



Contactors & Thermal Overload Relays Type-MNX




LARSEN & TOUBRO

It's all about Imagineering

About us

Larsen & Toubro is a technology-driven USD 8.5 billion company that infuses engineering with imagination. The Company offers a wide range of advanced solutions in the field of Engineering, Construction, Electrical & Electronics, Machinery and Information Technology.

L&T Switchgear, which forms 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 four decades of experience in this field, the Company today enjoys a leadership position in the Indian market with growing presence in international markets.

It offers a complete range of products including controlgear, powergear, motor starters, energy meters, wires and host of other accessories. Most of our product lines conform to international standards, carry CE markings and are *KEMA*  certified.



Switchgear Factory, Mumbai

Range of MNX Contactors & Relays

L&T now introduces the MNX range of Contactors and Relays. The most rugged and user friendly Contactors and Relays available today.



Three Pole Power Contactors - Type MNX

- Range from 9-650A AC3
- Conformance to IEC 60947-4-1 / IS 13947-4-1

Thermal Overload Relays - Type MNX R

- Direct Mounting on MNX Contactor
- Built-in single phasing protection

3 Pole Power Contactors



		MNX 9	MNX 12	MNX 18	MNX 22	MNX 25
Catalogue No.		CS 94106 / 7*	CS 94108 / 9*	CS 94100 / 1*	CS 94980 / 81*	CS 94110
Conformance to standards						
Power Contacts						
No. of poles		3	3	3	3	3
Rated insulation voltage, U_i		690V	690V	690V	690V	690V
Rated impulse withstand voltage, U_i		8 kV	8 kV	8 kV	8kV	8 kV
Rated making capacity - Amp		450	450	450	450	480
Rated breaking capacity - Amp		200	250	250	250	400
Conventional thermal current, I_{th} At 55°C Motor duty : 3Ø, 415V, 50Hz	Utilization category AC-1	25A	30A	30A	32A	45A
	Utilization category AC-2	9A	12A	18A	22A	25A
	Utilization category AC-3	4kW / 5.5hp / 9A	5.5kW / 7.5hp / 12A	9.3kW / 12.5hp / 18A	11kW / 15hp / 22A	11kW / 15hp / 25A
	Utilization category AC-4	4kW / 5.5hp / 9A	5.5kW / 7.5hp / 12A	9.3kW / 12.5hp / 18A	11kW / 15hp / 22A	11kW / 15hp / 25A
Operational current I_p for AC-4 Utilization category at 415V,3Ø, 50Hz for 2,00,000 operating cycles		5.5A	7.1A	8A	8.5A	13.5A
Capacitor switching delta connected: 415V, 50Hz ***		6 kVAR	7.5 kVAR	9 kVAR	9 kVAR	15 kVAR
Max. Permissible peak in-rush current, I_p for capacitor switching		570A	680A	750A	750A	1400A
DC ratings (with 3 poles in series) and AC coil operation	DC 1 - 110V	9A	12A	18A	22A	25A
	DC 1 - 220V	9A	12A	18A	22A	25A
	DC 3 - 110V	9A	12A	18A	22A	25A
	DC 3 - 220V	9A	12A	18A	22A	25A
	DC 5 - 110V	9A	12A	18A	22A	25A
	DC 5 - 220V	6A	7.5A	9A	9A	12A
Mechanical life, No. of operating cycles		15x10 ⁶	15x10 ⁶	15x10 ⁶	15x10 ⁶	10x10 ⁶
Max. frequency of operations: Operating cycles/hr	Mechanical	7200	7200	7200	7200	7200
	Utilization Category AC-1	3000	3000	3000	3000	3000
	Utilization Category AC-2	750	750	750	750	750
	Utilization Category AC-3	750	750	750	750	750
	Utilization Category AC-4	300	300	300	300	300
Service Temperature		-20°C to +55°C	-20°C to +55°C	-20°C to +55°C	-20°C to +55°C	-20°C to +55°C
Main terminal capacity	Lug (mm ²)	1 x 6	1 x 6	1 x 6	1 x 6	1x10
	Link (mm ²)	-	-	-	-	-
	Solid Conductors (mm ²)	2 x 4	2 x 4	2 x 4	2 x 4	2 x 6
	Multi strand conductors (mm ²)	2 x 2.5	2 x 2.5	2 x 2.5	2 x 2.5	2 x 4
Auxiliary Contacts						
No. of built-in auxiliary contacts		1NO or 1NC	1NO or 1NC	1NO or 1NC	NO or NC	#
Conventional thermal current, I_{th} at 55°C		10A	10A	10A	10A	10A
AC-15 rating at 415V, 50Hz		4A	4A	4A	4A	4A
Terminal capacity (Solid or multi strand conductors (mm ²))		2 x 2.5	2 x 2.5	2 x 2.5	2 x 2.5	2 x 2.5
Coil						
Voltage available for 50 Hz Uc V		24, 42, 110, 220 / 240, 415, 525	24, 42, 110, 220 / 240, 415, 525	24, 42, 110, 220 / 240, 415, 525	24,42,110, 220/240,415,525	24, 42, 110, 220 / 240, 415, 525
Pick-up	VA	68	68	68	68	68
	CosØ	0.82	0.82	0.82	0.82	0.82
Hold-on	VA	11	11	11	11	11
	Watts	4	4	4	4	4
Limits of operation	Pick-up (%Uc)	65 - 120	65 - 120	65 - 120	65 - 120	65 - 120
	Drop-off(%Uc)	35 - 65	35 - 65	35 - 65	35 - 65	35 - 65

