



OFF-THE-SHELF SOLUTION
FOR POWER DISTRIBUTION

SUB-MAIN DISTRIBUTION BOARD

ABOUT US

Lauritz Knudsen Electrical & Automation, formerly known as L&T Switchgear, is a leading player in the electrical industry owing to its 70+ years of strong legacy and commitment to the nation's growth. The brand is dedicated to providing a wide range of electrical and automation products and solutions to vital sectors of the economy, including industries, utilities, infrastructure, buildings, and agriculture. Our extensive portfolio includes low-voltage and medium-voltage switchgear, automation solutions, tailored software, and services.

With manufacturing operations in Ahmednagar, Vadodara, and Coimbatore, we adhere to global standards of excellence. Our operations are supported by well-equipped, in-house design and development centers, as well as tooling facilities, ensuring precision in manufacturing.

We proudly operate six Switchgear Training Centers (STCs) across Pune, Lucknow, Coonoor, Vadodara, Delhi, and Kolkata. These centers offer tailor-made classroom courses and lab learning experiences for technicians, customers, engineers, professionals, and students.

With a deep national presence and one of the largest electrical distribution networks, comprising over 1500 partners across the country, we are committed to driving excellence and delivering superior products and solutions that power India's growth journey.



SMDB with all accessories



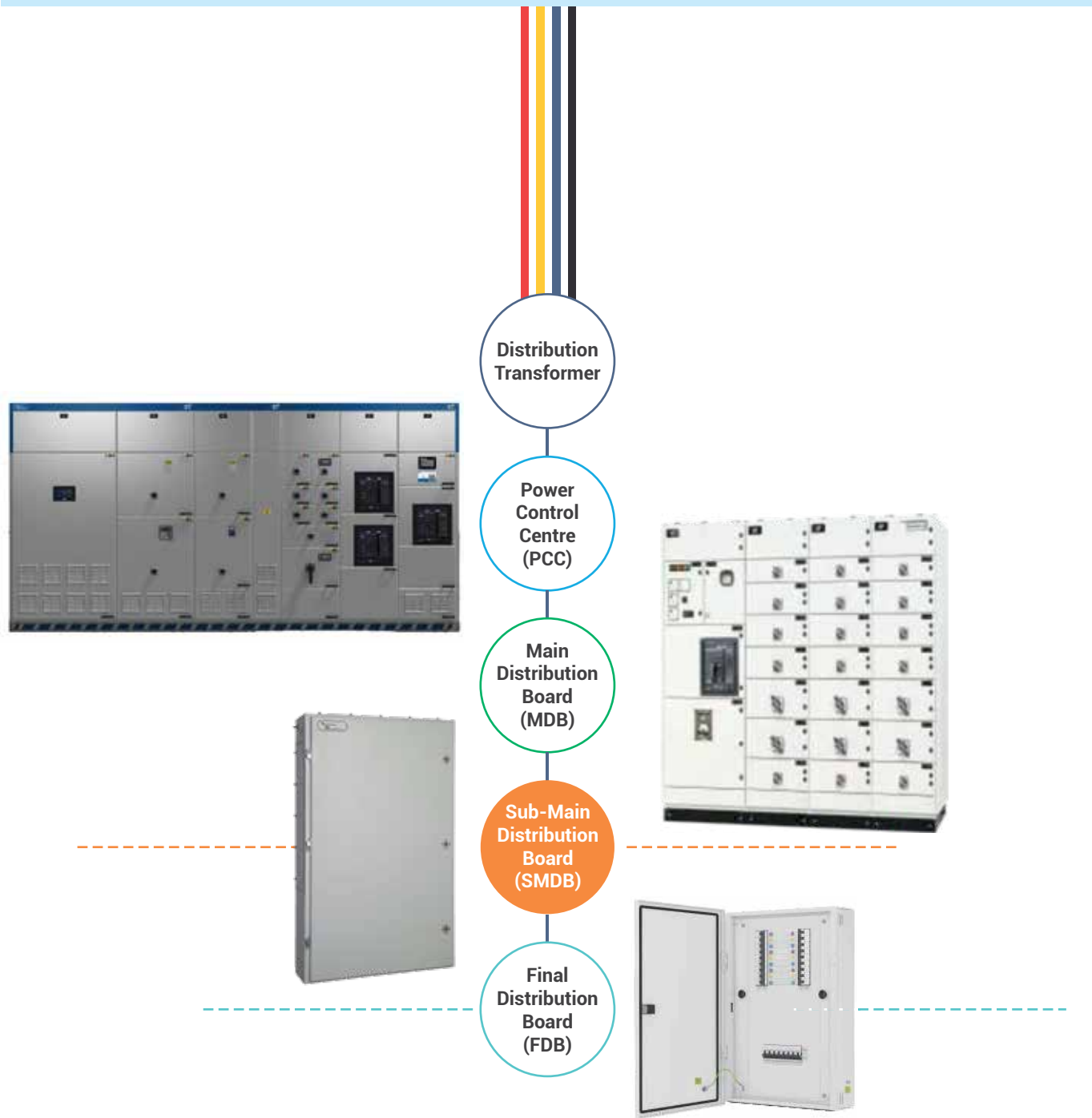
Double Door Construction with Protective Shield

