

YOUR PARTNER FOR **SAFE AND RELIABLE** LV SWITCHBOARDS



VENORA LANKA POWER PANELS (PVT) LTD.
IS A BOI APPROVED COMPANY THAT OPERATES IN EXPORT PROCESSING ZONE,
BIYAGAMA, SRI LANKA

Authorised Systems Integrator for



LOW-VOLTAGE FUNCTIONAL SWITCHBOARD SYSTEM
COMPLIANT TO IEC 61439-1 & 2 STANDARD



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- A WORLD TOP RANKED MANUFACTURING ZONE (EPZ BIYAGAMA)
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TECHNICAL INFORMATION

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2. Panel Configurations
3. Panel Assembly Guide Lines
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- PROJECT REFERENCES
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- TESTIMONIALS AND AWARDS

100% IEC STANDARD

IEC 61439 - 1 & 2 STANDARD:

THE IEC 61439 - 1 & 2 STANDARD
IS ESTABLISHED WORLDWIDE.

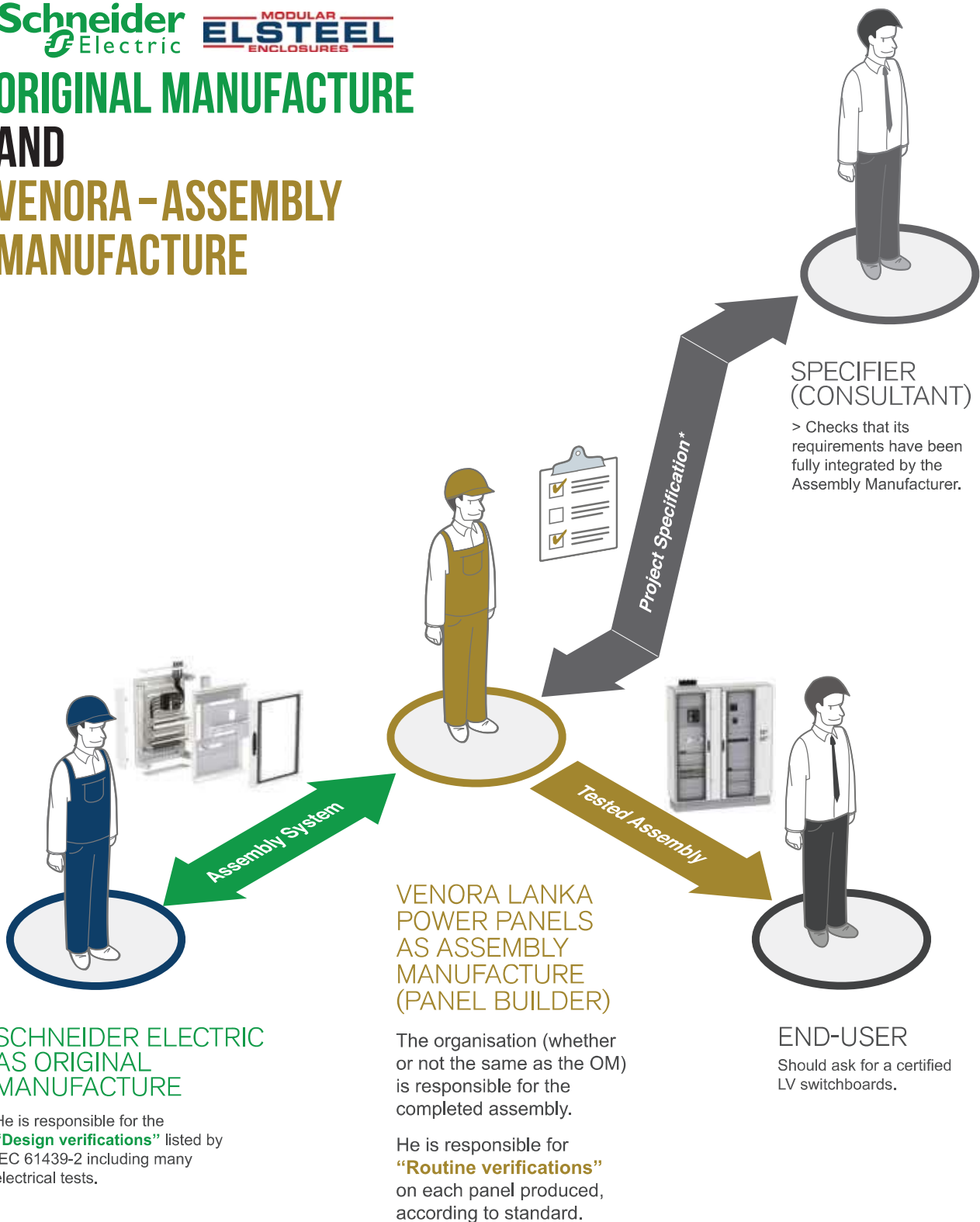
OUR GOAL IS TO REPRODUCE
PANEL CONFIGURATIONS
IDENTICAL OR EQUIVALENT TO
THOSE ASSESSED
IN A LABORATORY DURING
CERTIFICATION TESTING.

