

**PRO**TECTION  
RE-ENGINEERED



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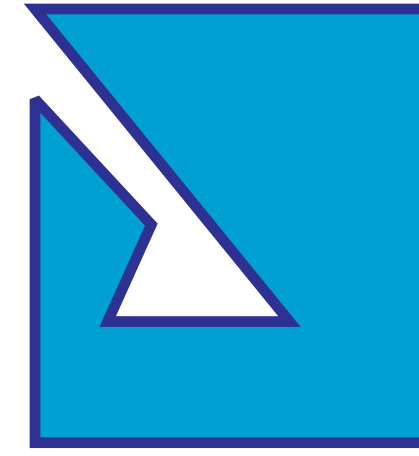
# 01

## ABOUT US





# 01 ABOUT US



## Faisal Jassim Trading Co. L.L.C

We bring life to your building

Faisal Jassim Trading Company LLC was established in 1988, specializing in the electrical & mechanical fields related to the building services industry. Today FJTCO has forged for itself a respected reputation of expertise and excellence. Our group specializes in the engineering, manufacturing and trading of building services equipment, employing in excess of 800 qualified staff with facilities exceeding 22000 m2. Our engineering and sales teams are well qualified to provide solutions to the most stringent client needs. Through the years, we have built strong relationships with our principals & partners in the US, Europe and Asia, who channeled to our team innovations and technology breakthroughs.

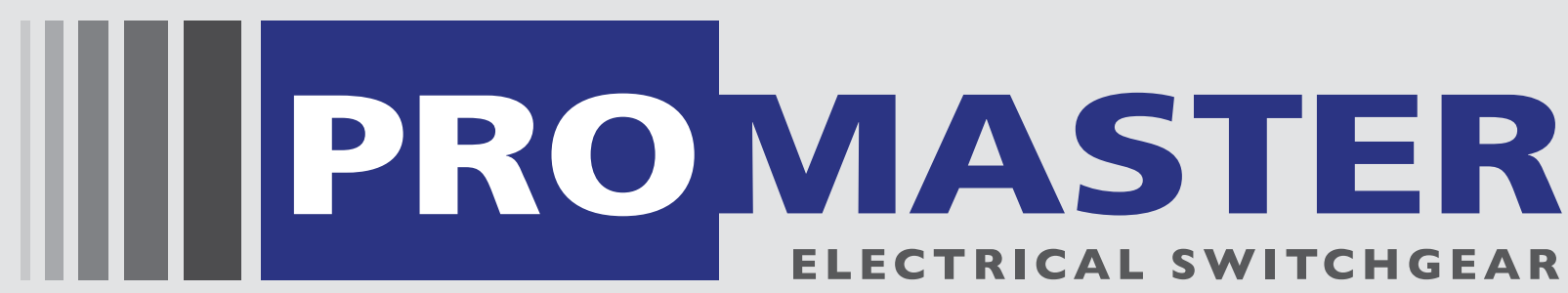


FJTCO understands the importance of having excellent service back-up and workshop facilities. We have ensured that our technicians are experienced and well-equipped with tools and machinery to execute quality work. We keep adequate spares, enabling us to attend to after-sales service and guarantee the quality of our supplied equipment.

FJTCO is constantly working on improving its services and enlarging its line of products to ensure a comprehensive coverage of the building services industry. We have geared up our local manufacturing and expanded our production to cater for the increased demand in the UAE and the neighboring GCC countries.

Our Head Office is located in Dubai Investment Park (DIP), Jebel Ali with branches and offices in Dubai, Abu Dhabi, Qatar, Oman, KSA, India, and Iraq. Our factories, stores and workshops are located in Jebel Ali and Al Quoz, in purpose built facilities of 22000 m2. We have a presence in the retail market through our showroom in Al Qusais, Dubai.





## LOW VOLTAGE DISTRIBUTION SWITCHGEAR UPTO 4000 A

**WE STAND FOR IEC 61439**

### COMPLETE SAFETY

- Protection against Electrical, Mechanical and Thermal effects of a fault
- Double insulation protection from the front
- Protection in the event of internal arcing
- Interlocking feature
- Special design of door & covers prevents accidental flashover and unwanted delays

### TOTAL RELIABILITY

- Type-tested solution in line with the IEC61439-2 standards
- Flexible and compact design techniques
- Manufacturing according to ISO 9001:2008 quality standard
- Typical engineering design throughout ensures ease of maintenance
- Possibility of remote management
- ISO 14001:2004 - Environmental Management System
- OHSAS 18001:2007 - Occupational Health & Safety Management System

### AFTER SALES SUPPORT

- Dedicated after sales team in each region
- Provide “Rapid Response” support to clients
- Team equipped with modern tools to conduct SAT
- Expertise to provide effective support to ensure timely hand over
- Take lead in solving site problems and ensure customer satisfaction



# 02

## PROMASTER



# 02 PROMASTER



2.1

Promaster has evolved as the result of our 30 year experience in the design and manufacturing of low voltage power distribution system. We in Faisal Jassim Industries take big pride in the huge efforts that went into the development of Promaster incorporating the latest technologies and complying with the world's most stringent testing certificate. Today Promaster offers one of the broadest portfolio in the gulf market, covering all applications in the industrial, water treatment, residential and commercial building sector. Our benefits reside in :

- Optimized solution for better cheaper and faster production.
- Tried and tested technology through hundreds of installation.
- Fit components as per tested solutions.
- Available with many configurations to suit projects requirement.
- High quality and strong panel structure to withstand harsh environment.

## ELECTRICAL SWITCHGEAR & CONTROL PANELS

Our product range includes far more than the latest technology. Besides Switchgear Panels, we offer numerous additional services, saving your valuable time. Promaster offers design assistance in system configuration, proper product data sheets for convenient documentation, helpful planning tools in addition to training support.

One thing has always been particularly important to us: We would like to help you to complete your designs & executions as perfectly and efficiently as possible. For this purpose, we maintain a close dialog with end users from all sectors. We listen to your problems, address your requirements and advance our system solution in accordance with latest standards ensuring you success and competitiveness.



# 03

## MAJOR PROJECTS EXECUTED





# 03

## MAJOR PROJECTS EXECUTED IN THE UAE

### Dalma Mall



**Location :** Abu Dhabi

**Contractor :** M/s Hastie International

**Consultant :** M/s Diar Consult

**Scope of Supply :** MDB, SMDB, MCC, Cap. Panels



3.1



### Etihad Rail Project



**Location :** Abu Dhabi

**Contractor :** M/s Al Futtaim Engineering

**Consultant :** M/s Saipem Dodsai Tecnimont Joint Venture (SDT-JV)

**Scope of Supply :** MDB, DB

### Abu Dhabi Future Schools



**Location :** Abu Dhabi

**Contractor :** M/s Al Sabbah, Amana, STS, Elemec, Airolink

**Consultant :** M/s Dewan Architects and Engineers, Ian Banham and Associates, Keo International Consultant, Al Kheali & Al Ameri Consultant's Engineer

**Scope of Supply :** MDB, SMDB, MCC, Cap. Panels, DBs, MCCs





# Masdar Institute of Science and Technology (Phase 1B)



**Location :** Abu Dhabi  
**Contractor :** M/s Thermo LLC  
**Consultant :** M/s Pha Consult, RW Armstrong  
**Scope of Supply :** MDB, SMDB, MCC, DB, Cap. Panels



# Oasis Hospital



**Location :** Al Ain  
**Contractor :** M/s Lunar  
**Consultant :** M/s Community Development Group  
**Scope of Supply :** MDB, SMDB, MCC, DB, AHFs, Cap. Panels

# Central Market Redevelopment



**Location :** Abu Dhabi  
**Contractor :** M/s Thermo LLC  
**Consultant :** M/s BDSP Partnership  
**Scope of Supply :** MDB, SMDB, MCC, DB, Cap. Panels





# Al Etihad Towers



**Location :** Abu Dhabi

**Contractor :** M/s Arabian Construction Co. & Voltas

**Consultant :** M/s AECOM

**Scope of supply :** MSBs, SMDB, Cap.Panels DBs, MCCs



3.3



# Adnoc New Corporate Headquarters



**Location :** Abu Dhabi

**Contractor :** M/s IEMS

**Consultant :** M/s HILL International

**Scope of supply :** Cap. Panels

# Al Furjan



**Location :** Dubai

**Contractor :** M/s Bilt Middle East

**Consultant :** M/s Arenco

**Scope of Supply :** MDB, SMDB, MCC, DB, Cap. Panels





# Bvlgari Hotel & Residences



**Location :** Dubai  
**Contractor :** ALEMCO  
**Consultant :** WSP  
**Scope of Supply :** MDB, SMDB, MCC, DB, Cap. Panels



# Radisson Hotel



**Location :** Dubai  
**Contractor :** M/s Omega Engg.  
**Consultant :** M/s Dimension Engg.  
**Scope of Supply :** MDB, SMDB, MCC, DB, Cap. Panels

# Tabreed District Cooling Plant



**Location :** Abu Dhabi  
**Contractor :** M/s GISCO  
**Consultant :** M/s Ian Banham  
**Scope of Supply :** Control Panels





# Sorouh Tower



**Location :** Sharjah

**Contractor :** M/s Thermo LLC

**Consultant :** M/s Trillium Engineering & Consultant

**Scope of Supply :** MDB, SMDB, MCC, DB, Cap. Panels



3.5



# Fujairah Cable Landing Station



**Location :** Fujairah

**Contractor :** M/s Amana Contracting & Steel Building Co. WLL

**Consultant :** M/s Shankland Cox

**Scope of Supply :** MDB, Cap. Panels, SMDB, DB

# Bab Al Bahr - A Luxury Collection Hotel @ Ajman



**Location :** Ajman

**Contractor :** M/s Trans Gulf Electromechanical LLC

**Consultant :** M/s Badri & Bensoudha Architectural & Engineering Consultants.

**Scope of Supply :** MDB, SMDB, MCC, Cap. Panels





# MAJOR PROJECTS EXECUTED IN QATAR

3.6

## North Gate Mall Phase 1



**Location :** Qatar

**Contractor :** M/s Voltas Qatar WLL

**Consultant :** M/s GHD, BURO HAPPOLD

**Scope of Supply :** MDB, SMDB, MCC, DB, Cap. Panels



## IKEA Doha Festival City



**Location :** Qatar

**Contractor :** M/s Hamad and Mohamad Al-Futtaim LLC

**Consultant :** M/s Arab Engineering Bureau

**Scope of Supply :** MDB, SMDB, MCC, DB/Cap. Panels,  
Cap. Panels

## Barzan Supreme Camp



**Location :** Qatar

**Contractor :** M/s Al Tamez

**Consultant :** M/s Dar Al Handasah

**Scope of Supply :** Drawout MCC Panel





# Al Jazeera Arabic Channel



**Location :** Qatar

**Contractor :** M/s Qatar Electromechanical Group-Almana

**Consultant :** M/s E.C.G.

**Scope of Supply :** MDB, SMDB, MCC, DB, Cap. Panels



3.7



# Abraj Quartier Gateway Towers AQ-01 and 02 at Pearl Qatar



**Location :** Qatar

**Contractor :** M/s KEO International

**Consultant :** M/s Arabian MEP Contracting WLL, MegaTec

**Scope of Supply :** MDB, SMDB, MCC, DB, Cap. Panels

# Naufar (Drugs treatment and rehab)



**Location :** Qatar

**Contractor :** M/s Conspel Qatar W.L.L.

**Consultant :** M/s Stantec Jv Arab Engineering Bureau

**Scope of Supply :** MDB, SMDB, MCC, DB, Cap. Panels





# Doha Festival City



**Location :** Qatar  
**Contractor :** VAFE-JV  
**Consultant :** Arab Engineering Bureau (AEB)  
**Scope of Supply :** MDB, SMDB, MCC, DB, Cap. Panels



# TB Hospital



**Location :** Qatar  
**Contractor :** Qatar Electromechanical Group - Almana  
**Consultant :** M/s. KEO  
**Scope of Supply :** MDB, SMDB, MCC, DB, Cap. Panels

# Extension of Intercontinental Hotel Doha, Offshore, Restaurant, Chalets & Apartments



**Location :** Qatar  
**Contractor :** Conspel W.L.L.  
**Consultant :** Dar-Al Handasah  
**Scope of Supply :** MDB, SMDB, MCC, DB, Cap. Panels





# MAJOR PROJECTS EXECUTED IN UGANDA, IRAQ & OMAN

## Kampala Hilton- Uganda



**Location :** Uganda

**Contractor :** M/s AYA Investments

**Consultant :** M/s DC Pro Engineering

**Scope of Supply :** MDB, SMDB, MCC, DB, Cap. Panels



3.9



## Mixed Used Dev. Oman



**Location :** Oman

**Contractor :** M/s L & T

**Consultant :** M/s Triad Oman Consultants Int'l

**Scope of Supply :** MDB / SMDB Panels

## Iraq City Hotel



**Location :** Iraq

**Contractor :** M/s Power For General Contracting

**Consultant :** M/s Faruk Mustafa Rasool

**Scope of Supply :** MDB / DB / Cap. Panels





# MAJOR PROJECTS EXECUTED (UAE)

3.10

	PROJECT	LOCATION	CONTRACTOR	CONSULTANT	SCOPE OF SUPPLY	YEAR	VALUE IN (AED)
1	DALMA MALL	Abu Dhabi	Hastie International	Diar Consult	MDB / SMDB/ MCC / Cap. Panels	2008	6000000
2	AL ETIHAD TOWERS	Abu Dhabi	Arabian Construction Co & Voltas	AECOM	MDB / SMDB/ MCC / DB / Cap. Panels	2009	2,615,326.60
3	ABU DHABI DETAINEES BUILDING	Abu Dhabi	REMCO	Dar Al Omran	MDB / SMDB/ MCC / DB / Cap. Panels	2010	1220,000.00
4	ABU DHABI FUTURE SCHOOLS	Abu Dhabi	AL SABBAH/ AMANA/ STS/ ELEMEC/AIROLINK	KEO International Consultant	MDB / SMDB / DB / Cap. Panels	2011	1,000,000.00
5	ADNOC NEW CORPORATE HEADQUARTERS	Abu Dhabi	IEMS	HILL International	Cap. Panels	2013	1,500,000.00
6	AL FUTTAIM ENGINEERING	Abu Dhabi	Etihad Rail Project	Saipem Dodsai Tecnimont Joint Venture (SDT-JV)	MCC / DB	2014	2,000,000.00
7	SKMC-49	Abu Dhabi	AL SABBAH	Burt, HILL/allen & Sharief	MDB / SMDB/ MCC / DB / Cap. Panels	2011	1,000,000.00
8	CENTRAL MARKET REDEVELOPMENT - RETAILS	Abu Dhabi	Thermo LLC	BDSP Partnership	MDB / SMDB/ MCC / DB / Cap. Panels	2012	20,000,000.00
9	MASDAR INSTITUTE OF SCIENCE AND TECHNOLOGY (PHASE 1B)	Abu Dhabi	Thermo LLC	PHA Consult/rw Armstrong	MDB / SMDB/ MCC / DB / Cap. Panels	2012	10,000,000.00
10	TABREED DISTRICT COOLING PLANT	Abu Dhabi	GISCO	Ian Banham	Control Panels	2009	1,500,000.00
11	SEA PALACE DEVELOPMENT	Abu Dhabi	National Projects & Construction LLC	Altorath Engineering Consultant	MDB / SMDB/ MCC / DB / Cap. Panels	2013	3,000,000.00
12	ABU DHABI COURT HOUSE	Abu Dhabi	Drace & Scull	Dar Al Omran	MDB / SMDB/ MCC / DB / Cap. Panels	2014	4,500,000.00
13	OASIS HOSPITAL	Al Ain	Lunar	Community Development Group	MDB / SMDB/ MCC / DB / Cap. Panels	2011	6,000,000.00
14	ZAKHER PALACE	Al Ain	Al Geco	AEC	Control Panels	2009	1,000,000.00
15	BAB AL BAHR A Luxury Collection Hotel @ Ajman	Ajman	Trans Gulf Electromechanical L.L.C	Badri & Bensoudha Architectural & Engineering Consultants.	MDB / SMDB/ MCC / DB / Cap. Panels	2012	2,500,000.00
16	RADISON HOTEL	Dubai	Omega Engg.	Dimension Engg.	MDB / SMDB/ MCC / DB / Cap. Panels	2007	4,500,000.00
17	AL FURJAN	Dubai	Bilt Middle East	Arenco	MDB / SMDB/ MCC / DB / Cap. Panels	2008	3,000,000.00
18	BVLGARI HOTEL & RESIDENCES	Dubai	ALEMCO	WSP	MDB / SMDB/ MCC / DB / Cap. Panels	2016	12,000,000.00
19	AIRPORT HANGAR at Dubai World Central	Dubai	Al Futtaim Engineering	Best	MDB / SMDB/ MCC / DB / Cap. Panels	2013	500,000.00
20	FUJAIRAH CABLE LANDING STATION	Fujairah	Amana Contracting & Steel Building Co. WLL	Shankland Cox	MDB / Cap. Panels / SMDB / DB	2009	500,000.00
21	SOROUGH TOWER	Sharjah	Thermo LLC	M/s Trillium Enginnering & Consultant	MDB / SMDB/ MCC / DB / Cap. Panels	2013	3,000,000.00



# MAJOR PROJECTS EXECUTED IN UGANDA, IRAQ & OMAN

	PROJECT	LOCATION	CONTRACTOR	CONSULTANT	SCOPE OF SUPPLY	YEAR	VALUE IN (AED)
1	IRAQ CITY HOTEL	Iraq	Power For General Contracting	Faruk Mustafa Rasool		2012	1,000,000.00
2	MIXED USED DEV. OMAN	Oman	L & T	Triad Oman Consultants Int'l	MDB / SMDB Panels	2010	1,000,000.00
3	NORTH GATE MALL PHASE 1	Qatar	Voltas Qatar WLL	GHD / Buro Happold	MDB / SMDB/ MCC / DB / Cap. Panels	2013	10,000,000.00
4	IKEA DOHA FESTIVAL CITY	Qatar	Hamad And Mohamad	Al -futtaim Licarab Engineering Bureau	MDB / SMDB/ MCC/ DB / Cap. Panels	2012	5,000,000.00
5	NAUFAR (DRUGS TREATMENT AND REHAB)	Qatar	ConspeL Qatar W.L.L.	Stantec Jv Arab Engineering Bureau	MDB / SMDB/ MCC / DB / Cap. Panels	2014	7,500,000.00
6	AL JAZEERA ARABIC CHANNEL	Qatar	Qatar Electromechanical Group-almana	E.C.G.	SMDB/ MCC / DB	2014	500,000.00
7	VIP GOLF MAJILIS (B+G+PENTHOUSE)	Qatar	Qatar Electromechanical Group (qemg)	EHAf Consulting Engineers	MDB / SMDB/ MCC/ DB / Cap. Panels	2014	1,000,000.00
8	ABRAJ QUARTIER GATEWAY TOWERS AQ-01 AND 02 AT PEARL QATAR	Qatar	KEO International	Arabian Mep Contracting WLL/MegaTec	MDB / SMDB/ MCC / DB / Cap. Panels	2014	3,000,000.00
9	BARZAN SUPREME CAMP	Qatar	Al Tamez	Dar Al Handasah	Drawout MCC Panel	2014	500,000.00
10	DOHA FESTIVAL CITY	Qatar	VAFE-JV	Arab Engineering Bureau (AEB)	MDB / SMDB/ MCC / DB / Cap. Panels	2015	20,000,000.00
11	TB HOSPITAL	Qatar	Qatar Electromechanical Group - Almana	M/s. KEO	MDB / SMDB/ MCC / DB / Cap. Panels	2013	1,500,000.00
12	EXTENSION OF INTERCONTINENTAL HOTEL, DOHA, OFFSHORE, RESTAURANT, CHALETS & APARTMENTS	Qatar	CONSPEL W.L.L.	DAR-AL HANDASAH	MDB / SMDB/ MCC / DB / Cap. Panels	2015	5,000,000.00
13	KAMPALA HILTON-UGANDA	Uganda	Aaya Investments	DC Pro Engineering	MDB / SMDB/ MCC/ DB / Cap. Panels	2013	2,500,000.00



# 04

## MANUFACTURING ASSEMBLING FACILITY





# 04

## MANUFACTURING/ ASSEMBLING FACILITY



4.1

### ■ Factory Facilities

- FJ industries has a well laid out, fully air conditioned, dust free manufacturing facility.
- Area of the shop floor is 3000 sq.m located in Dubai Investment Park.
- Pneumatic lines along with the required tools, busbar fabrication machines, hand tools and other Machineries.
- The production live technicians are divided into several teams headed by team leaders, while the entire activity is coordinated by the production supervisor.
- To realize faster production output we have a large stock of components and consumables.
- The foolproof Quality control system setup by the Production Supervisor and QC engineers ensure top quality panels.
- Latest & periodically calibrated testing equipments are provided for the QC Dept.
- Engineering team consist of well experienced designers and engineers.
- We have also capability to provide technical calculations like Temperature Rise and Short Circuit Calculations.
- Advance softwares to assist the design engineers in all design aspects. We have a reputation for producing quality panels, a know-how earned through many years of experience, backed with sound engineering methodology. This gives us the confidence to produce and deliver high class products to the satisfaction of our client's specification.