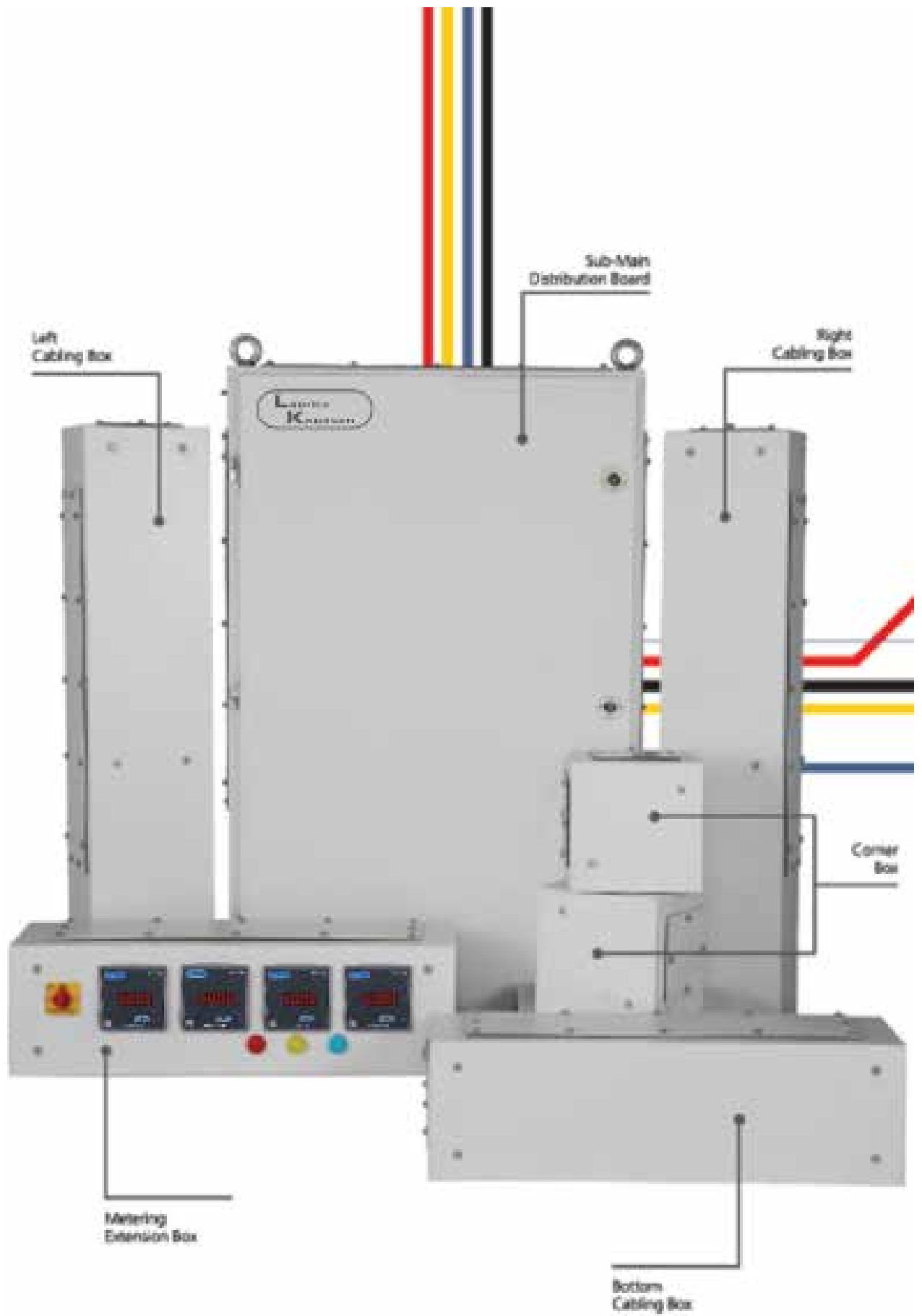


400A Incomer MCCB & 100A outgoing MCCBs (8 nos.)

Lauritz Knudsen Electrical and automation (E&A) is a market leader for electrical distribution, monitoring and control solutions in the low voltage category. Popular among customers as **Lauritz Knudsen Electrical and automation 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. Its 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. Discover how E&A's range of Sub-Main Distribution Boards and accessories can add value to your facility or enterprise.





SMDBs finds its applications in various segments with its distinct advantages like redy to use, compact in size and reliability.

Hospitals



Commercial Complexes



Shopping Malls



Educational Institutes



Hotels

Incomer MCCB rating	Outgoing MCCBs rating
250A	upto 100A
400A	upto 250A Combination of 100A & 250A
630A	upto 250A Combination of 100A & 250A
1000A	Combination of 100A, 250A & 400A

