

Efficient switching now with DC Control

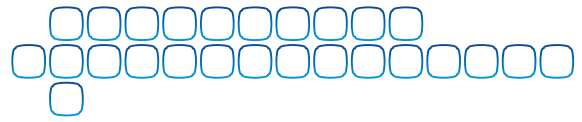
MDX

DC Contactors

DC Coil ✓

AC Coil ✓





Switchgear Factory, Mumbai



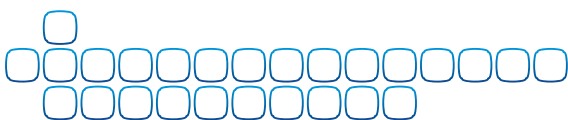
About us

Larsen & Toubro infuses engineering with imagination. The Company offers a wide range of advanced solutions in the field of Engineering, Construction, Electrical & Automation, Machinery and Information Technology.

L&T Switchgear, a part of the Electrical & Automation business, is India's largest manufacturer of low voltage switchgear, with the scale, sophistication and range to meet global benchmarks. With over five decades of experience in this field, the Company today enjoys a leadership position in the Indian market with a growing international presence.

It offers a complete range of products including powergear, controlgear, industrial automation, building electricals & automation, reactive power management, energy meters, and protective relays. These products conform to Indian and International Standards.

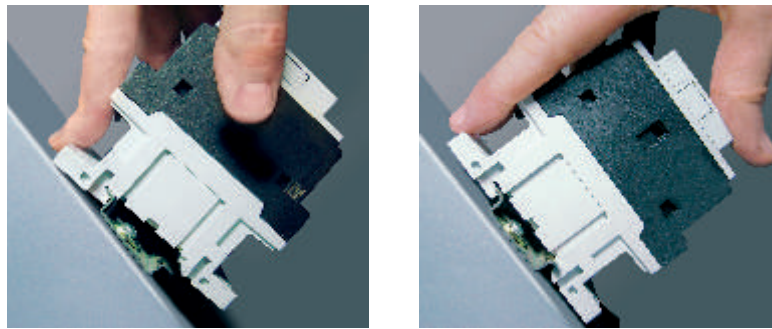
Switchgear Factory, Ahmednagar



MDX Power Contactors

Keeping in line with our commitment and tradition of offering excellent product range backed by efficient service, we at L&T bring you yet another innovation - MDX Power Contactors with DC Control supply.

The extensive range of MDX Power Contactors is ideal for diverse applications where DC control supply is used. The major areas where it proves effective include battery chargers, traction systems, UPS systems, DC Drives etc. Many critical applications like power generation equipment, hospital equipment also incorporate DC coil contactors.



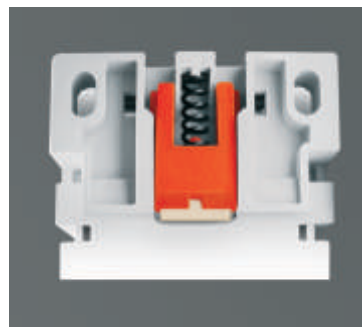
35 mm DIN Rail Mounting and Fixing



Snap on Installation

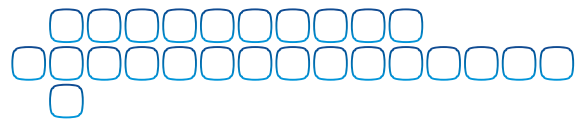


IP20 Connection Security



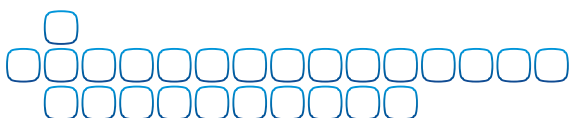
Rubber Pad insert to prevent contactor sliding on DIN rail





