



Reliable solution  
for power distribution

### The Company

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 management services, energy meters and protective relays. These products conform to Indian and International Standards.

### Manufacturing Facilities

L&T's manufacturing facilities for standard switchgear products are at Navi Mumbai, Ahmednagar, Coimbatore and Vadodara. These facilities follow world-class processes including Lean Manufacturing, Forced Draft Ventilation System, TQM, Value Engineering, JIT and Six Sigma. The manufacturing units have a testing facility that includes 85kA short circuit test station. The quality management systems at L&T's factories conform to ISO 9001 & ISO 14000 Standards.

### Distribution

L&T Switchgear is available through a network of more than 700 authorized stockists, one of the largest distribution networks in the industry.

### International Sales

L&T Switchgear has found acceptance not only in India but has customers in over 40 countries like Malaysia, Singapore, Taiwan, China, Hong Kong, Indonesia, Sri Lanka, Bangladesh, UAE, Qatar, Oman, Bahrain, Saudi Arabia, Kuwait, Iran, Turkey, Egypt, Nigeria, Kenya and UK to name a few.

### Environment & Community

The Company has a comprehensive Quality, Environment and Safety management system. The manufacturing facilities conform to ISO 14001 (Environmental Management System) & OHSAS 18001 by BVQI. L&T has taken a number of community initiatives in rural & semi urban areas across the country. These include health checkup camps like cancer detection, eye checkup, and general checkup in partnership with the stockists. L&T supports schools through distribution of PCs, books, uniforms and providing teaching staff. L&T has also come to the rescue of common man at the time of natural calamities like floods and earthquakes, helping the community by distributing clothes, food and essential commodities.

### Training

L&T Switchgear has 6 training centers in India. These centers have state-of-the-art training facilities with well equipped workshops and testing systems. Training programs are designed to suit the needs of electrical professionals from various areas like maintenance, projects, panel design and consultancy. Over 1,35,000 participants have benefitted from these programs.



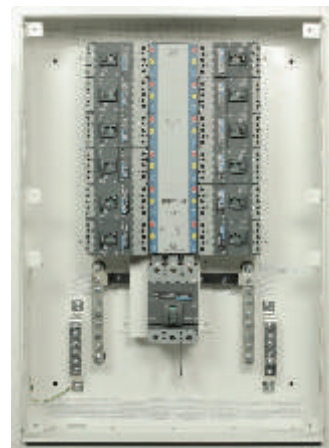
## ENERSYS-S Sub-main Distribution Board

ENERSYS-S Power distribution boards from L&T meets the demands of commercial buildings, educational establishments, hospitals, government buildings, manufacturing operations and other applications that require safe, reliable and high performance protection of their electrical power sub-distribution systems.

ENERSYS-S is NABL tested Sub-main Distribution Board (MCCB panel board) used for power distribution. It has MCCBs as incoming and outgoing switching-cum-protection device. It complies with IEC61439-2 and has been designed for easy handling and quick, simple installation. Compact MCCB design ensures maximum cabling area within the enclosures. Removable top & bottom gland plates are provided for ease of installation and cabling. Removable plates allows fitting of additional items such as top and bottom extension boxes and metering panels.

### Key Features of SMDB

- Ready-to-use solution for power distribution
- Modular construction and compact design provide economy of space, installation time and cost
- Fully enclosed tin-plated copper busbar provides increased safety
- Safer as all devices are located behind a lockable door and front shield to prevent unauthorised access
- Generous cabling area throughout the range. Compact MCCB design ensures maximum cabling area within the enclosures
- Removable top & bottom gland plates make drilling & access easier. It allows fitting of additional items such as top and bottom extension boxes and metering panels
- External and internal earthing points are provided
- Metering options available