ENERSYS-S

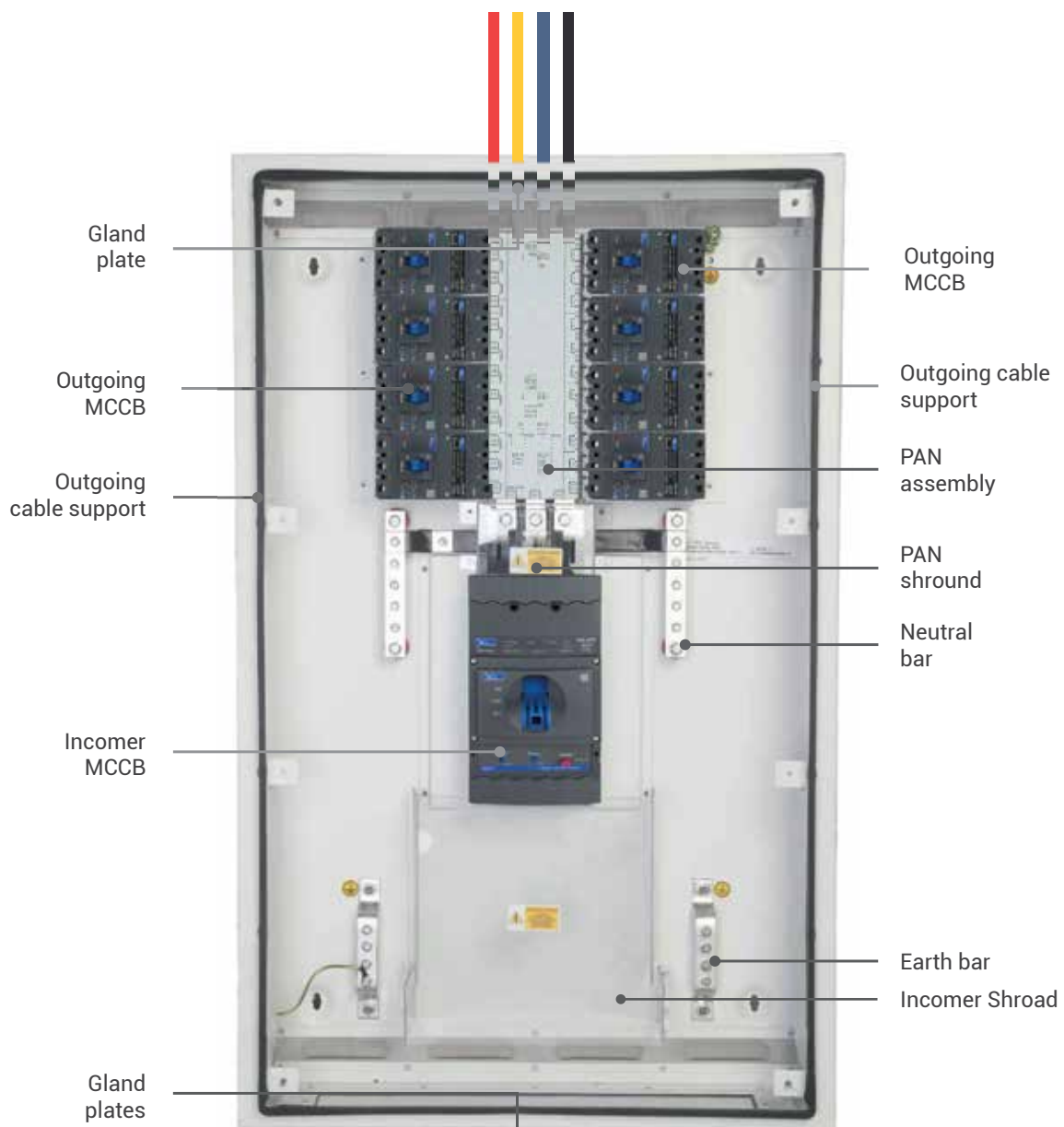
Sub-Main Distribution Board

Energysys-S Power Distribution Boards from E&A meet the demands of commercial buildings, educational establishments, hospitals, government buildings, manufacturing facilities and other applications that require safe, reliable and high performance protection of their electrical sub-distribution systems.

Energysys-S is a NABL tested Sub-Main Distribution Board (also known as MCCB panel board) used for power distribution. It has MCCBs as incoming and outgoing switching-cum-protection devices.

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 and bottom gland plates are provided for ease of installation and cabling. Removable gland plates allow fitting of additional items such as bottom cabling boxes and metering extension boxes.



SMDB after removing shield

Total Safety

Moulded busbar housing

The busbar assembly is fully enclosed behind the moulded busbar housing, providing increased safety. A shroud at the incoming side prevents accidental contact with live parts.



Protection from risk of shock

Separate earthing for enclosure ensures operator safety



IP 20 protection

The unique construction of the enclosure offers IP 20 protection even after opening the door. This prevents accidental contact with the live parts.



Convenience

Off-the-shelf assembly

Energys-S is a ready-to-use solution for any power distribution need.



Ease of termination

Energys-S facilitates separate earth and neutral bars on both the sides with the required number of cable termination points.



Range of accessories

A range of accessories, such as metering and cabling boxes can be offered separately providing flexibility to customers.



Enhanced Reliability

Higher ingress protection

Energysys-S is designed with Ingress protection of IP 43 which ensures protection against dust, water and pollution.



Higher conductivity

Tin-plated electrolytic grade copper busbars not only ensure better conductivity but also improve corrosion resistance.



Higher withstand capacity

The robust design of PAN system assures reliable performance even at 36 kA 1s and 20kA 3s fault condition.



Smart Space Management

In-built outgoing support

Provision for in-built cable support ensures clutter-free wiring. A cabling box can be added separately, if required.



Compact solution

Energysys-S saves almost 30% of floor space over conventional panels due to its compact PAN system and MCCBs.



Global Validation

Our Enersys-S low voltage switchgear system is subjected to extensive design verifications in compliance with IEC 61439, at reputed international third-party laboratories to assure you best-in-class products.