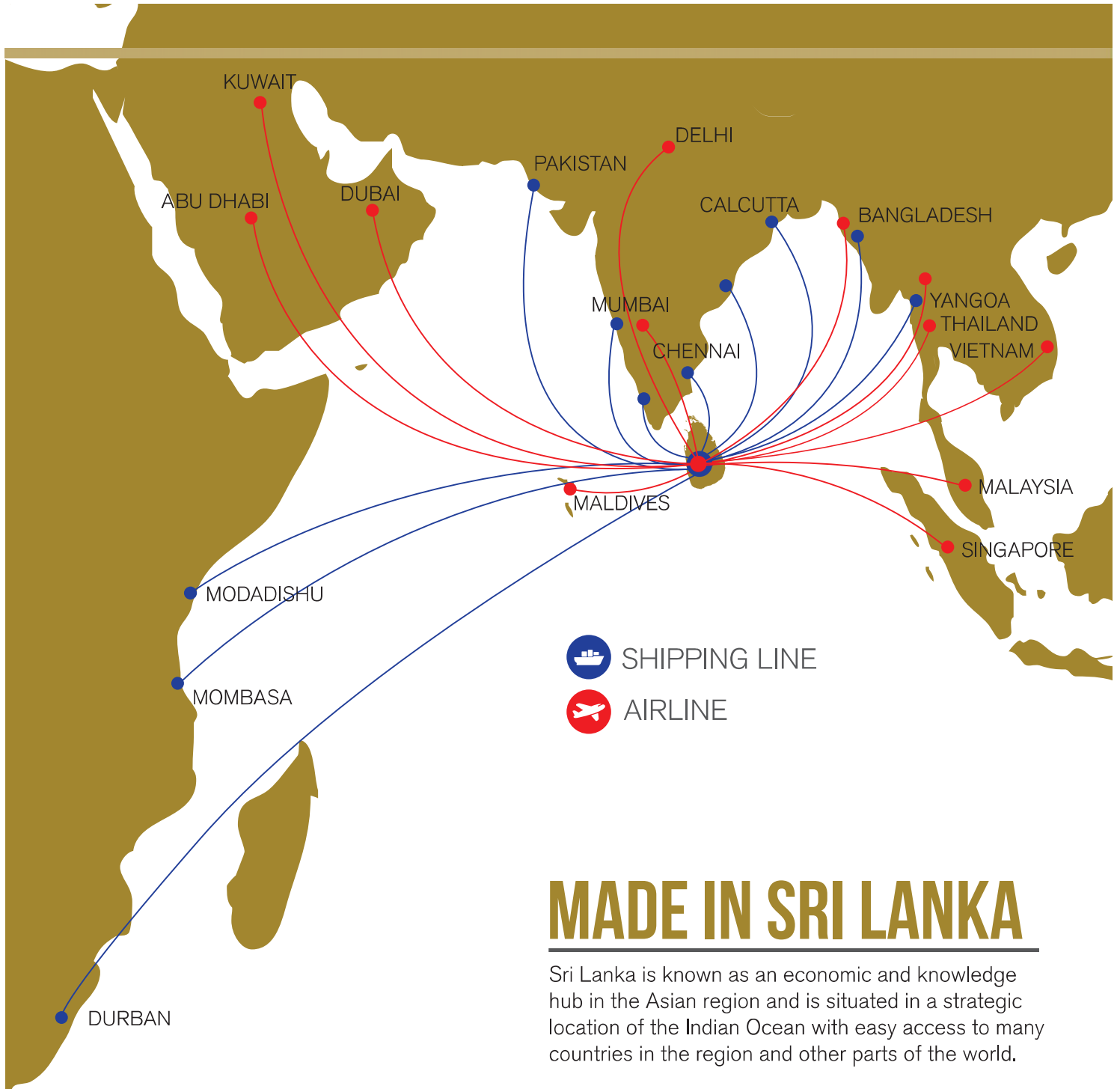


WORLDWIDE TECHNICAL SUPPORT -
SCHNEIDER ELECTRIC EXTEND THEIR
SUPPORT TO PANEL BUILDERS/CONTRACTORS
AND END USERS THROUGH WORLDWIDE
NETWORK OF SCHNEIDER ELECTRIC.



ORIGINAL MANUFACTURE AND VENORA - ASSEMBLY MANUFACTURE





MADE IN SRI LANKA

Sri Lanka is known as an economic and knowledge hub in the Asian region and is situated in a strategic location of the Indian Ocean with easy access to many countries in the region and other parts of the world.

BUSINESS CLIMATE:

Comparisons have shown that Sri Lanka offers one of the most liberal business environments in Asia. This has been made evident by the operation of multinational companies in Sri Lanka.

ACCESSIBILITY:

Sri Lanka is accessible to the world through all international flights and shipping lines operating worldwide.

HUMAN RESOURCE:

Our workforce comprises of highly skilled professional and technical staff, who are trained by national universities and technical colleges.

EXPORTS:

Sri Lanka exports semi or fully assembled Electrical and Electronics peripherals to Europe which are used for mission critical applications such as Cloud and Service Providers, Data Centres, Oil and Gas etc..

WE OPERATE FROM THE EXPORT PROCESSING ZONE IN BIYAGAMA

Infrastructure facilities at Biyagama zone include reliable power supply, treated water, telecommunication systems, a paved road network, security systems and chain-link fencing. The Biyagama Export Processing Zone has served as a model zone in the Asian region. The Sri Lankan organisations concentrate highly on quality and the reliability of products. They are equipped with quality certification such as ISO and are maintained by highly skilled technicians.



BENEFITS TO CUSTOMERS

Customers can enjoy products at an economical and competitive price due to the fact that tax incentives and tax holidays are offered by BOI (Board of Investments) Sri Lanka to Exporters. Consultancy from Foreign Experts and Industry Specialists are taken under BOI privileges. Visa to visit Sri Lanka could be arranged for Inspections and Factory Acceptance Tests.

INFRASTRUCTURE FACILITIES



TRANSPORT:

Located at the BEPZ which is strategically located for quick and easy access to the Colombo International Harbour and Colombo International Airport within 30 minutes via highways.



TELECOM:

BEPZ is covered by 4G telecommunication technology services for timely communication with B2B customers which makes industries competitive in Asia.



POWER:

Uninterrupted power supply is assured via hydro energy to a great extent. In addition, thermal capacity fulfills the balance demand.





VENORA LANKA POWER PANELS (PVT) LTD.

