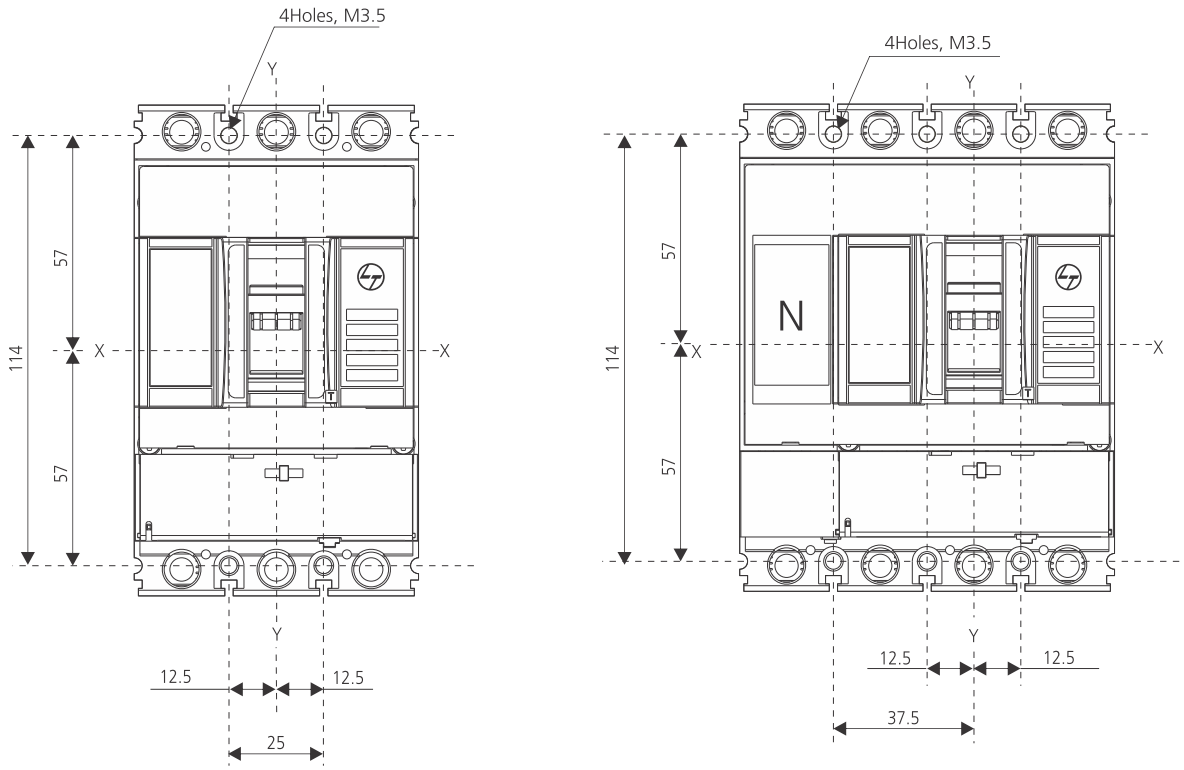


Overall Dimensions with Spreader Links

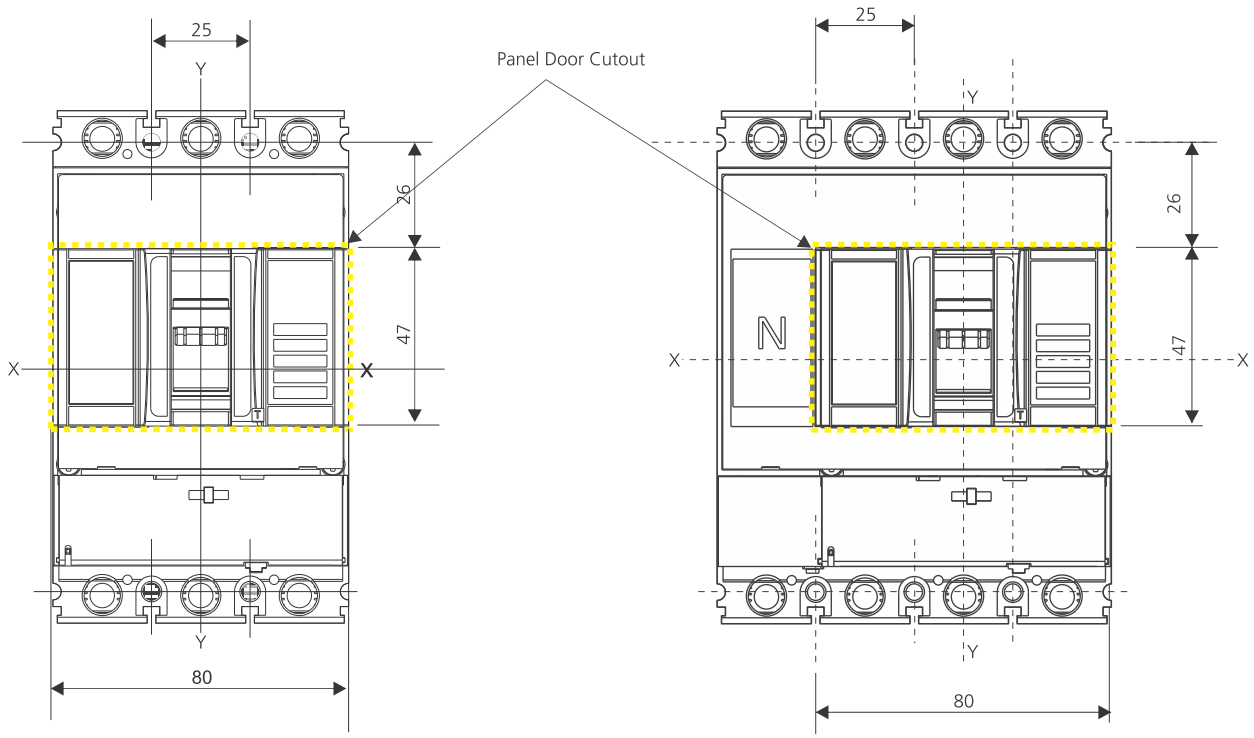


All dimensions are in mm

Mounting Dimensions



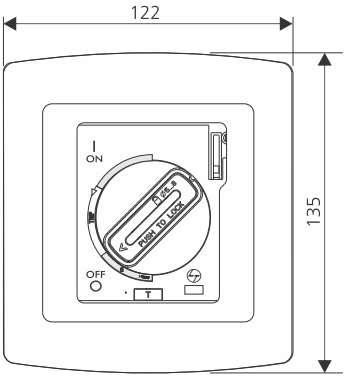
Panel Cutout

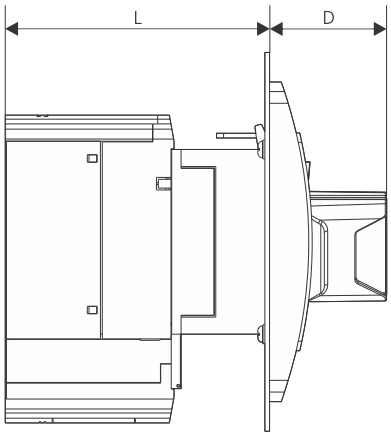


All dimensions are in mm