# Framework

The framework is made up of:

- Base Corners
- Plinth Profiles
- Corners
- Corner Bars
- Crossbars



4.2

Structure members range from 200mm up to 2400mm. The structure is made from 2mm cold rolled electro-galvanized powder coated steel profile with tapped holes at every 25mm forming a 25mm grid.

The base profiles include pre-cut holes to facilitate lifting of the switchboard. In addition, lifting hook are provided to facilitate lifting of the switchboard by crane. All structural members of the framework are screwed together with captive screws to ensure rigidity & earth continuity.



## Internal Plates

Internal separation up to Form 4b Type 7 can be achieved using standard parts:

- Mounting Plates
- Separation Plates
- Standard Compartments

Internal separation plates and mounting plates are modular type and offer IP2X protection. All internal parts are painted.

## Finish

- Door can be opened up to 180°.
- 2mm doors & covers are standard (on request 2.5mm & 3mm can be provided)
- The framework and cladding is stocked in RAL 7035, 7032 & Orange RAL 2000 (mounting plate)
- Doors may be hinged left or right.
- Degree of protection upto IP54/ 65.
- Hinges and lock are metal type.



# 05

## PRODUCT RANGE





# 05 PROMASTER PRODUCT RANGE

1. Main Distribution Boards (MDB) upto 4000A
2. Sub Main and Final Distribution Boards
3. Synchronizing Panel
4. Motor Control Center (MCC)
5. Drawout Type Motor Control Center
6. Control Panel
7. Power Factor Correction Panel (Capacitor Bank)
8. Automatic Transfer Switches (ATS) Panel
9. Power Monitoring and Management System (PMMS)
10. Active Harmonic Filter (AHF)
11. Sewage Treatment Plants (STP) MCCs
12. Solution Provider





# 01 MAIN DISTRIBUTION BOARDS (MDB) UPTO 4000A



PROMASTER LV Panels are designed & tested as per the new IEC Standard 61439-2.

Panel is available upto 4000A, 65kA for 3secs, Form 4b.

5.2

## Application

- LV Panels are mainly used for Electrical Power Distribution and Control.
- They are generally installed downstream of Transformers & Generators that contain the main and the distribution Circuit Breakers on the LV side.
- Electrical loads constitute of lighting equipments, motors, heating equipments and Air-Conditioning units.

## Specification

- Fully Type tested upto 4000A in accordance with IEC 61439-2.
- Rated Insulated Voltage 1000V.
- Main Busbar rated from 1600A, 2500A, 3200A & 4000A.
- Busbar short-circuit withstand capacity upto 65kA for 3secs/50kA for 3 secs.
- Degree of Protection upto IP54.
- Made of Electro-Galvanized Sheet Steel (2mm to 3mm thickness for frames and 1.6mm to 2mm thickness for covers) polyester powder coated paint in RAL 7035 color.
- Neutral Busbars are rated at 100% of the Main Busbar and Earth Busbars are rated at 50% of Neutral Busbar.
- Forms of internal segregation from Form 1 to Form 4.
- Panel extendable on both sides.
- Can be interfaced with Building Management System (BMS) for monitoring & controlling Circuit Breakers.
- Design Ambient Temperature 50°C.
- Front and Rear Accessibility.
- Top & Bottom cable entry with removable Gland Plates.

## Commercial Applications

- Shopping Malls
- Hospitals
- Office Buildings
- Residential & Hotel Apartments
- School & College Buildings
- Airports
- Hotels & Restaurants

## Industrial Applications

- Transmission & Distribution Sub-Stations
- Factories & Workshops
- Oil & Gas Plants
- Petrochemical Plants
- Sewage Treatment Plants



# 02 SUBMAIN AND FINAL DISTRIBUTION BOARDS

**P**ROMASTER Submain Distribution Boards are available upto 1600A.

- The design provides complete flexibility to the customers at the time of installation.
- Distribution boards are available in Pan Assembly type Busbars, Split type Busbars, Comb type Busbar and Fish-Bone arrangement Busbars.



5.3

## ■ Application

- Distribution Boards are used in Commercial, Residential as well as Industrial Buildings to distribute the power from Main Panel to downstream equipments such as Load streams, etc.

## ■ Specification

- Fully Type tested for 250A, 400A, 800A, 1000A & 1600A in accordance with IEC 61439-2.
- Rated Insulated Voltage 800V.
- Made of Electro-Galvanized Sheet Steel (1.5mm to 2mm thickness) polyester powder coated paint in RAL 7035 color.
- Neutral Busbars are rated at 100% of the Main Busbar and Earth Busbars are rated at 50% of Neutral Busbar.
- Busbar short-circuit withstand capacity upto 50kA for 1 sec/36kA for 1 sec/25kA for 3 sec.
- Degree of Protection upto IP54 can be provided.
- Wall Mounted & Free standing designs available.
- Final Distribution Boards (FDB) available in 4ways to 24ways (1Phase & 3Phase with MCB/RCCB/RCBO/ Isolator).
- Sub-Main Distribution Boards (SMDB) available in 4ways to 18ways (3Phase with MCCB/Isolator).
- Available with Meter Cabinets and Cable extension Boxes.
- Can be interfaced with Building Management System (BMS) for monitoring & controlling Circuit Breakers.
- Design Ambient Temperature 50°C.
- Front and Rear Accessibility.
- Top & Bottom cable entry with removable Gland Plates.



# 03 SYNCHRONIZING PANEL

**P**ROMASTER Synchronizing Panels supply a large amount of power loads by using multiple generators working in parallel on load sharing.



5.4

## ■ Application

- A Synchronizing panel is used in Industrial & Commercial applications to control the source of multiple generators.

## ■ Specification

- Made of Electro-Galvanized Sheet Steel (2mm to 3mm thickness for frames and 1.5mm to 2mm thickness for covers) polyester powder coated paint in RAL 7035 color.
- Rated Insulated Voltage 1000V.
- Main Busbar rated 4000A.
- Busbar short-circuit withstand capacity upto 65kA for 3secs.
- Degree of Protection upto IP54.
- Neutral Busbars are rated at 100% of the Main Busbar and Earth Busbars are rated at 50% of Neutral Busbar.
- Forms of internal separation from Form 1 to Form 4.
- Design Ambient Temperature 50°C.
- Front and Rear Accessibility.
- Top & Bottom cable entry with removable Gland Plates.





# 04 MOTOR CONTROL CENTER (MCC)



**P**ROMASTER Motor Control Centers comprises of Compartment Modules or Form-2 fixed type conveniently grouped to control equipments like Motors, Heaters and Chillers.

## ■ Application

- Motor Control Centers is a combination of Motor Starters, Power Feeders and interlocking relays in a modular enclosure. Motor Control Centers are used in Industrial Process Plants to control Motor Loads and other similar applications.

## ■ Specification

- Rated Insulated Voltage 690V.
- Made of Electro-Galvanized Sheet Steel (1.5mm to 2.0mm thickness) polyester powder coated paint in RAL 7035 color.
- Neutral Busbars are rated at 100% of the Main Busbar and Earth Busbars are rated at 50% of Neutral Busbar.
- All Module covers are an integral part of the module & comes with positive interlocks.
- Degree of Protection upto IP65 can be provided.
- Can be interfaced with Building Management System (BMS) for monitoring & controlling Circuit Breakers & Starters.
- Design Ambient Temperature 50°C.
- Front and Rear Accessibility.
- Top & Bottom cable entry with removable Gland Plates.

## ■ Type of Starters

- Direct On-line (DOL)
- Star – Delta (Y-D)
- Reversing & Non Reversing
- Two - Speed
- Soft Starter (SS)
- Variable Speed Drive (VFD)

### Commercial Applications

- Shopping Malls
- Hospitals
- Office Buildings
- Residential & Hotel Apartments
- School & College Buildings
- Airports
- Hotels & Restaurants

5.5

### Industrial Applications

- Transmission & Distribution Sub-Stations
- Factories & Workshops
- Oil & Gas Plants
- Petrochemical Plants
- Sewage Treatment Plants



# 05 DRAWOUT TYPE MOTOR CONTROL CENTER

**P**ROMASTER Drawout Panel is facilitated with the rapid replacement of the starter assembly within 45 seconds.



5.6

## ■ Application

- Drawout Panel is the UK based modular construction. Drawout Control Panels are used in industrial and commercial applications with reliable, safe and long life operation.

## ■ Specification

- Enclosure thickness 1.5mm to 2.0mm
- Rapid replacement of starter assembly within 45 seconds.
- UK based design.
- Modular construction.
- Three distinguished positions (Connected, Test and Dis-connected).
- Ingress Protection with IP54.
- Specially designed Contact grease.
- Copious provisions for cable terminations.
- Top and Bottom cable entry.
- Automatic shutter to avoid direct access to the live parts.
- Equipped with hassle free drawout chassis.





# 06 CONTROL PANEL

**P**ROMASTER Control Panels are custom made assembly of conveniently grouped control equipments primarily used for controlling & supervising Motor Loads.

## ■ Application

The most common applications are in:

- Air Handling Units
- Fans & Pumps
- Street Lighting
- Heaters & Boilers

## ■ Specification

- Made of Electro-Galvanized Sheet Steel (1.5mm to 2.0mm thickness) polyester powder coated paint in RAL 7035 color.
- Degree of Protection upto IP65 can be provided.
- All Power & Control wires are connected to front accessible terminal blocks for easy cable termination.
- Design Ambient Temperature 50°C.
- Front and Rear Accessibility.
- Top & Bottom cable entry with removable Gland Plates.



5.7





# 07 POWER FACTOR CORRECTION PANEL (CAPACITOR BANK)



**P**ROMASTER Capacitor Bank improves Power Factor to increase Energy Efficiency, save Energy & Electric Power for greater profits.

## ■ Application

Capacitor Banks are installed in Power Systems where mostly inductive loads are connected like those in Automotive Plants, Chemical Plants, Paper Mills, Steel Plants and other processing industries.

## ■ Specification

- Rated Insulated Voltage 690V.
- Form of construction is form 2b.
- Made of Electro-Galvanized Sheet Steel (2mm thickness for enclosures and 1.5mm thickness for cover) polyester powder coated paint in RAL 7035 color.
- Capacitor Tray is made of 2mm thick Aluminium-Zinc sheet steel.
- Neutral Busbars are rated at 100% of the Main Busbar and Earth Busbars are rated at 50% of Neutral Busbar.
- Capacitor bank panel is in modular construction, each step is mounted on withdrawable module which is completely front accessible, facilitating ease in maintenance.
- Degree of Protection upto IP54 can be provided.
- Can be interfaced with Building Management System (BMS) for monitoring & controlling Circuit Breakers & Contactors.
- Design Ambient Temperature 50°C.
- Front and Rear Accessibility.
- Top & Bottom cable entry with removable Gland Plates.





# 08 AUTOMATIC TRANSFER SWITCHES (ATS) PANEL

**P**ROMASTER Automatic Transfer Switches (ATS) Panel provides a solution to handle transfer of critical loads to emergency sources with reliability.

They ensure the continuity of electrical supply to an installation with minimum interruption by making an automatic changeover from normal supply to emergency supply.



## ■ Application

- Mainly used for the Essential loads to provide continuous Power supply.

## ■ Specification

- Automatic Transfer of Supply from conventional source to emergency source with open transition scheme.
- Available in 2 modes: Digital Controller & Conventional Components.
- Rated Insulated Voltage/1000V.
- Main Busbar rated for 250A, 400A, 800A, 1000A, 1600A, 2500A, 3200A & 4000A.
- Busbar short-circuit withstand capacity upto 65kA for 3secs.
- Degree of Protection upto IP54.
- Made of Electro-Galvanized Sheet Steel (1.5mm to 2.0mm thickness) polyester powder coated paint in RAL 7035 color.
- Neutral Busbars are rated at 100% of the Main Busbar and Earth Busbars are rated at 50% of Neutral Busbar.
- Forms of internal separation from Form 1 to Form 4.
- Available with multiple incomers & bus-couplers.
- Also available with bypass.
- Can be interfaced with Building Management System (BMS) for monitoring & controlling Circuit Breakers.
- Design Ambient Temperature 50°C.
- Front and Rear Accessibility.
- Top & Bottom cable entry with removable Gland Plates.

## Commercial Applications

- Shopping Malls
- Hospitals
- Office Buildings
- Residential & Hotel Apartments
- School & College Buildings
- Airports
- Hotels & Restaurants

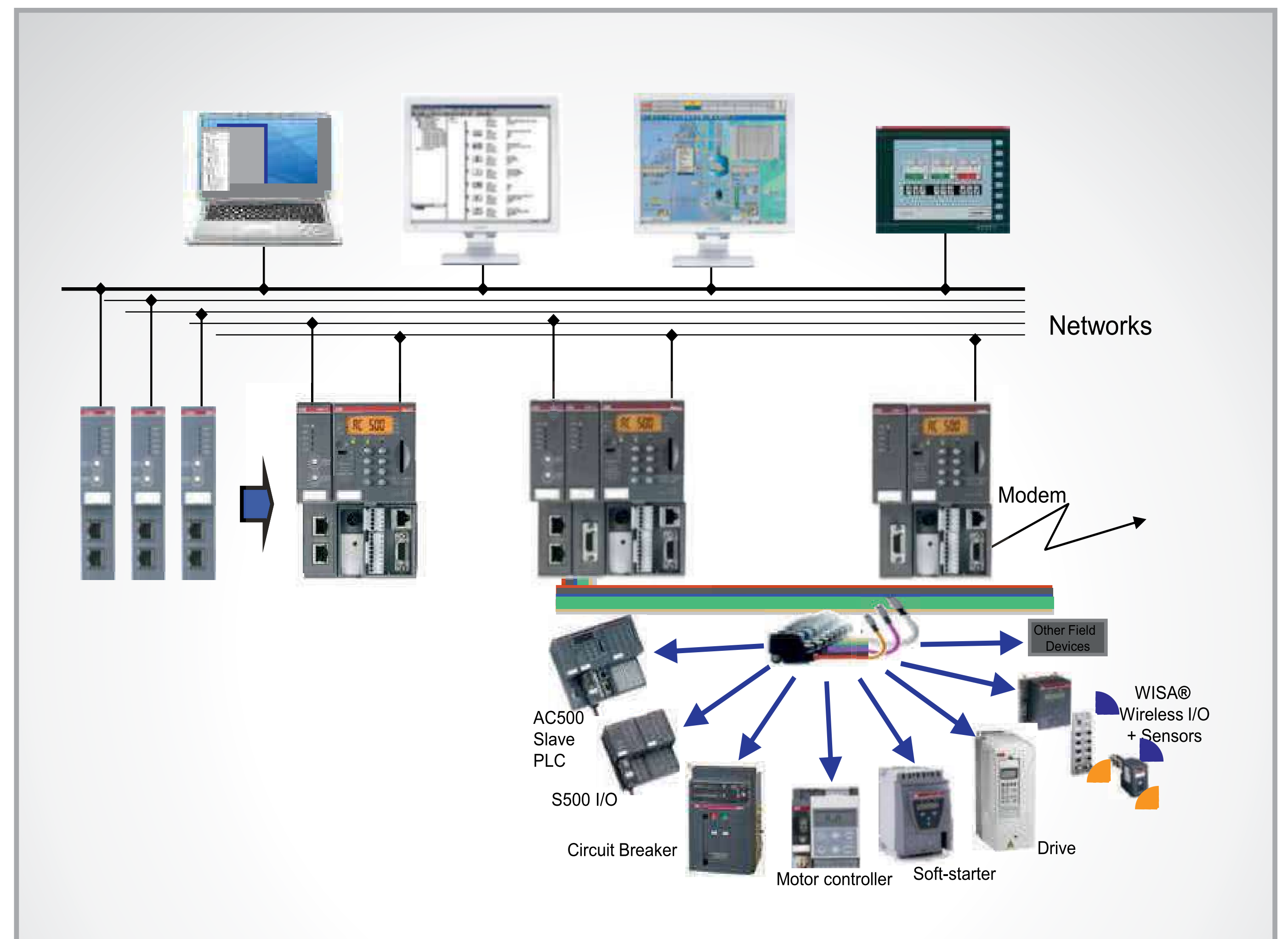
## Industrial Applications

- Transmission & Distribution Sub-Stations
- Factories & Workshops
- Oil & Gas Plants
- Petrochemical Plants
- Sewage Treatment Plants

6.9



# 09 POWER MONITORING & MANAGEMENT SYSTEM (PMMS)



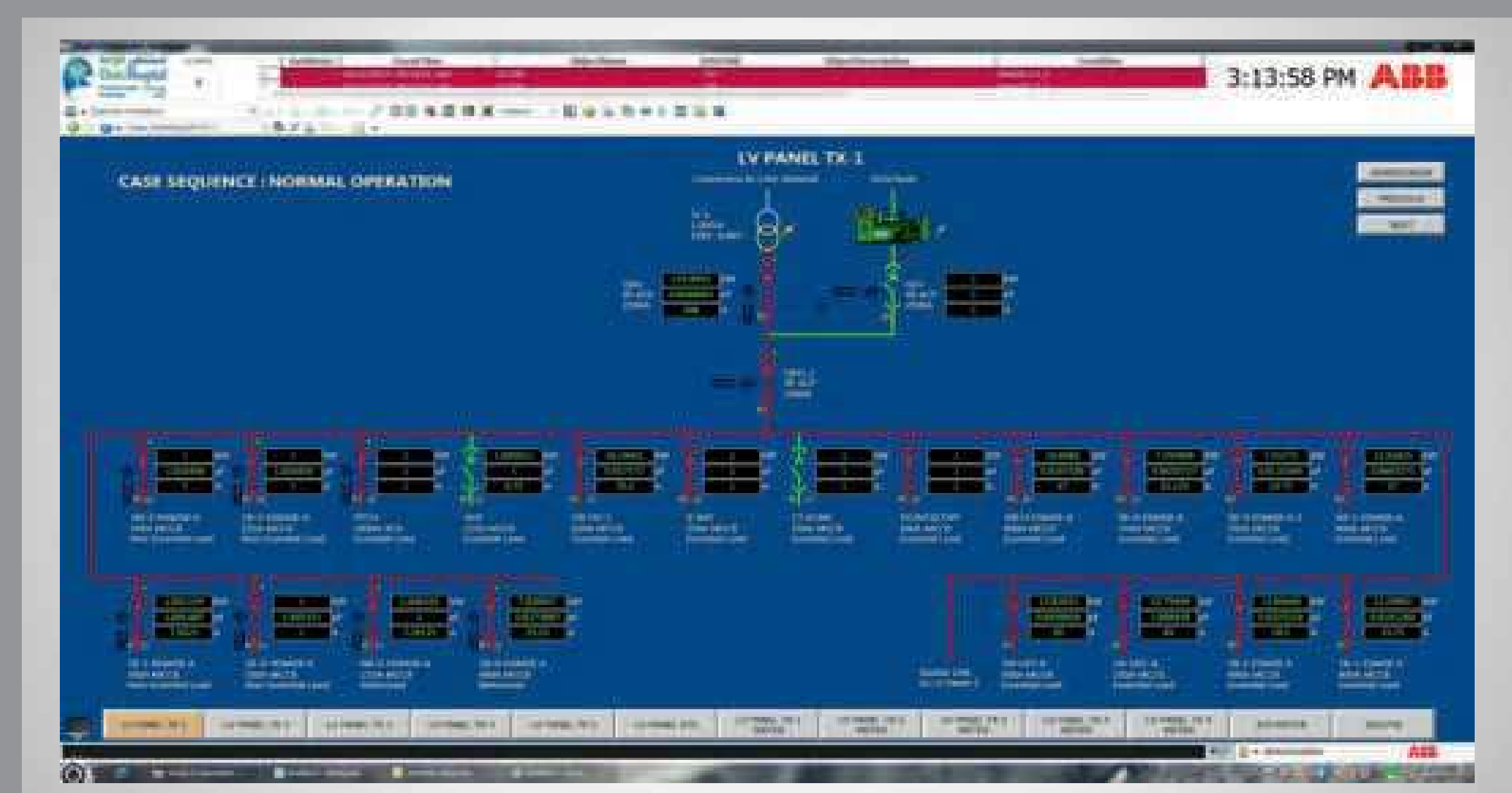
The PMMS provides an integral set of monitoring, control supervision and management functions for power generation, distribution and supply in industrial plants,

## Application

It covers operation and configuration of continuous and batch control applications. It has been developed by incorporating Information Technology with the experience and know-how collected over decades of successful deliveries and customer installations.