* With 1NC Auxiliary Contacts

** Data Available on request

*** For Capacitor Switching, please connect inductor in series

Add - On block can be ordered separately

• 60Hz & 50/60HZ Coils available on request.

Technical Data

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Technical Data

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Technical Data

Thermal Overload Relay

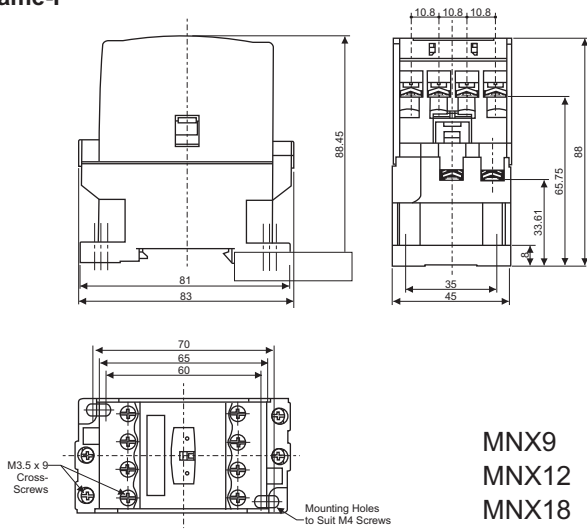


		MNX R3	MNX R4	MNX R5	MNX R5L
Catalogue Nos.		CS94209	CS94226	CS94228	CS94230
		CS94210	CS94227	CS94229	CS94232
		CS94211			
		CS94212			
Range		0.2 - 0.33	9 - 15	42 - 69	42 - 69
		0.3 - 0.5	14 - 23	60 - 100	60 - 100
		0.45 - 0.75	20 - 33	90 - 150	90 - 150
		0.6 - 1	30 - 50	135 - 225	135 - 225
		0.9 - 1.5	45 - 75	180 - 300	180 - 300
		1.4 - 2.3	66 - 110	270 - 450	340 - 570
		2 - 3.3			
		3.0 - 5			
		4.5 - 7.5			
		6.0 - 10			
		9.0 - 15			
		14 - 23			
		20 - 33			
		24 - 40			
Mounting		Direct	Direct		
		Separate	Separate	Separate	Separate
Suitable for Contactors		MNX 9, 12, 18	MNX 45, 50, 70	MNX 185, 225, 265	
		22, 25, 32, 40	80, 95, 110, 140	325, 400, 550	
Rated Insulation Voltage	Ui	690V	690V	690V	690V
Rated Impulse Voltage	Uimp	6kV	6kV	6kV	6kV
Service Temp.		-5°C TO 55°C	-5°C TO 55°C	-5°C TO 55°C	-5°C TO 55°C
Start / Off / Reset		1 Start & Off / Reset			
Built-in Contacts		2 NO + 1 NC	2 NO + 1 NC	2 NO + 1 NC	2 NO + 1 NC
Rated Operational Current for AC-15 utilisation Category at 50Hz	24V	6A	6A	6A	6A
	110 V	5A	5A	5A	5A
	220 V	3A	3A	3A	3A
	380 / 415V	2A	2A	2A	2A
	500 V	2A	2A	2A	2A
Trip Class		10A	10A	10A	30
Max. frequency of operations	Cycles / hr.	30	30	30	30
Main Terminal Capacity	Lug (mm ²)	10	50	240	240
Aux. Terminal Capacity	Wires (mm ²)	2 X 2.5	2 X 2.5	2 X 2.5	2 X 2.5