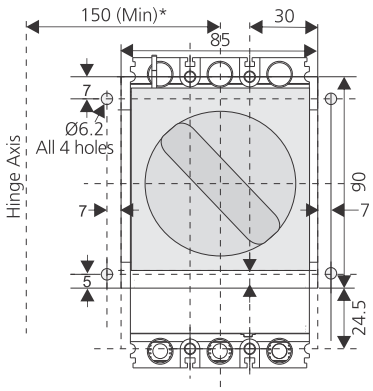
Accessories Dimensions
Direct ROM

Dimension with Bezel & MCCB





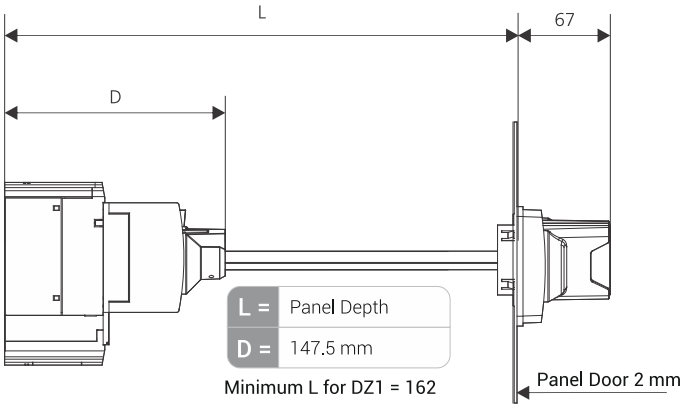
Panel Door Cut-out Dimensions



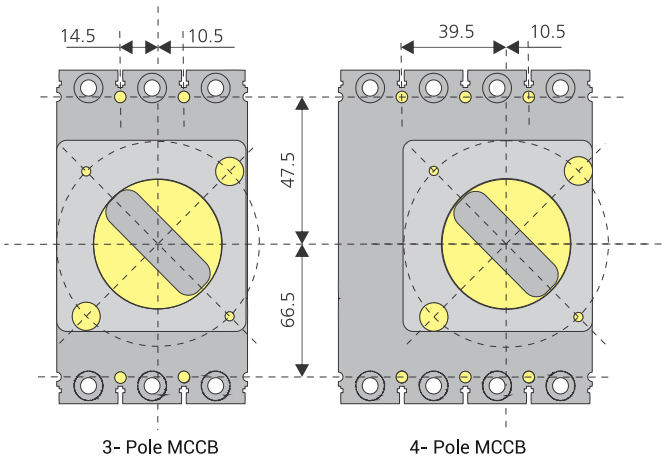
* Minimum hinge radius for Horizontal/ Vertical MCCB installation

Frame	L	D
DZ-1	100.5	50