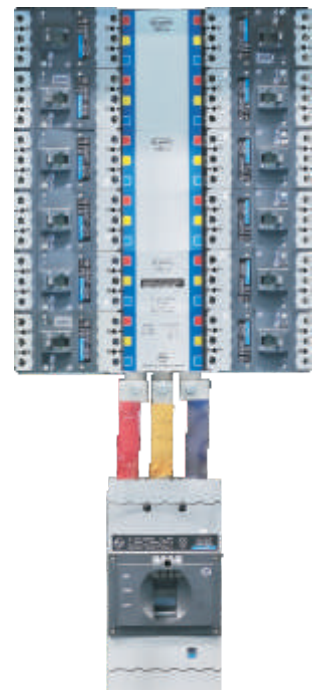
## Technical details

Attributes		Specification
Busbar ratings (InA)	(A)	250, 400, 630 *
Rated operational voltage (Ue)	(Vac)	415
Rated Frequency (fn)	(Hz.)	50 / 60
Reference Temperature	(°C)	40
Rated Insulation Voltage (Ui)	(Vac)	690
Rated Impulse Voltage (Uimp)	(kV)	8
Busbar short circuit withstand strength (Icw)	(kA)	36 kA for 1 s
Busbar conditional short circuit rating (Icc)	(kA)	36
Neutral & earth bar rating		N : 100% of Ph., E : 50% of Ph.
Busbar material		Tinned Copper
Type of construction		Form 2
Type of connection		3-phase 4-wire with Earthing
Incomer ( IC ) Device		Dsine MCCB - DN1, DN3
Outgoing ( OG ) Device		Dsine MCCB - DN0
Incomer MCCB Ratings	(A)	Up to 250A, 400A, 630A *
Incomer breaking capacity (Icu)	(kA)	36 kA - 250A, 400A 36 kA - 630A *
IC & OG feeder no. of poles		3
Outgoing feeder - No. of ways		4, 8, 12
Applicable std.		IEC61439-2
Application		Indoor
Mounting		Wall-mounted - Up to 630A
Type Designation		TN250D, TN400D, TN630D *

## Key features of PAN assembly

The distribution busbar system is fully insulated and type tested. This makes the assemblies an ideal and economical solution for applications requiring a high level of safety, compactness and reliability.

- Fully enclosed and totally insulated
- Block-type construction
- Type-tested
- Maintenance-free
- Compact, space saver and economical
- No. of outgoing suitable for MCCBs
- Tinned copper busbar



\* Available on request, PI contact nearest branch

## Incoming and outgoing devices

 Range of MCCBs



- Range: 20A to 1250 A
- Available in 3-pole & 4-pole version
- Breaking capacity up to 70 kA
- Wide range of internal & external accessories

	Incoming Device			Outgoing Device
MCCB Type	DN1-250N	DN3-400D	DN3-630D *	DN0-100D
Rating in Amps	250	400	630	100
Icu in kA	36	36	36	36

\*For 630 A, Available on request, PL contact nearest branch

## Ordering details

SMDB					
S No.	FG Cat No	Type	Rating	No. of Ways	Description
1	DA20D1044CZZ0	TN250D	250 A	4	TN250D, EnerSys-S SMDB, 4 Ways
2	DA20D1084CZZ0	TN250D	250 A	8	TN250D, EnerSys-S SMDB, 8 Ways
3	DA20D1124CZZ0	TN250D	250 A	12	TN250D, EnerSys-S SMDB, 12 Ways
4	DA40D1044CZZ0	TN400D	400 A	4	TN400D, EnerSys-S SMDB, 4 Ways
5	DA40D1084CZZ0	TN400D	400 A	8	TN400D, EnerSys-S SMDB, 8 Ways
6	DA40D1124CZZ0	TN400D	400 A	12	TN400D, EnerSys-S SMDB, 12 Ways

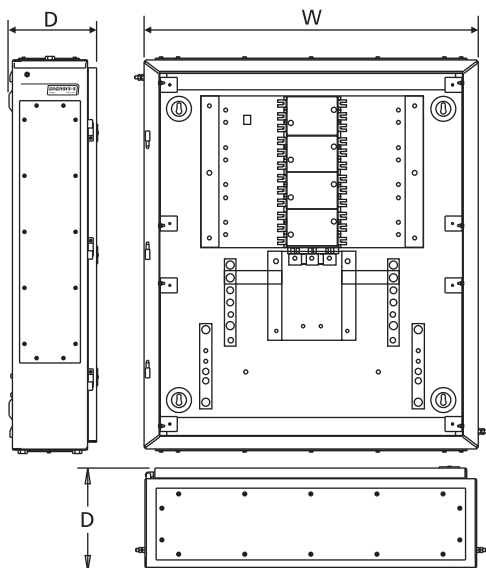
Note: While ordering SMDB, incoming and outgoing MCCBs have to be ordered separately

