

"STEERING OURSELVES TO THE PASSION OF ENGINEERING."





# WHO WE ARE?

We are a passionate engineering team who generates the powerful new insights into electrical engineering designs. We are doing what we love to keep ourselves alive. We are making the creativity as the core competency for every job across the business. Our biggest motivation is keep challenging ourselves.

# WHY WE SERVE YOU?

All our projects bring out the potential of our passion in engineering, which lead us to make fantastic friends, learn loads and encourage us to take on big challenges. These give a great opportunity to contribute to a variety of projects that touch on a range of important technical areas that are endlessly interesting. It is all about the passion and the creativity.

# MEET OUR EXPERTS

We are reinforcing the practicality of designs and solutions with our expertise and extensive experience in LV panel designs. Our team helps you to rediscover the most actionable electrical engineering solutions. We strategically focus on your key engineering challenge and applying the most creative and effective engineering solution to optimize the performance and improve your business.

# OUR PROFESSIONAL SERVICES

# 1. SYSTEM DESIGN CONSULTANCY

Our designs compliment the practical insights for your requirement. Our System Designing process in the projects provides a comprehensive LV Panel Design Service to the client. The service we offer to the client takes their initial concept in order to produce a design that will bring their ideas to life. The meetings with the client at all key stages in the design process ensures the final outcomes of the project meet with all their expectations.

# 2. ENERGY SAVING SOLUTIONS

We give a new perspective on your requirement by viewing it different mode of thinking and helping you to discover the enormous potential for energy saving solutions to run your business.

# 3. COMPUTER – AIDED DESIGN

We are professionally creating the Shop Drawings (Single Line Diagrams, Power Line Diagrams, Control Diagrams and General Arrangement) and As-Built Drawings for Electrical Low Voltage Panel Designs.

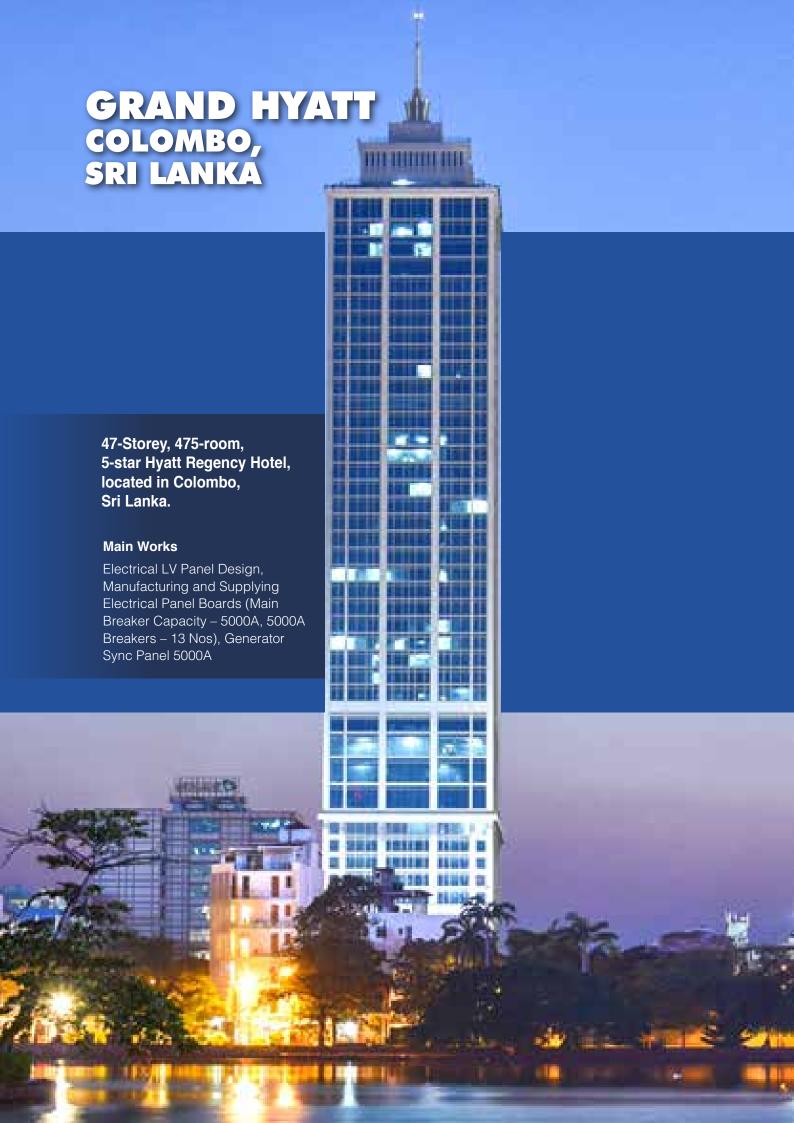
# 4. ELECTRICAL LOW VOLTAGE SWITCHBOARD ASSEMBLER

We have engraved the excellence for two decades in assembling Electrical LV Switchboards in accordance with the standards of IEC 61439-1 & IEC 61439-2.