## SLD Graphical Displays

In graphics display main view gives the detailed layout of the Panel breakers, multi-function meter readings, Transformer incomer and Generator incomer.



### MULTIFUNCTION METER READINGS

Meter reading graphics pages consist of Panel related individual breakers multi-function meter

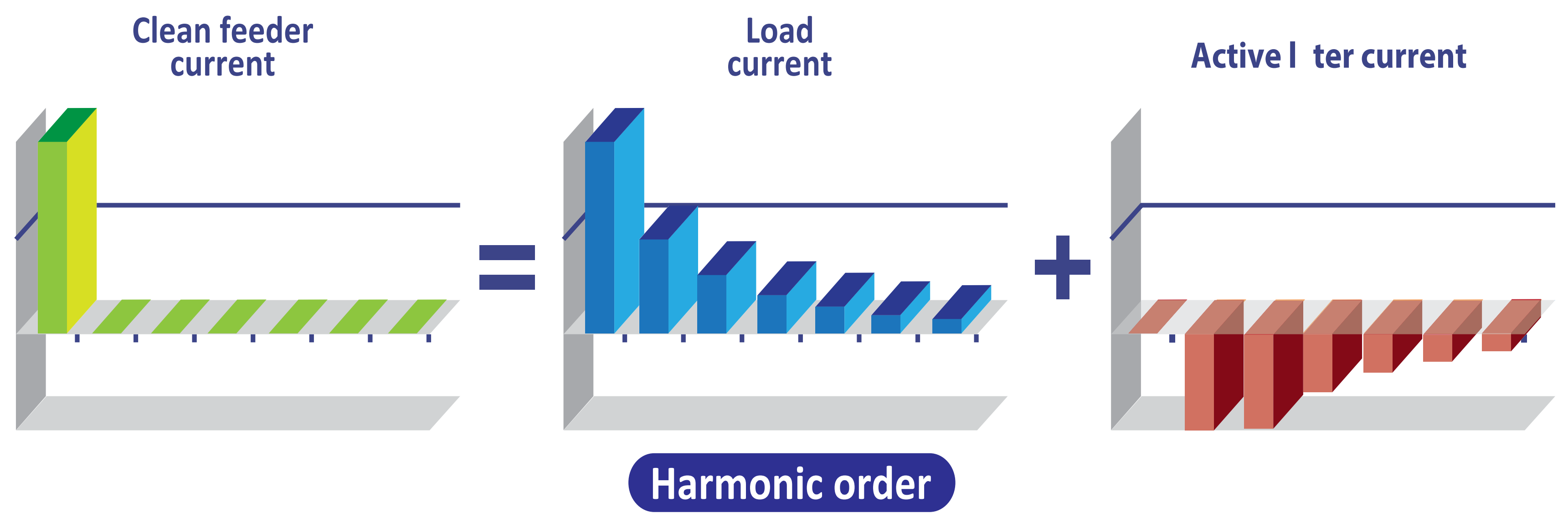


### REAL TIME READINGS FOR THE DIFFERENT PARAMETERS AS SHOWN BELOW

- kw sum • power factor • frequency
- average current • line current • RYB, line voltage RYB
- kw hour • kvar hour • voltage v1, v2, v3
- breaker status (open / close)



# 10 ACTIVE HARMONIC FILTER (AHF)



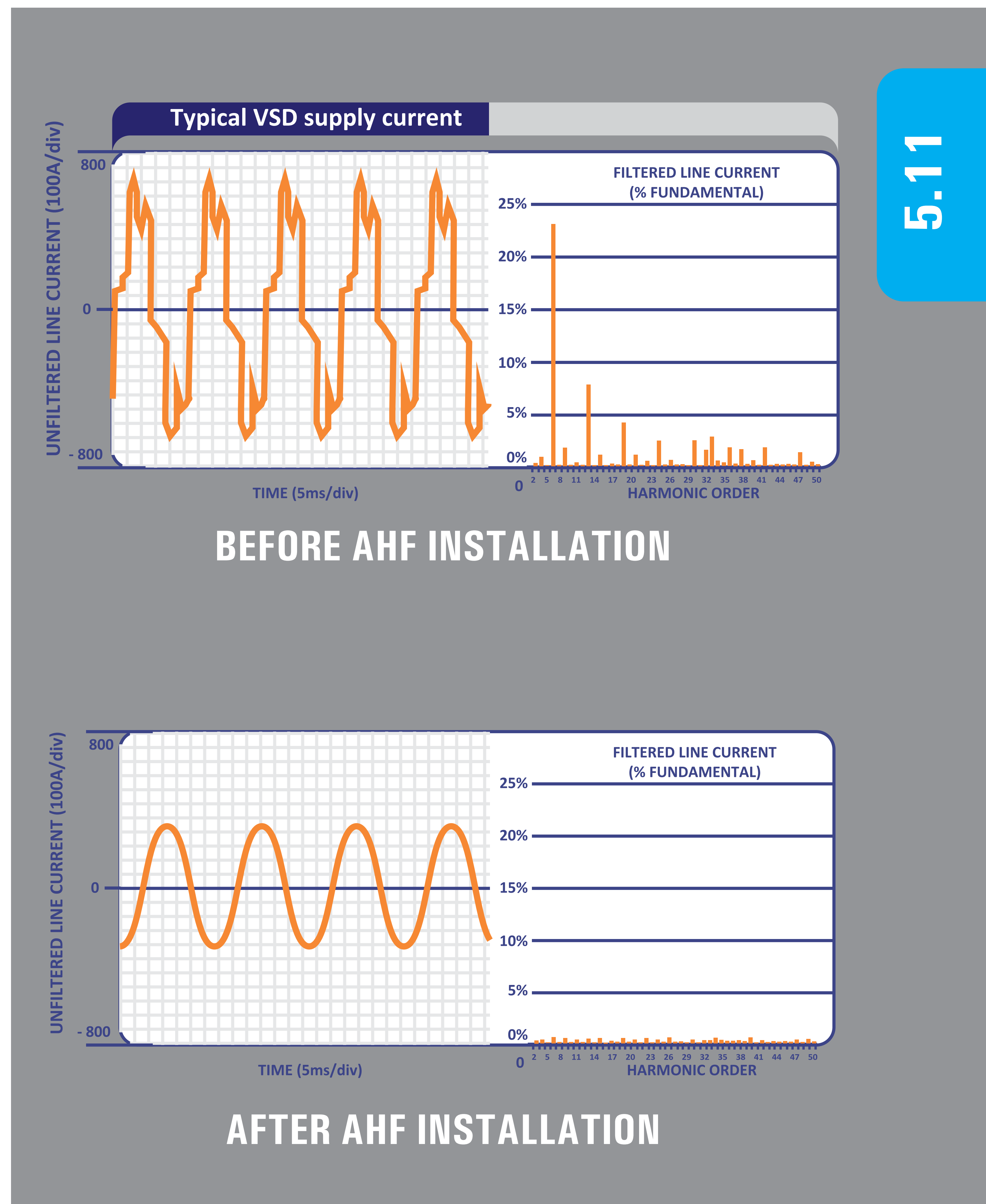
Active harmonics Filters are the comprehensive solution for harmonic related network problems and for ensuring the reliable operation of the system.

## Application

Active Harmonic Filters are used to filter the harmonics in the system with auto adaptation to the network impedance changes.

## Features of AHF

- Allows installation to run more efficiently.
- Filters upto 20 harmonics simultaneously.
- Filters zero sequence harmonics in the neutral.
- Harmonics attenuation factor better than 97%.
- Operates with closed loop control for best accuracy.
- It has a programmable filtering strategy and free choice of harmonic selection.
- Auto adaptation to network impedance changes.
- It may filter without generation of reactive power/ load balancing.
- It may generate reactive power and control power factor.
- It may balance the load current across the phases and between phases and neutral.
- Two sets of compensation parameters for different load type compensation.
- It is not overloadable.
- Programmable stand-by and restart functions.
- Fault and event logging with real time stamp.
- Easy commissioning-auto detection of CT polarity and installed phase.
- It is to extend on site.
- To prevent overheating of cables, motors & transformers caused by harmonics





# 11 SEWAGE TREATMENT PLANTS MCCS

Wastewater Treatment is closely related to high standards and expectation set for efficient quality. The development of technology and tightening of treatment requirement has increased the degree and importance of automation at municipal waste water treatment plants. PROMASTER provides complete automation solution by providing SCADA and integrated PLC based control system to control equipment like SRS Lift Station, Jet Aerator, Transfer Pumps, Aeration Mixers, Anoxic Mixers, Effluent Pumps, Return Activated Sludge pumps, Screen Drive, Wash Press, Thickened Slug Pumps, Field Instruments, Special Barriers, Alkaline Dosing Package, OCU Package, Head works Penstocks etc. ensuring the reliable operation of the system.



Committed to give clients a stress-free experience, we focus on fostering effective partnership by providing complete support, advise and project management services.



5.12

## ■ Application

Waste Water Treatment Plants MCC is SCADA and Integrated PLC based control system to control and monitor complete process and Field instruments.

Advanced instrumentation, control and automation (ICA) system is incorporated along with the switchgear panels leading to optimal use of unit process mentioned above.

## ■ Specification

- Approved with major Sewerage Services Companies.
- Rated Insulated Voltage 690V.
- Made of Electro-Galvanized Sheet Steel polyester powder coated Paint Finish BS 4800 Shade 18E51 Dolphin Blue and with white (00 E 55 to BS 4800) for the mounting plate.
- Form of Construction is Form-4b TYPE 6 & 7.
- Enclosure Thickness special customized from 2 to 3mm as per specification.
- Enclosure Assembly with 316 Grade, Stainless Steel accessories.
- Specially coated door handle to inhibit corrosion.
- Busbar withstand capacity upto 65kA for 3sec.
- Neutral Busbars are rated at 100% of the Main Busbar and Earth Busbars are rated at 50% of Neutral Busbar.
- All Module covers are an integral part of the module & comes with positive interlocks.
- Design Ambient Temperature 50°C.
- Front and Rear Accessibility.
- Top & Bottom Cable entry with removable Gland Plates.
- Degree of Protection upto IP54 can be provided.
- SCADA & Integrated PLC based control system to control and monitor the system.



12

# SOLUTION PROVIDER

The technical requirements in the field of low voltage controls and distribution are high. Customers request cost-efficient solutions, easily integrated in control cabinets or distribution systems, optimally matched and communicating perfectly among each other. Our innovative PROMASTER total range is our answer to a demanding industry.



PROMASTER is made by  
Faisal Jassim Industries  
with QA accreditation  
and international approvals  
in their Dubai, UAE  
based factory.



5.13

## ■ The Integrated Range : for Low-Voltage Power Distribution

Whether it is an industrial system or a functional building, every technical system depends on the reliable supply of electric power. Even short power failures may have serious consequences. Therefore you always need a safe system that is able to master critical conditions.

## ■ Safety in a Perfect Form

Maximum safety and an appealing design are merged into an efficient solution: The PROMASTER, a new switchboard generation for consistent and easy power distribution up to 4000A. Versatile features, provide personnel and plant protection completely open to new application areas.

FJ Industries PROMASTER Modular Switchboard System is the result of several years of research, development and testing to create a cost effective and easy to assemble, suited to meet the most demanding applications.

PROMASTER is a fully modular system allowing the assembly of type tested boards with user-friendly estimation & selection. Being truly modular, it offers absolute flexibility in switchboard construction enabling changes and modifications to be done easily with little cost impact



06

# PROMASTER ENCLOSURE





# 01 PROMASTER ENCLOSURE

The range of ProMaster Switchgear provides a complete integrated offer of metal & GRP structures for constructing all kinds of low voltage panels which is as per plant requirements depending on the type of installation, degree of protection and electrical & mechanical characteristics.



## ■ The ProMaster Switchgear is noted for the following features:

- Possibility of fulfilling all application requirements in terms of installation (wall-mounting, floor-mounting, monobloc, corner versions and cabinet kits) and degree of protection (IP41, IP43, IP54 and IP65).
- Fast switchgear assembly times, thanks to the simplicity of the design.
- Segregations in kits up to Form 4.
- Compact design ensures that it fits in Electrical Rooms.
- Available in different RAL colours.
- Enclosure thickness from 1.0 mm to 3.0 mm ensures that it meets demanding specifications.
- Enclosure is made of high quality sheet.

6.1





# 02 POWER CONTROL PANELS

All sheet steel enclosures are manufactured from electro-galvanized sheet steel. After welding and grinding, the enclosures are chemically degreased and affected area is pretreated with a special polymer primer.

The final coat is an electro-statically applied thermosetting polyester powder, baked at 200°C, with a dry film thickness of 60-80 microns.



## General Characteristics

The characteristics of this surface coating offer significant advantages over conventional epoxy powders

- Wider service temperature range.
- Excellent U.V reflection and resistance to chalking.
- Improved colour and gloss stability from effects of heat.
- High mechanical strength and scratch resistance.
- Excellent weather resistance.

## Incoming Section

- Separate Compartments for instruments, ACB and incoming cables.
- Instrument compartment has split doors for instruments and kwh meter.
- ACB compartment has hinged doors.
- Large cable compartment suitable for easy termination of incoming cables and provided removable front cover.

## Outgoing Section

- Outgoing enclosures are designed to provide compartments of minimum 200mm height upto 2000mm in increments of 50mm.
- Each compartment has removable side plates, rear mounting plate, partition base plate and hinged doors
- A split door version with central dropper bars is available in 800mm width.

## Features

- Enclosure Size: 600/800 Wx2350 Hx835/1000D (mm).
- Design for rear dropper and rear outgoing cabling upto type 7.
- Protection class IP-54 or to clients Specification.
- 300mm high bus bar chamber with removable front cover.
- Built in plinth with rigid channel base.
- Removable rear covers.
- Built in provision for fixing the earthbar.
- Suitable for top & bottom cable entry.
- Wing knobs for doorlocks.
- Lifting eye bolts.
- Powder coated to RAL 7035 textured (other colors available on request).



# 03 DISTRIBUTION PANELS



Enclosures are manufactured from electro-galvanized sheet steel.

After welding and grinding, the enclosure are chemically degreased and effected area is pretreated with a special polymer primer.

The final coat is an electrostatically applied thermosetting polyester powder, baked at 200 degree C, with a dry film thickness of 60-80 microns.

## ■ General Characteristics

The characteristics of this surface coating offer significant advantages over conventional epoxy powders

- Wider service temperature range.
- Excellent U.V reflection and resistance to chalking.
- Improved colour and gloss stability from effects of heat.
- High mechanical strength and scratch resistance.
- Excellent weather resistance.

The distribution range consists of different sizes which are well suited for the control and distribution application. The door is reversible for Left/right side opening and is provided with semi-concealed hinges with a 180 degree opening angle. It is fitted with neoprene seals and perforated cold rolled stiffening channels

The rear and side covers are easily removable through unloosable fastners. Preferred side channel will accept a depth adjustable mounting plate or uprights.

The Mounting plate is held by strong studs and is designed for optimum utilization of enclosure space. A large entry area is provided through a sealed removable gland plate.

- Protection Class IP 55/65.
- Powder coated to RAL 7035 (other colors on request).
- Removable doors.
- Removable side and rear covers.
- Welded earth studs.
- Pre-punched perforations.
- Wall/ Floor mounting.





Floor Mounted Extendable Type with Plinth

OVERALL DIMENSIONS			SEET THICKN.		MOUNTING PLATE
WIDTH W	HEIGHT H	DEPTH D	ENCL.	DOOR	SHEET THICKN. in mm
600	2000	600/800/1000	2.0	2.0	2.5
800	2000	600/800/1000	2.0	2.0	2.5
1000	2000	600/800/1000	2.0	2.0	2.5
1200	2000	600/800/1000	2.0	2.0	2.5

Other sizes and special colours available on request

OVERALL DIMENSIONS			SEET THICKN.		MOUNTING PLATE
WIDTH W	HEIGHT H	DEPTH D	ENCL.	DOOR	SHEET THICKN. in mm
600	1600	400/600	2.0	2.0	2.0
800	1600	400/600	2.0	2.0	2.0
1000	1600	400/600	2.0	2.0	2.0
1200	1600	400/600	2.0	2.0	2.0
600	1800	400/600	2.0	2.0	2.0
800	1800	400/600	2.0	2.0	2.0
1000	1800	400/600	2.0	2.0	2.0
1200	1800	400/600	2.0	2.0	2.0

Other sizes and special colours available on request

Wall Mounted Enclosures (Without Plinth)

OVERALL DIMENSIONS			SEET THICKN.		MOUNTING PLATE
WIDTH W	HEIGHT H	DEPTH D	ENCL.	DOOR	SHEET THICKN. in mm
800	1400	300/400	1.5	1.5	2.0
1000	1400	300/400	1.5	1.5	2.0
1200	1400	300/400	1.5	1.5	2.0

Other sizes and special colours available on request

OVERALL DIMENSIONS			SEET THICKN.		MOUNTING PLATE
WIDTH W	HEIGHT H	DEPTH D	ENCL.	DOOR	SHEET THICKN. in mm
300	400	210	1.5	1.5	2.0
400	600	210	1.5	1.5	2.0
600	800	210	1.5	1.5	2.0
600	1000	210	1.5	1.5	2.0
800	800	210	1.5	1.5	2.0
800	1000	250/350	1.5	1.5	2.0
800	1200	250/350	1.5	1.5	2.0
1000	1200	250/350	1.5	1.5	2.0

Other sizes and special colours available on request



# 04 FINAL DISTRIBUTION BOARDS

- **Protection Class-IP 41**
- **Powder coated to RAL 7035 Textured**
- **Up to 24 modules per row (in Row type DB)**
- **Wide body provides ample wiring space**
- **Reversible door for left/right opening**
- **Convenient knockouts**
- **Surface and flush type**



## ■ Specification

- Our DIN type consumer boards are made of electro-galvanised sheet steel and are liberally designed for easy installation and wiring.
- In the Row type DB, the 16 & 24 module horizontal width give superior space utilisation and phase balancing in combination with ELCB's, i.e. 4 modules for ELCB and 12 modules for MCB's or 8 modules for ELCB's and 16 modules for MCB's.
- The DBs are available in both surface and flush types.
- Multi spilt N-bars can be fixed directly on the chassis in adequate length.
- The door is reversible for left or right side opening.
- Special bolts and nuts are provided for fixing various makes of earth bars to the side walls.
- The final distribution boards are powder coated to colour RAL 7035 Textured, but other colours and special finishes can be offered on request, to match the interior finish of rooms, i.e. in schools, hospitals and hotels.

6.5

## ■ Flush/ Surface mounted Row DB

- Flush/surface mounted row DB with din rail frame, cover and door.
- Protection class IP 41.
- Height 320 to 1070mm.
- Width 465 for 16 modules/ row.
- 620 for 24 modules/row.
- Depth 110mm.
- Powder coated to RAL 7035.
- Galvanized sheet steel coated.
- For electrical distribution for residential, industrial and commercial.
- Removable doors.
- Welded earth studs.
- Pre-punched fixing rails.
- Wall/floor mounting.



# 05 MOTOR CONTROL CENTERS

We offer a wide range of Fixed and Draw-out Motor Control Enclosure System to our valued clients. All these products are offered as per the specific requirements detailed down by the customers



- Fully compartmentalized (FORM - 4b) design ensures safety.
- Draw-out modules are with-drawable with distinct positions viz. test, service and isolation.
- Draw-out modules of same size are fully interchangeable.
- Totally enclosed, vermin-proof & dust-proof vertical bus-bar chamber.
- Automatic safety shutter for the vertical busbar chamber.
- Modular construction with wide choice of compartment size.
- Swiveling lever-guide for easy withdrawal of the modules without any additional tools.
- Feeder & cable alley doors open in opposite providing ample working space.
- Highly flexible modular design, changes are possible as per site condition.
- Spring loaded scraping earthing provided with first make and last brake arrangements.
- Large cabling space with adequate cable support.