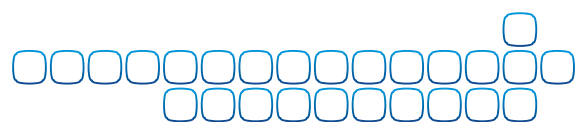
Type designation			MDX 9	MDX 12	MDX 18
Catalogue No			CS96564 / 48*	CS96565 / 49*	CS96566 / 50*
Conformance to standards					
Power Contacts					
No of poles			3	3	3
Rated insulation voltage U_i		V	690	690	690
Rated impulse withstand voltage U_{imp}		kV	6	6	6
Operational current Motor Duty: 3 Φ , 415V, 50Hz	Conventional free air thermal current I_{th} ($\leq 55^\circ\text{C}$)	A	20	23	26
	Utilization category AC-3 ($\leq 55^\circ\text{C}$)	A / kW	9A / 4.5kW	12A / 6.2kW	18A / 9kW
Rated making capacity		A	90	120	180
Rated breaking capacity ($\leq 440\text{V}$)		A	72	96	144
Operation current I_c for AC-4 Utilization category at 415 V, 3 Φ , 50Hz for 200000 operating cycles		A	4.9	7.9	8.5
DC ratings (with 3 poles in series)	DC 1 - 110V	A	15	16	16
	DC 1 - 220V	A	10	11	11
	DC 3 - 110V	A	11	12	12
	DC 3 - 220V	A	5	6	6
	DC 5 - 110V	A	11	12	12
	DC 5 - 220V	A	5	6	6
Mechanical life (million)		Cycles	20	20	20
Electrical life (I_c at 415V AC-3) (million)		Cycles	2	2	1.6
Max. frequency of operations	Mechanical	cy/hr	3600	3600	3600
Service temperature		$^\circ\text{C}$			
Maximum altitude		m			
Terminal capacity	Flexible w/o lug	mm^2	1 - 6	1 - 6	1 - 6
	Flexible c/w lug	mm^2	1 - 4	1 - 4	1 - 4
Auxiliary Contacts					
No of in built auxiliary contacts			1NO/1NC	1NO/1NC	1NO/1NC
Conventional thermal current I_{th}		A	10	10	10
Terminal capacity	Flexible w/o lug	mm^2	1 - 6	1 - 6	1 - 6
	Flexible c/w lug	mm^2	6	6	6
Coil Characteristics					
Available coil voltage, U_c		VDC			
Average hold on coil consumption		Watts	5.4	5.4	5.4
Limits of operation	Pick-Up	% U_c	70 - 125	70 - 125	70 - 125
	Drop-Off	% U_c	10 - 40	10 - 40	10 - 40
Overall dimensions	Height	mm	81	81	81
	Width	mm	45	45	45
	Depth	mm	98.5	98.5	98.5
	Weight	Kg	0.47	0.47	0.47

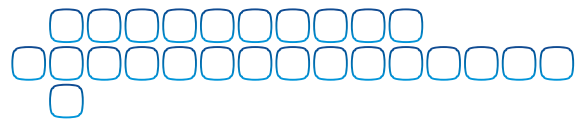
*With 1 NC auxiliary contact #Add on Block can be ordered separately





MDX 25 CS96567 / 51*	MDX 32 CS96552	MDX 38 CS96553	MDX 50 CS96554	MDX 65 CS96555	MDX 80 CS96556	MDX 95 CS96557	MDX 110 CS96558
IS/IEC 60947-4-1 & IEC 60947-4-1							
3	3	3	3	3	3	3	3
690	690	690	1000	1000	1000	1000	1000
6	6	6	8	8	8	8	8
26	45	45	80	90	100	100	100
25A / 13.4kW	32A / 17kW	38A / 18.5kW	50A / 27.2kW	65A / 36kW	80A / 46kW	95A / 55kW	110A / 66kW
250	320	380	800	1090	1200	1200	1200
200	256	304	800	1090	1200	1200	1200
10	13.5	15.5	28	31	38	43	43
18	27	34	55	60	85	85	85
12	16	26	45	50	55	55	55
15	20	23	30	35	60	60	60
8	12	15	20	25	35	35	35
15	20	23	30	35	60	60	60
8	12	15	20	25	35	35	35
20	20	20	15	15	15	15	15
1.2	1.6	1.4	1.5	1.4	1.3	1.2	0.8
3600	3600	3600	3600	3600	3600	3600	3600
(-50°C to +70°C)							
3000							
1 - 6	2.5 - 16	2.5 - 16	4 - 50	4 - 50	6 - 50	6 - 50	6 - 50
1 - 4	1 - 10	1 - 10	4 - 50	4 - 50	6 - 50	6 - 50	6 - 50
1NO/1NC	#	#	#	#	#	#	#
10	10	10	10	10	10	10	10
1 - 6	2.5	2.5	2.5	2.5	2.5	2.5	2.5
6	2.5	2.5	2.5	2.5	2.5	2.5	2.5
24/48/110/220							
5.4	5.4	5.4	15	15	15	15	15
70 - 125	70 - 125	70 - 125	80 - 110	80 - 110	80 - 110	80 - 110	80 - 110
10 - 40	10 - 40	10 - 40	10 - 25	10 - 25	10 - 25	10 - 25	10 - 25
81	90	90	124	124	124	124	124
45	45	45	75	75	75	75	75
98.5	107.5	107.5	150.5	150.5	150.5	150.5	150.5
0.47	0.54	0.54	1.69	1.69	1.73	1.73	1.73