KNOWLEDGE AND EXPERIENCE:

Qualified Engineering and Technical Staff have over twenty years of experience in Designing and Manufacturing Electrical Panel Boards. The staff has been fully trained and guided by Schneider Electric & Elsteel Engineers for Panel assembly.

FACTORY CAPACITY:

The factory is equipped with modern manufacturing facilities and the space layout is such that it creates a healthy working environment. It is equipped with necessary testing tools to suit the IEC 61439 standard for routine testing. Production procedures are guided by ISO 9001:2015 quality standards.

FINANCIAL STRENGTH:

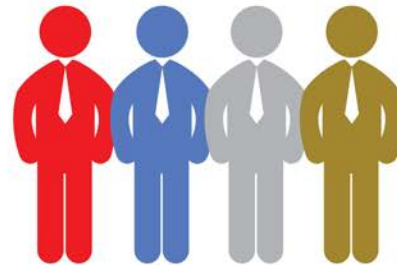
Venora Lanka Power Panels (Pvt) Ltd transact closely with many local and foreign banks. VLPP is financially backed and strengthened by a USD 2 million bank facility.

WORLDWIDE AFTERSALES SUPPORT:

We take constant measures to maintain and upgrade Power Panels through the worldwide network of Schneider Electric. We take the advantage of worldwide presence of Schneider Electric to minimise the downtime of Distribution Boards and related services provided by VLPP.



VENORA GROUP

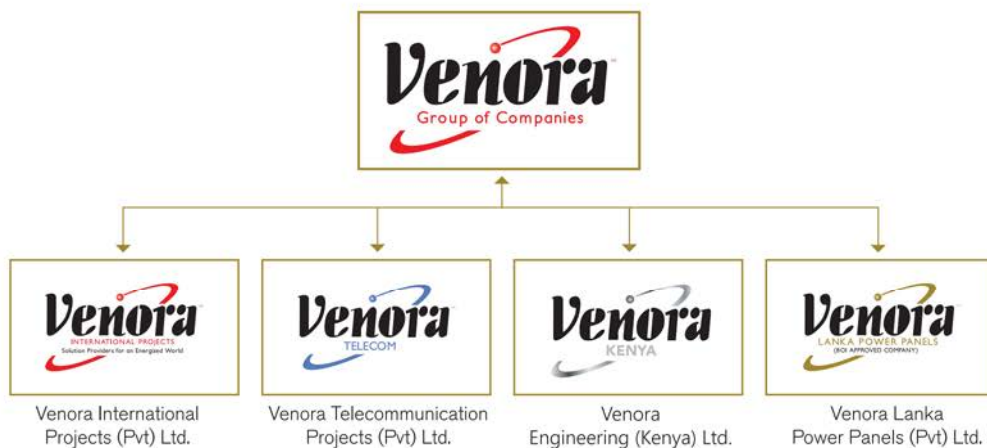


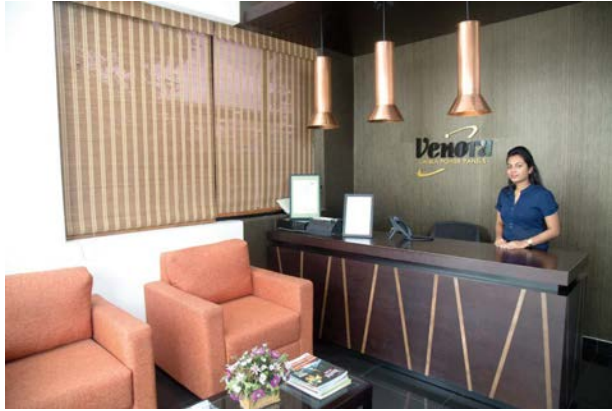
Venora is one of the leading service providers in the field of Electrical Engineering & Telecommunication in Sri Lanka, operating with mission to be "Solution Providers for an Energised World". Procedures are managed under ISO 9001 quality certifications.

We cover a wide range of services including design & supply of Electrical Systems Low/High & Extra Low Voltage, Switch Boards & Power Factor Correction Systems, Installation of Telecommunication Equipment, Lightning and Surge Protection with our world renowned brands.

Venora International became the first Sri Lankan company to have the License (in accordance with the UK Trade Marks Act 1994 and EBA Awards regulations) to use the trade Mark "Best Enterprise".

Venora Group of Companies has about 700 employees and the Group could be recognised as the leading service provider in the sphere of electrical engineering in Sri Lanka.



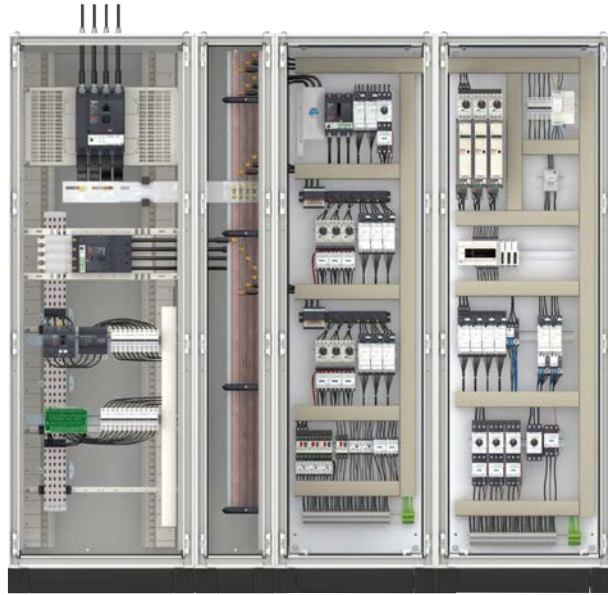




TECHNICAL INFORMATION

- **PRODUCT SPECIFICATION**
- **PANEL CONFIGURATIONS**
- **PANEL ASSEMBLY GUIDE LINES**
- **PANEL TESTING**
 - LABORATORY TESTS
 - ROUTINE TESTS
 - FACTORY ACCEPTANCE TESTS
- **CERTIFICATIONS**
- **PROJECT REFERENCES**
- **CONTACT US**
- **AWARDS & TESTIMONIALS**





