



# ECS ENGINEERING

## Company Profile

(Complete Electrical System Capability upto 33kV)

### ECS+ Panel System



**Electrical Switchboards upto 15000A**



The ECS<sup>+</sup> functional system can be used for all types of low-voltage distribution switchboards (main, distribution and sub-distribution) up to 18000 A, in industrial and commercial environments.

Switchboard design is very simple:

#### **A metal structure**

The switchboard is made up of one or more frameworks combined side-by-side or Back-to-back, on which a complete selection of cover panels and doors can be mounted.

#### **A distribution system**

Horizontal busbars or vertical busbars positioned in a lateral compartment or at the rear of the cubicle is used to distribute electricity throughout the switchboard.

#### **Complete functional units**

Each device is part of a functional unit comprising:

Dedicated mounting plate for device  
installation front plate to block direct access to live parts  
prefabricated busbar connections  
devices for on-site connections.

Each functional unit contributes to a function in the switchboard. The functional units are modular and are arranged rationally, one on top of another, within the enclosure. The system includes everything required for functional unit mounting, supply and onsite connection. The components of the ECS<sup>+</sup> panel system and those of the functional units in particular have been designed and checked taking into account device characteristics. This design approach ensures a high degree of reliability in system operation and optimum safety for personnel.

### **A safe electrical installation**

The total compatibility of electrical devices with the ECS+ panel system is a key advantage in ensuring a high level of installation dependability.

### **An upgradeable electrical installation**

A modular designed switchboards can be modified easily to integrate new functional units as needed. Maintenance operations, carried out with the switchboard de-energized, are fast and straight-forward due to easy access to devices.

### **Safety of Installations & safety of personnel**

Work in a switchboard must be carried out by authorized persons in compliance with All applicable safety regulations. To increase the safety of personnel, devices are installed behind protective front plates (double door on request); only the operating handles are accessible.

Additional internal protection (partitions, barriers) is available to create form 2 or 3 or more special separations to protect against direct contacts with live parts. Terminal barriers are mandatory for installation of MCCBs in ECS+ panels.

Electrical switchboards are built using the ECS+ functional system and ECS Engineering Ltd. manufacturing process fully comply with international standard IEC 61439-2 : 2011

### **Electrical characteristics**

Use of the components in the ECS+ functional system ensures the creation of switchboards complying with standards IEC 61439-1 and IEC 61439-2 with the following electrical characteristics: rated insulation level of main busbars: 1000 V rated operational current Ie: 15000 A

### **Mechanical characteristics**

Steel sheet metal.

Electrophoresis treatment + hot-polymerized polyester powder coated. ECS light gray closer to RAL 7038 can be dismantled (prior information required) can be combined side-by-side and back-to-back. Degree of protection: IP31, IP55 or higher on request.

Framework dimensions:

Two widths:

- W 300: cable compartment

- W 800: device compartment.

Four depths: 500,600, 700, 800 mm (can be crafted fit to the customer's special requirements) four height: 1200mm, 1400mm, 1600mm, 2000mm. Indoor cubicles.

Outdoor cubicles (on request).





**FORMS OF ECS+ PANEL SYSTEM:**

ECS Engineering is a Bangladeshi company which manufactures electrical panel system both for indoors and outdoors. Our operations offices and workshops are located in Mirpur, Dhaka, we call it our “Quality Centre”. Founded in 2009, ECS has in just 14 years become reference in the panel system compliant to the international standard carrying electrical intensity 18000A, is the physical evidence of success & satisfactions. We make Distribution Panels, Motor Control Panels, Power Factor improvement panels, lighting Panels with the special care of individual’s panel’s functionality. Customers’ choices are the first preference but regulatory requirement’s is the key to craft our panels.