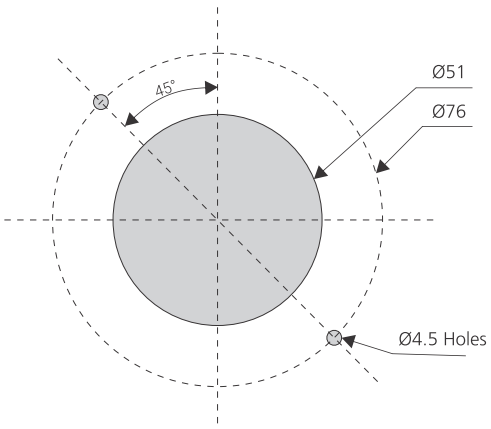
Extended ROM



Vertical & Horizontal References with Respect to MCCB Mounting



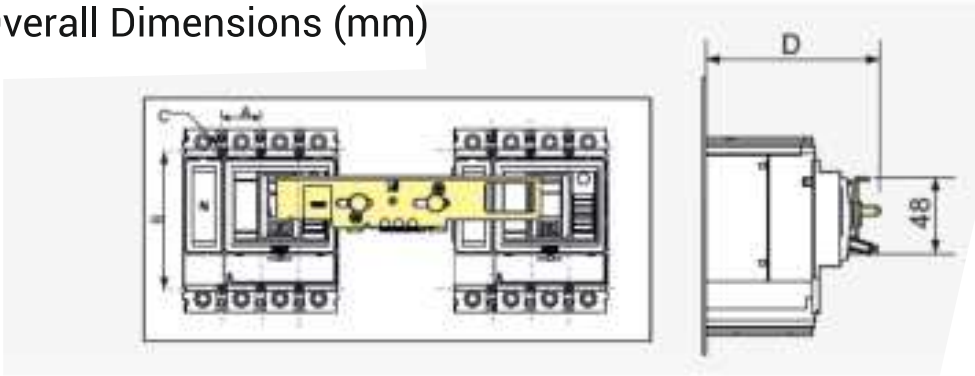
Panel Cut-out Details as Viewed from the Front



All dimensions are in mm

Front Slider MIL

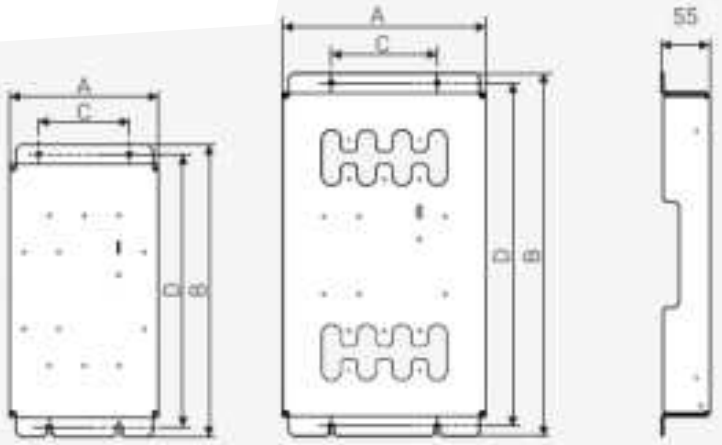
Overall Dimensions (mm)