Constructional characteristics	Enersys-S Verified
Strength of material and parts	
› Resistance to corrosion	✓
› Thermal stability of enclosures	✓
› Glow wire test	✓
› Lifting	✓
› Marking	✓
Degree of protection of assemblies	✓
Clearance and creepage distances	✓

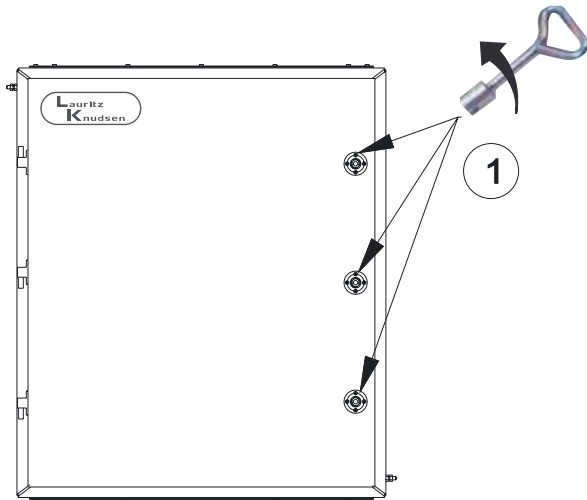
Performance characteristics	Enersys-S Verified
Verification of temperature rise	✓
Short circuit withstand test	
› Test at rated short time withstand current (Icw)	✓
› Test at rated conditional short circuit current (Icc)	✓
Dielectric properties	
› Impulse withstand voltage	✓
› Power frequency withstand voltage	✓

Technical Details

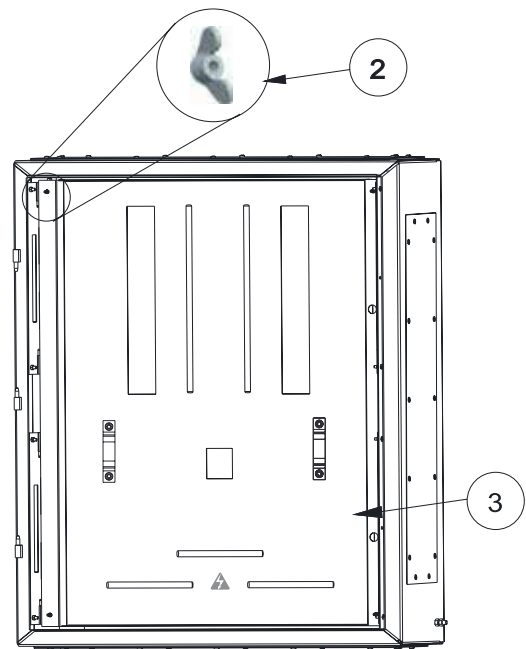
Attributes		Specifications
Busbar ratings (In)	A	250, 400, 630
Rated operational voltage (Ue)	(Vac)	415
Rated frequency (fn)	(Hz.)	50
Reference temperature	(°C)	40
Rated insulated voltage (Ui)	(Vac)	830
Rated impulse voltage (Uimp)	(kV)	8
Busbar short circuit withstand strength (Icw)	(kA)	250A & 400A SMDB-36 kA 1s 630A SMDB-50 kA 1s
Busbar conditional short circuit rating (Icc)	(kA)	36
Neutral & earth bar rating		N: 100% of Ph.
Busbar material		E: 50% of Ph.
Type of construction		Tinned Copper
Type of connection		Form 2
Incomer (IC) & Outgoing (OG) Device		3-phase 4-wire with Earthing
Incomer MCCB Ratings	(A)	disine MCCB
Incomer breaking capacity (Icu)	(kA)	250A, 400A, 630A
		36 kA-250A, 400A
IC & OG feeder no. of poles		36 kA-630A
Outgoing feeder - No. of ways		3
Applicable standard		4, 8, 12 & 16
Application		IEC 61439-2
Ingress protection rating		Indoor
Mounting		Wall mounting - Up to 630A

* Alternative thickness 2mm available on request. ** Other Paint Shade available on request.

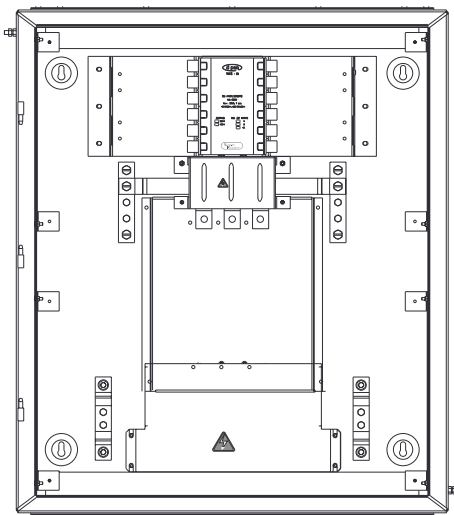
Installation guidelines for Enersys-S SMDB