Ordering Information

Contactor	I_{th}	I_e (AC-3) at $\leq 440V$	Motor rating at 50 Hz				In built auxiliary contacts	Cat No *
	$\leq 55^\circ C$	$\leq 55^\circ C$	230V	415V	440V	690V		
	(A)	(A)	(kW)	(kW)	(kW)	(kW)	NO/NC	
MDX 9	20	9	2.2	4.5	4.8	7.5	1NO	CS96564
MDX 9	20						1NC	CS96548
MDX 12	23	12	3.2	6.2	6.2	10	1NO	CS96565
MDX 12	23						1NC	CS96549
MDX 18	26	18	4	9	9	10	1NO	CS96566
MDX 18	26						1NC	CS96550
MDX 25	26	25	7	13.4	13.4	11	1NO	CS96567
MDX 25	26						1NC	CS96551
MDX 32	45	32	8.8	17	17	22	-	CS96552
MDX 38	45	38	11	18.5	18.5	22	-	CS96553
MDX 50	80	50	14.3	27.2	27.2	43.5	-	CS96554
MDX 65	90	65	18.5	36	36	59.7	-	CS96555
MDX 80	100	80	23	46	46	74	-	CS96556
MDX 95	100	95	27.6	55	55	74	-	CS96557
MDX 110	100	110	33	66	70	80	-	CS96558

* Please add suffix as per required coil voltage

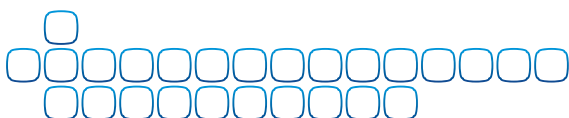
Coil Voltage VDC	24	48	110	220
Suffix	4000	5000	1000	2000