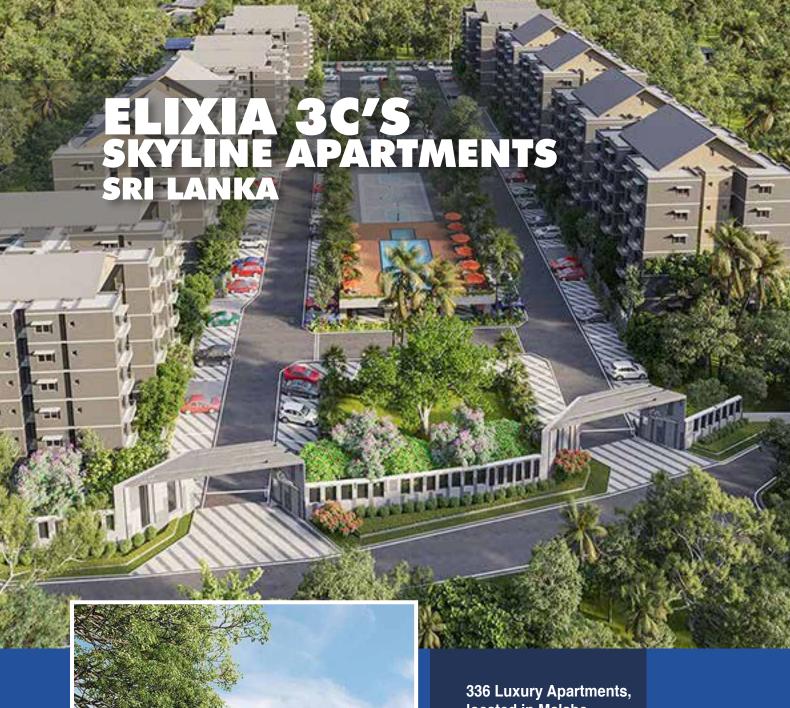












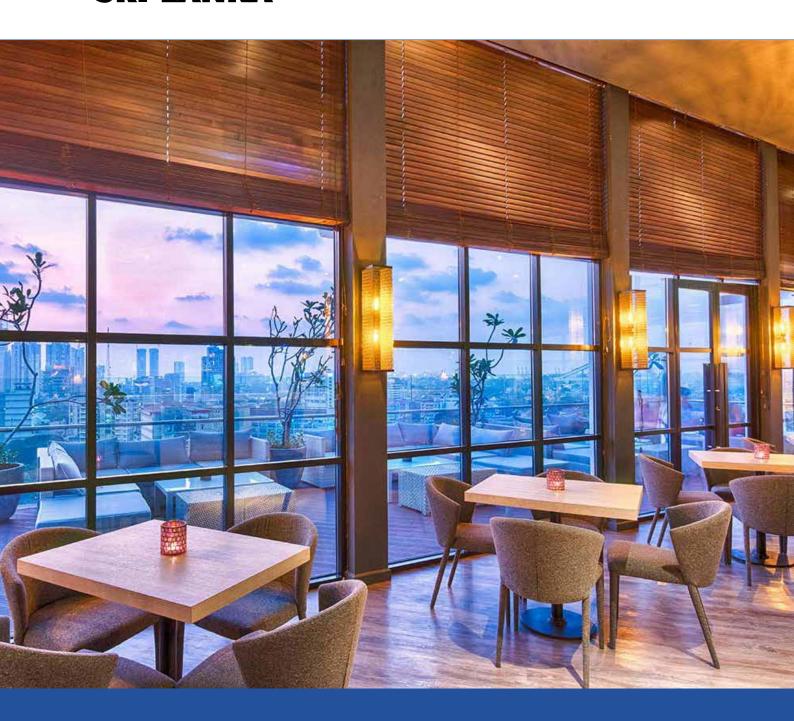
located in Malabe, Sri Lanka

#### **Main Works**

Electrical LV Panel Design, Manufacturing and Supplying Electrical Panel Boards (Main Breaker Capacity – 3200A)



# JETWING COLOMBO SEVEN, SRI LANKA



98-Room, Luxury Hotel, located in Colombo Seven, Sri Lanka



#### **Main Works**

Manufacturing and Supplying Electrical Panel Boards (Main Breaker Capacity – 1600A), Chiller Control Panel