SMDB			INCOMING DEVICE			
S No.	Type	Rating	FG Cat. No.	Type	Rating	Description
1	TN250D	250 A	CM986080OPO	DN1-250N	250 A	DN1-250D 3POLE MCCB - 250A
2	TN250D	250 A	CM986080ONO	DN1-250N	200 A	DN1-250D 3POLE MCCB - 200A
3	TN250D	250 A	CM986080OMO	DN1-250N	160 A	DN1-250D 3POLE MCCB - 160A
4	TN400D	400 A	CM940050OR1OG	DN3-400D	400 A	DN3-400D 3 POLE MCCB - 400A
5	TN400D	400 A	CM940050OQ1OG	DN3-400D	320 A	DN3-400D 3 POLE MCCB - 320A

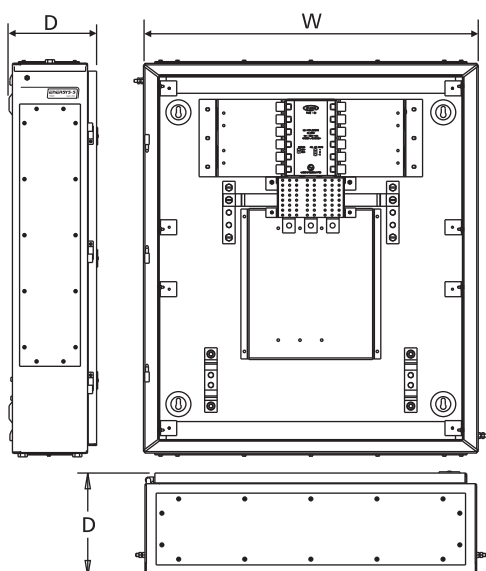
OUTGOING DEVICE ( Common for TN250D and TN400D SMDBs )				
S No.	FG Cat. No.		Rating	Description
1	CM97893OOC2OG	DN0-100D	20 A	DN0-100D 3Pole MCCB 20 A
2	CM97893OOD2OG	DN0-100D	25 A	DN0-100D 3Pole MCCB 25 A
3	CM97893OOE2OG	DN0-100D	32 A	DN0-100D 3Pole MCCB 32 A
4	CM97893OOF2OG	DN0-100D	40 A	DN0-100D 3Pole MCCB 40 A
5	CM97893OOG2OG	DN0-100D	50 A	DN0-100D 3Pole MCCB 50 A
6	CM97893OOH2OG	DN0-100D	63 A	DN0-100D 3Pole MCCB 63 A
7	CM97893OOJ2OG	DN0-100D	80 A	DN0-100D 3Pole MCCB 80 A
8	CM97893OOK2OG	DN0-100D	100 A	DN0-100D 3Pole MCCB 100 A

Note: Selection of MCCBs to be done in accordance with IEC61439 guidelines

## Dimensional details



Cat No.	Height(H)	Width(W)	Depth(D)
DA20D1044CZZ0	637	670	208.5
DA20D1084CZZ0	787	670	208.5
DA20D1124CZZ0	937	670	208.5



Cat No.	Height(H)	Width(W)	Depth(D)
DA40D1044CZZ0	937	670	208.5
DA40D1084CZZ0	1087	670	208.5
DA40D1124CZZ0	1237	670	208.5

All dimensions are in mm

# Get the Switchgear Training Edge!

Aimed at maximizing productivity, conserving energy, minimizing costs and enhancing safety, our Electrical & Automation training programmes have benefited over 1.35 lakh professionals in the last 28 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:

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

The typical training programmes cover:

- Low Voltage & Medium Voltage Switchgear
- Switchboard Electrical Design
- AC Drives & Building Management Solutions
- Protective Relays, Earthing, Reactive Power Management & Harmonics
- Energy Conservation & Management

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



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



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