Schneider
Electric

MODULAR
ELSTEEL
ENCLOSURES

VENORA LANKA POWER PANELS

APPLICATIONS

- CLOUD AND SERVICE PROVIDERS
- MINING, METALS AND MINERALS
- DATA CENTRE & NETWORKS
- WATER AND WASTE WATER
- OIL AND GAS
- PROVIDE ACCESS TO ENERGY
- FINANCE
- HEALTHCARE
- MACHINE BUILDERS/INDUSTRY AUTOMATION
- WEATHER
- BUILDINGS AND COMMON SERVICES

QUALITY COMPLIANCES :

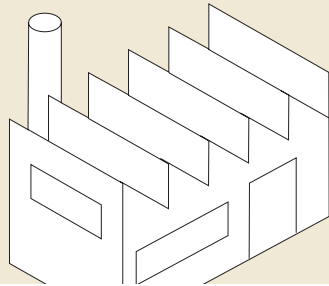
MANAGEMENT STANDARD/ PRODUCT STANDARD/ ASSEMBLY STANDARD

Factory Standard – ISO 9001 –2015 – Quality Management System

Electrical Panel Assembly Standard – IEC 61439 – 1 and 2

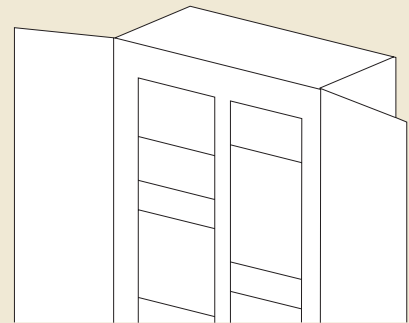
Switchgear Devices – IEC 60947 1 to 4

ISO 9001 - 2015
Green Certificate
UK Trade Certificate



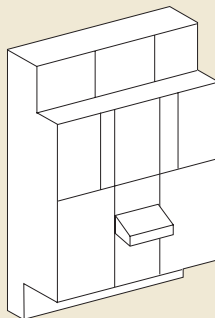
Design and manufacture

IEC 61439-X
Type Tested



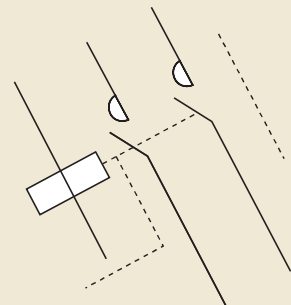
Switchgear assemblies

IEC 60947-X



Switchgear devices

IEC 60364-X



Installation

PRODUCT SPECIFICATIONS

Electrical characteristics

Rated insulation voltage U_i (V AC)	1000
Rated operation voltage (V AC)	690
Rated impulse withstand voltage (KV)	12
Frequency (Hz)	50/60
Main busbar rated current max. I_e (A)	3200 / 4000
Rated short-time withstand current I_{cw} (KA/ 1 s.)	100
Rated peak withstand current I_{pk} (KA)	220
Neutral network	TNC V TNS V IT V TT V

Mechanical characteristics

Overall height (mm)	2000
Number of vertical modules (functional height) 1 module = 50 mm	36
Depth (mm)	400/600 (front access), 800/1000 (rear access)
Width of enclosure for devices (mm)	600 and 800
Width of busbar duct (mm)	200 (in 800 mm wide enclosure)
Width of cable duct (mm)	300 and 400
Partitioning	Form 1, 2, 3b and 4b
IP	30/31/54/64
IK	07/08/10

Applicable standards

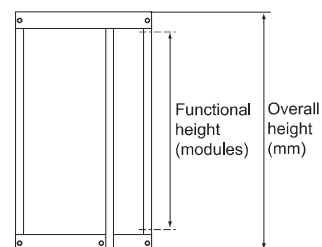
Type test	IEC61439-1
IP class	IEC60529
Insulation materials inside of enclosures	IEC60695

Environment conditions

Operation	indoor
Altitude max. (m)	2000
Temperature average (°C)	35 °C
Temperature max. (°C)	50 °C
Temperature min. (°C)	0 °C
Environmental conditions	Environment B
Degree of pollution	3

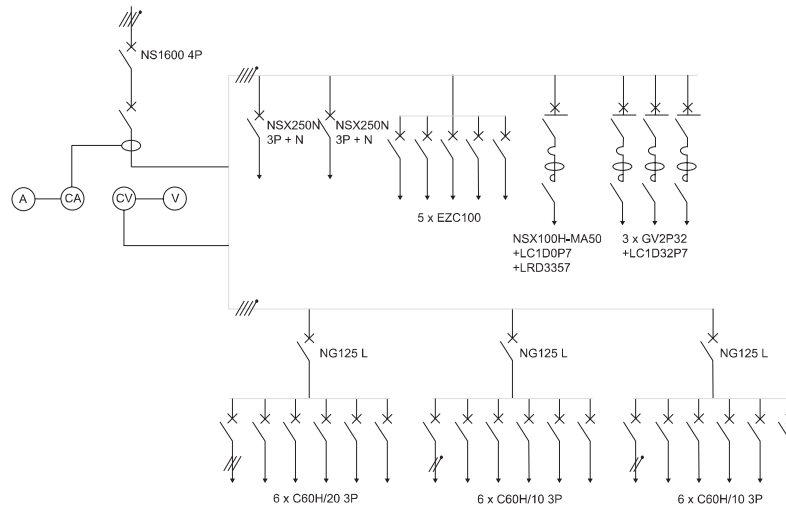
Others

Enclosure materials	sheet metal
Painting	epoxy resin powder electrostatic sprayed
Colour	RAL 7047 (enclosure) and RAL 9022 (functional unit)
Insulation materials inside of enclosure	high-temperature withstand, combustion self-prevent