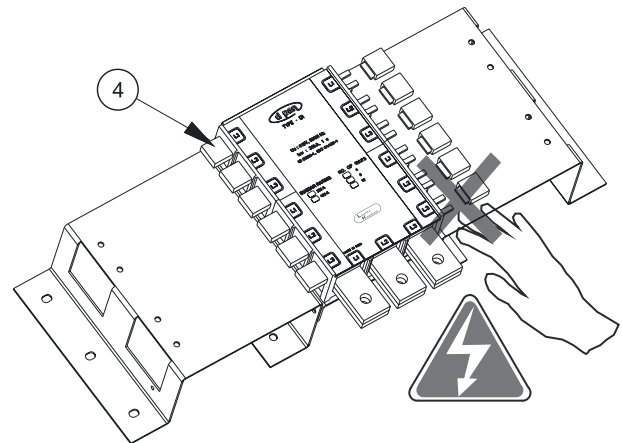
1. Open door lock using lock key



2. Remove wing nut at 4 places
3. Remove cover using handle with care



Basic assembly of SMDB

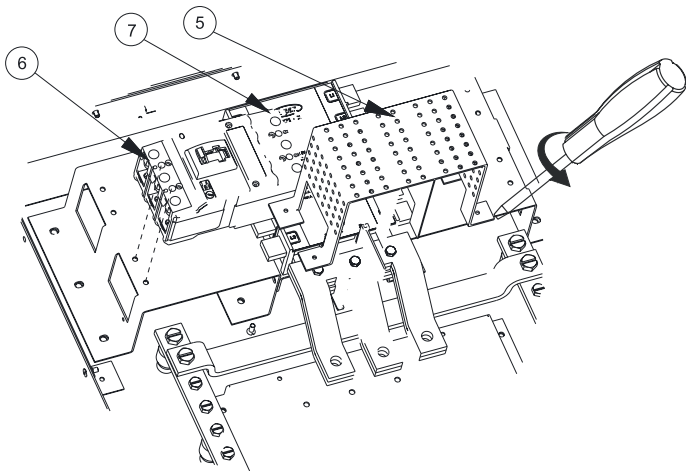


4. Remove terminal caps for mounting MCCBS
(Don't remove terminal caps on unused phase bars)
Do not leave it exposed

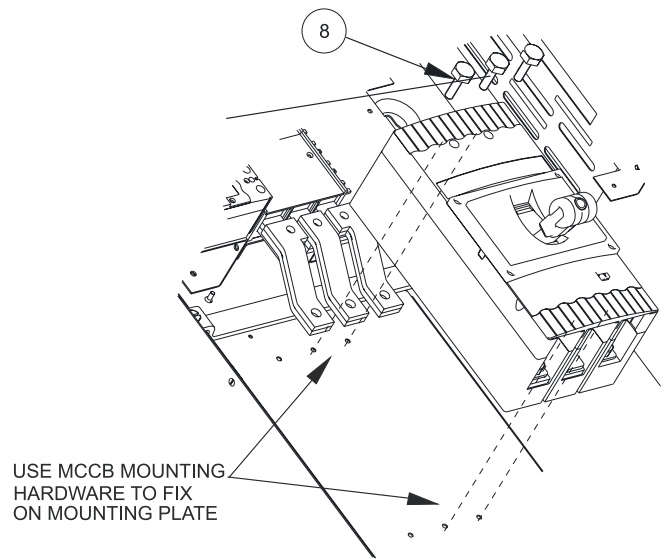


Keep fingers away from moving mechanical parts of the mechanism as this may cause serious injury

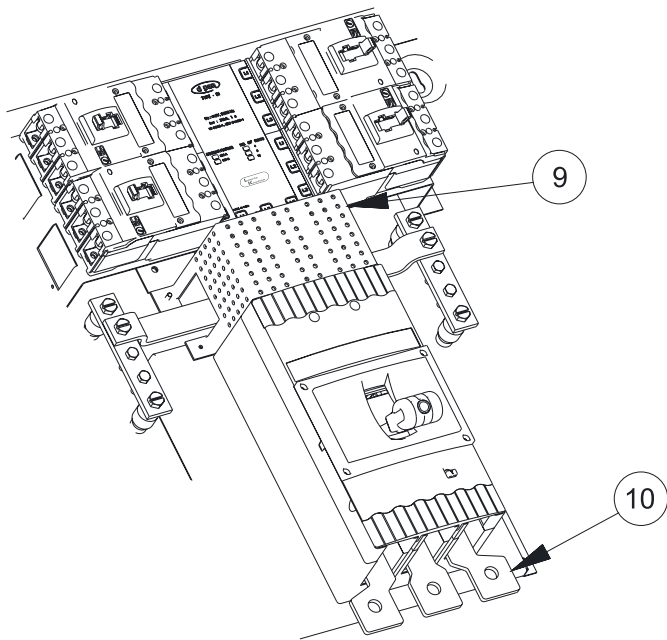
Installation guidelines for Enersys-S SMDB



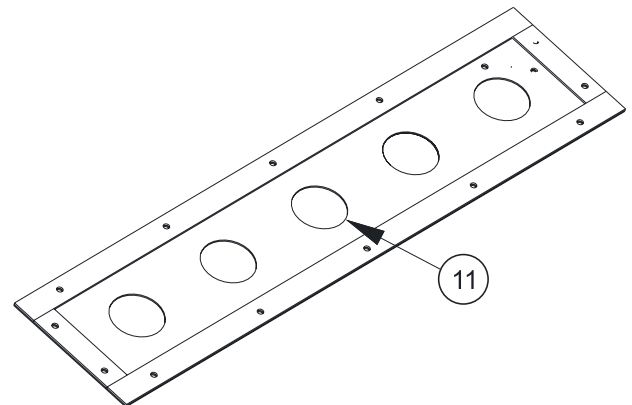
5. Remove both shrouds
6. Mount outgoing MCCB using captive hardware as shown
7. Assemble the outgoing MCCBs