Accessories

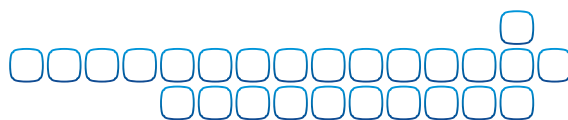
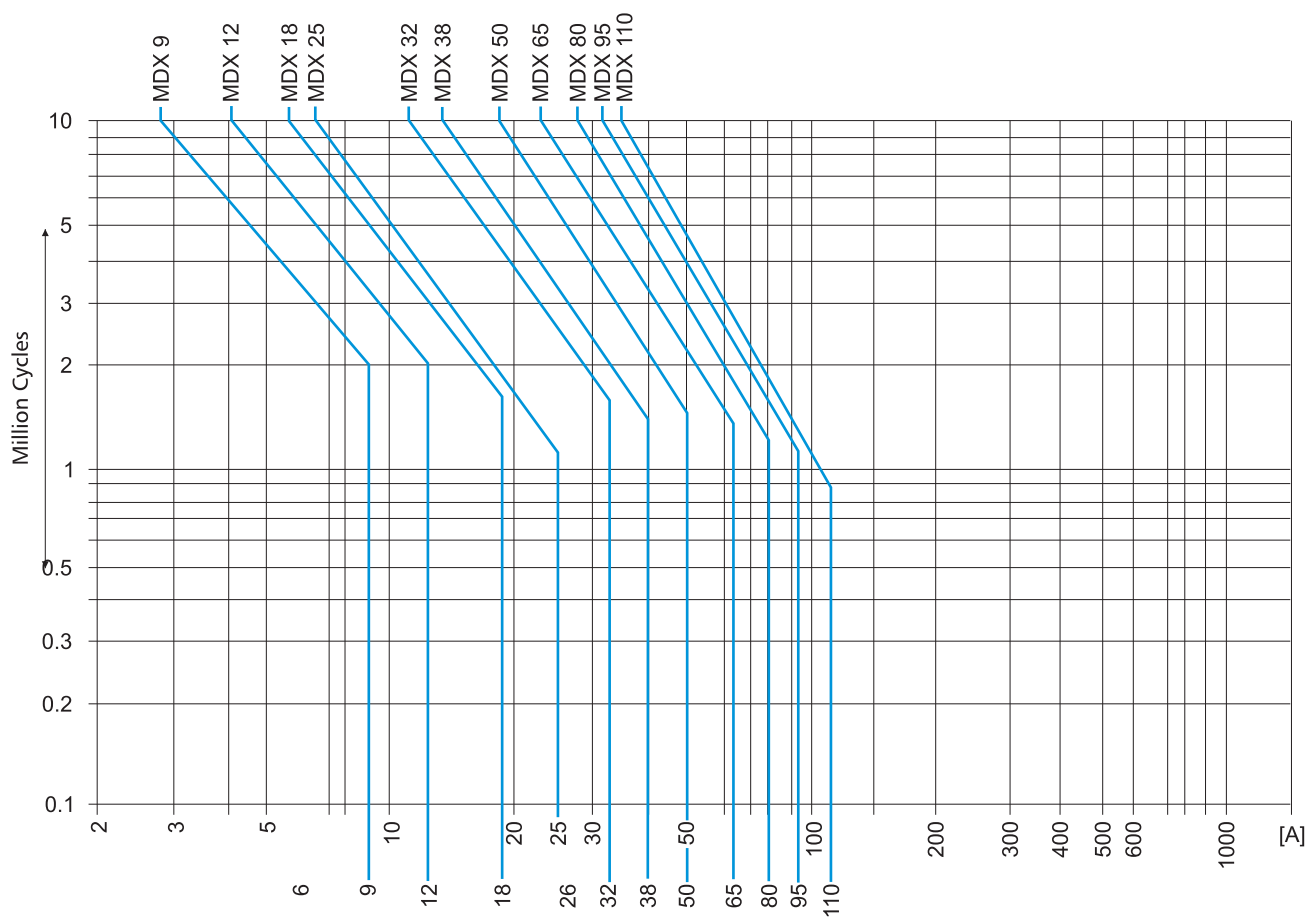
Add on Blocks				
For Contactor	Mounting	I_{th}	Contact combinations	Cat No
		(A)		
MDX 9 -110	Top	10	1NO + 1NC	CS965680000
MDX 9 -110	Top	10	2NO + 2NC	CS965690000
MDX 9 -110	Side	10	1NO + 1NC	ST949850000
MDX 50 -110	Top	10	1NO / 1NC reversible	CS965860000

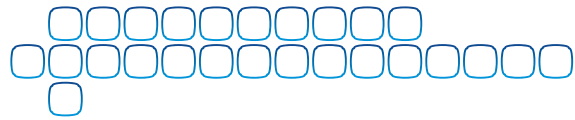
Surge Suppressor	
For Contactor	Cat No
MDX 50 - 110	CS965710000

Mechanical Interlock Kit	
For Contactor	Cat No
MDX 9 - 38	CS965720000
MDX 50 - 110	CS965730000



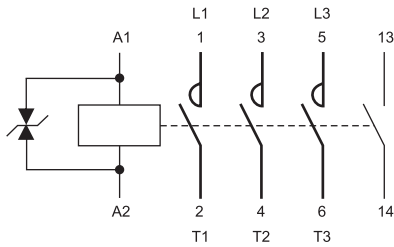
Electrical Life Curves



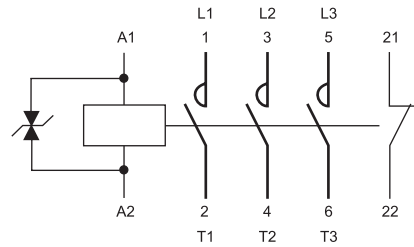


Wiring Diagrams

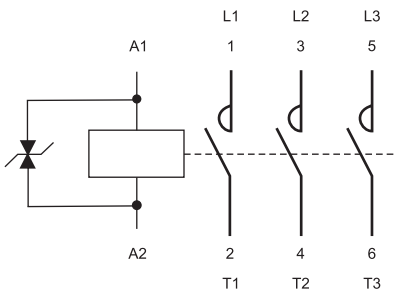
MDX 9 - 25 (with 1NO)