# PEARL GRAND TOWERS COLOMBO, SRI LANKA



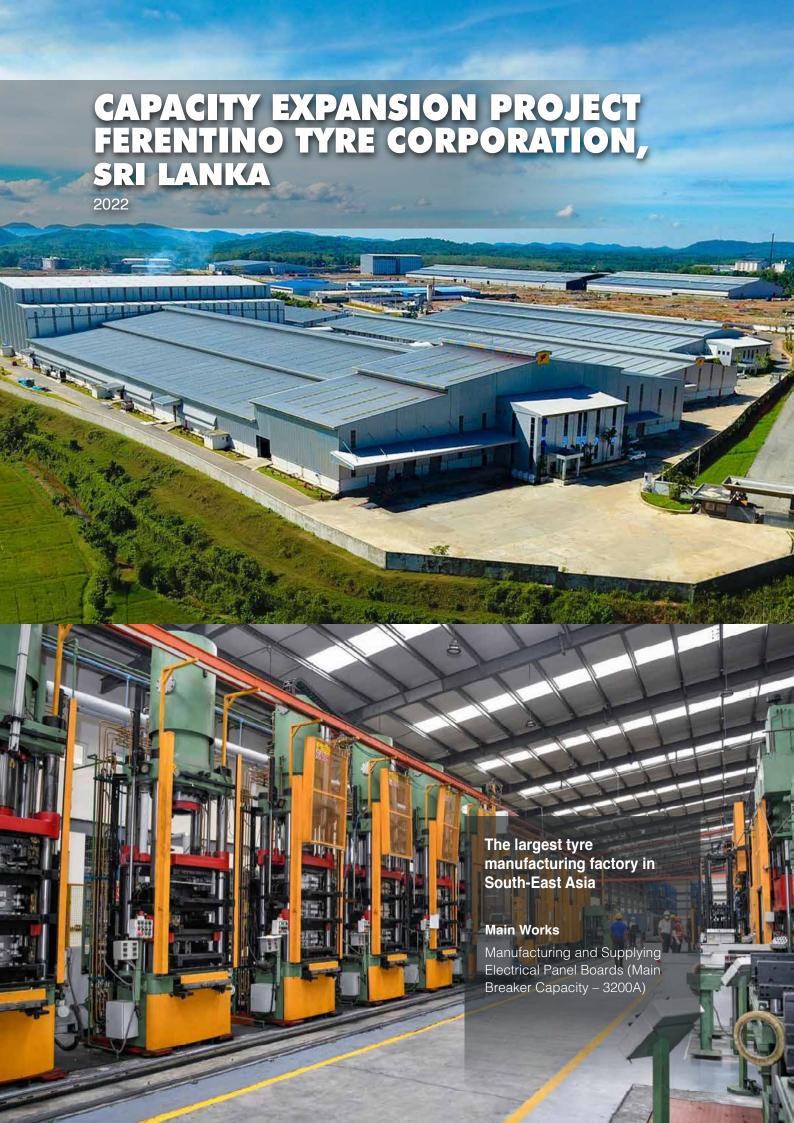
44-Storey, 307-room, Luxury Hotel located in Colombo, Sri Lanka

#### **Main Works**

Electrical LV Panel Design, Manufacturing and Supplying Electrical Panel Boards (Main Breaker Capacity – 3200A)