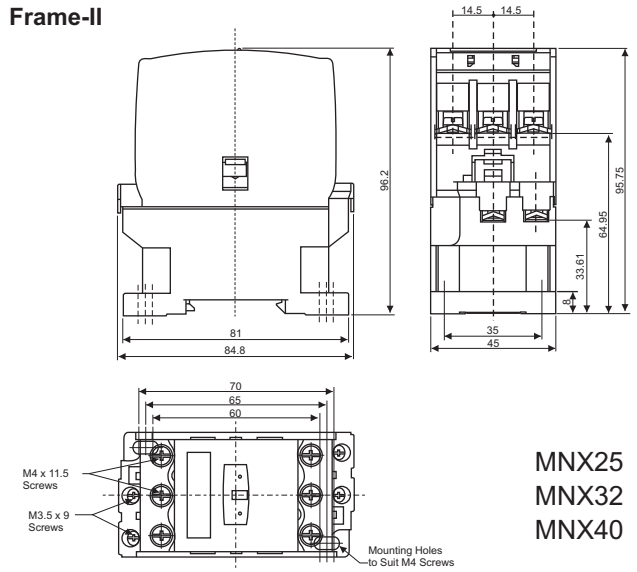
Note - All relays are Ambient Temperature Compensated

Overall Dimensions

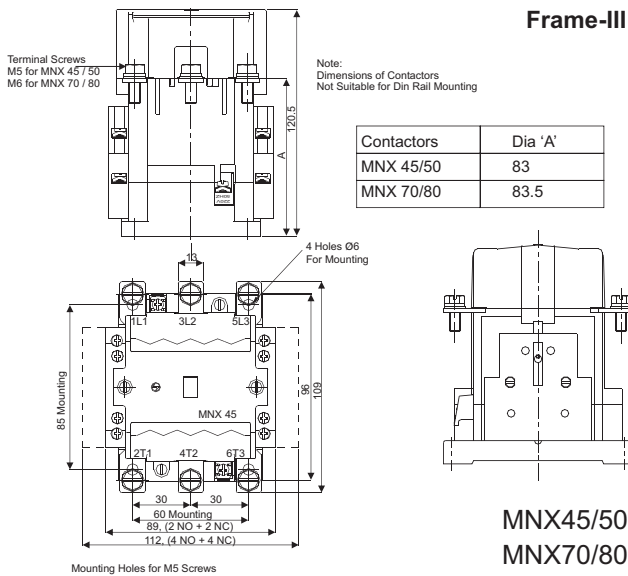
Frame-I



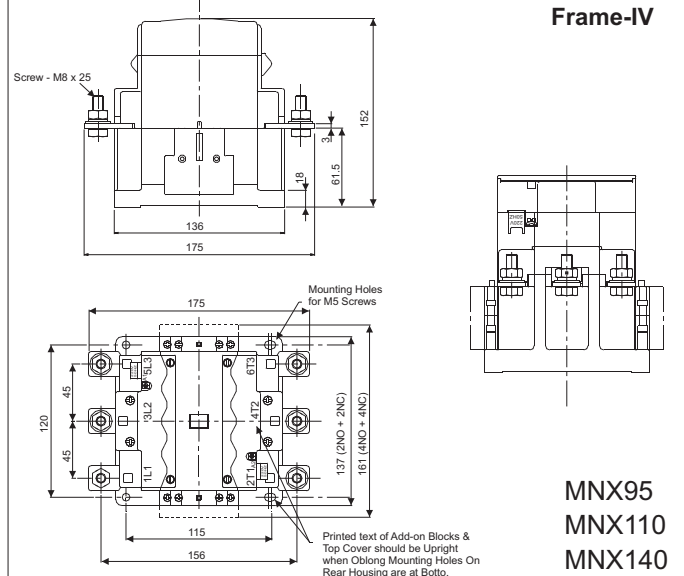
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