# 06 SPECIAL PURPOSE PANELS

All Aluminium enclosures are manufactured from high grade aluminium alloys, having good weld ability and high impact strength.



## ■ Aluminium Enclosures

- The single/double wall aluminium enclosures are made of AL-Mg sheets and our dual electro static powder coating system makes them highly corrosion resistant.
- The doors have removable fibre reinforced polyster hinges with stainless steel pins, 180 degree opening angle and single point locking or three point locking mechanism with double bit key. For double wall aluminium enclosure the doors have 3 point locking system with “T” Handle
- Enclosures have clip on gasket, resistant to most chemicals as well as large variations of environmental condition i.e temperature, humidity and salinity. For double wall aluminium enclosure the doors have removable stainless steel concealed hinges with 120 degree opening angle.
- Z-rails with pre punched holes are suitable to fix a mounting plate or DIN channels.
- The integrated canopy has 20mm air gap against the top sheet, thereby significantly lowering the interior temperature.
- Rivet nuts are fitted on the rear and side walls, accepting DIN channels, partial or full mounting plates.
- Double wall aluminium enclosure is having integral plinth with lifting provision.
- A large cable entry area is provided through a sealed removable gland plate. The integral plinth allows space for easy cable termination.
- The enclosure is powder coated to RAL 7035 colour (as per specification).

## ■ Features

- Protection Class IP 55
- Powder coated to RAL 7035 (other colours on request)
- Fully folded and welded
- Integral canopy
- Integral plinth
- Ventilated walls & doors for double wall
- Floor mounting

The cabinets are ideal for any industry which needs to house and protect electrical equipments. It is suitable for both indoor and outdoor conditions and it can be installed in salty, chemically corrosive and harsh environment as well. Customer specified cabinets can also be manufactured (conditions apply), to meet special requirement.



# 07 GRP ENCLOSURE

For GRP Enclosures the composite material, which we use is more popularity known as Fibreglass Reinforced Polyester (FRP / FGRP) or Glass-fibre. Reinforced polyester (GRP), has proven advantages over other conventional material primarily because of its multiple properties, high strength to weight ratio versatility & cost effectiveness in long term use.

All the input materials used in production are of high quality procured from manufacturers of international repute.



## ■ Range

The products are result of superior quality input material blended with the efforts of a qualified design and production team under the guidance of a highly professional and efficient management team.

- Our polyester cabinets are available in two basic categories depending on their dimensions:
- Single Shutter type
- Double Shutter type
- Each of the above cabinet type is available in various standard dimensions and design as detailed in their respective dimension table.

- Various accessories are available as standard and optional depending on the dimensions and type of cabinets.
- All our polyester cabinets have the protection of a gel-coat layer on the weather exposed surface which renders it resistant to UV rays, resistant to corrosive and chemical environments and virtually suitable for all climatic conditions.
- Standard specifications and properties of cabinets are as per Product Data Sheet.





## ■ Accessories

Various accessories are available as standard and optional depending on the type and size of the cabinets.

## ■ Utility

Our Polyester (GRP) cabinets are ideal for any industry which needs to house and protect electrical equipments, electronic devices, telecommunication instruments, fire fighting components etc.

These cabinets are suitable for both indoor and outdoor conditions. Our cabinets can be installed in salty, chemically corrosive and harsh environments as well.

## ■ Advantages

- Polyester cabinets are non-conducting by nature
- Fire retardant and self-extinguishing
- Resistant to corrosive and chemical environments
- Higher strength to weight ratio
- Easy to install
- Virtually maintenance free (occasional cleaning recommended)
- Can be machined easily



## ■ Special Cabinets

Customer specified cabinets can also be manufactured (conditions apply), to meet special requirements with regard to the following and more;

- External colour finish
- Dimensions and design
- Fire rating
- IP-Rating (Ingress Protection from solids & liquids)
- Mounting arrangement
- Non-standard transparent view window
- Shutter location
- Internal shutter
- Provision of extra shutters on sides/back
- Internal partitions vertically/horizontally
- P.U. foam insulated walls

## ■ Specifications & Design

- External finish colour conforming to most of the RAL
- Higher fire rating
- Hardware: stainless steel grades 304/316(A2/A4)
- Higher protection (IP rating) from dust & liquids
- Higher mechanical strength
- Non-standard sizes
- Mounting plate - epoxy paint coated/yellow passivated/ FRP Plate
- Insulated walls & doors
- Vertical / horizontal partitions internally
- Additional door at rear, side or internal
- Hinged top lid
- Terminal box in 250 & 350mm heights
- FRP plinth of 100, 200 & 300mm heights



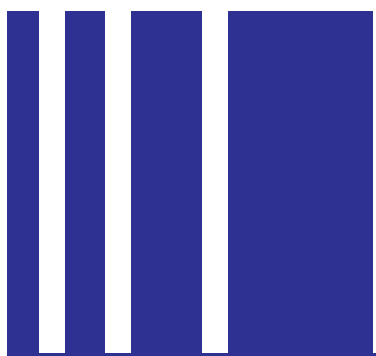


# 07

## CERTIFICATIONS



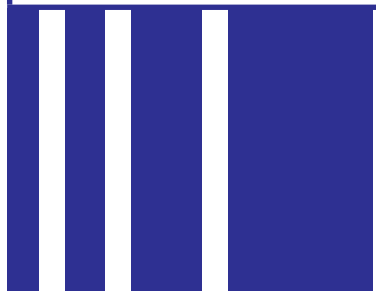




PROMASTER CERTIFCATIONS



	TESTS PERFORMED	CERTIFYING AUTHORITY	CERTIFICATE REFERENCE NO.
PROMASTER Panels Comply to IEC 61439-2			
1	Full type test on 4000A PROMASTER System with ABB breakers	ASTA	18854
2	Full type test on 3200A PROMASTER System with ABB breakers	ASTA	18853
3	Full type test on 2500A PROMASTER System with ABB breakers	ASTA	18852
4	Full type test on 1600A PROMASTER System with ABB breakers	KEMA	2133394.104
5	Full type test on 1000A PROMASTER System with ABB breakers	KEMA	2142311.101
6	Full type test on 800A PROMASTER System with ABB breakers	KEMA	2133394.102
7	Full type test on 400A PROMASTER System with ABB breakers	KEMA	2133394.101
8	Full type test on 250A PROMASTER System with ABB breakers	KEMA	2133394.100
9	Full type test on 25 KVAR capacitor bank PROMASTER System	UL TYPE	UL TEC-00043
10	Full type test on 75 KVAR capacitor bank PROMASTER System	UL TYPE	UL TEC-00042
11	Full type test on 175 KVAR capacitor bank PROMASTER System	UL TYPE	UL TEC-00052
12	Full type test on 375 KVAR capacitor bank PROMASTER System	UL TYPE	UL TEC-00051
13	Full type test on 450 KVAR capacitor bank PROMASTER System	UL TYPE	UL TEC-00050
14	ARC test on PROMASTER System	ASTA	19235
15	Mechanical Impact (IK 10) test on PROMASTER System	kA Testing Facility	43821/1



OTHER FAISAL JASSIM CERTIFCATIONS



16	Certified to the Quality Management System Standard ISO 9001:2008	Bureau Veritas	DBA/BVC/0001- 0/10/FA/GB
17	Certified to the Environment Management System Standard ISO 14001:2004	BAC	AE-BAS-E0001214
18	Certified to the Occupational Health & Safety Management System Standard OHSAS 18001:2007	BAC	AE-BAS-S0001215



CHARACTERISTICS OF  
PROMASTER

TESTED AS PER IEC 61439-2

7.2

	Characteristic to be verified	Verification options available		
		Verification by testing	Verification by calculation	Verification by design rules
10.2	Strength of material and parts	YES	NO	NO
10.3	Degree of protection	YES	NO	YES
10.4	Clearances and creepage distances	YES	YES	YES
10.5.2	Effective continuity between parts and PE	YES	NO	NO
10.5.3	Effectiveness of the assembly for external faults	YES	YES	YES
10.6	Incorporating of apparatus	NO	NO	YES
10.7	Internal electrical circuits and connections	NO	NO	YES
10.8	Terminals for external conductors	NO	NO	YES
10.9.2	Power frequency withstand voltage	YES	NO	NO
10.9.3	Impulse withstand voltage	YES	NO	YES
10.10	Temperature rise	YES	YES	YES
10.11	Short-circuit withstand strength	YES	YES	YES
10.12	EMC	YES	NO	YES
10.13	Mechanical operation	YES	NO	NO



ADVANTAGES OF  
PROMASTER

OVER OTHER PANELS BUILT AS PER IEC - 60439

No .	Characteristic to be verifed	PROMASTER IEC 61439-2 Offers	IEC 60439-1 Requirement
1	Strength of material and parts	10.2	n/a
	Resistance to corrosion	10.2.2	n/a
	Properties of insulating materials	10.2.3	n/a
	Thermal stability	10.2.3.1	n/a
	Resistance of insulating materials to normal heat	10.2.3.2	n/a
	Resistance to abnormal heat and fre due to internal electric effects	10.2.3.3	n/a
	Resistance to ultra-violet (UV) radiation	10.2.4	n/a
	Lifting	10.2.5	n/a
	Mechanical impact	10.2.6	n/a
	Marking	10.2.7	n/a
	Marking		
2	Degree of protection of enclosures	10.3	8.2.7
3	Clearances and creepage distances	10.4	8.2.5
4	Protection against electric shock and integrity of protective circuits:	10.5	8.2.4
	Effective continuity between the exposed conductive parts of the assembly and the protective circuit	10.5.2	8.2.4
	Effectiveness of the assembly for external faults	10.5.3	8.2.4
5	Dielectric properties:	10.9	8.2.2
	Power-frequency withstand voltage	10.9.2	8.2.2
	Impulse withstand voltage	10.9.3	8.2.2
6	Temperature rise limits	10.1	8.2.1
7	Short-circuit withstand strength	10.11	8.2.3
8	Electromagnetic compatibility	10.12	8.2.8 + Annex H
9	Mechanical operation	10.13	8.2.6

7.3



Intertek

Certificate No. 18854

# ASTA Certificate

## of Verification Tests

**LABORATORY REF. NO:** 37655/7

**APPARATUS:** 4000A 415V/1000V/8kV ( $U_n/U_i/U_{imp}$ ), 50Hz low-voltage power switchgear and controlgear assembly comprising:  
Three phase and neutral main busbars, three phase and neutral distribution busbars, a protective circuit, one incoming ACB, one outgoing ACB, one outgoing MCCB circuit and 2 ventilation fans

**DESIGNATION:** 4000A PROMASTER SWITCHBOARD

**MANUFACTURER:** Faisal Jassim Industries L.L.C., PO Box 113825, Dubai Investment Park, Plot No 598-1152, Dubai, United Arab Emirates

**TESTED BY:** kA Testing Facility, John Street, New Basford, Nottingham, NG7 7HL, UK  
Prof. Ir. Damstra Laboratory, P.O Box 23, 7550 AA, Hengelo, Europalaan 202, 7559 SC Hengelo, The Netherlands  
Exova (UK) Limited, 6 Coronet Way, Centenary Park, Salford, M50 1RE, UK

**DATE(S) OF TESTS:** 30<sup>th</sup> January – 2<sup>nd</sup> May 2013

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in this certificate has been subjected to the series of proving tests in accordance with :-

**IEC 61439-2: Edition 2.0 2011-08**

Verifications with reference to the tests listed in Annex D of IEC 61439-1

- |                                      |                                      |
|--------------------------------------|--------------------------------------|
| 1: Strength of Materials and Parts   | 9: Dielectric Properties             |
| 2: Degree of Protection of Enclosure | 10: Temperature-Rise Limits          |
| 3: Clearances                        | 11: Short-Circuit Withstand Strength |
| 4: Creepage Distances                | 12: Electromagnetic Compatibility    |
| 5: Protection Against Electric Shock | 13: Mechanical Operation             |

Refer to pages A, B, C and D for ratings

The results are shown in the record of Proving Tests attached hereto. The values obtained and the general performance is considered to comply with the above Standard(s) and to justify the ratings assigned by the manufacturer as stated on the ratings page(s). This certificate applies only to the apparatus tested. Responsibility for conformity of any apparatus having the same or other designations rests with the Manufacturer.

This certificate comprises:-

This front sheet, 4 ratings pages plus 87 other pages as detailed on page E

Only integral reproductions of this whole certificate or reproductions of this page accompanied by any ratings pages are permitted.

Issued by Intertek, Hilton House, Corporation Street, Rugby, CV21 2DN England  
Contact: [asta@intertek.com](mailto:asta@intertek.com) Tel: +44 (0)1788 578435



*Nick Halaburda* ASTA Observer  
Nick Halaburda  
*P. J. D.* Certification Manager  
18<sup>TH</sup> JUNE 2013 Date



Intertek

Certificate No. 18853

# ASTA Certificate

## of Verification Tests

LABORATORY REF. NO: 37655/2

**APPARATUS:** 3200A 415V/1000V/8kV ( $U_n/U_i/U_{imp}$ ), 50Hz extendable low-voltage power switchgear and controlgear assembly comprising:  
Three phase and neutral main busbars, three phase and neutral distribution busbars, a protective circuit, one incoming ACB, one outgoing ACB and one outgoing MCCB circuit

**DESIGNATION:** 3200A PROMASTER SWITCHBOARD**MANUFACTURER:** Faisal Jassim Industries L.L.C., PO Box 113825, Dubai Investment Park, Plot No 598-1152, Dubai, United Arab Emirates

**TESTED BY:** kA Testing Facility, John Street, New Basford, Nottingham, NG7 7HL, UK  
Prof. Ir. Damstra Laboratory, P.O Box 23, 7550 AA, Hengelo, Europalaan 202, 7559 SC Hengelo, The Netherlands  
Particle Technology Limited, Station Yard Industrial Estate, Hatton, Derbyshire, DE65 5DU, UK  
Exova (UK) Limited, 6 Coronet Way, Centenary Park, Salford, M50 1RE, UK

**DATE(S) OF TESTS:** 30<sup>th</sup> January – 2<sup>nd</sup> May 2013

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in this certificate has been subjected to the series of proving tests in accordance with :-

**IEC 61439-2: Edition 2.0 2011-08**

Verifications with reference to the tests listed in Annex D of IEC 61439-1

- |                                      |                                      |
|--------------------------------------|--------------------------------------|
| 1: Strength of Materials and Parts   | 9: Dielectric Properties             |
| 2: Degree of Protection of Enclosure | 10: Temperature-Rise Limits          |
| 3: Clearances                        | 11: Short-Circuit Withstand Strength |
| 4: Creepage Distances                | 12: Electromagnetic Compatibility    |
| 5: Protection Against Electric Shock | 13: Mechanical Operation             |

Refer to pages A, B, C and D for ratings

The results are shown in the record of Proving Tests attached hereto. The values obtained and the general performance is considered to comply with the above Standard(s) and to justify the ratings assigned by the manufacturer as stated on the ratings page(s). This certificate applies only to the apparatus tested. Responsibility for conformity of any apparatus having the same or other designations rests with the Manufacturer.

This certificate comprises:-

This front sheet, 4 ratings pages plus 106 other pages as detailed on page E

Only integral reproductions of this whole certificate or reproductions of this page accompanied by any ratings pages are permitted.

Issued by Intertek, Hilton House, Corporation Street, Rugby, CV21 2DN England  
Contact: [asta@intertek.com](mailto:asta@intertek.com) Tel: +44 (0)1788 578435



*Nick Halaburda* ..... ASTA Observer  
Nick Halaburda

*P. J. J. J.* ..... Certification Manager

18<sup>TH</sup> JUNE 2013 ..... Date



Intertek

Certificate No. 18852

# ASTA Certificate

## of Verification Tests

LABORATORY REF. NO:

37655/1

APPARATUS:

2500A 415V/1000V/8kV ( $U_n/U_i/U_{imp}$ ), 50Hz extendable low-voltage power switchgear and controlgear assembly comprising:  
three phase and neutral main busbars, three phase and neutral distribution busbars, a protective circuit, one incoming ACB and five outgoing MCCB circuits

DESIGNATION:

2500A PROMASTER SWITCHBOARD

MANUFACTURER:

Faisal Jassim Industries L.L.C., PO Box 113825, Dubai Investment Park, Plot No 598-1152, Dubai, United Arab Emirates

TESTED BY:

ka Testing Facility, John Street, New Basford, Nottingham, NG7 7HL, UK  
Prof. Ir. Damstra Laboratory, P.O Box 23, 7550 AA, Hengelo, Europalaan 202, 7559 SC Hengelo, The Netherlands  
Particle Technology Limited, Station Yard Industrial Estate, Hatton, Derbyshire, DE65 5DU, UK  
Exova (UK) Limited, 6 Coronet Way, Centenary Park, Salford, M50 1RE, UK

DATE(S) OF TESTS:

24th January – 2nd May 2013

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in this certificate has been subjected to the series of proving tests in accordance with :-

**IEC 61439-2: Edition 2.0 2011-08**

Verifications with reference to the tests listed in Annex D of IEC 61439-1

1: Strength of Materials and Parts	9: Dielectric Properties
2: Degree of Protection of Enclosure	10: Temperature-Rise Limits
3: Clearances	11: Short-Circuit Withstand Strength
4: Creepage Distances	12: Electromagnetic Compatibility
5: Protection Against Electric Shock	13: Mechanical Operation

Refer to pages A, B, C and D for ratings

The results are shown in the record of Proving Tests attached hereto. The values obtained and the general performance is considered to comply with the above Standard(s) and to justify the ratings assigned by the manufacturer as stated on the ratings page(s). This certificate applies only to the apparatus tested. Responsibility for conformity of any apparatus having the same or other designations rests with the Manufacturer.

This certificate comprises:-

This front sheet, 4 ratings pages plus 109 other pages as detailed on page E

Only integral reproductions of this whole certificate or reproductions of this page accompanied by any ratings pages are permitted.

Issued by Intertek, Hilton House, Corporation Street, Rugby, CV21 2DN England  
Contact: [asta@intertek.com](mailto:asta@intertek.com) Tel: +44 (0)1788 578435

ASTA Observer  
Nick Halaburda

Certification Manager

18<sup>TH</sup> JUNE 2013

Date



**KEMA Quality**

# TEST CERTIFICATE

No. 2133394.104

Issued to: FAISAL JASSIM INDUSTRIES  
P.O. Box 1871, DUBAI INVESTMENT PARK  
DUBAI  
UNITED ARAB EMIRATES

For the product: Low-voltage switchgear and controlgear assemblies

Trade name: FAISAL JASSIM

Type/Model: 1600 A Promaster Switchboard

Ratings: Ue 415 V, Ui 800 V, Uimp 8 kV, In 1600 A, Icw 50 kA – 1.0 s

Manufactured by: FAISAL JASSIM INDUSTRIES  
P.O. Box 1871, DUBAI INVESTMENT PARK  
DUBAI  
UNITED ARAB EMIRATES

Subject: Design verification; construction and performance

Requirements: IEC 61439-2, 1st ed. 2009-01  
Clauses: 10.2.2, 10.2.3, 10.2.5, 10.2.7, 10.3, 10.4, 10.5, 10.6\*, 10.7, 10.8, 10.9, 10.10, 10.11, 10.12 and 10.13.

Remarks: See the annex to this certificate for details  
\*The examination of the compliance of components in the assembly, with their relevant product standard, is not part of this project.

This Test Certificate is granted on account of an examination by KEMA Quality, the results of which are laid down in report no. 2133394.05-QUA/INC, June 30, 2010

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 KEMA Quality is not the responsibility of KEMA Quality

KEMA Quality B.V.  
Arnhem, June 30, 2010

H.L. Schendstok  
Certification Manager

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KEMA Quality B.V. Postweg 310, 6812 AR Arnhem P.O. Box 5185, 6802 ED Arnhem, The Netherlands  
T +31 26 356 2000 F +31 26 352 5800 www.kemaquality.com Company registration 09085396

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7.7



KEMA Quality

TEST CERTIFICATE

Issued to: FAISAL JASSIM INDUSTRIES  
P.O. Box 1871, DUBAI INVESTMENT PARK  
DUBAI  
UNITED ARAB EMIRATES

For the product: Low-voltage switchgear and controlgear assemblies

Trade name: FAISAL JASSIM

Type/Model: 1000 A Promaster Switchboard

Ratings: Ue 415 V, Ui 800 V, Uimp 8 kV, InA 1000 A, Icw 50 kA – 1.0 s, IP44

Manufactured by: FAISAL JASSIM INDUSTRIES  
P.O. Box 1871, DUBAI INVESTMENT PARK  
DUBAI  
UNITED ARAB EMIRATES

Subject: Design verification; construction and performance

Requirements: IEC 61439-2, 1st ed. 2009-01  
Clauses: 10.2.2, 10.2.3, 10.2.5, 10.2.7, 10.3, 10.4, 10.5, 10.6\*, 10.7, 10.8, 10.9, 10.10, 10.11, 10.12 and 10.13.