	DZ1
A	25
B	114
C	M3.5
D	98.8

Rear Base Plate with Cable

Overall Dimensions



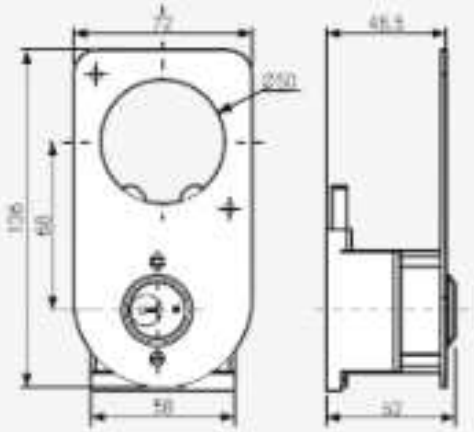
BASEPLATE A BASEPLATE B

	OVERALL DIMENSIONS	
	BASEPLATE A	BASEPLATE B
	DZ1	DZ1
A	100	164
B	222	282
C	70	75
D	204	264

Cable Length in 1m, 3m & 5m are Available

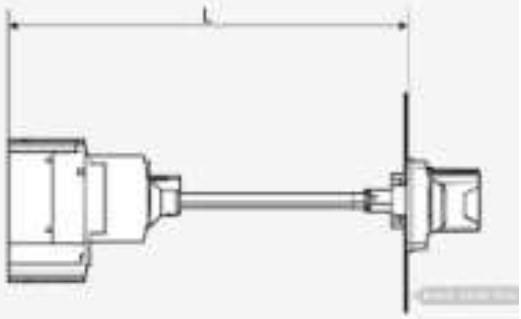
Key Locks

Overall Dimensions



DOOR CUTOUT DETAILS

OVERALL DIMENSIONS



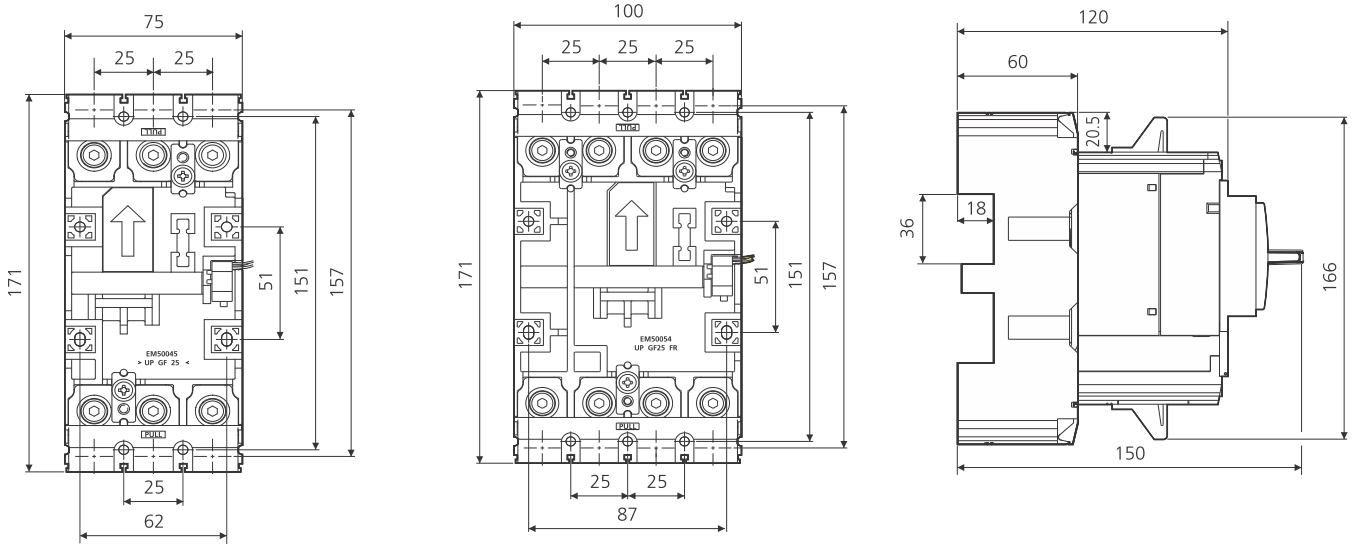
Minimum panel depth for Rotory Operating Mechanism with panel mounted key lock