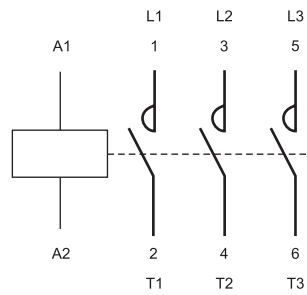
MDX 9 - 25 (with 1NC)



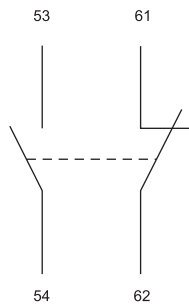
MDX 32 - 38



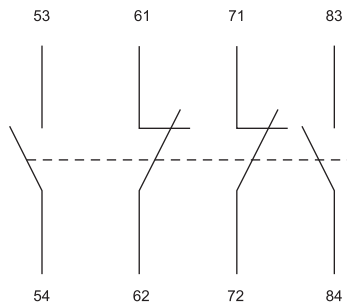
MDX 50 - 110



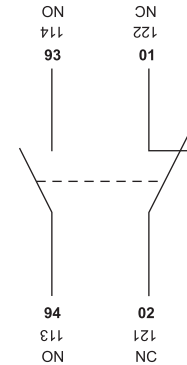
MDX 11E Top add on



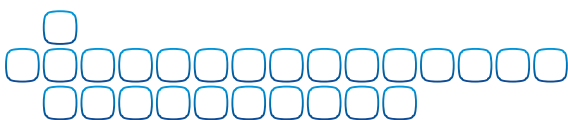
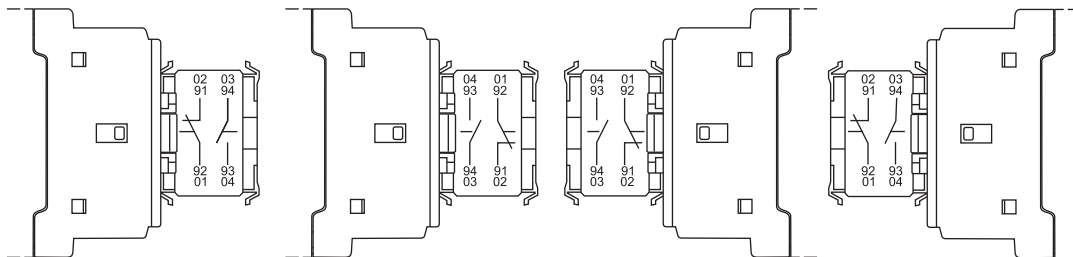
MDX 22E Top add on



MDX 11E Side add on

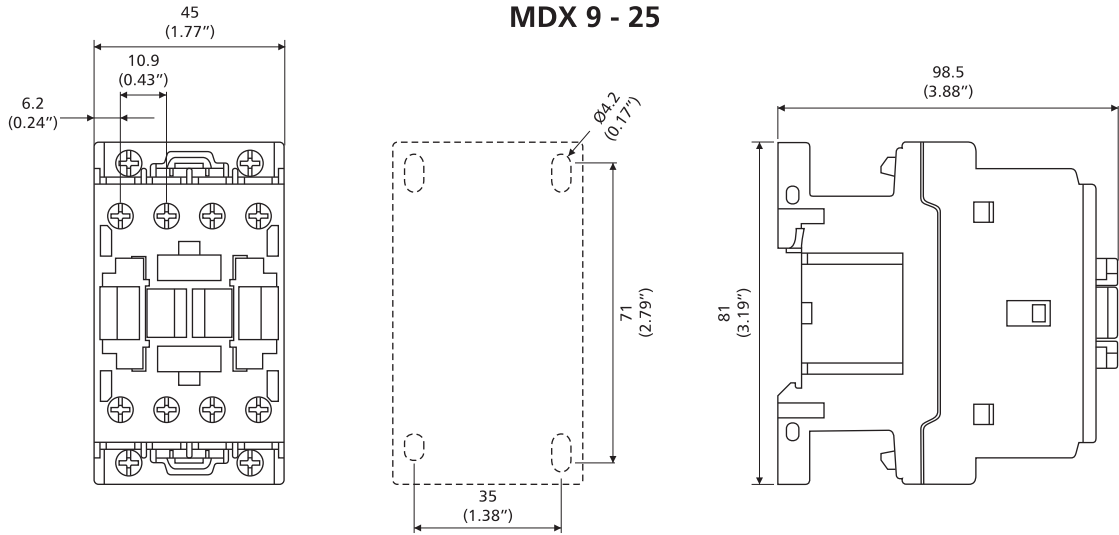


MDX Top add On 1NO/1NC reversible (MDX 50 - 110)