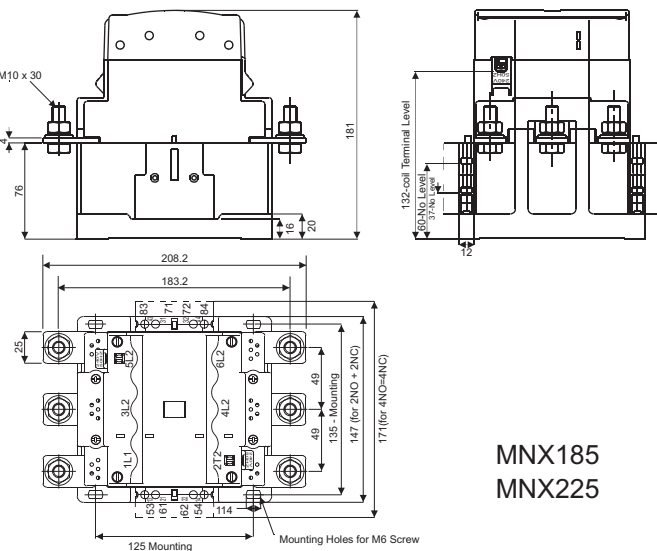
Frame-III



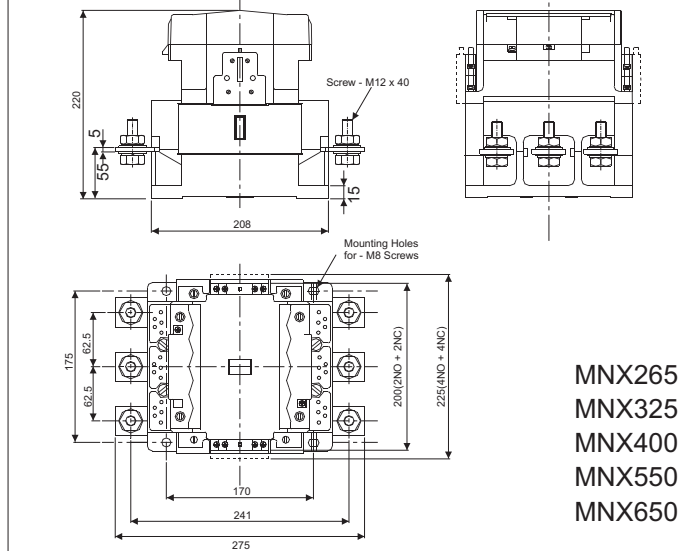
Frame-IV



Frame-V



Frame-VI

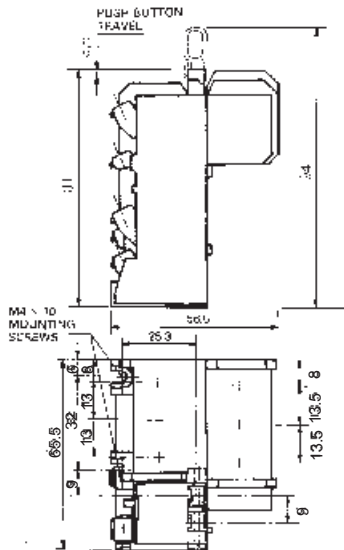


* All dimensions are in mm
Dimension for din rail mounting type available on request.

