IBUSWAY
FOR BUSWAY SOLUTIONS

Low Voltage Panels

Electrical panel manufacturing up to 5000 A

Built to each project's drawings and specification



5000 A
Rated current up to

Own factory
Panel manufacturing

6 panel types
MDB, SMDB, MCC, ATS, PFC, control

01 About I-Busway

I-Busway (I-Busway for Electrical and Engineering Industries) is an Egyptian power distribution company, established in 2008 by Eng. Mahmoud Abd El-Bassir, whose experience in electrical power distribution goes back to 1985. The company was formed to deliver reliable, efficient and safe power distribution systems for industrial, commercial and infrastructure projects.

I-Busway manufactures low-voltage electrical panels up to 5000 A in its own factory, built to each project's specification. This document covers
that panel activity. Busway distribution, installation and maintenance is presented in a separate document.

2008	5000 A	6	Egypt
Year established	Panels up to	Panel types	Projects across the country

Leadership

Chairman	Eng. Mahmoud Abd El-Bassir (founder)
General Manager	Eng. Amr Mahmoud Abd El-Bassir
Chief Executive Officer	Eng. Mohamed Mahmoud Abd El-Bassir
Civil Projects Manager	Eng. Mostafa Mahmoud Abd El-Bassir

From the factory



Rows of panel cubicle frames in the I-Busway factory

02 How We Work

From the first drawing to long after handover, the same engineering team follows the panel through its life.

STEP 01

Engineering review

Offers are prepared from the client's drawings and bills of quantities, which our engineers study and price.

STEP 02

Manufacturing

Panels are manufactured in I-Busway’s own factory, built to each project’s drawings and specification.

STEP 03

Routine factory checks

Before delivery, every panel passes routine checks: wiring and connections, busbar tightening, insulation measurement and an operation test.

STEP 04

Direct follow-up

Projects are supervised by company engineers with direct follow-up from the technical management, from offer to handover.

STEP 05

Long-term support

Technical support continues after delivery and installation.

5000 A	Own factory	Per project
Panels up to	Panel manufacturing	Built to the drawings and specification

03 Panel Types

I-Busway manufactures the main panel types of a low-voltage power distribution system, built to each project's drawings and specification.

MDB	**Main distribution board** Receives the incoming supply and distributes it to sub-distribution boards and large loads. Ratings up to 5000 A.
SMDB	**Sub-main distribution board** Receives power from the main board and distributes it to a specific area or group of loads.
MCC	**Motor control center** Groups the starters and control equipment for motors such as pumps, fans and conveyors.
ATS	**Automatic transfer switch panel** Transfers the load automatically between two sources, for example mains and a generator.
PFC	**Power factor correction panel** Reduces reactive power drawn from the network using capacitor banks.
Control	**Control panels** Control and automation panels built to the project requirement.

04 Panel Types in Detail

MDB

Main distribution board

Function: The first distribution point after the incoming supply. It receives power from the transformer or generator and feeds sub-distribution boards and large loads.

Typical contents: An incomer air circuit breaker, main copper busbars, metering and outgoing feeder breakers.

Ratings: Built to the project specification, up to 5000 A.

SMDB

Sub-main distribution board

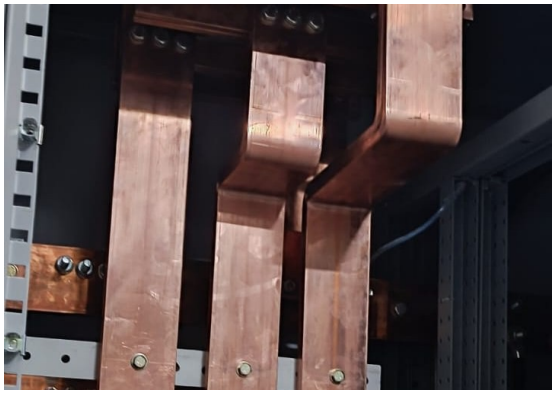
Function: Receives power from the main distribution board and distributes it within a specific area, floor or group of loads.

Typical contents: An incoming switch or breaker, busbars and outgoing feeder breakers.

Position in the system: Between the main board and the final distribution boards.



Cubicle frames with copper busbars installed



Copper busbars connected to an air circuit breaker

04 Panel Types in Detail (continued)

MCC

Motor control center

Function: Groups the starting, protection and control equipment of electric motors in one assembly, for loads such as pumps, fans and conveyors.

Typical contents: An incomer section and motor feeder compartments carrying starters, protection and control devices.

Operation: Local and remote control as the project requires.

ATS

Automatic transfer switch panel

Function: Transfers the load automatically between two sources, for example the utility supply and a standby generator, and back when the normal source returns.