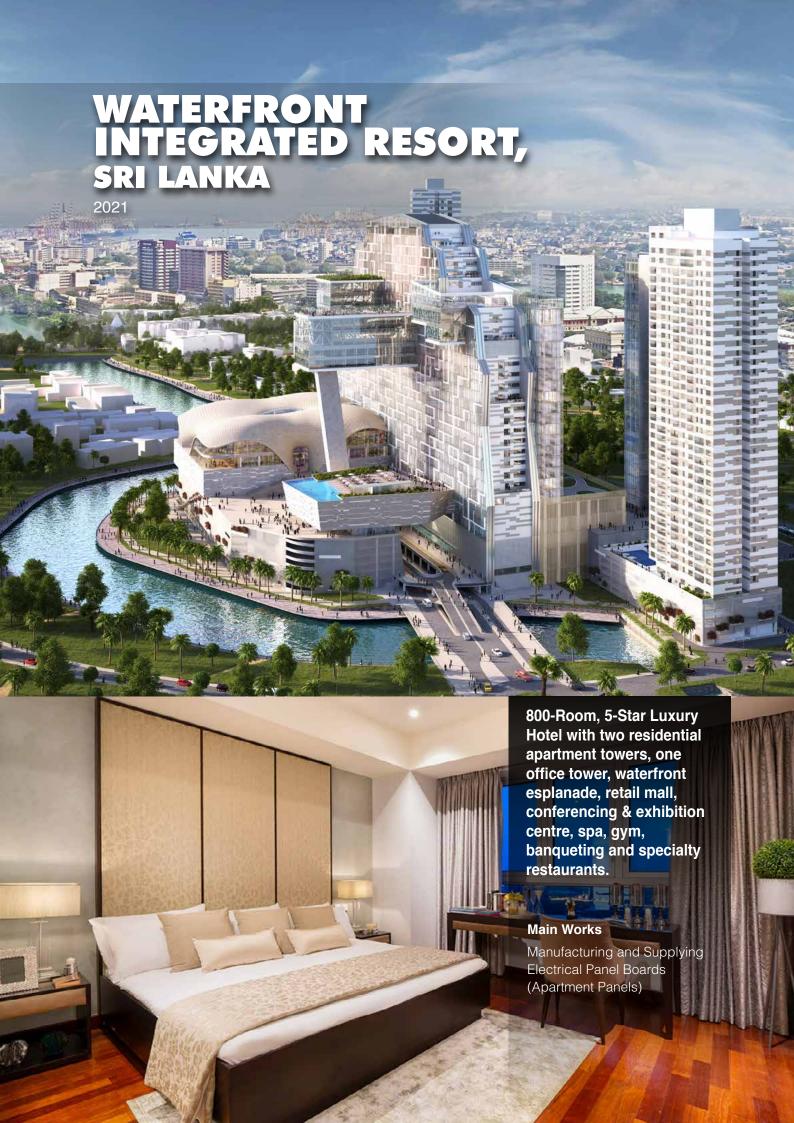


# DAIRY FARMS, LANKA MILK FOOD SRI LANKA

2022









## CINNAMON BENTOTA BEACH, SRI LANKA

2020



## SONEVA JANI RESORT MALDIVES

2020

51 Over-water and three island stunning, luxurious residencies, located in Noonu Atoll, Maldives.

#### **Main Works**

6000A Synchronize Panel

Soneva Jani Phase II – 6300A Main Busbar Panel





## ASIRI HOSPITALS KANDY, SRI LANKA

2019

7-Storey, multi-specialty tertiary care hospital, located in Kandy, Sri Lanka.

#### **Main Works**

Manufacturing and Supplying Electrical Panel Boards (Main Breaker Capacity – 3200A)



## KIONYO TEA FACTORY, KENYA

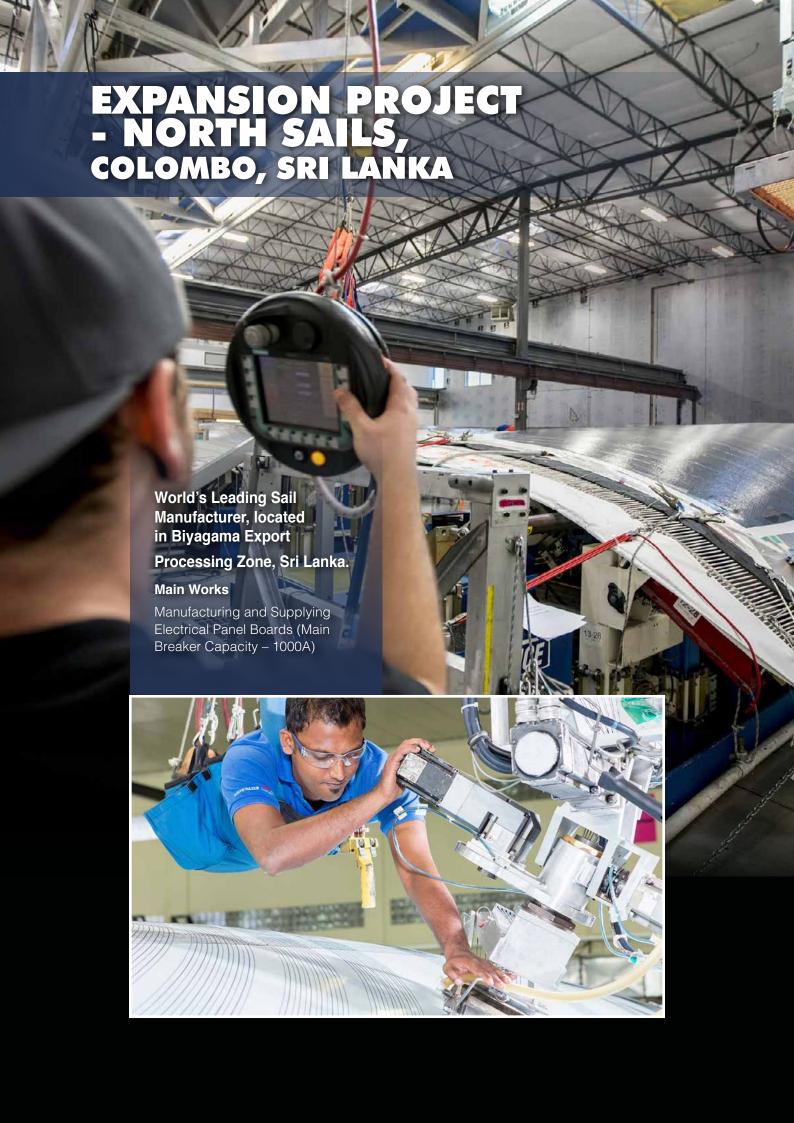
2018



A Global Quality Tea Factory, located in Kionyo, Meru County, Kenya.