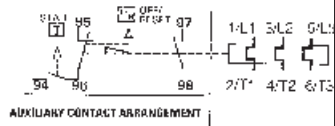
Overall Dimensions

MNX R3 Relay

MN2 RELAY SEPARATE MOUNTING

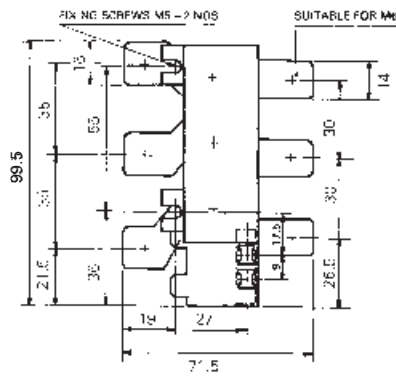
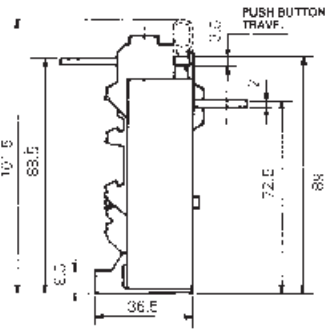


START & OFF/RESET VERSION



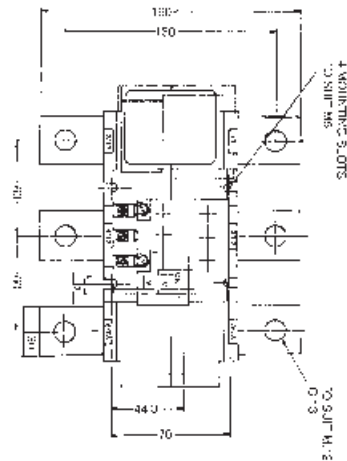
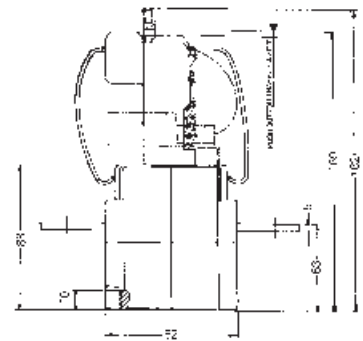
MNX R4 Relay

MN 5 RELAY SEPARATE MOUNTING



MNX R5 / 5L Relay

MN 12/12L RELAY



* All Dimensions are in mm

Accessories & Spares

Contactor Type	Aux. Add on Block		Mechanical Interlock Kit	Surge Suppressor	Spare Coil	Spare kit	
Frame 1							
	4 NO	CS94112					
	3 NO + 1 NC	CS94113					
MNX 9	2 NO + 2 NC	CS94114				MNX 9	CS94123
MNX 12	1 NO + 3 NC	CS94115				MNX 12	CS94124
MNX 18	4 NC	CS94116	CS94126	CS94166	CS94105	MNX 18	CS94125
Frame 2	2 NO	CS94117				MNX 25	CS94127
MNX 25	1 NO + 1 NC	CS94118				MNX 32	CS94128
MNX 32	2 NC	CS94119				MNX 40	CS94147
MNX 40	1 NO	CS94120					
	1 NC	CS94121					
Frame 3							
MNX 45	First Left	CS94201				MNX 45	CS94149
MNX 50	First Right	CS94202				MNX 50	CS94150
MNX 70	Second Left	CS94203	CS94197	CS94163	CS94192	MNX 70	CS94151
MNX 80	Second Right	CS94204				MNX 80	CS94152
Frame 4							
MNX 95			CS94198	CS94164	CS94196	MNX 95	CS94153
MNX 110						MNX 110	CS94154
MNX 140						MNX 140	CS94155
Frame 5							
MNX 185	First Left	CS94207					
MNX 225	First Right	CS94208	CS94199	CS94164	CS94194	MNX 185	CS94156
	Second Left					MNX 225	CS94157
	Second Right						
Frame 6							
MNX 265			CS94200	CS94165	CS94195	MNX 265	CS94159
MNX 325						MNX 325	CS94160
MNX 400						MNX 400	CS94161
MNX 550				Built-in	CS94193	MNX 550	CS94162
MNX 650						MNX 650	CS96336



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