MCCB	Min. Panel Depth
DZ1	225

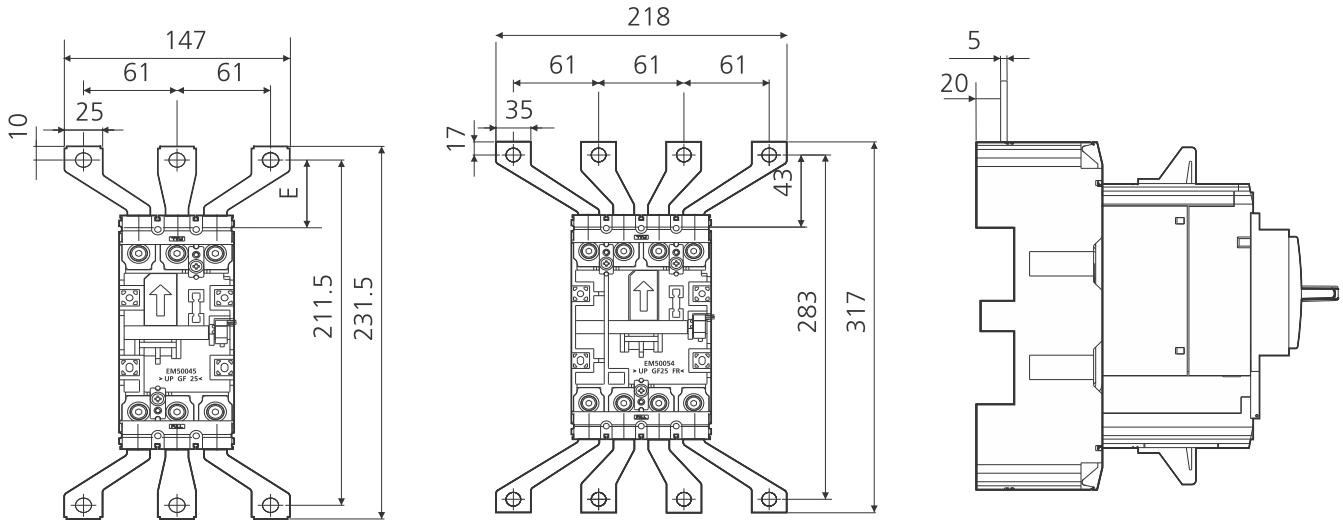
MCCB	Length of Shaft (LS)
DZ1	L-102.5

Plug-in type MCCBs

Overall Dimension

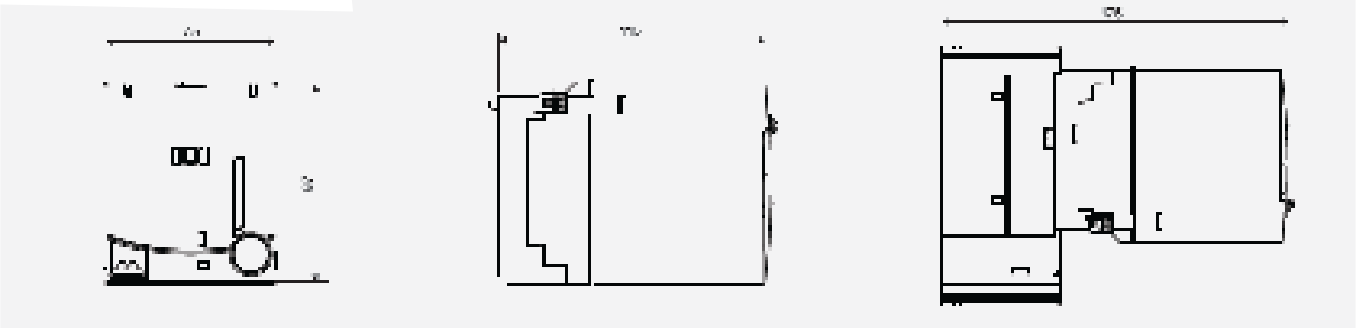


Spreader Dimension



Motor Operator

Overall Dimensions



Type 2 Co-ordination Chart

Motor feeders are generally of two types- Fuse and Fuseless based on the type of short circuit protection device used. Fuse systems incorporate fuse whereas fuseless systems either make use of MCCB or MPCB. The MCCBs are available for various current ratings and kA levels depending on application. This offers you the flexibility of making the most apt selection as per your application. We have DZ1-M MCCBs which cater to motor back up application.