#### **Main Works**

Power Factor Correction - Capacitor Bank Design



## SERENEDIVA TRANSIT HOTEL SRI LANKA

2016



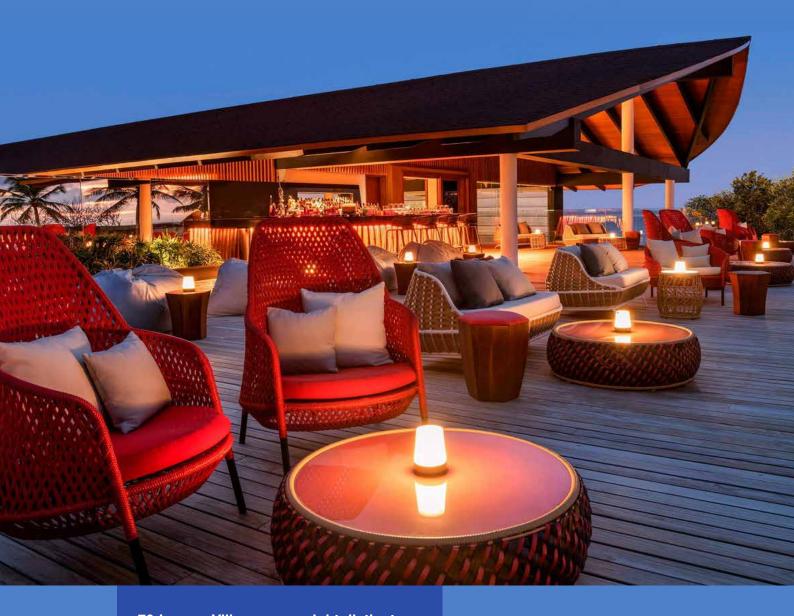
32-Room, transit hotel, conveniently located within the Bandaranayake International Airport, Colombo, Sri Lanka.

#### **Main Works**

Manufacturing and Supplying Electrical Panel Boards (Main Breaker Capacity – 250A)

## WESTIN MALDIVES MIRIANDHOO RESORT

2016



70-Luxury Villas across eight distinct categories, beautifully situated on the UNESCO Biosphere reserve in Baa Atoll, Maldives.

#### **Main Works**

Manufacturing and Supplying Electrical Panel Boards (Main Breaker Capacity – 1600A)



# ROBINSON NOONU, ORIVARU, MALDIVES

2015

150-room, Luxury Resort, located in Orivaru, Maldives.

#### **Main Works**

Manufacturing and Supplying Electrical Panel Boards



# AMARI HAVODDA, ORIVARU, MALDIVES

2015

120-Beachfront and Overwater Villas, located in Gaafu Dhaalu Atoll, Maldives.

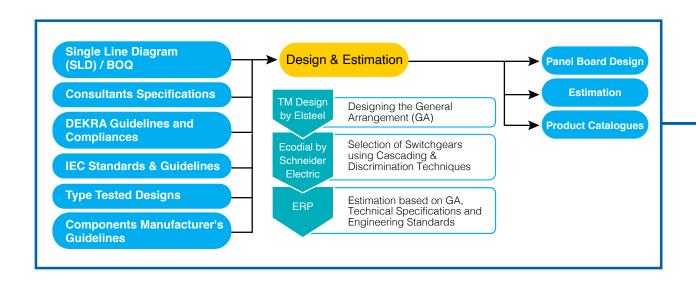
#### **Main Works**

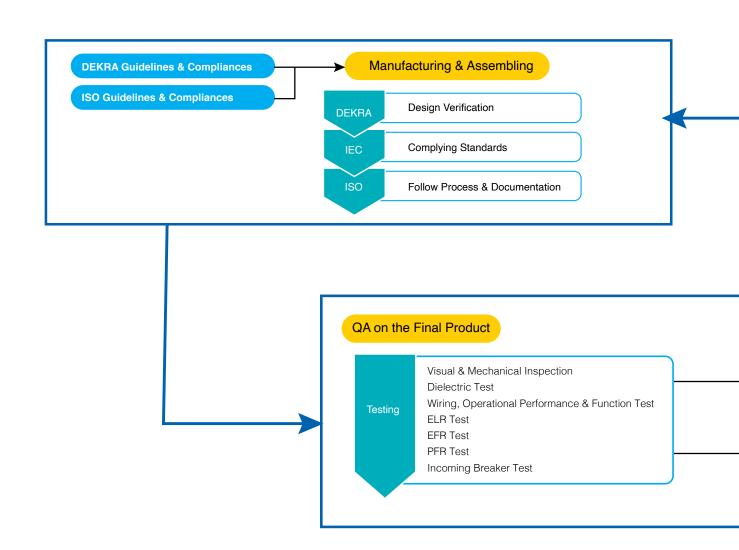
Manufacturing and Supplying Electrical Panel Boards (Main Breaker Capacity – 2000A)