**ECS+ PANELS: FORMS OF INETERNAL SEPARATION COMPLIANT TO IEC 61439- 2: 2011**

Main Criteria	Sub-Criteria	Form
No Internal Separation.		Form 1
Separation of busbars from all functional units.	Terminals of external conductors not separated from busbars.	Form 2a
	Terminals of external conductors separated from busbars.	Form 2b
<ul style="list-style-type: none"> <li>- Separation of busbars from all functional units.</li> <li>- Separation of all functional units from one another.</li> <li>- Separation of terminals for external conductors and the external conductors from functional units but not from the terminals of another functional units.</li> </ul>	Separation of busbars from the functional units, and separation of all functional units from one another. Separation of the terminals, for external conductors, from the functional units, but not from each other. Terminals for external conductors not separated from busbars	Form 3a
	Separation of busbars from the functional units, and separation of all functional units from one another. Separation of the terminals, for external conductors, from the functional units, but not from each other. Terminals for External conductors separated from bus bars.	Form 3b
Main Criteria	Sub-Criteria	Form
<ul style="list-style-type: none"> <li>- Separation of busbars from all functional units.</li> <li>- Separation of all functional units from one another.</li> <li>- Separation of terminals for external conductors associated with functional unit from the terminals of any functional unit and the busbars.</li> <li>- Separation of external conductors from the busbars.</li> <li>- Separation of the external conductors associated with functional from other functional units &amp; their terminals.</li> <li>- External conductors need to be separated from each other.</li> </ul>	Functional units separated from each other and busbars, cable glanded on the functionalunit compartment. Terminals associated withfunctional units to be located in the same compartments as the functional unit. Separation by metallic or non-metallic barrier.	Form 4a
	Functional units separated from each other and busbars, cable glanded on the common cabling together. Terminal associated with functional units to be separated from those of other functional units and located in separate compartments. Busbar Separation by insulated coverings, busbar separations by metallic non-metallic rigid barriers & terminals separated by insulated coverings, busbar separated by metallic or non-metallic barriers. terminals separated by metallic or non-metallic barriers	Form 4b



## HOW ECS SERVICES BECOME INEVITABLE FOR THE USERS, ESPECIALLY INDUSTRIAL CUSTOMERS:

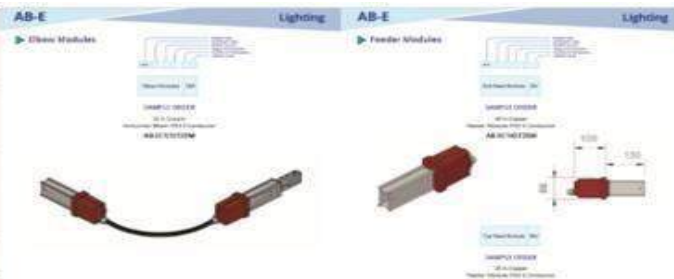
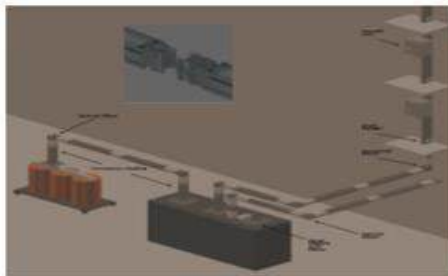
Part of business strategy, ECS started its business with the supply of electrical components. ECS won the heart of customers within short span of time with a simple approach i.e. commitment, genuine products & services from the genuine sources & reasonable prices and that's the key to set ECS at this position.

Product line of ECS Engineering:

- (1) Complete substation up to 33kV system;
- (2) HT Panels up to 33kV;
- (3) Low Voltage Switchgear;
- (4) Distribution Equipment's;
- (5) Retrofit & Renovation of electrical systems;
- (6) Design, supply & Installation of Sandwiched Busbar Trunking System;
- (7) Design, supply & installation of ESE Lightning Protection System.
- (8) Design, manufacture, supply & installation of ECS Cable Tray.
- (9) Supply of Electrical Components from Ready Stock (Schneider/ABB).