Selection Chart: Fuseless Protection for DOL Starter Feeders: IE2

Type '2' co-ordination, Iq=50 kA at 415V, 3Ø, 50 Hz as per IS/IEC 60947-4-1 standard

Sr. No.	Motor Ratings: 3Ø, 415V, 50 Hz			Contactor Type	Overload Relay			MCCB	
	hp	kW	FLC, In (A)		Type	Range (A)		Type	Rating (A)
1	50	37	68	MO 80	RTO-3	60	78	DZ1-160N (FM)	100
2	60	45	81	MO 95	RTO-3	75	110	DZ1-160N (FM)	100
3	75	55	94	MO 140	RTO-4	72	108	DZ1-160N (FM)	125
4	100	75	130	MO 250	RTO-4	105	156	DZ1-160N (FM)	160

Selection Chart: Fuseless Protection for DOL Starter Feeders: IE3

Type '2' co-ordination, Iq=50 kA at 415V, 3Ø, 50 Hz as per IS/IEC 60947-4-1 standard

Sr. No.	Motor Ratings: 3Ø, 415V, 50 Hz			Contactor Type	Overload Relay			MCCB	
	hp	kW	FLC, In (A)		Type	Range (A)		Type	Rating (A)
1	50	37	68	MO 80	RTO-3	60	78	DZ1-160N (FM)	100
2	60	45	81	MO 140	RTO-4	72	108	DZ1-160N (FM)	125
	75	55	94	MO 185	RTO-4	72	108	DZ1-160N (FM)	160

Notes:

Notes:

Notes:

Electeical Standard Products (ESP) Offices:

HEAD OFFICE

L&T Electrical & Automation
L&T Business Park, TC2, Tower 'B'
3rd Floor, Gate No 5
Saki Vihar Road, Powai
Mumbai 400 072
Tel: 022-67052874 / 2737 / 1156
e-mail: cic@LNTEBG.com

BRANCH OFFICES

L&T Electrical & Automation
501, Sakar Complex I
Opp. Gandhigram Rly. Station
Ashram Road
Ahmedabad 380 009
Tel: 079-4900 4000 / 4010
e-mail: esp-ahm@LNTEBG.com

L&T Electrical & Automation
No 38, Cubbon Road
Bengaluru 560 001
Tel: 080-46136103 / 100
e-mail: esp-blr@LNTEBG.com

L&T Electrical & Automation
131/1, Zone II, Maharana Pratap Nagar
Bhopal 462 011
e-mail: esp-bho@LNTEBG.com

L&T Electrical & Automation
Plot No. 559, Annapurna Complex, 2nd Floor
Lewis Road
Bhubaneswar 751 014
Tel: 0674-2436690 / 9437453579 / 9437284376
e-mail: esp-bsr@LNTEBG.com

L&T Electrical & Automation
Aspire Towers, 4th Floor
Plot No. 55, Phase-I
Industrial & Business Park
Chandigarh 160 002
Tel: 0172-4646840 / 41 / 42 / 44 / 53
e-mail: esp-chd@LNTEBG.com

L&T Electrical & Automation
L&T Construction Campus
TC-1 Building, II Floor
Mount-Poonamallee Road
Manapakkam
Chennai 600 089
Tel: 044-2270 6800
e-mail: esp-maa1@LNTEBG.com

L&T Electrical & Automation
Electrical Standard Products
Manufacturing Facility
L&T Bypass Road, Malumichampatti
Coimbatore 641 050
Tel: 0422-6683031
e-mail: esp-cbe@LNTEBG.com

L&T Electrical & Automation
3rd Floor, 1&2 Vijay Park,
Main Chakrata road
Ballupur Chowk
Dehradun 248 001
Tel: +91 9582252411

L&T Electrical & Automation
Khairasol, Degaul Avenue
Durgapur 713 212
Tel: 0343-2540448 / 2540449 / 2540443
e-mail: esp-dgp@LNTEBG.com

L&T Electrical & Automation
5, Milanpur Road, Bamuni Maidan
Guwahati 781 021
Tel: +91 8876554417
e-mail: esp-ghy@LNTEBG.com

L&T Electrical & Automation
2nd Floor, Vasantha Chambers
5-10-173, Fateh Maidan Road
Hyderabad 500 004
Tel: 040-67015052
e-mail: esp-hyd@LNTEBG.com