Typical contents: Transfer switching equipment with electrical and mechanical interlocking, and its control circuit.

Use: Loads that need an automatic changeover to a standby source when the normal supply fails.



Drawer-type feeder cabinet



Feeder section with a moulded-case breaker

04 Panel Types in Detail (continued)

PFC

Power factor correction panel

Function: Reduces the reactive power drawn from the network by switching capacitor steps to follow the load, improving the installation's power factor.

Typical contents: Capacitor bank steps, a reactive power controller, and step switching and protection devices.

Benefit: Helps the installation meet the utility's power factor requirements.

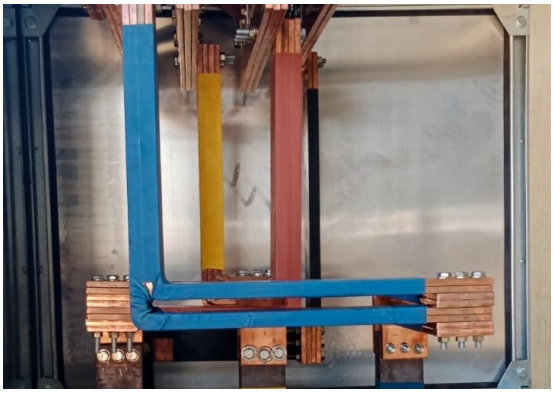
Control

Control panels

Function: House the control, automation and indication equipment of a process or machine, built to the project's sequence and logic.

Typical contents: Relays, timers, programmable controllers and operator devices, as the project requires.

Build: To the project's drawings, specification and operating philosophy.



Busbar assembly with phase colour identification



Copper busbar arrangement in a panel

05 Technical Overview

Parameter	I-Busway panels
Rated current	Up to 5000 A
Voltage level	Low voltage
Components	Selected per project specification
Busbars (as photographed)	Copper busbars with colour-coded phases (red, yellow, blue)
Enclosure (as photographed)	Free-standing modular cubicles with perforated mounting rails and hinged doors
Compartments (as photographed)	Drawer-type feeder compartments and air circuit breaker incomer sections
Ratings per project	Short-circuit rating, form of separation and enclosure protection degree are defined in each project specification

Components

Components are selected according to each project’s specification.



Busbar compartment and mounting rails

06 Routine Factory Checks

Before delivery, I-Busway carries out routine checks on its panels.

CHECK 01

Wiring and connections

Checking of wiring and connections, confirming every conductor is connected as intended before the panel is energized.

CHECK 02

Busbar tightening

Tightening of busbar and connection bolts. A loose joint overheats under load, so tightness is confirmed before delivery.

CHECK 03

Insulation

Measurement of insulation, confirming insulation integrity between live parts and to earth after assembly.

CHECK 04

Operation

Operation test of the panel: switching and control functions are operated to confirm the panel works as designed.

Wiring	Busbars	Insulation	Operation
Connections checked	Tightness confirmed	Measured	Tested



Routine checks carried out in the I-Busway factory

07 Specification Information for an Enquiry

A panel offer can be priced only when the project defines its electrical and installation requirements. The list follows the items that IEC 61439-2 (Annex AA) names as subject to agreement between manufacturer and user.

Information required	Why it is needed
System voltage, frequency, earthing	Defines the ratings of the assembly and its devices.
Rated current of assembly, incomers, feeders	Defines breakers, busbar size and cubicle size (up to 5000 A).
Prospective short-circuit current	Defines the breaking capacity of devices and the short-circuit withstand required.
Form of internal separation	Defines the compartment layout and access for maintenance.
Enclosure protection (IP) and location	Defines the enclosure and the ambient conditions.
Cable or busway entry and space	Defines the cubicle layout and the connection details.
Protection settings and discrimination	Defines device types and settings. Discrimination is confirmed from manufacturer data for the devices selected.
Metering, indication and control	Defines the devices fitted on each incomer and feeder.
Single-line diagram, layouts and BOQ	Basis for the technical review and the financial offer.

Request an offer

Send your single-line diagram, layout drawings and bill of quantities to sales@i-busway.com. Our engineers will review them and prepare a technical and financial offer.

08 Panel Project References

References for electrical panel manufacturing. Busway projects are listed in the separate busway document.

01	**Dubai Mall** Location: New Administrative Capital	SCOPE MCC panels manufactured for this project
02	**Residential buildings** Location: Smouha area	SCOPE Electrical panels for residential buildings
03	**Chalets and villas** Location: North Coast	SCOPE Electrical panels
04	**Ministry of Interior** Command and Control building	SCOPE Busway feeder panels

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09 Contact

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