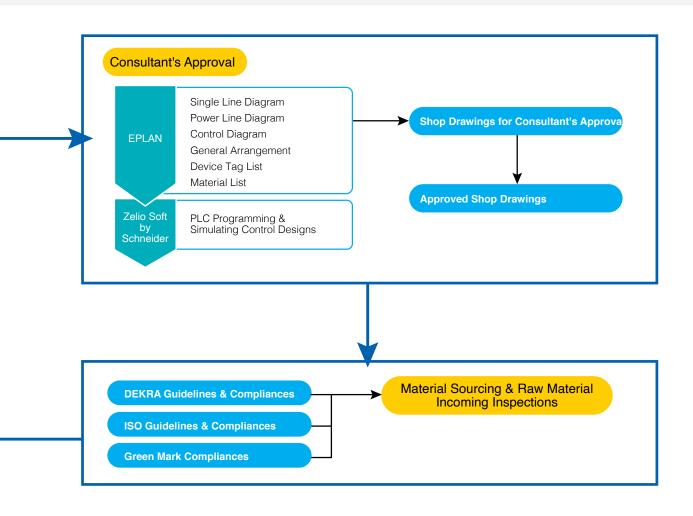


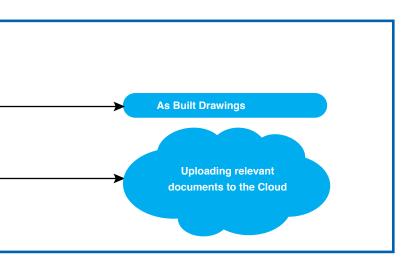
## **DESIGN VERIFICATION PROCESS**

## IN ELECTRICAL PANEL BOARD ASSEMBLING

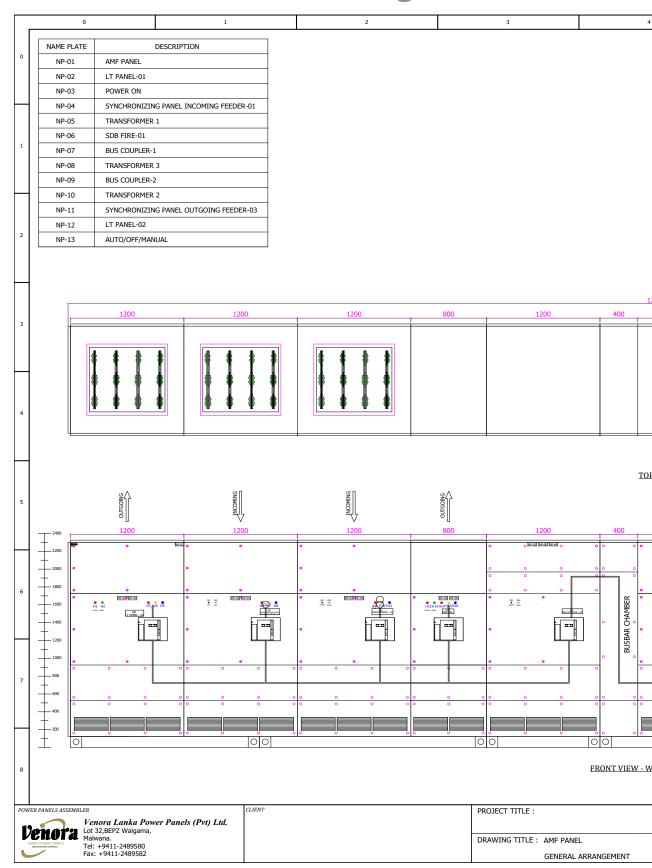






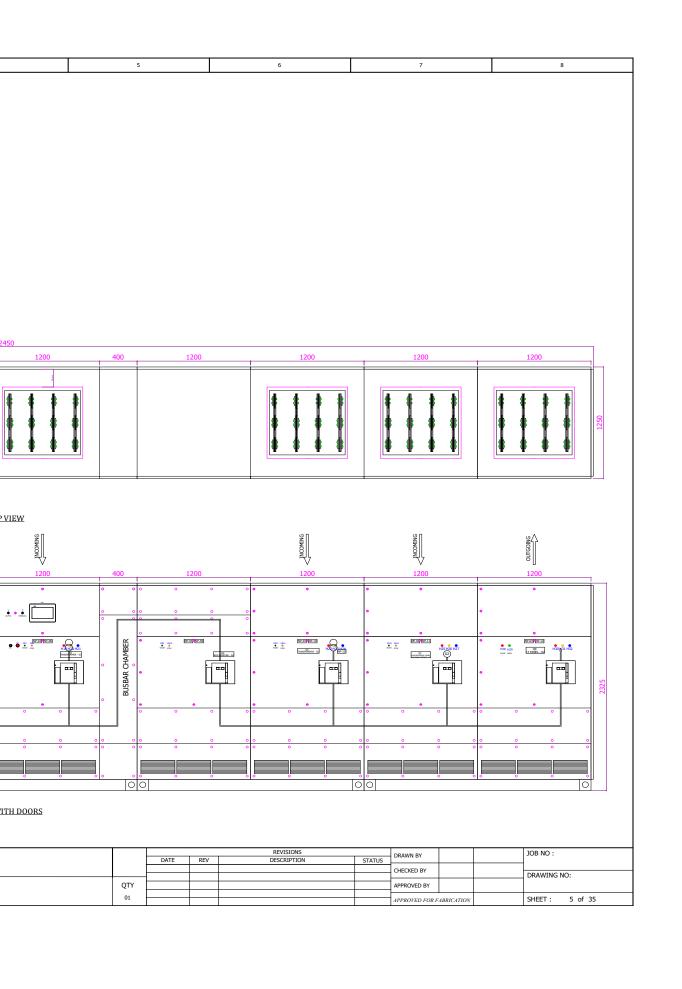


## **AMF Panel - General Arrangment**



#### **CONFIDENTIALITY NOTICE**

Disclaimer: This drawing is intended for the reference only. It contains information which is confidential and legally privileged and also protected by copyright.