8. Fix Incomer MCCB on mounting plate



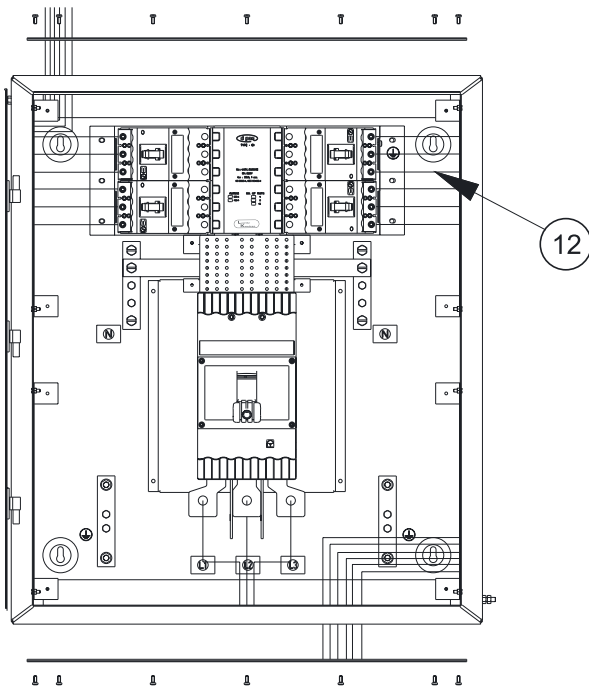
9. Assemble the safety shroud again
10. Assemble the incomer MCCB spreader link for cable termination



11. Punch holes only of required sizes and Numbers on the gland plate for cable entry

NOTE: tightening torques of all mounting MCCB hardware must be as per the MCCB installation kit.

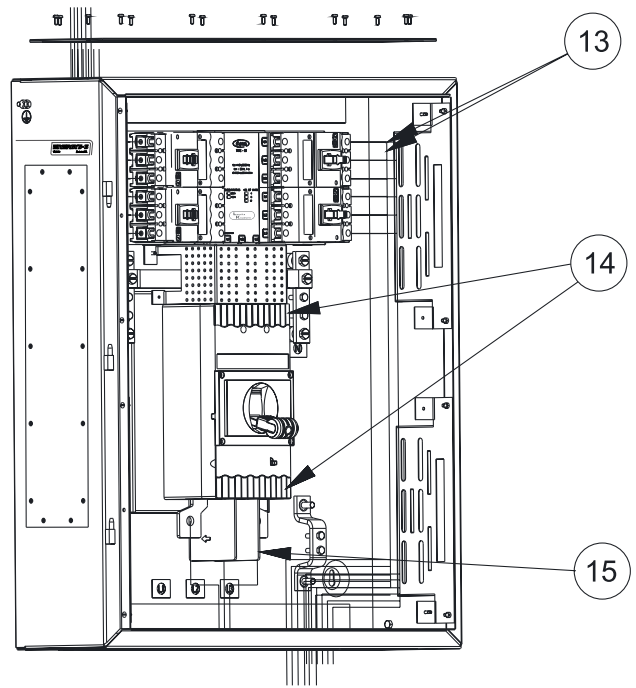
Installation guidelines for Enersys-S SMDB



12. Choose cable cross section as per current ratings of MCCBs

NOTE: Close the top & bottom ends of enclosure by gland plate if external accessory is not connected

NOTE: For higher size cable termination, appropriate narrow palm width lugs should be used