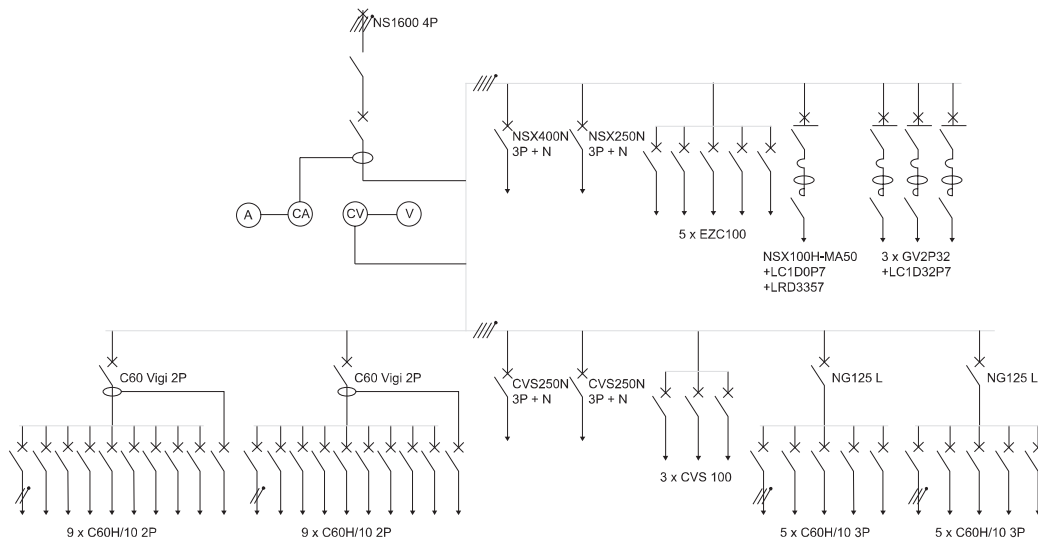
VENORA LANKA POWER PANELS

Floor standing system front access configuration



COMPLIANT TO IEC 61439 -1 & 2 STANDARD
Type Tested

Floor standing system front access configuration



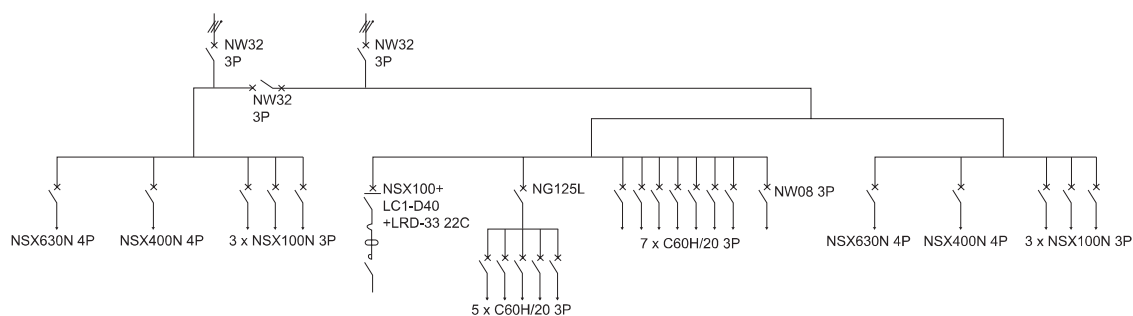
COMPLIANT TO IEC 61439 -1 & 2 STANDARD
Type Tested



COMPLIANT TO IEC 61439 -1 & 2 STANDARD
Type Tested



Floor standing system front access configuration



COMPLIANT TO IEC 61439 -1 & 2 STANDARD
Type Tested

Floor standing system front access configuration



COMPLIANT TO IEC 61439 -1 & 2 STANDARD
Type Tested

Configuration for outgoing functional units



COMPLIANT TO IEC 61439 -1 & 2 STANDARD
Type Tested



PANEL ASSEMBLY GUIDE LINES

ASSEMBLIES COMPLY WITH **IEC 61439** STANDARDS

The new IEC 61439 series of international standards defines clear regulations for low-voltage switchgear and controlgear assemblies. It specifies the safety requirements for electrical equipment used by planners, system engineers, electricians and end users in order to define protection objectives for people and industrial plants with regards to electrical installations.

PANEL TESTING

- Laboratory Tests are carried out on typical configurations by original equipment manufacture
- Routing Tests are carried out by VLPP for each panel
- FAT - Factory Acceptance Tests

12 DESIGN POINTS TESTED FOR DISTRIBUTION BOARDS (LABORATORY TESTING) **BY Schneider Electric / Elsteel**

1. Strength of materials and parts
 2. Degree of protection to assemblies
 3. Clearance and creepage distances
 4. Protection against electric shock and integrity of protective circuits
 5. Incorporation of switching devices and components
 6. Internal electrical circuits and connections
 7. Terminal for external conductors
 8. Dielectric properties
 9. Verification of temperature rise
 10. Short-circuit withstand strength
 11. Electromagnetic compatibility (EMC)
 12. Mechanical operation
- 

ROUTINE TESTING

1. Degree of protection provided by enclosures
2. Insulation clearances and creepage distances
3. Protection against electric shocks and integrity of protection circuits
4. Integration of incorporated components
5. Internal electric circuits and connections
6. Terminals for external conductors
7. Mechanical operation
8. Dielectric properties
9. Wiring, operating performance and function

CHECK SHEET

In accordance with the IEC 61439 - 1 and 2 standard

Job No.:
Switchboard No.:
Drawing No./Rev. No.:

	Verified
Degree of protection provided by enclosures	v
Insulation clearances and creepage distances	v
Protection against electric shocks and integrity of protection circuits	v
Integration of incorporated components	v
Internal electric circuits and connections	v
Terminals for external conductors	v
Mechanical operation	v
Dielectric properties	v
Wiring, operating performance and function	v

Date of verification:

..... / /

Verifications performed by:

.....