L&T Electrical & Automation
Monarch Building, 1st Floor
D-236 & 237, Amrapali Marg
Vaishali Nagar
Jaipur 302 021
Tel: 0141-4385914 to 18
e-mail: esp-jai@LNTEBG.com

L&T Electrical & Automation
Akashdeep Plaza, 2nd Floor
P.O. Golmuri
Jamshedpur 831 003
Jharkhand
Tel: 0657-2340502 / 08
e-mail: esp-jam@LNTEBG.com

L&T Electrical & Automation
Skybright Bldg; M. G. Road
Ravipuram Junction, Ernakulam
Kochi 682 016
Tel: 0484-4409420 / 4 / 5 / 7 / 8754543994
e-mail: esp-cok@LNTEBG.com

L&T Electrical & Automation
3-B, Shakespeare Sarani
Kolkata 700 071
Tel: 033-48006001
e-mail: esp-kol@LNTEBG.com

L&T Electrical & Automation
No. 10, Fortuna Tower, 2nd Floor
Rana Pratap Marg, Near NBRI
Lucknow 226001
e-mail: esp-Lko@LNTEBG.com

L&T Electrical & Automation
No. 73, Karpaga Nagar, 8th Street
K. Pudur
Madurai 625 007
Tel: 0452-2567405 / 2561068 / 2561657
e-mail: esp-mdu@LNTEBG.com

L&T Electrical & Automation
L&T Business Park, TC 2, Tower 'B'
3rd Floor, Gate No 5
Saki Vihar Road, Powai
Mumbai 400 072
Tel: 022-67052874 / 2737 / 1156
e-mail: esp-bom@LNTEBG.com

L&T Electrical & Automation
Unnati Building, 2nd Floor
Automation Campus
A-600, TTC Industrial area
Shil-Mahape road, Mahape
Navi Mumbai 400 710
Tel: 022-67226502 / 67226300

L&T Electrical & Automation
12, Shivaji Nagar
North Ambajhari Road
Nagpur 440 010
Tel: 0712-2260012 / 6606421
e-mail: esp-nag@LNTEBG.com

L&T Electrical & Automation
A-25, Imperia Complex, First Floor,
Mohan Cooperative Industrial Estate,
Near Sarita Vihar Metro Station,
Mathura Road
New Delhi 110 044
Tel: 011-42260600
e-mail: esp-del@LNTEBG.com

L&T Electrical & Automation
Grand Chandra, 2nd Floor
Fraser Road
Opposite Doordarshan Kendra
Patna 800 001
e-mail: esp-patna@LNTEBG.com

L&T Electrical & Automation
L&T House
P. O. Box 119
191/1, Dhole Patil Road
Pune 411 001
Tel: 020-48544395 / 48544279
e-mail: esp-pnq@LNTEBG.com

L&T Electrical & Automation
Crystal Tower,
4th Floor, G. E. Road
Telibandha
Raipur 492 006
Tel: +91 9755508228
e-mail: esp-raipur@LNTEBG.com

L&T Electrical & Automation
3rd Floor
Vishwakarma Chambers
Majura Gate, Ring Road
Surat 395 002
Tel: 0261-2473726
e-mail: esp-sur@LNTEBG.com

L&T Electrical & Automation
Radhadaya Complex
Old Padra Road
Near Charotar Society
Vadodara 390 007
Tel: 0265-6613610 / 1 / 2
e-mail: esp-bar@LNTEBG.com

L&T Electrical & Automation
Door No. 49-38-14/3/2, 1st Floor
NGGO'S Colony, Akkayyapalem,
Visakhapatnam 530 016
Tel: 0891-2791126 / 2711125
e-mail: esp-viz@LNTEBG.com

Product inprovement is a continuous process, For the latest information and special application, please contact any of our offices listed here.
Product photographs shown for representive purpose only.

L&T SWITCHGEAR
SAFE & SURE

L&T Electrical & Automation

L&T Electrical & Automation, Electrical Standard Products
L&T Business Park, TC-2, Tower B, 3rd Floor, Gate No. 5, Saki Vihar Road, Powai,
Mumbai - 400 072, INDIA www.Lntebg.com

Customer Interaction Centre (CIC)
BSNL/MTNL (toll-free): 1800 233 5858 Reliance (toll-free): 1800 200 5858
Tel: 022 6774 5858 Email:cic@Lntebg.com Web: www.Lntebg.com

SP 51022