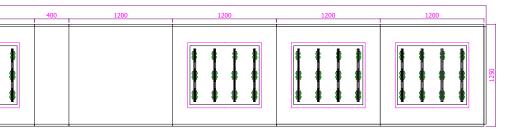
# **AMF Panel - General Arrangment**

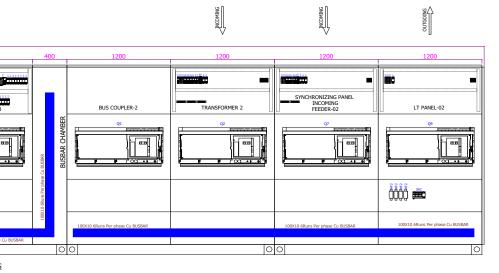


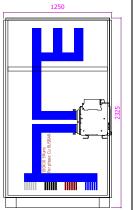
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Main bus bar size per phase 6 x 10 x100mm	· Main bu
ACB terminals In - Vertical Out - Vertical	· ACB ter
BUSBAR 6300A	· BUSBAF
Short Circuit Level 100kA	· Short C







SIDE VIEW WITHOUT COVER

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# **AMF Panel - General Arrangment**

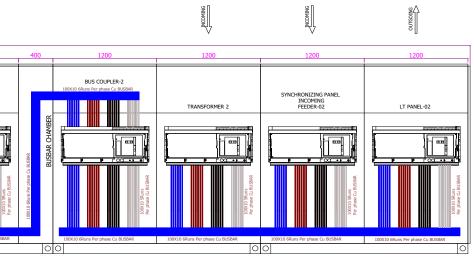


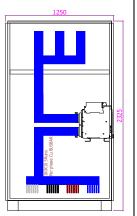
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6 x 10 x100mm	· Main bus bar size per phase
In - Vertical Out - Vertical	· ACB terminals
6300A	· BUSBAR

400	1200		1200			12	00		I	1	200		
		<b>\$</b>	•		*	*	*	*		*	*	*	1250





100kA

· Short Circuit Level

SIDE VIEW WITHOUT COVER

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We are the Official Business Partner for Elsteel Enclosure Systems from Denmark.



FAT-N

**SIEMENS** 







# ROUTINE VERIFICATION

Routine Verification is the process that evaluates the Electrical Switchboards to

ensure the components and controls operation in accordance with design specifications.

# Following tests are conducted on each LV switchboard before dispatch

- 1. Visual and Mechanical Inspection (IEC Clause 11.1 to 11.8)
- 2. Dielectric Test (IEC Clause 11.9)
- Insulation Resistance Test
- High Voltage Test
- 3. Wiring, Operational Performance and Function Test (IEC Clause 11.10)
- Functional Test
- Phase Sequence Test
- Power Testing for Outgoing Terminals
- Testing of Metering Devices (Ammeter, Voltmeter and Power Analyzer)
- 4. Earth Leakage Relay Test (IEC Clause 11.10)
- 5. Earth Fault Relay Test (IEC Clause 11.10)
- 6. Phase Failure Relay Test (IEC Clause 11.10)
- 7. Incoming Breaker Test (IEC Clause 11. 10)



# EARTH LEAKAGE RELAY (ELR)

# Why ELR?

ELR is designed to provide protection from electrocution or serious physiological risks, if an excessively high current flow through the human body for a longer period of time, in an event of contact with a live conductor of an electrical system.

# Operation

Ideally, the vector sum of three phase current is zero.

In a fault condition, ELR detects the leakage current via a Core Balance Current Transformer (CBCT) and compares the detected value with the selected fault current level and the set time. When it exceeds the set values, ELR will trip and transmit a signal to activate the trip coil of the circuit breaker.

# **Testing Procedure**

### Standard - IEC Clause - 11.10

- 1. First, prevent the unauthorized access via providing warning sign and sufficient barricade on testing area.
- **2.** Energize the switchboard from the power supply of test bench.
- **3.** Connect the Phase, Neutral and Earth probes of RCD Tester to a Phase Busbar, Neutral Busbar and Earth Busbar respectively as shown below.

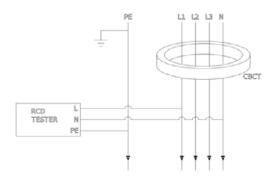


Figure: Test Lead Configuration of RCD Tester

- Connect the Earth Busbar of the switchboard to the proper earthing point of the electrical power system of the factory.
- 5. Set the required leakage current and the tripping time of ELR and press the test button of the RCD tester to create a leakage current.

### Accepted Criteria

Leakage current at the time of tripping of ELR should be matched with the set value (Leakage Current Limit) and the tripping time should be within +/- 300ms of the set value (Response Time).



# **EARTH FAULT RELAY (EFR)**



# Why EFR?

EFR is designed to ensure the protection of equipment from earth fault.

# Operation

EFR is a voltage operated device.