VENORA LANKA POWER PANELS (PVT) LTD.





FAT - FACTORY ACCEPTANCE TESTS

FOLLOWING TESTS ARE CONDUCTED ON EACH PANEL BEFORE DISPATCH

- Primary Injection Test for Circuit Breakers
- Secondary Test for all protective relays and meters, CT Polarity Test
- Millivolt Drop Test
- HV Test 2.5kV for 1min.
- Insulation Test
- Functional Test

DRAWING AND INFORMATION

(FOR APPROVALS AND AS BUILT DRAWINGS)

- General Arrangement Drawings
- Schematic and Control Wiring Diagrams
- Equipment List and Technical Data Sheets of Equipment
- Coordination & Discrimination Tables are provided on request

WE TAKE CARE OF

Export Packaging:

Proper packaging is done with maximum safety. We bear the responsibility of goods up to the customer warehouse or the construction site.

Installation and commissioning of Panels:

Venora staff will be available on site during panel energizing.

Training:

On-site Training and Demonstrations will be organised for maintenance staff.

Warranty and Aftersales:

Venora gives a comprehensive international warranty and provides aftersales services with Schneider Electric.



CONTACT DETAILS

Sri Lanka

Sales Inquiries and Aftersales	+94 (0)75 381 3398	bdm@venoragroup.com
Engineering and Estimation (Global)	+94 (0)75 362 2762	vlp1@venoragroup.com
Finance and Logistics (Global)	+94 (0)75 951 2582	vlpacc@venoragroup.com

India office

Sales Inquiries and Aftersales	+91 98 20 06 0588	international@venoragroup.com
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Dinath Smruti, 2nd floor, Block no. 6, K.V. Chitale Path,
Off Bhawani Shankar Road, Dadar (W), Mumbai – 400 028, India

Kenya office

Venora Engineering (Kenya) Ltd.
Saachi Plaza, Office No. B4, Argwings Kodhek, Nairobi, Kenya.
T.p. (+254)-20-2733591/ ruwan@mayleengroup.com

Global Inquiries

+91 98 20 06 0588	international@venoragroup.com
+94 (0)75 381 3398	bdm@venoragroup.com
+94 (0) 75 527 0797	venora@venoragroup.com

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www.venoragroup.com

www.venoragroup.com



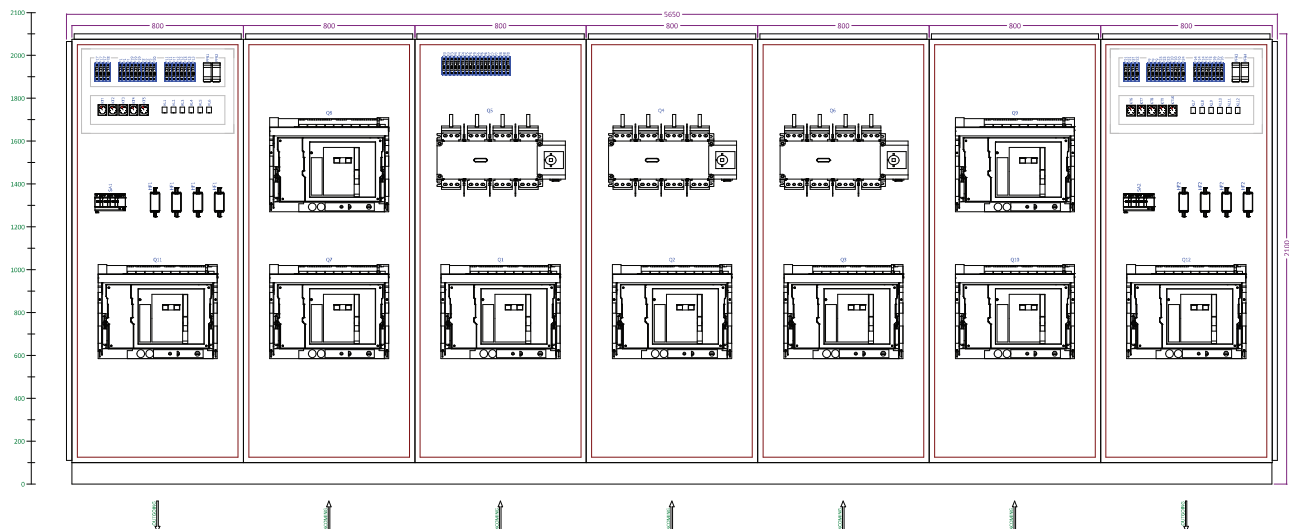
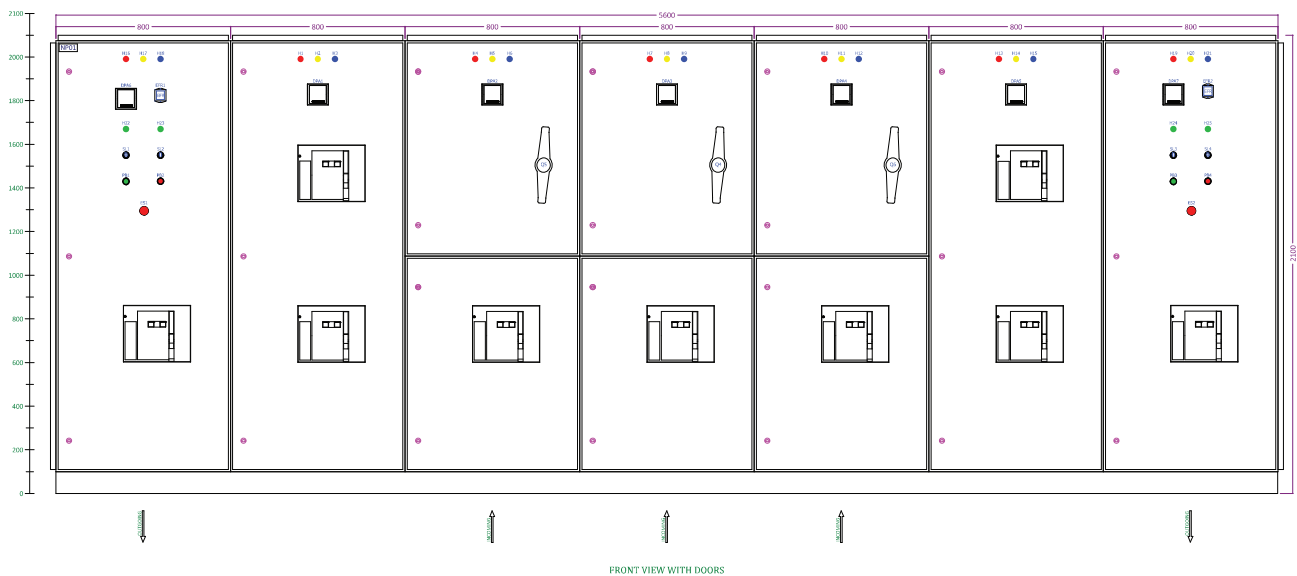
WhatsApp