Remarks: See the annex to this certificate for details  
\*The examination of the compliance of components in the assembly, with their relevant product standard, is not part of this project.

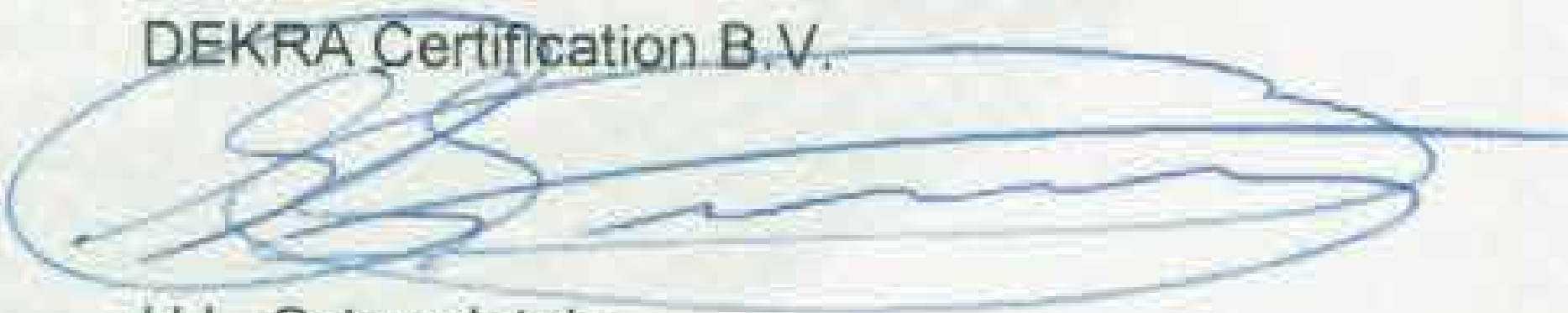
This Test Certificate is granted on account of an examination by DEKRA, the results of which are laid down in report no. 2142311.02-INC, March 1, 2011

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.

Arnhem, March 1, 2011

Number: 2142311.101

DEKRA Certification B.V.



H.L. Schendstok  
Certification Manager



Scale and adjoining reports is allowed

All testing, inspection, audit and certification activities of the former KEMA Quality are an integral part of the DEKRA Certification Group.

DEKRA Certification B.V., Utrechtseweg 6812 AR Arnhem · P.O. Box 5185, 6802 ED Arnhem, The Netherlands  
T +31 26 356 2000 F +31 26 356 2001 E [certification@dekra-certification.com](mailto:certification@dekra-certification.com) [dekra-certification.com](http://dekra-certification.com) Company registration 09085396





KEMA Quality

## TEST CERTIFICATE

No. 2133394.102

Issued to: FAISAL JASSIM INDUSTRIES  
P.O. Box 1871, DUBAI INVESTMENT PARK  
DUBAI  
UNITED ARAB EMIRATES

For the product: Low-voltage switchgear and controlgear assemblies

Trade name: FAISAL JASSIM

Type/Model: 800 A Promaster Switchboard

Ratings: Ue 415 V, Ui 800 V, Uimp 8 kV, In 800 A, Icw 36 kA – 1.0 s

Manufactured by: FAISAL JASSIM INDUSTRIES  
P.O. Box 1871, DUBAI INVESTMENT PARK  
DUBAI  
UNITED ARAB EMIRATES

Subject: Design verification; construction and performance

Requirements: IEC 61439-2, 1st ed. 2009-01  
Clauses: 10.2.2, 10.2.3, 10.2.7, 10.3, 10.4, 10.5, 10.6\*, 10.7, 10.8, 10.9, 10.10, 10.11, 10.12 and 10.13.

Remarks: See the annex to this certificate for details  
\*The examination of the compliance of components in the assembly, with their relevant product standard, is not part of this project.

This Test Certificate is granted on account of an examination by KEMA Quality, the results of which are laid down in report no. 2133394.03-QUA/INC, June 30, 2010

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. The responsibility of his production with the specimen tested by KEMA Quality is not the responsibility of KEMA Quality.

KEMA Quality B.V.  
Arnhem, June 30, 2010

H. L. Schendstok  
Certification Manager

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KEMA Quality

TEST CERTIFICATE

No. 2133394.101

Issued to: FAISAL JASSIM INDUSTRIES  
P.O. Box 1871, DUBAI INVESTMENT PARK  
DUBAI  
UNITED ARAB EMIRATES

For the product: Low-voltage switchgear and controlgear assemblies

Trade name: FAISAL JASSIM

Type/Model: 400 A Promaster Switchboard

Ratings: Ue 415 V, Ui 800 V, Uimp 8 kV, In 400 A, Icw 36 kA – 1.0 s

Manufactured by: FAISAL JASSIM INDUSTRIES  
P.O. Box 1871, DUBAI INVESTMENT PARK  
DUBAI  
UNITED ARAB EMIRATES

Subject: Design verification; construction and performance

Requirements: IEC 61439-2, 1st ed. 2009-01  
Clauses: 10.2.2, 10.2.3, 10.2.7, 10.3, 10.4, 10.5, 10.6\*, 10.7, 10.8, 10.9, 10.10, 10.11, 10.12 and 10.13.

Remarks: See the annex to this certificate for details  
\*The examination of the compliance of components in the assembly, with their relevant product standard, is not part of this project.

This Test Certificate is granted on account of an examination by KEMA Quality, the results of which are laid down in report no. 2133394.02-QUA/INC, June 30, 2010

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. The conformity of his production with the specimen tested by KEMA Quality is not the responsibility of KEMA Quality

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Arnhem, June 30, 2010

H.L. Schendstok  
Certification Manager

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# TEST CERTIFICATE

No. 2133394.100

Issued to: FAISAL JASSIM INDUSTRIES  
P.O. Box 1871, DUBAI INVESTMENT PARK  
DUBAI  
UNITED ARAB EMIRATES

For the product: Low-voltage switchgear and controlgear assemblies

Trade name: FAISAL JASSIM

Type/Model: 250 A Promaster Switchboard

Ratings: Ue 415 V, Ui 800 V, Uimp 8 kV, In 250 A, Icw 36 kA – 1.0 s.

Manufactured by: FAISAL JASSIM INDUSTRIES  
P.O. Box 1871, DUBAI INVESTMENT PARK  
DUBAI  
UNITED ARAB EMIRATES

Subject: Design verification; construction and performance

Requirements: IEC 61439-2, 1st ed. 2009-01  
Clauses: 10.2.2, 10.2.3, 10.2.7, 10.3, 10.4, 10.5, 10.6\*, 10.7, 10.8, 10.9, 10.10, 10.11, 10.12 and 10.13.

Remarks: See the annex to this certificate for details  
\*The examination of the compliance of components in the assembly, with their relevant product standard, is not part of this project.

This Test Certificate is granted on account of an examination by KEMA Quality, the results of which are given in report no. 2133394.01-QUA/INC, June 30, 2010.

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KEMA Quality B.V.  
Arnhem, June 30, 2010

H. L. Schendstok  
Certification Manager

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T +31 26 356 2000 F +31 26 352 5800 www.kemaquality.com Company registration 09085396

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UL TYPE EXAMINATION CERTIFICATE

Certificate No.	UL TEC-00397
Page	1/1
Date of Issue	2016-05-11
Applicant	FAISAL JASSIM INDUSTRIES LLC DUBAI INVESTMENT PARK-1 PLOT NO.598-1152, PO. BOX 113825 DUBAI, UAE
Manufacturer	FAISAL JASSIM INDUSTRIES LLC DUBAI INVESTMENT PARK-1 PLOT NO.598-1152, PO. BOX 113825 DUBAI, UAE
Product Sample Description	250A Low Voltage Power Switchgear and Controlgear assembly (Sub Main Distribution Board), non-extendable comprising of one incoming 3-pole MCCB and four outgoing MCCB's with a three-phase and neutral busbar system and a protective busbar. Indoor service cabinet.
Designation	250A PROMASTER SWITCHGEAR
Ratings	Rated operational voltage ( $U_e$ ) : 415V Rated current of the ASSEMBLY ( $I_{nA}$ ) : 250A Rated frequency ( $f_n$ ) : 50 Hz IP rating : IP 43 Refer Type Examination summary for other details (4787166910.2.1-A1-S)
Product Sample Tested and found in compliance with Standard(s)	IEC 61439-1(ed.2), IEC 61439-2(ed.2)
Test Report Nos.	4787166910.2.1-A1 issue date 2016-04-21
Additional information	N/A



Certification Manager  
Jan-Erik Storgaard

Certification Body

This is to certify that the sample(s) of the Product described herein has been investigated to and found to have been in compliance with the Standard(s) indicated on this Certificate, in accordance with the UL Type Examination Certificate Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Applicant. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured products. UL has not established Follow-Up Service or other surveillance of the product. The Applicant/Manufacturer are solely and fully responsible for conformity of all products to all applicable Standard(s), specifications or requirements. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

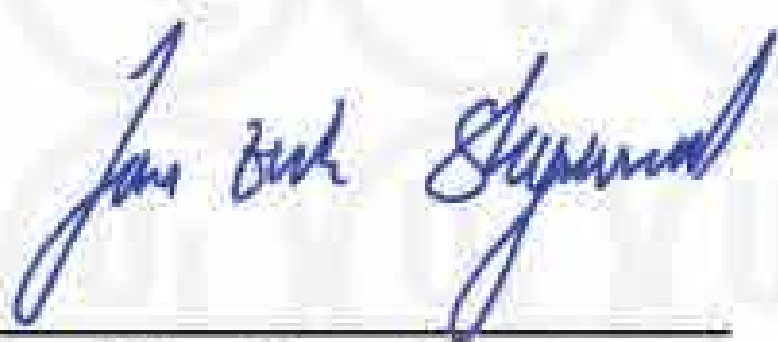
UL International Demko A/S, Borupvang 5A,  
2750 Ballerup, Denmark, Tel. +45 44 85 65 65  
[info.dk@ul.com](mailto:info.dk@ul.com), [www.ul.com](http://www.ul.com)





UL TYPE EXAMINATION CERTIFICATE

Certificate No.	UL TEC-00398
Page	1/1
Date of Issue	2016-05-11
Applicant	FAISAL JASSIM INDUSTRIES LLC DUBAI INVESTMENT PARK-1 PLOT NO.598-1152, PO. BOX 113825 DUBAI, UAE
Manufacturer	FAISAL JASSIM INDUSTRIES LLC DUBAI INVESTMENT PARK-1 PLOT NO.598-1152, PO. BOX 113825 DUBAI, UAE
Product Sample Description	400A Low Voltage Power Switchgear and Controlgear assembly (Sub Main Distribution Board), non-extendable comprising of one incoming 3-pole MCCB and four outgoing MCCB's with a three-phase and neutral busbar system and a protective busbar. Indoor service cabinet.
Designation	400A PROMASTER SWITCHGEAR
Ratings	Rated operational voltage ( $U_e$ ) : 415V Rated current of the ASSEMBLY ( $I_{nA}$ ) : 400A Rated frequency ( $f_n$ ) : 50 Hz IP rating : IP 43 Refer Type Examination summary for other details (4787166910.2.1-B1-S)
Product Sample Tested and found in compliance with Standard(s)	IEC 61439-1(ed.2), IEC 61439-2(ed.2)
Test Report Nos.	4787166910.2.1-B1 issue date 2016-04-21
Additional information	N/A

  
Certification Manager  
Jan-Erik Storgaard

Certification Body  
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2750 Ballerup, Denmark, Tel. +45 44 85 65 65  
[info.dk@ul.com](mailto:info.dk@ul.com), [www.ul.com](http://www.ul.com)



This is to certify that the sample(s) of the Product described herein has been investigated to and found to have been in compliance with the Standard(s) indicated on this Certificate, in accordance with the UL Type Examination Certificate Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Applicant. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured products. UL has not established Follow-Up Service or other surveillance of the product. The Applicant/Manufacturer are solely and fully responsible for conformity of all products to all applicable Standard(s), specifications or requirements. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.



UL TYPE EXAMINATION CERTIFICATE

Certificate No.	UL TEC-00399
Page	1/1
Date of Issue	2016-05-11
Applicant	FAISAL JASSIM INDUSTRIES LLC DUBAI INVESTMENT PARK-1 PLOT NO.598-1152, PO. BOX 113825 DUBAI, UAE
Manufacturer	FAISAL JASSIM INDUSTRIES LLC DUBAI INVESTMENT PARK-1 PLOT NO.598-1152, PO. BOX 113825 DUBAI, UAE
Product Sample Description	630A Low Voltage Power Switchgear and Controlgear assembly (Sub Main Distribution Board), non-extendable comprising of one incoming 3-pole MCCB and four outgoing MCCB's with a three-phase and neutral busbar system and a protective busbar. Indoor service cabinet.
Designation	800A PROMASTER SWITCHGEAR
Ratings	Rated operational voltage ( $U_b$ ) : 415V Rated current of the ASSEMBLY ( $I_{nA}$ ) : 630A Rated frequency ( $f_n$ ) : 50 Hz IP rating : IP 43 Refer Type Examination summary for other details (4787166910.2.1-C1-S)
Product Sample Tested and found in compliance with Standard(s)	IEC 61439-1(ed.2), IEC 61439-2(ed.2)
Test Report Nos.	4787166910.2.1-C1 issue date 2016-04-21
Additional information	N/A



Certification Manager  
Jan-Erik Storgaard

Certification Body

This is to certify that the sample(s) of the Product described herein has been investigated to and found to have been in compliance with the Standard(s) indicated on this Certificate, in accordance with the UL Type Examination Certificate Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Applicant. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured products. UL has not established Follow-Up Service or other surveillance of the product. The Applicant/ Manufacturer are solely and fully responsible for conformity of all products to all applicable Standard(s), specifications or requirements. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

UL International Demko A/S, Borupvang 5A,  
2750 Ballerup, Denmark, Tel. +45 44 85 65 65  
[info.dk@ul.com](mailto:info.dk@ul.com), [www.ul.com](http://www.ul.com)





UL TYPE EXAMINATION CERTIFICATE

Certificate No.	UL TEC-00043
Page	1/1
Date of Issue	2014-03-25
Applicant	Faisal Jassim Industries L.L.C, PO.BOX 113825, Dubai Investment Park, Plot No.598-1152, Dubai, UAE.
Manufacturer	Faisal Jassim Industries L.L.C, PO.BOX 113825, Dubai Investment Park, Plot No.598-1152, Dubai, UAE.
Product Sample Description	Low Voltage Power Factor Correction Bank, incorporating a three-phase and neutral vertical bus bar system and protective bus bar.
Designation	25 KVAR PFC PROMASTER CAPACITOR BANK
Ratings	Rated voltage (Un): 440V Rated Reactive Power : 25kVAR Rated frequency: 50 Hz IP rating : IP 31
Product Sample Tested and found in compliance with Standard(s)	IEC 61921 (ed.1), in accordance with IEC 61439-1 (ed.2)
Test Report Nos.	13CA50196 issued on 2013-03-24
Additional information	N/A

Certification Manager  
Jan-Erik Storgaard

Certification Body

This is to certify that the sample(s) of the Product described herein has been investigated to and found to have been in compliance with the Standard(s) indicated on this Certificate, in accordance with the UL Type Examination Certificate Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Applicant. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured products. UL has not established FollowUp Service or other surveillance of the product. The Applicant/Manufacturer are solely and fully responsible for conformity of all products to all applicable Standard(s), specifications or requirements. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

UL International Demko A/S, Borupvang 5A,  
2750 Ballerup, Denmark, Tel. +45 44 85 65 65  
[info.dk@ul.com](mailto:info.dk@ul.com) , [www.ul.com](http://www.ul.com)





UL TYPE EXAMINATION CERTIFICATE

Certificate No.	UL TEC-00042
Page	1/1
Date of Issue	2014-03-25
Applicant	Faisal Jassim Industries L.L.C, PO.BOX 113825, Dubai Investment Park, Plot No.598-1152, Dubai, UAE.
Manufacturer	Faisal Jassim Industries L.L.C, PO.BOX 113825, Dubai Investment Park, Plot No.598-1152, Dubai, UAE.
Product Sample Description	Low Voltage Power Factor Correction Bank, incorporating a three-phase and neutral vertical bus bar system and protective bus bar.
Designation	75 KVAR PFC PROMASTER CAPACITOR BANK
Ratings	Rated voltage (Un): 440V Rated Reactive Power : 75kVAR Rated frequency: 50 Hz IP rating : IP 31
Product Sample Tested and found in compliance with Standard(s)	IEC 61921(ed.1), in accordance with IEC 61439-1(ed.2)
Test Report Nos.	13CA50195 issued on 2014-03-24
Additional information	N/A

Certification Manager  
Jan-Erik Storgaard

Certification Body

This is to certify that the sample(s) of the Product described herein has been investigated to and found to have been in compliance with the Standard(s) indicated on this Certificate, in accordance with the UL Type Examination Certificate Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Applicant. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured products. UL has not established Follow-Up Service or other surveillance of the product. The Applicant/ Manufacturer are solely and fully responsible for conformity of all products to all applicable Standard(s), specifications or requirements. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

**UL International Demko A/S, Borupvang 5A,  
2750 Ballerup, Denmark, Tel. +45 44 85 65 65  
[info.dk@ul.com](mailto:info.dk@ul.com), [www.ul.com](http://www.ul.com)**





UL TYPE EXAMINATION CERTIFICATE

Certificate No.	UL TEC-00052
Page	1/1
Date of Issue	2014-04-14
Applicant	Faisal Jassim Industries L.L.C, PO.BOX 113825, Dubai Investment Park, Plot No.598-1152, Dubai, UAE.
Manufacturer	Faisal Jassim Industries L.L.C, PO.BOX 113825, Dubai Investment Park, Plot No.598-1152, Dubai, UAE.
Product Sample Description	Low Voltage Power Factor Correction Bank, incorporating a three-phase and neutral vertical bus bar system and protective bus bar.
Designation	175 KVAR PFC PROMASTER CAPACITOR BANK
Ratings	Rated voltage (Un): 440V Rated Reactive Power : 175kVAR Rated frequency: 50 Hz IP rating : IP 31
Product Sample Tested and found in compliance with Standard(s)	IEC 61921 (ed.1), in accordance with IEC 61439-1 (ed.2)
Test Report Nos.	4786195514.1.1 issued on 2014-04-10
Additional information	N/A

Certification Manager  
Jan-Erik Storgaard

Certification Body

This is to certify that the sample(s) of the Product described herein has been investigated to and found to have been in compliance with the Standard(s) indicated on this Certificate, in accordance with the UL Type Examination Certificate Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Applicant. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured products. UL has not established FollowUp Service or other surveillance of the product. The Applicant/Manufacturer are solely and fully responsible for conformity of all products to all applicable Standard(s), specifications or requirements. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

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UL TYPE EXAMINATION CERTIFICATE

Certificate No.	UL TEC-00050
Page	1/1
Date of Issue	2014-04-09
Appl icant	Faisal Jassim Industries L.L.C, PO.BOX 113825, Dubai Investment Park, Plot No.598-1152, Dubai, UAE.
Manufacturer	Faisal Jassim Industries L.L.C, PO.BOX 113825, Dubai Investment Park, Plot No.598-1152, Dubai, UAE.
Product Sample Description	Low Voltage Power Factor Correction Bank, incorporating a three-phase and neutral vertical bus bar system and protective bus bar.
Designation	450 KVAR PFC PROMASTER CAPACITOR BANK
Ratings	Rated voltage (Un): 440V Rated Reactive Power : 450KVAR Rated frequency: 50 Hz IP rating : IP 31
Prod uct Sample Tested and found in compliance with Standard(s)	IEC 61921(ed.1), in accordance with IEC 61439-1(ed.2)
Test Report Nos.	4786195564.1.1 issued on 2014-04-09
Additional information	N/A

Certification Manager  
Jan-Erik Storgaard

Certification Body

This is to certify that the sample(s) of the Product described herein has been investigated to and found to have been in compliance with the Standard(s) indicated on this Certificate, in accordance with the UL Type Examination Certificate Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Applicant. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured products. UL has not established Follow-Up Service or other surveillance of the product. The Applicant/ Manufacturer are solely and fully responsible for conformity of all products to all applicable Standard(s), specifications or requirements. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

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Intertek

Certificate No. 19235

# ASTA Certificate

## of Internal Fault Tests

**Laboratory Ref. No:** 41503 / PDL-14.083.3

**Apparatus:** 415V ( $U_n$ ), 50Hz low-voltage power switchgear and controlgear assembly comprising:  
Three phase and neutral main horizontal and vertical busbars, a protective circuit, one incoming ACB and five outgoing MCCB circuits

**Designation:** 2500A PROMASTER SWITCHBOARD

**Manufacturer:** Faisal Jassim Industries L.L.C, PO Box 113825, Dubai Investment Park, Plot No. 598-1152, Dubai, UAE

**Tested By:** Prof. Ir. Damstra Laboratory, P.O Box 23, 7550 AA, Hengelo, Europalaan 202, 7559 SC Hengelo, The Netherlands

**Date of tests:** 18<sup>th</sup> June 2014

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in this certificate has been subjected to the series of proving tests in accordance with

**IEC/TR 61641 Edition 2.0 2008-01**

**Permissible current under arcing conditions ( $I_{p\text{ arc}}$ )**  
**and the associated arcing time ( $t_{\text{arc}}$ ):** 50kA at 415V, 0.3 sec, p.f. = 0.25  
**Permissible conditional short-circuit current**  
**under arcing conditions ( $I_{pc\text{ arc}}$ ):** 50kA at 415V, p.f. = 0.25

The results are shown in the record of Proving Tests attached hereto. The values obtained and the general performance is considered to comply with the above Standard(s) and to justify the ratings assigned by the manufacturer as stated on the ratings page(s). This certificate applies only to the apparatus tested. Responsibility for conformity of any apparatus having the same or other designations rests with the Manufacturer.