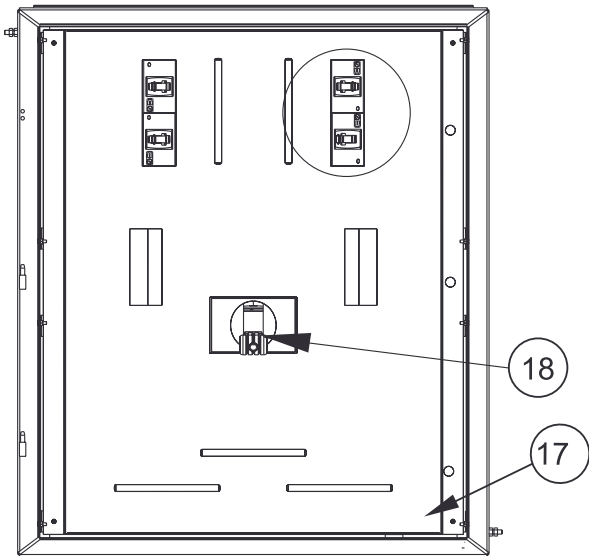


13. Route cables along the length of the side channels
(Use tie knot to tie cables to side channels)

14. Assemble phase barriers

15. Put incomer termination shroud again

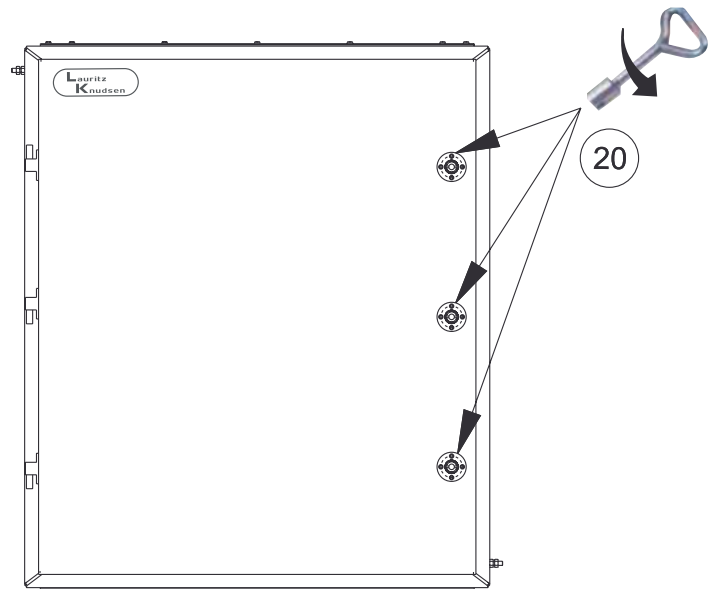
16. For earthing connection use earth conductor



17. Mount the cover again on the enclosure and fix wing nut at four corners

18. Switch on the incomer MCCB

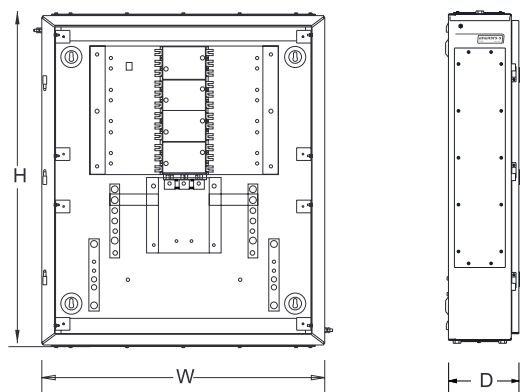
19. Switch on the required number of outgoing MCCBs



20. Close the door of SMDB

NOTE: In case of Aluminum termination, it is recommended to use cabling boxes which will provide additional cable bending space

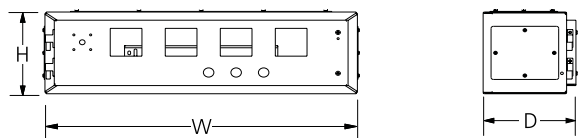
Dimensional Details



Energys - S SMDB

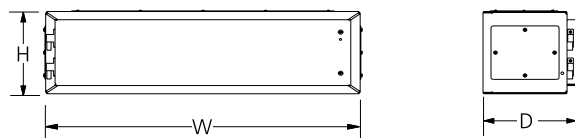
Cat. No.	Dimensions (mm)		
	Height (H)	Width (W)	Depth (D)
DA20D1044CZZO	637	670	208.5
DA20D1084CZZO	787	670	208.5
DA20D1124CZZO	937	670	208.5
DA20D1164CZZO	1087	670	208.5
DA40D1044CZZO	937	670	208.5
DA40D1084CZZO	1087	670	208.5
DA40D1124CZZO	1237	670	208.5
DA40D1164CZZO	1387	670	208.5
DA60D1084CZZO	1287	870	208.5
DA60D1124CZZO	1507	870	208.5
DA60D1164CZZO	1507	870	208.5
DA62D1044CZZO	1067	870	208.5
DA62D1084CZZO	1287	870	208.5
DA62D1124CZZO	1507	870	208.5
DA62D1164CZZO	1727	870	208.5
DA6AD1044CZZO	1067	870	208.5
DA6AD1084CZZO	1287	870	208.5
DA6AD1124CZZO	1507	870	208.5
DA6AD1164CZZO	1507	870	208.5

Accessories



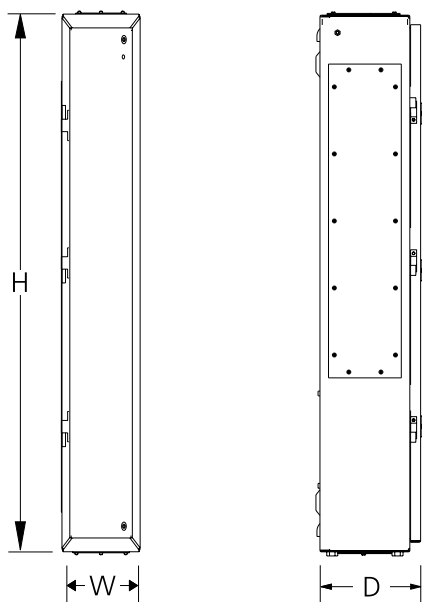
(Metering Extension Box)

Cat. No.	Dimensions (mm)		
	Height (H)	Width (W)	Depth (D)
CM9043900PO	200	670	208.5
CM9106400TO	200	870	208.5



(Bottom Cabling Box)

Cat. No.	Dimensions (mm)		
	Height (H)	Width (W)	Depth (D)
CM904370000	200	670	208.5
CM910620000	200	870	208.5



Side Cabling Box				
Cat. No.		Dimensions (mm)		
Left	Right	Height (H)	Width (W)	Depth (D)
CM910850DOO	CM910860DOO	637	670	208.5
CM910850FOO	CM910860FOO	787	670	208.5
CM910850HOO	CM910860HOO	937	670	208.5
CM910850KOO	CM910860KOO	1087	670	208.5
CM910870DOO	CM910880DOO	937	670	208.5
CM910870FOO	CM910880FOO	1087	670	208.5
CM910870HOO	CM910880HOO	1237	670	208.5
CM910870KOO	CM910880KOO	1387	670	208.5
CM9112000DO	CM9112100DO	1067	870	208.5
CM9112000FO	CM9112100FO	1287	870	208.5
CM9112000HO	CM9112100HO	1507	870	208.5
CM9112000KO	CM9112100KO	1727	870	208.5