ENGINEERING DRAWINGS

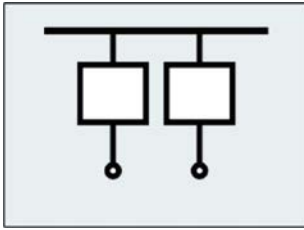
EPLAN Electric P8 offers unlimited possibilities for project planning, documentation, and management of projects.

1. Graphical and device-oriented planning
2. Automatic and individual DT allocation and connection numbering
3. Automatic creation of cross references between
4. Interruption points, contacts, symbols and components, PLC' s
5. Single line, multi-line display and mounting layout
6. Different subsystems (E-technology, fluid power and I&C)
7. Auto connecting and Smart connecting



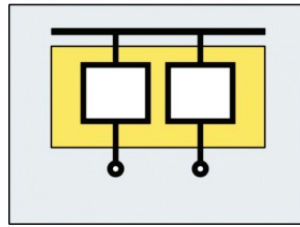
Form 1

No Internal Separation

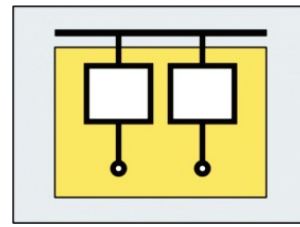


Form 2

Separation of busbars from all functional units



Form 2a:
Terminals not separated from busbars



Form 2b:
Terminals separated from busbars

Form 3

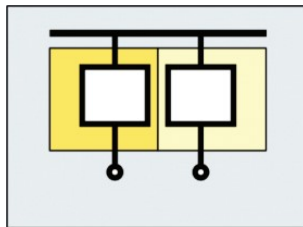
Separation of busbars from all functional units

+

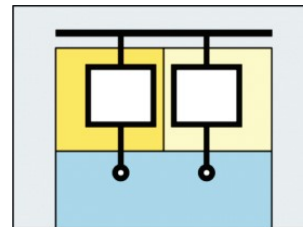
Separation of all functional units from one another

+

Separation of terminals for external conductors and external conductors from the functional units, but not from the terminals of other functional units



Form 3a:
Terminals not separated from busbars



Form 3b:
Terminals and external conductors separated from busbars

Form 4

Separation of busbars from all functional units

+

Separation of all functional units from one another

+

Separation of terminals for external conductors associated with a functional unit from the terminals of any other functional unit and the busbars

+

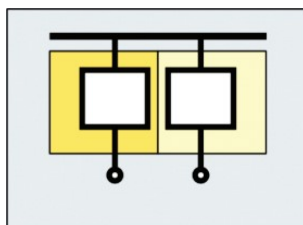
Separation of the external conductors from the busbars

+

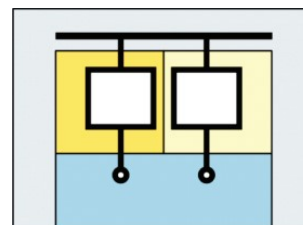
Separation of the external conductors associated with a functional unit from other functional units and their terminals

+

External conductors need not be separated from each other



Form 4a:
Terminals in same compartment
as associated functional unit



Form 4b:
Terminals not in same compartment
as associated functional unit



OUR RESPONSIBILITIES

Original manufacturer is the organization that has carried out the original design and the associated verification of an ASSEMBLY in accordance with the relevant ASSEMBLY standard (IEC 61439-1 clause 3.10.1)

Assembly manufacturer is the organization taking the responsibility for the completed ASSEMBLY (IEC 61439-1 clause 3.10.2)

Assembly manufacturer & the original manufacturer need not to be the same party as per IEC 61439-1. It is 100% complies with IEC 61439 standard if assembly manufacturer assembles panels complying with original manufacturers design. After completing the assembly, assembly manufacturer shall carry out routine verification defined in IEC 61439 clause 11 to verify the assembly is up to standards.