This certificate comprises this front sheet plus 50 other pages as detailed on page 2

Only integral reproductions of this whole certificate or reproductions of this page accompanied by any ratings pages are permitted.

Issued by Intertek, Hilton House, Corporation Street, Rugby, CV21 2DN England. Contact:  
[asta@intertek.com](mailto:asta@intertek.com) Tel: +44 (0)1788 578435



010

*N Halaburda* ASTA Observer  
 N Halaburda  
*R W Hayward* Certification Manager  
 R W Hayward  
*23rd September 2014* Date





# TEST REPORT

of Mechanical Impact IK10

**DATE OF REPORT:**  
25th November 2014

**LABORATORY REF. NO:**  
43821/1

**DESIGNATION:**  
Low voltage 3200A promaster switchboard

**DATE(S) OF TESTS:**  
28th July 2014

**MANUFACTURER:**  
Faisal Jassim Industries L.L.C.  
P O Box 113825  
Dubai Investment Park  
Plot No 598-1152  
Dubai  
Uae

**APPARATUS:**  
Low voltage 3200A promaster switchboard  
manufactured to drawing No.FB14031103

**TESTED BY:**  
Prof. Ir. Damstra Laboratory  
P.O Box 23, 7550 AA  
Hengelo  
Europalaan 202  
7559 SC Hengelo  
The Netherlands

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in this report has been subjected to the series of proving tests in accordance with :-

**Manufacturer's instructions, test procedures and requests generally in accordance with**

**IEC 61439-2 : Edition 2.0 2011-08**

**Clause 10.2.6: Mechanical Impact (IK10)**

The results are shown in the record of Proving Tests attached hereto. The values obtained and the performance is considered to comply with the above Standard(s) and to justify the ratings assigned by the manufacturer as stated. This report applies only to the apparatus tested. Responsibility for conformity of any apparatus having the same or other designations rests with the Manufacturer.

This report comprises:-

This front sheet plus 17 other pages

Only integral reproductions of this whole report or reproductions of this page accompanied by any ratings pages are permitted.

**Stephen Boyes**  
Laboratory Manager

**Nick Halaburda**  
Principal Test Engineer

kA Testing Facility Limited, John Street, New Basford, Nottingham NG7 7HL, UK  
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www.ka-testing.com Registered in England. Company No. 02555564. VAT No. 115 1415 80. kA Testing Facility is a division of Encompass Group.



# 08

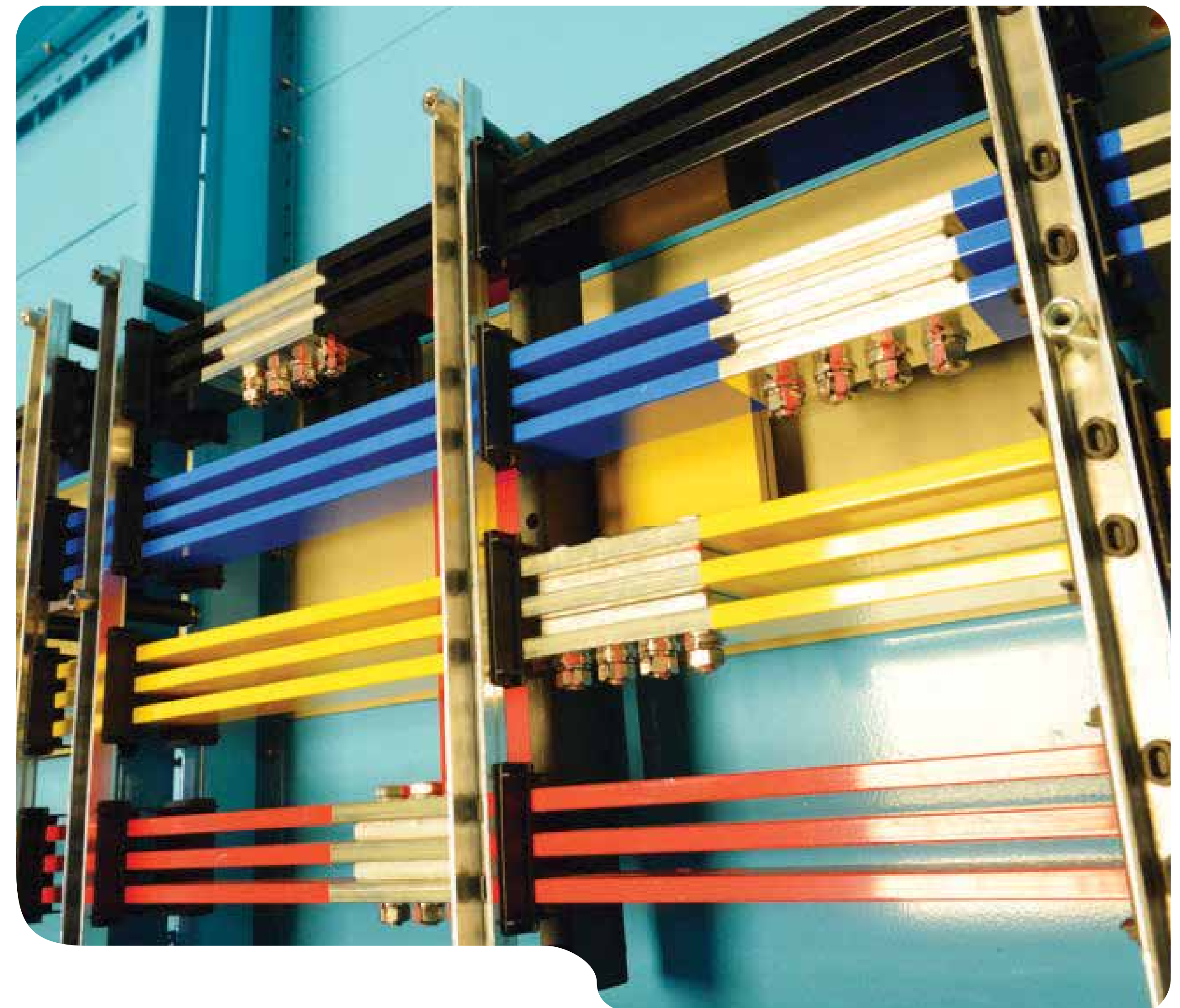
## TECHNICAL INFORMATION





## ■ Busbar System

- The busbar system is designed around 10mm wide flat bars and has been tested extensively for ratings from 250A upto 4000A/ 65kA.
- Busbars can be mounted at the top or bottom & can be arranged for front or back access.
- The busbar holders are from Termate UK and have been tested and widely used all over the world.
- The holders are modular in size to suit all tier widths.
- There are several types of busbar holders to suit various types of switchboard arrangements.



## ■ Busbar System Accessories

- Connections from main horizontal to vertical busbars can be made using standard Horizontal-Vertical connectors.
- Connections to devices from dropper busbars are achieved using busbar tap-off sets.
- A choice of fish plates allows busbar extensions & joints to be done easily.



## ■ Busbar Assembly

- Busbar suitable for 2500A, 3200A & 4000A
- Busbar type tested at 50°C ambient
- The system type tested with natural ventilation (No forced cooling)
- Completely tested as per IEC 61439-2



**INTERNAL ARC FAULT  
CONTAINMENT**

PROMASTER HAS BEEN SUCCESSFULLY TESTED FOR INTERNAL ARCING FAULT CONTAINMENT IN ACCORDANCE WITH IEC 61641



## ■ Compartments Fixed Types

- Compartments to FORM 3a, 3b,4a & 4b are available in modular sizes from 400mm(W) x 200mm(H) upto 800mm(W) x 1200mm(H).
- FORM 4b can be achieved using cable boxes.
- Larger size compartments are formed using separation plates.
- Compartments come flat and are bent into shape using a simple bending tool.



## ■ Compartments Fully Withdrawable

- Fully withdrawable compartments are available rated up to 630A.
- Compartment sizes range from 600/ 800mm (W) x 300mm (H) & upto 800H.
- Compartments provide 3 distinct positions - INSERTED, TEST/ISOLATED and FULLY WITHDRAWN with position indicators and padlocking features.
- Earth contacts that make first and break last are provided as a safety feature. Main switch shaft interlocks and compartment interlocks are also provided for added safety.
- Heavy duty stainless steel handles and mechanism offer years of reliable operation.
- Internal segregation of up to Form 4b is maintained to ensure the highest level of material safety.



## ■ Demountable Units

Demountable cells are in all sizes from 400mm(W) x 200mm(H) upto 600mm(W) x 600mm(H).

Earth contacts that make first and break last are provided.

Doors may be hinged to the structure or as an option, may be fixed to the demountable cell itself. The cell design suits outgoings to the left or right as needed.



DEGREES OF PROTECTION

Protection against contact of External Solids			Protection against the Penetration of Liquids			Mechanical Protection against Impact		
1st number characteristic	Description		2nd number characteristic	Description		3rd number characteristic	Description	
0	No protection		0	No protection		0	No protection	
1	Protected against solid bodies larger than 50mm (eg: accidental contact with the hand)		1	Protected against vertically-falling drops of water (condensation)		1	Impact energy 0.225 joule	
2	Protected against solid bodies larger than 12mm (eg: finger of the hand)		2	Protected against drops of water falling at up to 15° from the vertical		2	Impact energy 0.375 joule	
3	Protected against solid bodies larger than 2.5mm (eg: tools, wires)		3	Protected against drops of rain water at up to 60° from the vertical		3	Impact energy 0.500 joule	
4	Protected against solid bodies larger than 1mm (fine tools and small wires)		4	Protected against projections of water from all directions		5	Impact energy 2.00 joule	
5	Protected against dust (no harmful deposit)		5	Protected against jets of water from all directions		7	Impact energy 6.00 joule	
6	Completely protected against dust		6	Protected against jets of water of similar force to heavy seas		9	Impact energy 20.00 joule	
			7	Protection against immersion under predetermined pressure and time conditions				
			8	Protection against immersion under predetermined pressure conditions for unlimited time				
1st number characteristics defined by the CEI 70-1 – IEC 529 – IEC 144 – UTE C 20-010 – DIN 40050 standards			2nd number characteristics defined by the CEI 70-1 – IEC 529 – IEC 144 – UTE C 20-010 – DIN 40050 standards			3rd number characteristics defined by the UTE C 20-010 French standards		

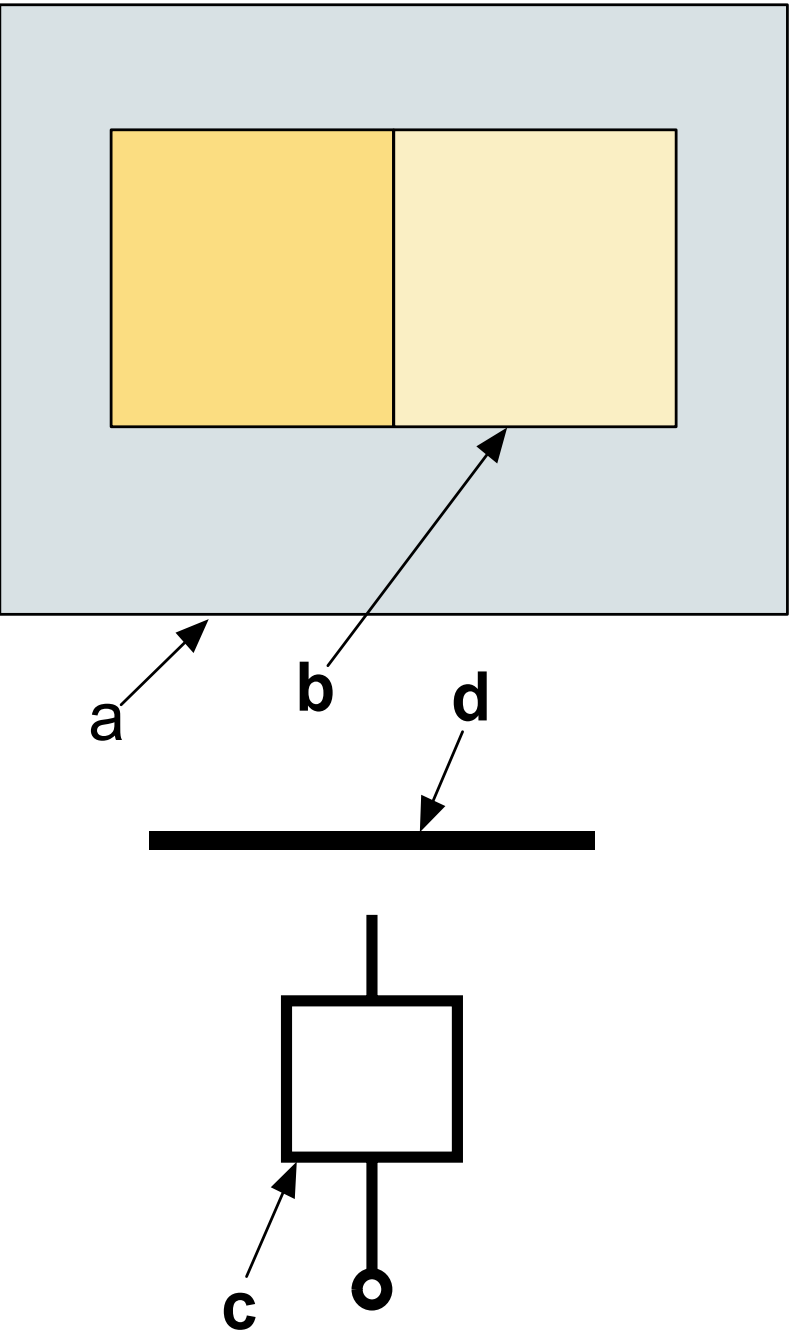
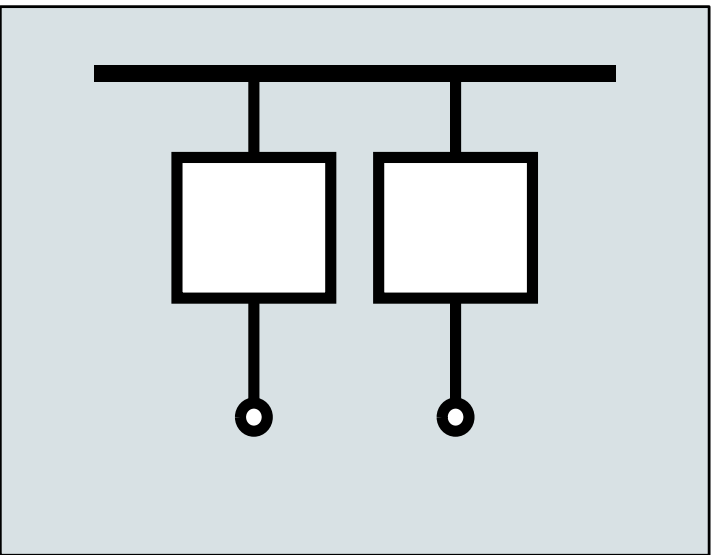
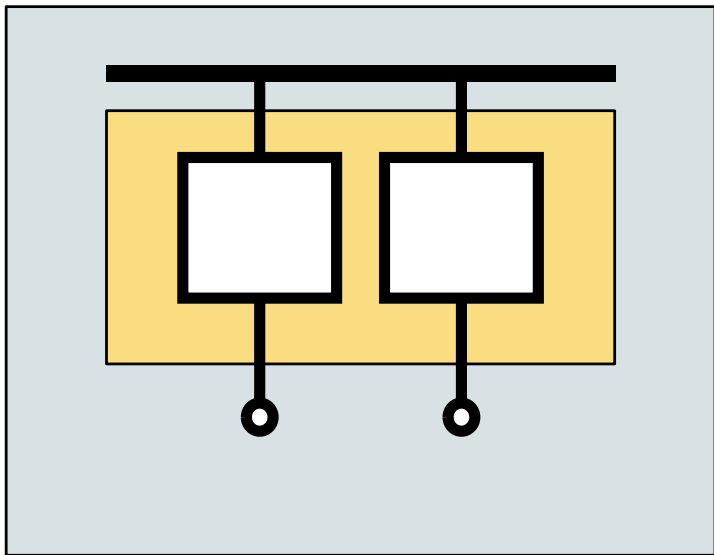
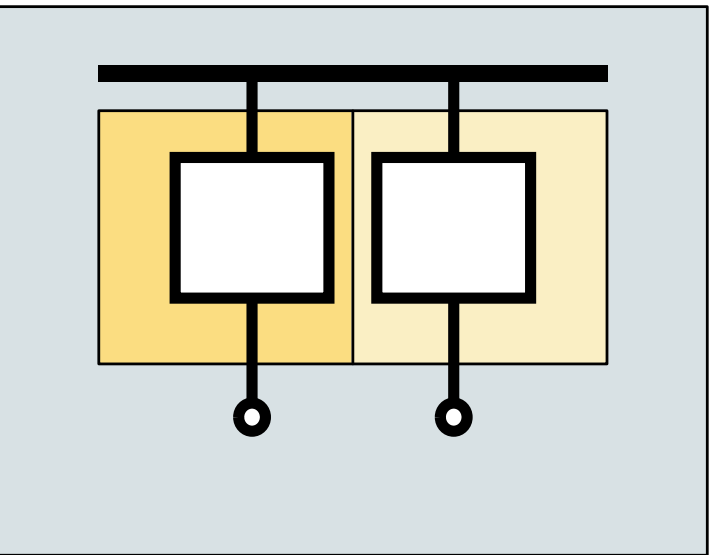
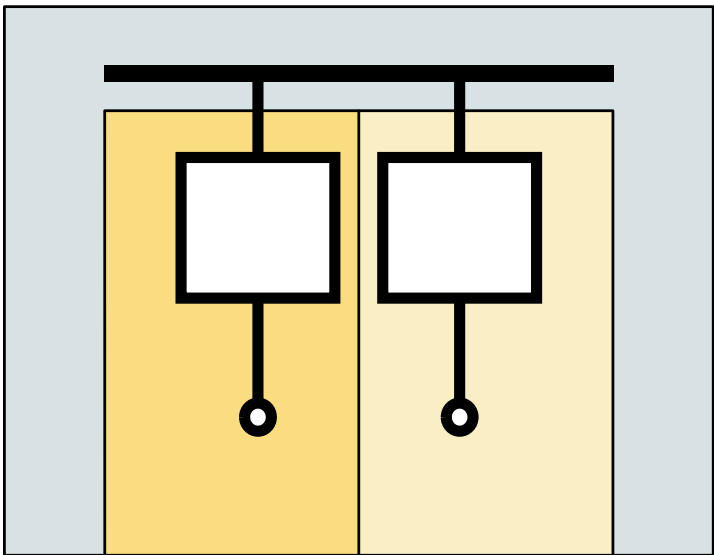
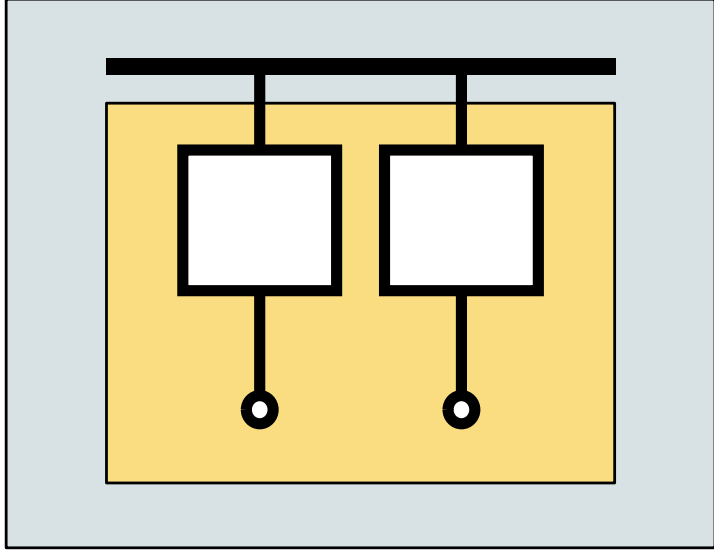
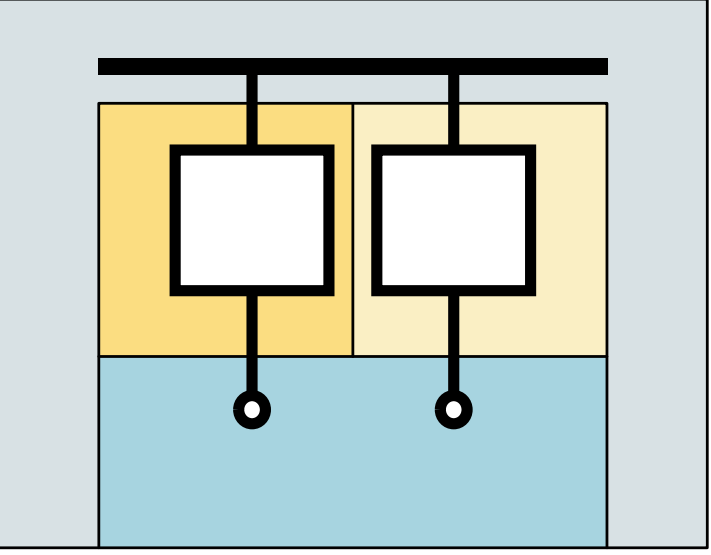
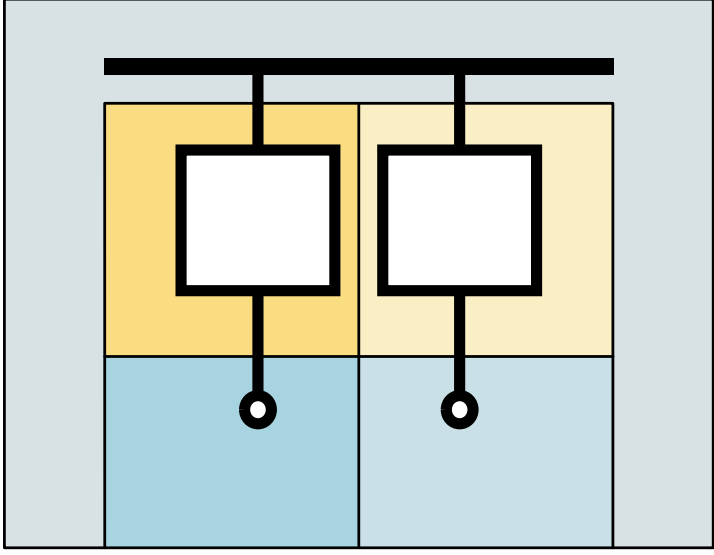