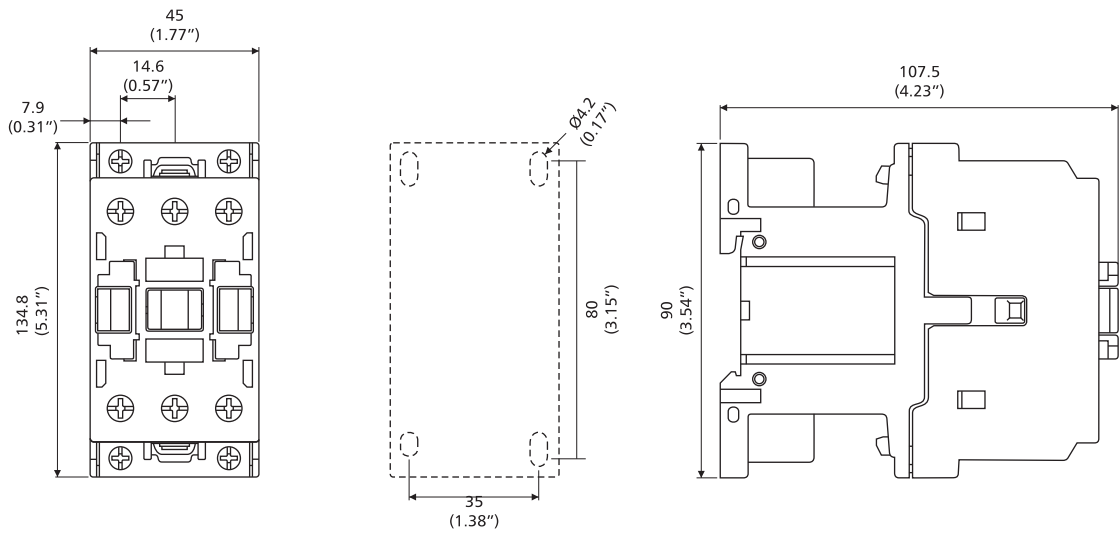


Overall Dimensions

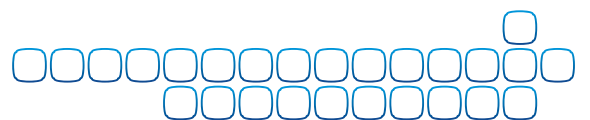
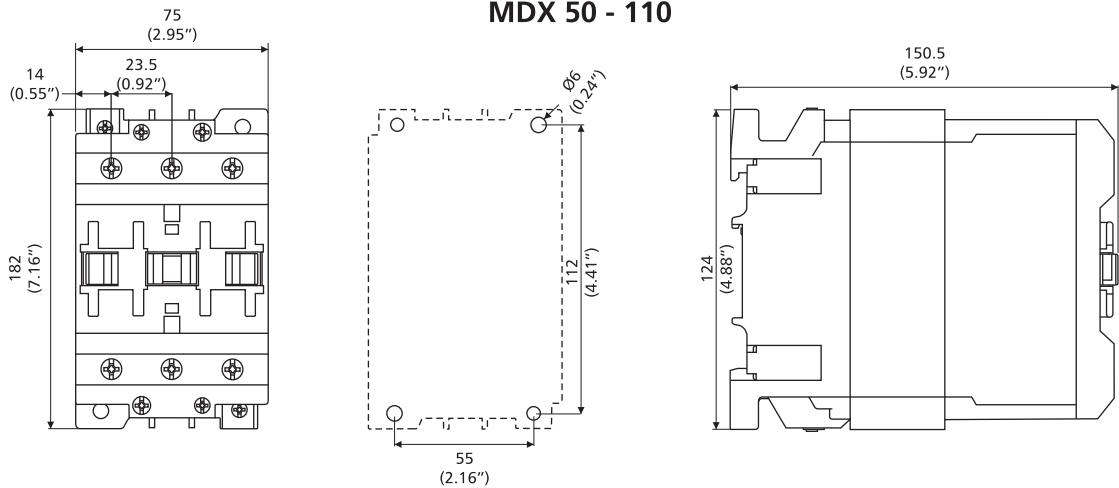
MDX 9 - 25