HV solutions: Power Transformer upto 10MVA 33kV system & HT Switchgear upto 36kV



**SMART Busway System 25A -6300A from certified manufacturing plant**



Ready Stock Support for all electrical spares both ABB/Schneider range:



MCB SP, DP, TP & 4P 2A -63A



TeSys CONTACTORS and reversing contactors up to 450kW/400 V



MCCB 3P/4P up to 1250A and ACB 3P/4P (fixed & draw-out) up to 6300A with all accessories.

# Power Metering and Control

## Basic Multi-Function Metering



PowerLogic PM3000



PowerLogic PM5000



PowerLogic PM8000 series

## Advanced Metering



PowerLogic  
ION7550/ION7650



NEW! PowerLogic ION9000

## POWER FACTOR IMPROVEMENT CAPACITOR & POWER FACTOR CORRECTION RELAY



VLC 6 & VLC 12

EasyCan

VarPlus Can



## VARIABLE SPEED DRIVES ALTIVAR PROCESS ATV600



### Extensive offer

The Altivar Process wall mounting and floor standing products offer covers motor power ratings from 0.75...315 kW / 1...500 HP for three-phase voltages between 200...240 V, 380...480 V and 500...690 V.

Three-phase power supply	Motor power	Degree of protection	Reference
200...240 V	0.75 kW...75 kW 1...100 HP	IP 21 UL type 1	ATV630U07M3...D75M3
380...480 V	0.75 kW...315 kW 1...500 HP	IP 21 UL type 1 IP 55 IP 55	ATV630U07N4...C31N4 ATV650U07N4...D90N4 ATV650U07N4E...D90N4E (1)
380...440 V	110 kW...315 kW 150...500 HP	IP 21 IP 54	ATV630C11N4F...C31N4F ATV650C11N4F...C31N4F
500...690 V	2.2...90 kW 3...125 HP	IP 20 UL Type 1	ATV630U22Y6...D90Y6

Three-phase supply voltage: 380...480 V 50/60 Hz Wall-mounting drives

In addition of above products in ready stock, we have also stock for 12kV VCB



Type	EasyPact EXE 122512A1B			
Rated voltage	Ur	kV	12	•
Rated frequency	fr	Hz	50/60	•
Rated short duration power frequency withstand voltage <sup>(1)</sup>	Ud	kV	28	•
Rated lightning impulse withstand voltage	Up	kV	75	•
Rated short-circuit breaking current	Isc	kA	25	•
Rated duration of short-circuit	tk	s	3	•
Rated normal current	Ir	A	1250	•



Early Steaming Emission (ESE) technology is the advanced Technology that products Your infrastructures and human resources from being damaged due to lightning strikes.





## ECS Quality Concept:

Standard IEC 61439 clearly defines the type of verifications that must be conducted by both parties involved in final conformity of the solution: The Original Manufacturer, guaranteeing assembly system design and the Assembly Manufacturer, responsible for the final conformity of the switchboard. The manufacturer, specifier/consultant, assembler and end user have the responsibilities those are equally important for a quality switchboard that is compliant to the standard IEC 61439-1 & 2.

Original Manufacturer the organization that has carried out the original design and the associated verification & validation process of an assembly system. They are responsible for the "Design verifications" listed by IEC 61439-2 including many electrical tests.

ECS Engineering listed up the verification process specified by the standard and ensures its validation process before execution of every delivery:

<b>Degrees of protection provided by enclosures</b>	Checked
<b>Insulation clearances and creepage distances</b>	Checked
<b>Protection against electric shocks and integrity of protection circuits</b>	Checked
<b>Integration of incorporated components</b>	Checked
<b>Internal electric circuits and connections</b>	Checked
<b>Terminals for external conductors</b>	Checked
<b>Mechanical operation</b>	Checked
<b>Dielectric properties</b>	Checked
<b>Wiring, operating performance and function</b>	Checked

### Regulatory Requirement's:

ECS Engineering is registered by the registrar of the Joint Stock Company under companies act and ECS engineering has also obtained electrical supervisory license from Bangladesh Electrical Licensing Board. The company has also duly obtained VAT registration from the office of the Customs & Excise.

### Contact & communications:

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