# SEGREGATIONS ACCORDING TO THE IEC 60439-1 AND IEC 61439 -1 -2 STANDARDS

By form of segregation, the type of subdivision provided inside the switchgear is meant. Segregation by means of barriers or partitions (metallic or insulating) can have the purpose of:

- Ensuring protection against direct contacts (at least IPXXB), in the case of accessing a part of the switchgear with the power turned off, in relation to the rest of the switchgear left live.
- Reducing the probability of an internal arc striking and propagating.
- Preventing passage of solid bodies between different parts of the switchgear (at least IP2X degree of protection).

By partition, the separation element between two compartments is meant, whereas the barrier protects the operator against direct contacts and the effects of an arc of the breaking apparatus in the normal access direction.

Symbol	Form 1	Form 2	Form 3	Form 4
	(no internal segregation)	(segregation of the busbars from the functional units)	(separation of the busbars from the functional units + separation of the functional units from each other)	(separation of the busbars from the functional units + separation of the functional units from each other + separation of the terminals from each other)
		Form 2a Terminals not separated from the busbars 	Form 3a Terminals not separated from the busbars 	Form 4a Terminals in the same compartment as the associated functional unit 
		Form 2b Terminals separated from the busbars 	Form 3b Terminals separated from the busbars 	Form 4b Terminals not in the same compartment as the associated functional unit 

**Caption**  
a Housing  
b Internal segregation  
c Functional units including the terminals for the associated external conductors  
d Busbars, including the distribution busbars



# PROTECTION AND CONTROL DEVICES

The main definitions regarding LV switchgear and controlgear are included in the International Standards IEC 60947-1, IEC 60947-2 and IEC 60947-3.

## MAIN CHARACTERISTICS

### CIRCUIT-BREAKER

A mechanical switching device, capable of making, carrying and breaking currents under normal circuit conditions and also making, carrying for a specified time and breaking currents under specified abnormal circuit conditions such as those of short-circuit.

### CURRENT-LIMITING CIRCUIT-BREAKER

A circuit-breaker with a break-time short enough to prevent the short-circuit current reaching its otherwise attainable peak value.

### DISCONNECTOR

A mechanical switching device which, in the open position, complies with the requirements specified for the isolating function.

### CONTACTOR

A electromagnetic switching device having only one position of rest, operated otherwise than by hand, capable of making, carrying and breaking currents under normal circuit conditions including overload conditions.

## FAULT TYPES AND CURRENTS

### OVERLOAD

Operating conditions in an electrically undamaged circuit which cause an over-current.

### SHORT-CIRCUIT

The accidental or intentional connection, by a relatively low resistance or impedance, of two or more points in a circuit which are normally at different voltages.

## RATED PERFORMANCES

### VOLTAGES AND FREQUENCIES RATED

#### OPERATIONAL VOLTAGE ( $U_c$ ):

A rated operational voltage of an equipment is a value of voltage which, combined with a rated operational

current, determines the application of the equipment and to which the relevant tests and the utilization categories are referred to.

#### RATED INSULATION VOLTAGE ( $U_i$ )

The rated insulation voltage of an equipment is the value of voltage to which dielectric tests voltage and creepage distances are referred. In no case the maximum value of the rated operational voltage shall exceed that of the rated insulation voltage.

#### RATED IMPULSE WITHSTAND VOLTAGE ( $U_{imp}$ )

The peak value of an impulse voltage of prescribed form and polarity which the equipment is capable of withstanding without failure under specified conditions of test and to which the values of the clearances are referred.

## CURRENTS

#### RATED UNINTERRUPTED CURRENT ( $I_n$ )

The rated uninterrupted current for a circuit-breaker is a value of current, that the circuit-breaker can carry during uninterrupted service.

#### RATED RESIDUAL CURRENT ( $I_{\Delta n}$ )

It is the r.m.s. value of a sinusoidal residual operating current assigned to the RCDS by the manufacturer, at which the RCDS shall operate under specified conditions.

#### RATED MAKING CAPACITY

The rated making capacity of an equipment is a value of current, stated by the manufacturer, which the equipment can satisfactorily make under specified making conditions.

The accidental or intentional connection, by a relatively

#### RATED BREAKING CAPACITY

The rated breaking of an equipment is a value of current, stated by the manufacturer, which the equipment can satisfactorily break, under specified breaking conditions.



**RATED ULTIMATE SHORT-CIRCUIT  
BREAKING CAPACITY ( $I_{cu}$ )**

The rated ultimate short-circuit breaking capacity of a circuit-breaker is the maximum short-circuit current value which the circuit-breaker can break twice (in accordance with the sequence O – t – CO), at the corresponding rated operational voltage. After the opening and closing sequence the circuit-breaker is not required to carry its rated current.

**RATED SERVICE SHORT-CIRCUIT  
BREAKING CAPACITY ( $I_{cs}$ )**

The rated service short-circuit breaking capacity of a circuit-breaker is the maximum short-circuit current value which the circuit-breaker can break three times in accordance with a sequence of opening and closing operations (O - t - CO - t – CO) at a defined rated operational voltage ( $U_e$ ) and at a defined power factor. After this sequence the circuit-breaker is required to carry its rated current.

**RATED SHORT-TIME WITHSTAND  
CURRENT ( $I_{cw}$ )**

The rated short-time withstand current is the current that the circuit-breaker in the closed position can carry during a specified short time under prescribed conditions of use and behaviour; the circuit-breaker shall be able to carry this current during the associated short-time delay in order to ensure discrimination between the circuit-breakers in series.

**RATED SHORT-CIRCUIT MAKING  
CAPACITY ( $I_{cm}$ )**

The rated short-circuit making capacity of an equipment is the value of short circuit making capacity assigned to that equipment by the manufacturer for the rated operational voltage, at rated frequency, and at a specified power - factor for ac.

**UTILIZATION CATEGORIES**

The utilization category of a circuit-breaker shall be stated with reference to whether or not it is specifically intended for selectivity by means of an intentional time delay with respect to other circuit-breakers in series on the load side, under short- circuit conditions (Table 4 IEC 60947-2).

**Category A** - Circuit-breakers not specifically intended for selectivity under short-circuit conditions with respect to other short-circuit protective devices in series on the load side, i.e. without a short-time withstand current rating.

**Category B** - Circuit-breakers specifically intended for selectivity under short circuit conditions with respect to other short-circuit protective devices in series on the load side, i.e. with and intentional short-time delay provided for selectivity under short-circuit conditions. Such circuit-breakers have a short-time withstand current rating.

**A circuit-breaker is classified in category B if its  $I_{cw}$  is higher than (Table-3 IEC60947-2):**

12 In or 5 kA, whichever		
is the greater	for In	< 2500A
30 kA	for In	> 2500A

**ELECTRICAL & MECHANICAL DURABILITY**

**MECHANICAL DURABILITY**

The mechanical durability of an apparatus is expressed by the number of no-load operating cycles (each operating cycle consists of one closing and opening operation) which can be effected before it becomes necessary to service or replace any of its mechanical parts (however, normal maintenance may be permitted).

**ELECTRICAL DURABILITY**

The electrical durability of an apparatus is expressed by the number of on-load operating cycles and gives the contact resistance to electrical wear under the service conditions stated in the relevant product Standard.

**CO-ORDINATION TYPES**

IEC publication 60947-4-1 defines coordination Types “1” and “2”:

— Type “1” coordination requires that, in the event of a short-circuit, the contactor or starter does not endanger persons or installations and will not then be able to operate without being repaired or parts being replaced.



— Type “2” coordination requires that, in short circuit conditions, the contactor or starter does not endanger persons or installations and will be able to operate afterwards. The risk of contacts being light welded is acceptable. In this case, the manufacturer must stipulate the measures to be taken with respect to maintenance of the equipment.

THERMAL OVERLOAD RELAY TRIPPING CLASSES

IEC 60947-4-1 defines tripping classes 10 A, 10, 20 and 30. Types 10 A, 10, etc. correspond to the maximum tripping time for a making current at 7.2 times the setting current.

Furthermore, for each class the standard specifies the tripping time for 1.5 times the setting current and sets the non tripping condition at 1.05 times the setting current.

UTILIZATION CATEGORIES

A contactor’s duty is characterised by the utilization category together with the rated operational voltage and current indicated.

Utilization categories for contactors according to IEC 60947-4-1:

Alternating Current:

AC-1	Non-inductive or slightly inductive loads, resistance furnaces.
AC-2	Slip-ring motors: starting, switching off.
AC-3	Cage motors: starting, switching off running motors.
AC-4	Cage motors: starting, plugging, inching.
AC-5a	Discharge lamp switching.
AC-5b	Incandescent lamp switching.
AC-6a	Transformer switching.
AC-6b	Capacitor bank switching.
AC-8a	Hermetic refrigeration compressor motor control with manual resetting of overload releases.
AC-8b	Hermetic refrigeration compressor motor control with automatic resetting of overload releases.



09

# INSPECTION & TESTING





# QUALITY CONTROL PROCEDURE FOR LV SWITCHGEAR

The purpose is to control and define the sequence of work for assembly of LV Switchgears. It also includes the interface activities, and the different responsibilities leading to test the panels, in compliance with project specifications and final approved drawings.

## REFERENCES

QA/QC Documents:

- Project Quality Plan
- Inspection and Test Plan for Electrical Installation
- Quality Control Procedure for Material Identification and Traceability.

## ABBREVIATIONS

- ITP : Inspection and Test Plan
- QA : Quality Assurance
- QC : Quality Control
- RFI : Request for Inspection
- NCR : Non Conformance Report
- PQP : Project Quality Plan
- HSE : Health Safety & Environment

## ROLES AND RESPONSIBILITIES

Following are the roles and responsibilities of personnel involved in the Quality assurance plan.

### QA/QC MANAGER

QAQC Manager shall report to the Operation Manager. Shall be responsible for ensuring the Project Quality requirements and shall monitor all the Quality related issues throughout the project.

### HSE CO-ORDINATOR

Shall be responsible for ensuring the Project HSE requirements and shall monitor all the HSE related issues.

### PROJECT DOCUMENT CONTROLLER

Document controller shall report to the Operation Manager. Shall be responsible for controlling & issuing all the Project related documents and shall be key point to receive and transmit documents.

### PROCUREMENT ENGINEER

Procurement Engineer shall report to the Project Manager. Shall be responsible for arranging necessary equipment, Busbar, consumables and ensure the procedure is implemented and complied with all specifications.

### PLANNING ENGINEER

Planning Engineer shall report to the Project Manager. Shall be responsible for monitoring the equipment receipt and production planning in line with the schedule / targets given by the Project Manager. Shall be responsible for the execution of the project in line with the contractual requirements.

### PRODUCTION IN-CHARGE

Shall report to the Operation Manager. Shall coordinate and interface with Planning Engineer to ensure the production is in line with the production planning. He shall be responsible for arranging the tools & tackles, issue of drawings for production, monitoring the drawing revisions and modifications if any.

### STORE KEEPER

Shall report to Operation Manager. Shall be responsible for proper storage and issue of products, accessories as per production planning.

### QA/QC ENGINEER

Shall report to the QC Manager. Shall be responsible to ensure that works carried out are complied with project quality requirements, to identify and intimate the production for any issues related to quality and shall monitor the Implementation of Quality standards. Shall inspect the incoming equipment and verify the materials received are complying to standards/ specifications.

Shall be responsible for quality control & documentations.

Stages of inspections and surveillance in accordance with ITP to assure of quality of work as per specification and installation procedures.



## INSPECTION & TESTING

### EQUIPMENTS

Busbar bending Machines, shroud bending machine, sleeve heater, Fork Lifts, lifting belts, slings and other necessary tools and tackles.

Hand tools & Calibrate all Testing Equipments suitable for LV Switchgear testing.

The Supervisor / Foreman shall ensure that the equipment & accessories used are suitable for the job and are in good working condition. Electrical Connections made to complete the electrical work shall be as per good engineering practices.

### DRAWING RECEIPT & ISSUE OF EQUIPMENT

The Engineering Department shall issue to Production Department the Final approved Drawings provided by client together with Material Requisition complete with information such as identified code and description to corresponding material items.

After receiving the final approved Drawings, the Production in charge shall coordinate with the Planning Engineer and request the material from the Store. The Store shall issue the Material based on the MR.

### CALIBRATION CONTROL

The measuring instruments like Insulation Tester, Low Resistance meter(Ductor), Multimeter, Clamp meter, Primary & Secondary current Injection Testing Kit, measuring tape etc. deployed in testing of LV Panels shall be calibrated periodically once in a year at certified laboratory.

### QUALITY CONTROL PRIOR TO ASSEMBLY

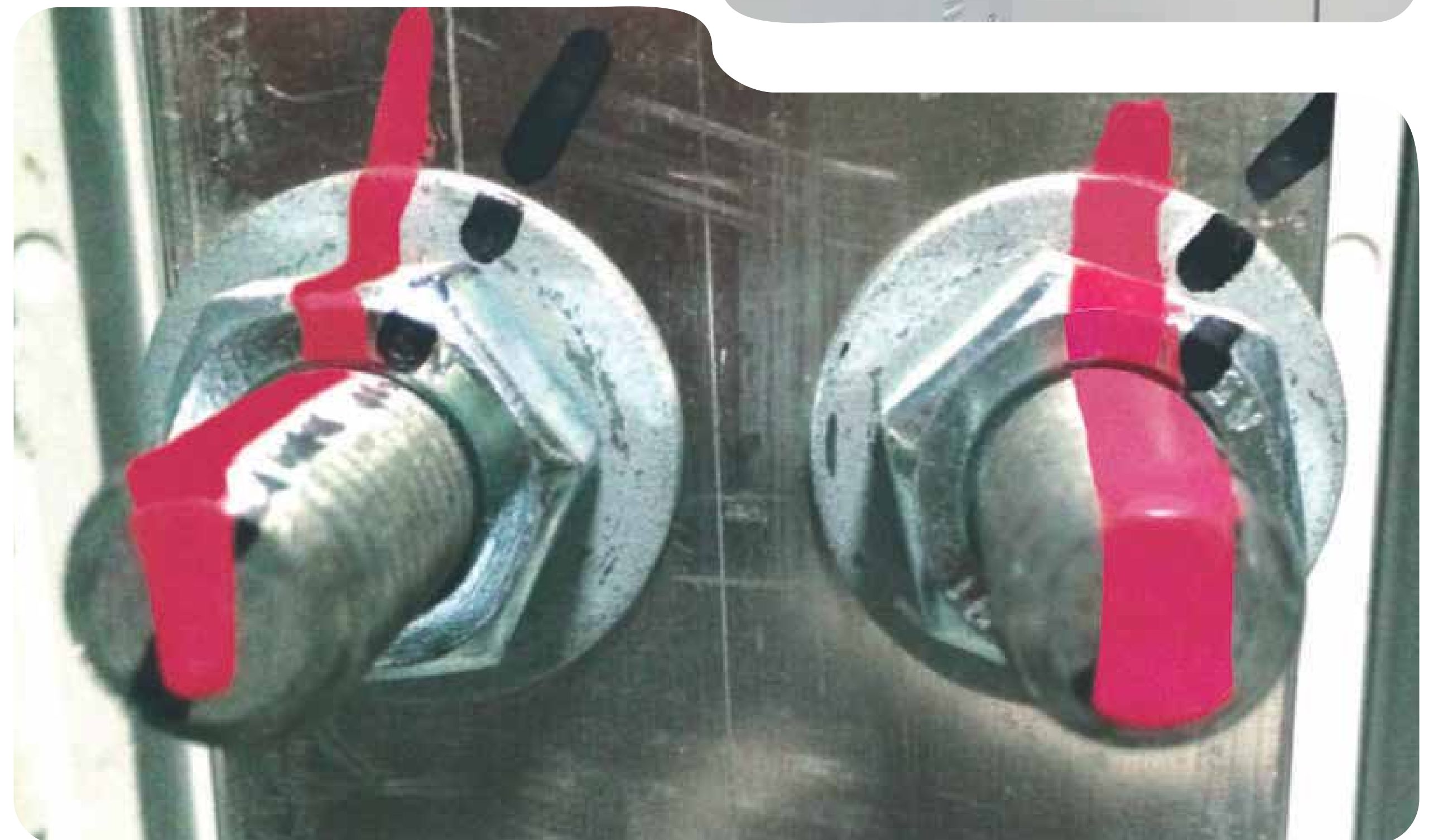
Check the availability of “Final approved” drawings. Prior to assembly, all components need to be inspected.

### QUALITY CONTROL CHECKS DURING ASSEMBLY

All materials received shall be inspected upon receipt. Engineering/Design instructions shall be followed. Panel section shall be inspected.

### TESTING

- Test Before Energization.
- Doors and panels shall be checked to ensure proper opening and closing.
- Withdrawable units shall be checked to ensure freedom of movement.