Ordering Details



Energysys-S SMDs				
› Comprises of enclosures & PAN assembly				
› Supplied without incoming and outgoing MCCBs				
SMD Type	Incomer Rating	No. of outgoing ways		Cat. No.
		250A	100A	
TN250D	250	-	4	DA20D1044CZZO
		-	8	DA20D1084CZZO
		-	12	DA20D1124CZZO
		-	16	DA20D1164CZZO
TN400D	400A	-	4	DA40D1044CZZO
		-	8	DA40D1084CZZO
		-	12	DA40D1124CZZO
		-	16	DA40D1164CZZO
TN630D	630A	-	8	DA60D1084CZZO
		-	12	DA60D1124CZZO
		-	16	DA60D1164CZZO
		4	-	DA62D1044CZZO
		8	-	DA62D1084CZZO
		12	-	DA62D1124CZZO
		16	-	DA62D1164CZZO
		-	2	DA6AD1044CZZO
		-	6	DA6AD1084CZZO
		-	10	DA6AD1124CZZO
		-	12	DA6AD1164CZZO

Incomer MCCB		
› Select appropriate Incomer MCCB device from table below		
SMD Type	Description	Cat. No.
TN250D	DN1-250N 3 Pole MCCB - 160A	CM9860800MO
	DN1-250N 3 Pole MCCB - 200A	CM9860800NO
	DN1-250N 3 Pole MCCB - 250A	CM9860800PO
TN400D	DN3-400D 3 Pole MCCB - 320A	CM9400500Q10G
	DN3-400D 3 Pole MCCB - 400A	CM9400500R10G
TN630D	DN3-630D 3 Pole MCCB - 500A	CM9400600S10G
	DN3-630D 3 Pole MCCB - 630A	CM9400600T10G

Outgoing MCCB		
› Selection of MCCBs to be done in accordance with ICE61439		
SMD Type	Description	Cat. No.
TN250D TN400D & TN630D	DN0-100D 3 Pole MCCB - 20A	CM9789300C20G
	DN0-100D 3 Pole MCCB - 25A	CM9789300D20G
	DN0-100D 3 Pole MCCB - 32A	CM9789300E20G
	DN0-100D 3 Pole MCCB - 40A	CM9789300F20G
	DN0-100D 3 Pole MCCB - 50A	CM9789300G20G
	DN0-100D 3 Pole MCCB - 63A	CM9789300H20G
	DN0-100D 3 Pole MCCB - 80A	CM9789300J20G
	DN0-100D 3 Pole MCCB - 100A	CM9789300K20G
TN630D	DN1-250N 3 Pole MCCB - 160A	CM9860800MO
	DN1-250N 3 Pole MCCB - 200A	CM9860800NO
	DN1-250N 3 Pole MCCB - 250A	CM9860800PO



SMDB Accessories		
Metering, Bottom Cabling and Corner Box		
› Metering extension box comprises enclosure with provision for mounting ammeter, voltmeter, selector switch and indicating lamps		
› Bottom cabling box comprises bare enclosure		
SMDB Type	Description	Cat. No.
TN250D & TN400D	Metering extension Box Bottom Cabling Box	CM9043900PO CM904370000
TN630D	Metering extension Box Bottom Cabling Box	CM9106400TO CM910620000
TN250D, TN400D & TN630D	Corner Box Mounting base	CM910890000 CM702600000

NOTE: Mounting base to be used without bottom cabling box



Side Cabling box				
› For extra cable bending space side wise				
SMDB Type	No. of ways		Left Side Extension Cat. No.	Right Side Extension Cat. No.
	250A	100A		
TN250D		4	CM910850D00	CM910860D00
		8	CM910850F00	CM910860F00
		12	CM910850H00	CM910860H00
		16	CM910850K00	CM910860K00
TN400D		4	CM910870D00	CM910880D00
		8	CM910870F00	CM910880F00
		12	CM910870H00	CM910880H00
		16	CM910870K00	CM910880K00
TN630D		8	CM9112000FO	CM9112100FO
		12		
		16	CM9112000HO	CM9112100HO
	4		CM9112000DO	CM9112100DO
	8		CM9112000FO	CM9112100FO
	12		CM9112000HO	CM9112100HO
	16		CM9112000KO	CM9112100KO
	2	2	CM9112000DO	CM9112100DO
	2	6	CM9112000FO	CM9112100FO
	2	10		
	2	14	CM9112000HO	CM9112100HO



Metering Extension accessories	
Digital meters	Cat. No.
1Ph LED Ammeter CI 1	WL1110100000
1Ph LED Voltmeter CI 1	WL1120100000
3Ph LED Ammeter CI 1	WL1310100000
3Ph LED Voltmeter CI 1	WL1320100000



Indicating lamps	Cat. No.
Indicating lamps 22.5 mm Red	EPLR240A
Indicating lamps 22.5 mm Yellow	EPLY240A
Indicating lamps 22.5 mm Green	EPLG240A
Indicating lamps 22.5 mm White	EPLW240A