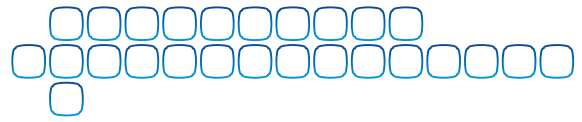


MDX 32 - 38

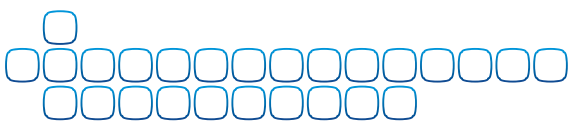


MDX 50 - 110





A series of horizontal lines for writing, spanning the width of the page.



Get the Switchgear Training Edge!

Aimed at maximizing productivity, conserving energy, minimizing costs and enhancing safety, our Electrical & Automation training programmes have benefitted over 1 Lakh professionals in the last 25 years. These training programmes are highly beneficial as they provide right exposure and impart knowledge on selection, installation, maintenance and testing of Electrical & Automation products.

So gain the advantage and go the extra mile with:

- 15 courses on contemporary topics
- Courses applicable to all switchgear brands
- Training Centers in Pune, Lucknow and Coonoor
- Blend of theory and practical experience

The typical training programmes on LV Switchgear:

- Electrical Design of Switchgear Assembly – Advanced
- Design of Control Circuits
- Introduction to LV Switchgear
- Introduction to Building Power Distribution
- LV Switchgear Selection & Maintenance - Advanced
- Breaker Maintenance Workshop - Advanced
- Switchgear Maintenance Workshop - Advanced

Please contact any of the training centres for participation and detailed training programme schedule.



Pune

Larsen & Toubro Limited
Switchgear Training Centre
T-156/157, MIDC, Bhosari,
Pune:411 026.
Tel.: (020) 2712 0037 / 2712 0653
Fax.: (020) 2712 2933
E-mail : STC-PUNE@LNTEBG.COM



Lucknow

Larsen & Toubro Limited
Switchgear Training Centre
C-6&7, UPSIDC, P.O. Sarojini Nagar,
Lucknow: 226 008.
Tel.: (0522) 247 6110 / 099355 63239
Fax.: (0522) 247 6015
E-mail : STC-LUCKNOW@LNTEBG.COM



Coonoor

Larsen & Toubro Limited
Switchgear Training Centre Ooty-Coonoor
Main Road, Yellanahalli
P.O., The Nilgiris – 643 243.
Tel.: (0423) 251 7107
Fax.: (0423) 251 7158
E-mail : STC-COONOOR@LNTEBG.COM

Electrical Standard Products (ESP) Branch Offices:

REGISTERED OFFICE AND HEAD OFFICE

L&T House, Ballard Estate
P. O. Box 278
Mumbai 400 001
Tel: 022-67525656
Fax: 022-67525858
Website: www.Larsentoubro.com

ELECTRICAL STANDARD PRODUCTS (ESP)

501, Sakar Complex I
Opp. Gandhigram Rly. Station
Ashram Road
Ahmedabad 380 009
Tel: 079-66304006-11
Fax: 079-66304025
e-mail: esp-ahm@LNTEBG.com

38, Cubbon Road, P. O. Box 5098
Bangalore 560 001
Tel: 080-25020100 / 25020324
Fax: 080-25580525
e-mail: esp-blr@LNTEBG.com

131/1, Zone II
Maharana Pratap Nagar
Bhopal 462 011
Tel: 0755-3080511 / 08 / 13 / 17 / 19 / 05
Fax: 0755-3080502
e-mail: esp-bho@LNTEBG.com

Plot No. 559, Annapurna Complex
Lewis Road
Bhubaneswar 751 014
Tel: 0674-6451342, 2436696
Fax: 0674-2537309
e-mail: esp-bbi@LNTEBG.com

SCO 32, Sector 26-D
Madhya Marg, P. O. Box 14
Chandigarh 160 019
Tel: 0172-4646840, 4646853
Fax: 0172-4646802
e-mail: esp-chd@LNTEBG.com

L&T Construction Campus
TC-1 Building, II Floor
Mount-Poonamallee Road
Manapakkam
Chennai 600 089
Tel: 044-2270 6800
Fax: 044-22706940
e-mail: esp-maa1@LNTEBG.com