Verification shall comprise the following categories:

a) Construction:

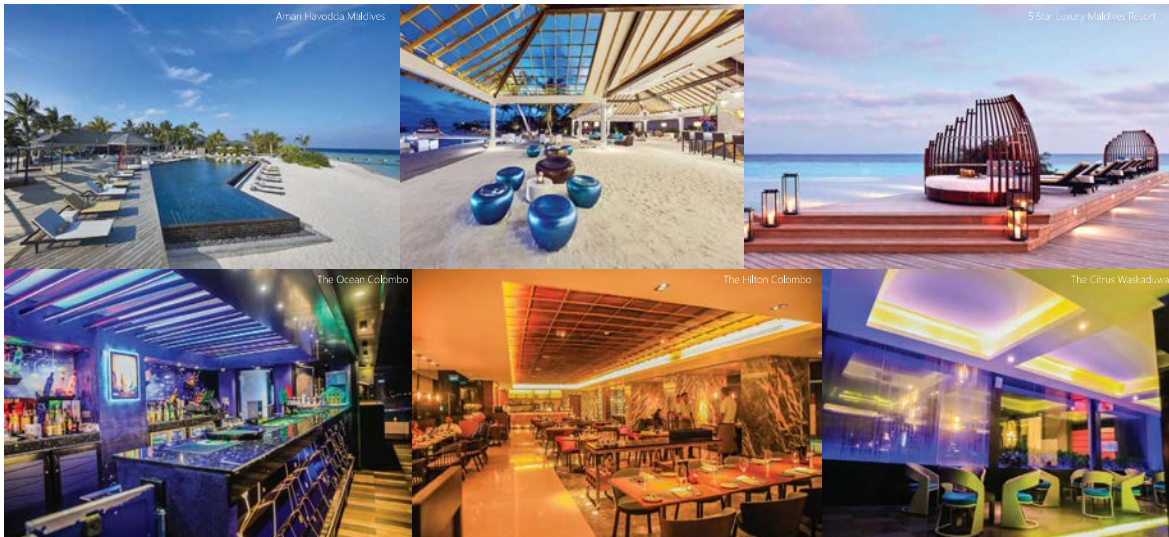
- 1) Degree of protection of enclosures;
- 2) Clearances and creepage distances;
- 3) Protection against electric shock and integrity of protective circuits;
- 4) Incorporation of built-in components;
- 5) Internal electrical circuits and connections;
- 6) Terminals for external conductors;
- 7) Mechanical operation.

b) Performance:

- 1) Dielectric properties;
 - 2) Wiring, operational performance and function.
- 

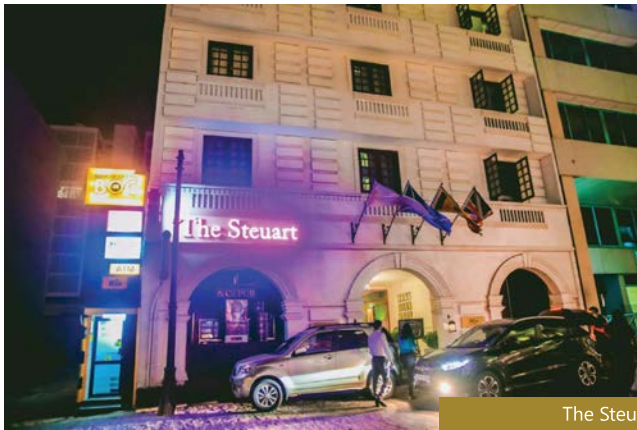
QUICK GLANCE AT OUR VENTURES

High End Projects





The Refurbishment of Hilton Colombo



The Stuart by Citrus



Mandarin Colombo



Block D Main Building in Shangri-La Hotel|Hambantota



Cinnamon Bay Beruwala



Citrus Waskaduwa





Vakkaru Five Star Resort|Ba-Atoll - **Maldives**



Miriandhoo Resort | 70 Rooms - **Maldives**



Al-Amanda Hotel & Spa - **Seychells**



Amari Havoda Hotel - **Maldives**



Robinsons Orivaru Resort| 150 Rooms -**Maldives**



Asiri Hospital | Kandy - Sri Lanka



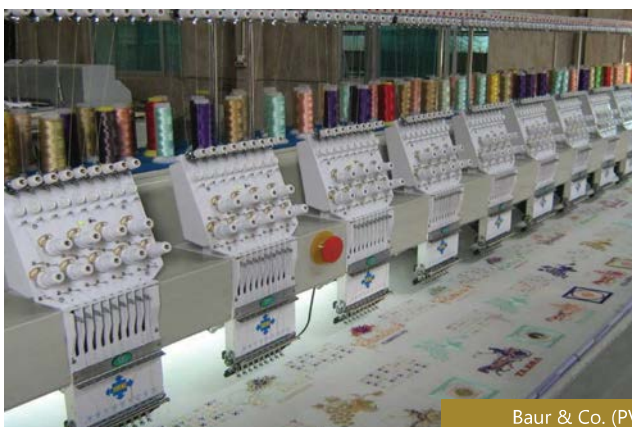
BIA VVIP Lounge|Serenediva Transit Hotel - Sri Lanka



Highway Secretariat Building | Battaramulla - Sri Lanka



International Conventional Center | Hambantota - Sri Lanka



Baur & Co. (PVT) LTD - Sri Lanka



CERTIFICATIONS

Product Certificate

- Elsteel Enclosure System with Busbar
Type Tested Certificates for Copper and Aluminum
<https://www.elsteel.com/certificates/techno-module-certificates.php>

Management Certificates

- Green Certificate - Environment
- ISO 9001 Standard Certificate - Procedures
- UK Trade Certificate - Good Governance



AWARDS & TESTIMONIALS

- 2010 Honourary Award for the "Trusted Service" to the Engineering Sector in Sri Lanka at the Swarna Lanka Award Ceremony.
- Commemorating the Launch of 1,000 Base Stations in Sri Lanka September - 2010
- Arch of Europe for Quality & Technology Award Frankfurt - 2012
- The Global Award for Perfection, Quality and Ideal Performance Rome - Italy 2012
- Venora International became the first Sri Lankan company to have the License (in accordance with the UK Trade Marks Act 1994 and EBA Awards regulations) to use the Trade Mark "Best Enterprise"
- NCE Export Award - 2017





VENORA LANKA POWER PANELS (PVT) LTD.

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