**Mark/Pointer on Torque Test**

- Breaker ratings, protection devices, indicators & ammeters shall be checked against the panel schedule. Current transformer ratios shall be checked.
- Busbar connections shall be inspected for correct phasing and tightness.
- The mechanical operation of spring wound circuit breakers shall be checked.
- Earthing shall be checked.
- Insulation Resistance Test of internal Busbar.
- Torque Test of Busbar Joints.
- Contact Resistance Test of Busbar Joints.
- Over Current Relays shall be checked at their minimum, maximum and normal setting values.
- Under Voltage Relays shall be checked by voltage simulation noting the drop-out and pick-up values.
- Switchgear Insulation Resistance Test.
- All test shall be witnessed and recorded.
- Any other test required by client shall be done.
- Energization Tests at site will be executed after above checks.



The Equipment shall be energized and witnessed according to the contract procedures and with specified authorizations.

The Equipment shall be functionally checked prior to the connection of outgoing power and control cables. The checks shall commence with the incoming breakers, bus tie, auxiliary suppliers and progress through the main outgoing feeders

Breakers shall be closed and tripped manually. Particular attention shall be paid to the alignment of contacts on main breakers and auxiliary relays.

Inter-tripping of incoming supplies shall be checked first by simulating control Inputs followed by actual energization of associated supplies.

Remote operation of breakers shall be checked by simulating inputs at the control wiring terminal block. Mechanical interlocks such as door interlocks etc. shall be checked by actual opening and closing.

## HEALTH AND SAFETY REQUIREMENTS

Prior to commencement of any activity, all personnel involved on the job shall attend the project HSE Induction training.

The team will closely supervise and monitor all phases of activities in connection with the compliance of safe working models.

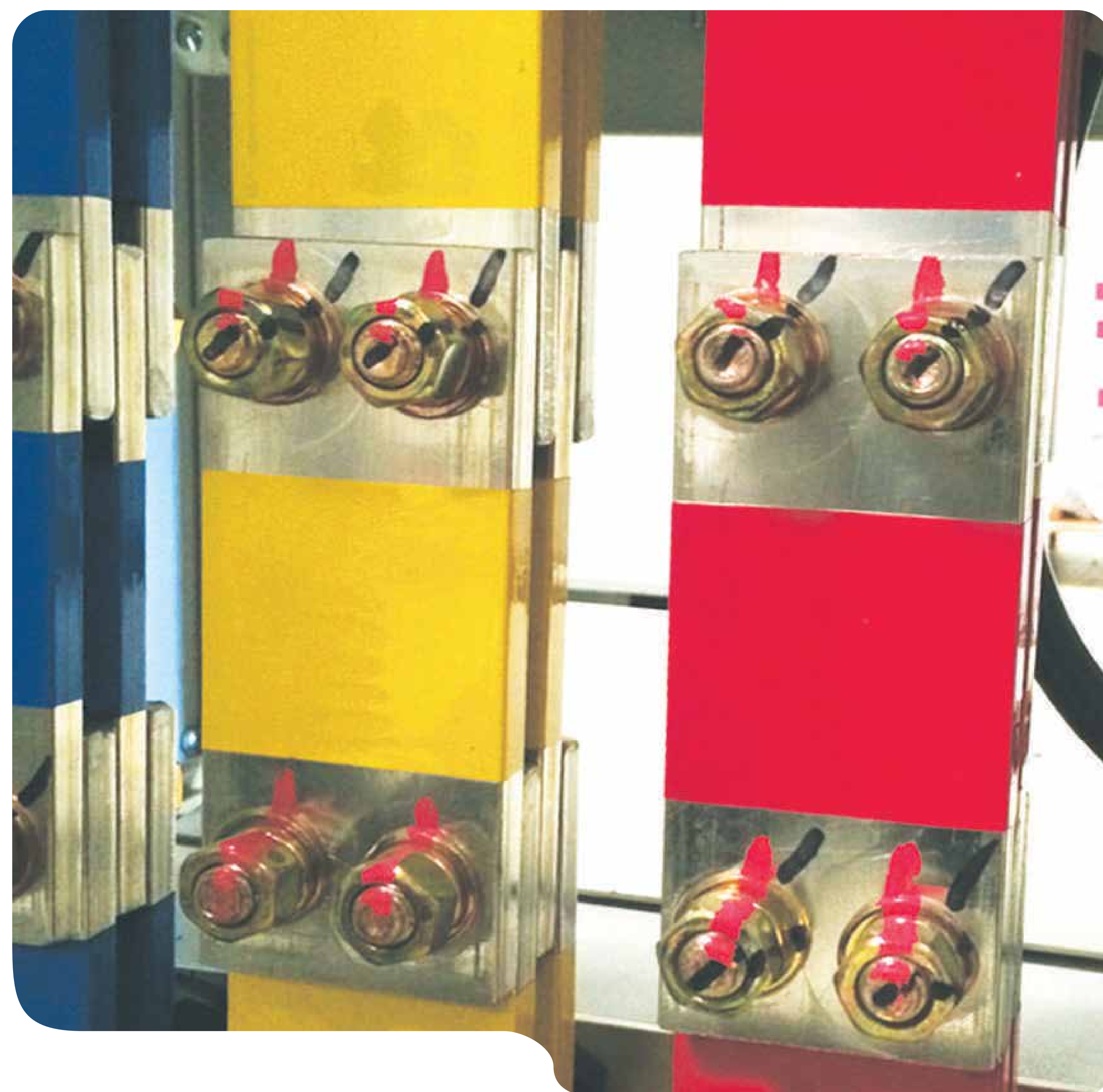
Personnel shall use protective gears and clothing in accordance with the project general safety guidelines. All personnel working in the site shall wear proper personal protective equipment (PPE) such as safety helmets, safety glasses, safety shoes, hand gloves etc. as required.

Any accident / injury / near miss shall be reported immediately.

The Supervisor shall be responsible for presenting all technicians with a Pre-work briefing / Tool box talk using the risk assessment before work starts.

The Supervisor shall immediately correct any hazards observed or reported to him.

Good housekeeping shall be maintained at all times.

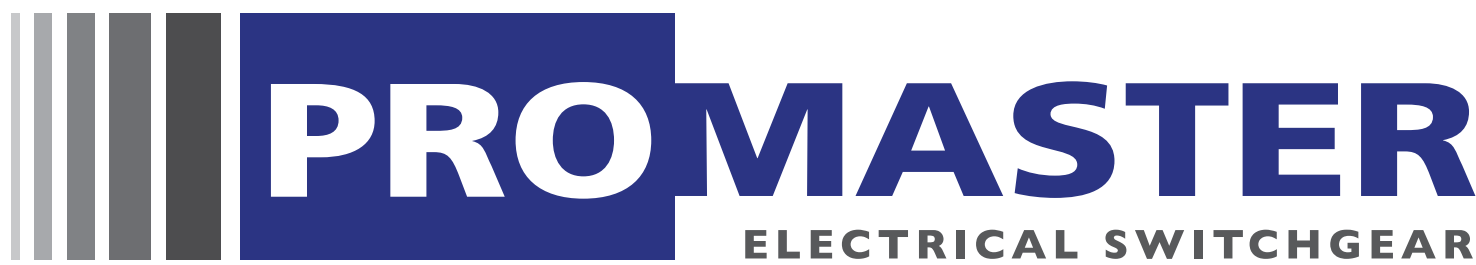


## DOCUMENTATION & RECORDS

- Material Receiving Inspection Check sheet
- Storage Handling & Preservation Check sheet
- Inspection Test Report



FACTORY QA/QC INSPECTION REPORT



PO BOX : 1871,DUBAI-U.A.E  
Tel :+9714 8105105, Fax : +97148105106  
Email : promaster.qc@fjtco.com  
www.faisaljassim.ae

FJT/ECS/4/009-VERSION 2

Project:	Name of panel:
Consultant:	Location:
Contractor:	System Voltage:
Customer:	Control voltage:
Drawing No:	Rated Current:

VISUAL INSPECTION	REMARKS	MECHANICAL INSPECTION	REMARKS
Conformity with parts list & Drawing		IP Grade	
Check for main labels, warning labels etc		Check for cubical size	
All doors are earthed		Color of cubical	
All live parts shrouded		Assembling accesses Front / Rear	
Cleanliness of panel		Torque tightness for Busbar & Breaker	
Breaker setting/overload set at labels		Tightness of all fittings	
Check for size of cables & copper busbars		Torque set marking	
Cable entry and door openings		Operation of breakers through external handle	

ELECTRICAL FUNCTION TEST	REMARKS	ELECTRICAL FUNCTION TEST	REMARKS
Electrical operation of all Starters		Electrical & Mechanical functions of :-	
Checking of vfd's in both Manual /Auto mode		Air Circuit Breakers (ACB)	
Checking of PLC/BMS signal of all Starters		Moulded Case Circuit Breakers (MCCB)	
Trip test for ELR's, ELCB's, RCBO's if any		Miniature Circuitr Breakers (MCB)	
Check for operation of Meters		KWH meter and rating of CT's	
Check for all Indications		Meter's dial & frame size and CT's ratings	
Test operation of all devices		Function of external switches	
Interfacing test with BMS		Out put Voltage & Continuity	

INSULATION RESISTANCE TEST 500 VDC, R > 50 Mohm(IEC 60255 - 5)				
Meter Make/ Type	Digital meter	Caliberation Due	03 rd September2014	Voltage Applied
Measurements	R/Y+B+N+E	Y/R+B+N+E	B/R+Y+N+E	N/R+Y+B+E
Before HV				
After HV				

DIELECTRIC TEST 2000 V, 50 Hz ,1 min (IEC 60255-4)				
Meter Make / Type	Digital meter	Calibration Due	03 rd September2014	voltage Applied
Measurements	R/Y+B+N+E	Y/R+B+N+E	B/R+Y+N+E	N/R+Y+B+E
Result (mA )				

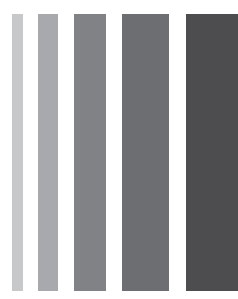
	Tested by QA/QC Engineer	Approved by Contractor	Approved by Consultant	Accepted by Client
Name				
Signature				
Date				



FACTORY QA/QC INSPECTION REPORT

(CAPACITOR BANK)

FJT/ECS/4/009-VERSION 2



**PROMASTER**  
ELECTRICAL SWITCHGEAR

PO BOX : 1871,DUBAI-U.A.E  
Tel :+9714 8105105, Fax : +97148105106  
Email : promaster.qc@fjtco.com  
www.faisaljassim.ae

Project:	Name of panel:
Consultant:	Location:
Contractor:	System Voltage:
Customer:	Control voltage:
Drawing No:	Rated Current:

VISUAL INSPECTION	REMARKS	MECHANICAL INSPECTION	REMARKS
Conformity with parts list & Drawing		Check IP Grade	
Check for main labels, warning labels etc		Check for cubical size	
All doors are earthed		Check Color of cubical	
All live parts shrouded		Assembling accesses Front / Rear	
Cleanliness of panel		Torque tightness for Busbar & Breaker	
Breaker setting/overload set at labels		Tightness of all fittings	
Check for size of cables & copper busbars		Torque set marking	
Cable entry and door openings		Operation of breakers through external handle	

ELECTRICAL FUNCTION TEST	REMARKS	ELECTRICAL FUNCTION TEST	REMARKS
Electrical operation in Manual /Auto mode		KVAR of the Panel	
Control Voltage of the PFR		Number of steps	
Exhaust fan Operation		Ratio of the step division	
Function of contactors		Fuse Ratings of the steps	
Check for all Indications		Make of the capacitors	
Earth Connection of Capacitors		Make of the PFR	
Door Interlock of Control by Door LimitSwitch		Make of the Fuse sets	
Ventilation Louvers		Make of contactors	

INSULATION RESISTANCE TEST 500 VDC, R > 50 Mohm(IEC 60255 - 5)					
Meter Make/ Type	Digital meter	Caliberation Due	03 rd September2014		Voltage Applied
Measurements	R/Y+B+N+E	Y/R+B+N+E	B/R+Y+N+E	N/R+Y+B+E	500V DC
Before HV					
After HV					

DIELECTRIC TEST 2000 V, 50 Hz ,1 min (IEC 60255-4)					
Meter Make / Type	Digital meter	Calibration Due	03 rd September2014		voltage Applied
Measurements	R/Y+B+N+E	Y/R+B+N+E	B/R+Y+N+E	N/R+Y+B+E	2000V AC 50Hz
Result (mA )					

	Tested by QA/QC Engineer	Approved by Contractor	Approved by Consultant	Accepted by Client
Name				
Signature				
Date				



# 10 STANDARDS



**KEMA** Quality



**ASTA**

**Intertek**



# IEC STANDARDS FOR ELECTRICAL INSTALLATION

The following lists the main Standards which refer to the most common low voltage electrical applications and the standards might have been amended.

STANDARD	YEAR	TITLE
IEC 60027-1	1992	Letter symbols to be used in electrical technology - Part 1: General
IEC 60909-0	2001	Short-circuit currents in three-phase a.c. systems - Part 0: Calculation of currents
IEC 60947-1	2007	Low-voltage switchgear and controlgear - Part 1: General rules
IEC 60947-2	2009	Low-voltage switchgear and controlgear - Part 2: Circuit-breakers
IEC 60947-3	2008	Low-voltage switchgear and controlgear - Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units
IEC 60947-4-1	2009	Low-voltage switchgear and controlgear - Part 4-1: Contactors and motor- starters – Electromechanical contactors and motor-starters
IEC 60947-4-2	2007	Low-voltage switchgear and controlgear - Part 4-2: Contactors and motor- starters – AC semiconductor motor controllers and starters
IEC 60947-4-3	2007	Low-voltage switchgear and controlgear - Part 4-3: Contactors and motor- starters – AC semiconductor controllers and contactors for non-motor loads
IEC 60947-5-1	2009	Low-voltage switchgear and controlgear - Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices
IEC 60947-5-2	2007	Low-voltage switchgear and controlgear - Part 5-2: Control circuit devices and switching elements – Proximity switches
IEC 60947-5-3	2005	Low-voltage switchgear and controlgear - Part 5-3: Control circuit devices and switching elements – Requirements for proximity devices with defned behaviour under fault conditions
IEC 60947-5-4	2002	Low-voltage switchgear and controlgear - Part 5: Control circuit devices and switching elements – Section 4: Method of assessing the performance of low energy contacts, special test s
IEC 60947-5-5	2005	Low-voltage switchgear and controlgear - Part 5-5: Control circuit devices and switching elements - Electrical emergency stop device with mechanical latching function

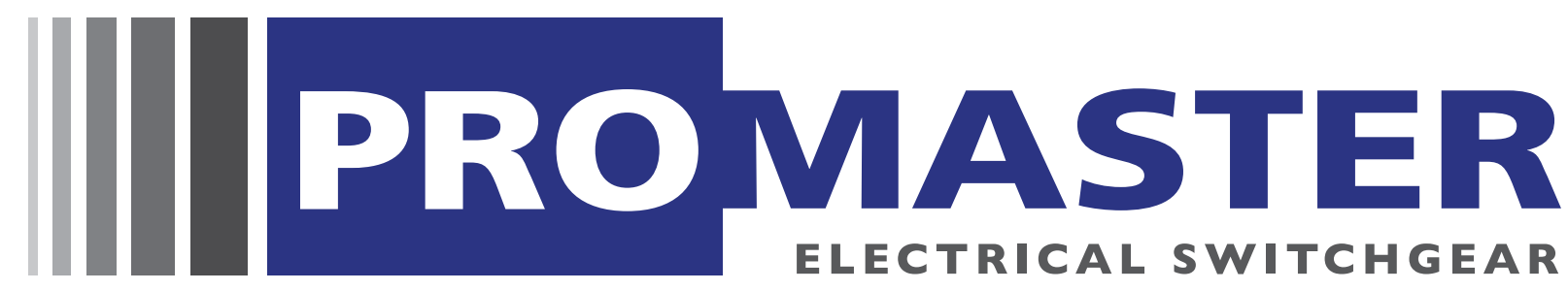


STANDARD	YEAR	TITLE
IEC 60947-5-6	1999	Low-voltage switchgear and controlgear - Part 5-6: Control circuit devices and switching elements – DC interface for proximity sensors and switching amplifiers (NAMUR)
IEC 60947-6-1	2005	Low-voltage switchgear and controlgear - Part 6-1: Multiple function equipment – Transfer switching equipment
IEC 60947-6-2	2007	Low-voltage switchgear and controlgear - Part 6-2: Multiple function equipment - Control and protective switching devices (or equipment) (CPS)
IEC 60947-7-1	2009	Low-voltage switchgear and controlgear - Part 7: Ancillary equipment Section 1: Terminal blocks for copper conductors
IEC 60947-7-2	2009	Low-voltage switchgear and controlgear - Part 7: Ancillary equipment Section 2: Protective conductor terminal blocks for copper conductors
IEC 61439-1 + 2	2009	Low-voltage switchgear and control gear assemblies Part 1: General rules, Part - 2: Assembly rules
IEC 60439-3	2001	Low-voltage switchgear and control gear assemblies - Part 3: Particular requirements for low-voltage switchgear and control gear assemblies intended to be installed in places where unskilled persons have access for their use - Distribution boards
IEC 60309-2	2005	Plugs, socket-outlets and couplers for industrial purposes Part 2: Dimensional interchangeability requirements for pin and contact-tube accessories
IEC 61008-1	2010	Residual current operated circuit-breakers without integral over current protection for household and similar uses (RCCBs) Part 1: General rules
IEC 61008-2-1	1990	Residual current operated circuit-breakers without integral over current protection for household and similar uses (RCCB's) Part 2-1: Applicability of the general rules to RCCB's functionally independent of line voltage
IEC 61009-1	2010	Residual current operated circuit-breakers with integral over current protection for household and similar uses (RCBOs) - Part 1: General rules
IEC 60269-1	2009	Low-voltage fuses - Part 1: General requirements



Your Requirements

## UNINTERRUPTED SERVICE IN COMPLETE SAFETY



## LOW VOLTAGE DISTRIBUTION SWITCHGEAR UPTO 4000 A



**TYPE TESTED AS PER IEC STANDARDS IN  
UK, GERMANY & NETHERLANDS**



**DESIGNED TO SUIT GCC MARKET CONDITIONS**



**STRATEGIC ALLIANCE WITH ABB**



**APPROVED BY UTILITIES AND MAJOR CONSULTANTS**



**STRONG AND CAPABLE TECHNICAL TEAM**



**PROVEN RECORD OF HAVING EXECUTED MEGA PROJECTS**



**COMPACT AND FLEXIBLE DESIGN TO SUIT THE ELECTRICAL  
ROOM WITH SMALLEST FOOTPRINT**

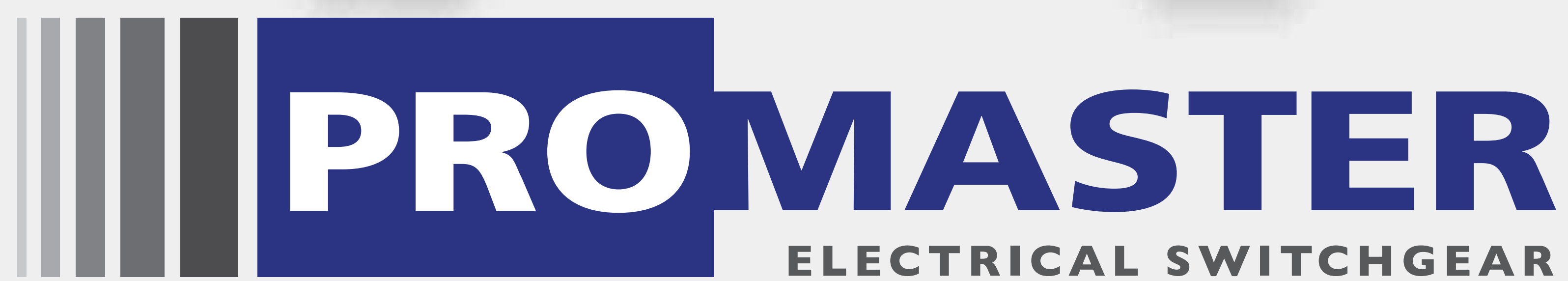


**INFRASTRUCTURE WITH CAPABILITY TO UNDERTAKE,  
EXECUTE & DELIVER MAJOR PROJECTS**



**RELIABILITY**

**SUSTAINABILITY**



**FLEXIBILITY**

**SIMPLICITY**

**COST  
OPTIMIZATION**

**OBJECTIVE**

Design reliable systems  
and solutions, that is quick,  
easy and inexpensive to  
install and maintain