67, Appuswamy Road
Post Bag 7156
Opp. Nirmala College
Coimbatore 641 045
Tel: 0422-2588120 / 1 / 5
Fax: 0422-2588148
e-mail: esp-cbe@LNTEBG.com

Khairasol, Degaul Avenue
Durgapur 713 212
Tel: 2559848, 2559849, 2559844
Fax: 0343-2553614
e-mail: esp-dgp@LNTEBG.com

Milanpur Road, Bamuni Maidan
Guwahati 781 021
Tel: 0361-2550562 / 65
Fax: 0361-2551308
e-mail: hazrasudipto@LNTEBG.com

II Floor, Vasantha Chambers
5-10-173, Fateh Maidan Road
Hyderabad 500 004
Tel: 040-67015052
Fax: 040-23296468
e-mail: esp-hyd@LNTEBG.com

Monarch Building, 1st Floor
D-236 & 237, Amrapali Marg
Vaishali Nagar
Jaipur 302 021
Tel: 0141-4385914 to 18
Fax: 0141-4385925
e-mail: esp-jai@LNTEBG.com

Akashdeep Plaza, 2nd Floor
P. O. Golmuri
Jamshedpur 831 003
Jharkhand
Tel: 0657-2312205 / 38
Fax: 0657-2341250
e-mail: esp-jam@LNTEBG.com

Skybright Bldg; M. G. Road
Ravipuram Junction, Ernakulam
Kochi 682 016
Tel: 0484-4409420 / 4 / 5 / 7
Fax: 0484-4409426
e-mail: esp-cok@LNTEBG.com

3-B, Shakespeare Sarani
Kolkata 700 071
Tel: 033-44002572 / 3 / 4
Fax: 033-22821025 / 7587
e-mail: esp-ccu@LNTEBG.com

A28, Indira Nagar, Faizabad Road
Lucknow 226 016
Tel: 0522-4929905/04
Fax: 0522-2311671
e-mail: esp-Lko@LNTEBG.com

No: 73, Karpaga Nagar, 8th Street
K. Pudur
Madurai 625 007
Tel: 0452-2537404, 2521068
Fax: 0452-2537552
e-mail: esp-mdu@LNTEBG.com

EBG North Wing Office-Level 2
Gate 7, Powai Campus
Mumbai 400 072
Tel: 022-67052874 / 2737 / 1156
Fax: 022-67051112
e-mail: esp-bom@LNTEBG.com

12, Shivaji Nagar
North Ambazari Road
Nagpur 440 010
Tel: 0712-2260012 / 3
Fax: 0712-2260020 / 30
e-mail: esp-nag@LNTEBG.com

32, Shivaji Marg
P. O. Box 6223
New Delhi 110 015
Tel: 011-41419514 / 5 / 6
Fax: 011-41419600
e-mail: esp-del@LNTEBG.com

L&T House
P. O. Box 119
191/1, Dhole Patil Road
Pune 411 001
Tel: 020-26164048
Fax: 020-26164048/26164910
e-mail: esp-pnq@LNTEBG.com

Crystal Tower, Plot No. 606/1
4th Floor, G. E. Road
Telibandha
Raipur - 492 006
Tel: 0771-4283214
e-mail: esp-raipur@LNTEBG.com

3rd Floor
Vishwakarma Chambers
Majura Gate, Ring Road
Surat 395 002
Tel: 0261-2473726
Fax: 0261-2477078
e-mail: esp-sur@LNTEBG.com

Radhadaya Complex
Old Padra Road
Near Charotar Society
Vadodara 390 007
Tel: 0265-6613610 / 1 / 2
Fax: 0265-2336184
e-mail: esp-bar@LNTEBG.com

48-8-16, Dwarakanagar
Visakhapatnam 530 016
Tel: 0891-670 1125 to 1130
Fax: 0891- 670 1139
e-mail: esp-viz@LNTEBG.com

Product improvement is a continuous process. For the latest information and special applications, please contact any of our offices listed here.



Larsen & Toubro Limited
Electrical Standard Products
Powai Campus, Mumbai 400 072
Customer Interaction Center (CIC)
BSNL / MTNL (toll free) : 1800 233 5858
Reliance (toll free) : 1800 200 5858
Tel : 022 6774 5858, Fax : 022 6774 5859
E-mail : cic@LNTEBG.com
Website : www.LNTEBG.com