In a fault condition, a potential difference occurs across the EFR and when it exceeds the set values, it will transmit a signal to the circuit breaker to trip.

# **Testing Procedure**

# Standard - IEC Clause - 11.10

- 1. First, prevent the unauthorized access via providing warning sign and sufficient barricade on testing area.
- **2.** Energize the switchboard from the power supply of test bench.
- 3. Set the required fault current and time delay of EFR.
- 4. Connect the test lead of the Primary Current Injector through a Current Transformer (CT) as shown below.

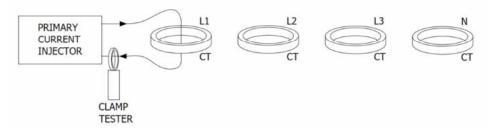


Figure: Test Lead Configuration through CT

- 5. Get the readings of fault current and time delay at EFR tripping time.
- **6.** Repeat the process for all CTs.

### **Accepted Criteria**

Fault current at the time of tripping of EFR should be matched with the set value and the delay time should be within +/- 2s of the set value.

# VE TAKE CARE OF



### **EXPORT PACKAGING & LOGISTICS**

Proper packaging and fumigation are done with maximum safety and we are responsible of goods up to the customer warehouse or the construction site under the DDP basis.

# INSTALLATION AND COMMISSIONING OF ELECTRICAL SWITCHBOARDS

On request of the client, Venora technical team will be available on-site during Electrical Switchboards commissioning. This process involves evaluations, verifications and inspections to determine the system operation is in accordance with the project requirements.

### **TRAINING**

We are providing on-site training and demonstrations for in-house maintenance staff. A service manual will be issued for comprehensive information and guidance for Switchboard Handling, Installation and Maintenance.

# WARRANTY AND AFTERSALES

Venora gives a comprehensive International Warranty and provides aftersales services.

# **CERTIFICATIONS**

1. Design Verification Test Certification

Test Designs - 400A, 800A, 1600A, 2500A, 3200A, 3500A, 4000A, 6300A

- 2. ISO 9001 Quality Certification
- 3. Green Certification

# TEST CERTIFICATE

Issued to:

Venora Lanka Power Panels (Pvt) Ltd. Lot: 32, BEPZ, Walgama

For the product:

Low-voltage switchgear and controlgear assembly ELSTEEL

Trade name:

Type/Model:

6300A Techno Module Assembly Ratings:

 $I_{\rm nA}$  max. 6300 A,  $U_{\rm e}$  max. 690 V,  $U_{\rm i}$  max. 1000 V,  $U_{\rm imp}$  max. 12 kV  $I_{\rm ce}$  max. 100 kA at 690 V,  $I_{\rm ce}$  max. 100 kA at 415 V For more details see annex

Manufactured by: Venora Lanka Power Panels (Pvt) Ltd. Lot: 32, BEPZ, Walgama

Malwana Sri Lanka

Subject: Design verification

Requirements: IEC 61439-2:2011

IEC 61439-2:2011 Clauses 10.2.5, 10.4, 10.5, 10.9, 10.10.2.3.5, 10.10.2.3.7a, 10.10.2.3.7c, 10.11, 10.12, 10.13, 8.101

Remarks:

The tests were performed in 2019 and 2020 (see general notes on tests in the report)

This Test Certificate is granted on account of an examination by DEKRA, the results of which are laid down in report no. 2252514.01-INC, date 8 February 2022.

The examination has been carried out on one single specimen of the product, submitted by the manufacturer. The Attestation does not include an assessment of the manufacturer's production. Conformity of his production with the specimen tested by DEKRA is not the responsibility of DEKRA.

Number: 2252514.100

DEKRA Certification B.V.

F.S. Strikwerda Certification Manager

© Integral publication of this certificate and adjoining reports is allowed

DEKRA Certification B.V. Meander 1051, 6825 MJ Arnhem P.O. Box 5185, 6802 ED Arnhem, The Netherlands T +31 88 96 83000 F +31 88 96 83100 www.dekra-certification.com Company registration 09085396



# AWARDS & TESTIMONIALS

- 2019 IESL Engineering Excellence Award for Innovation
- 2018 National Exporters Award -National Chamber of Exporters
  Silver Award Winner
- 2017 National Exporters Award -National Chamber of Exporters
  Bronze Award Winner
- 2017 NCE Export Award
- 2012 (Rome, Italy) The Global Award for Perfection, Quality and Ideal Performance
- 2012 Arch of Europe for Quality & Technology Award
- 2010 Commemorating the Launch of 1000 Base Stations in Sri Lanka
- 2010 Honorary Award for the "Trusted Service" to the Engineering Sector in Sri Lanka at the Swarna Lanka Award Ceremony



# **CONTACT DETAILS**

# **Sales Inquiries**

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# Seychelles

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# Kenya

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Venora Aussie Pty Ltd Unit 6 - 70 Richardson Street, Essendon VIC 3040

# **Factory**

Lot 32, Biyagama Export Processing Zone, Walgama, Malwana, Sri Lanka.

# **Head Office**

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www.venoraglobal.com

