



DATA CENTER SOLUTION DAY 2023 | OCTOBER 19, 2023 | JAKARTA, INDONESIA

# System pro E Power

## Low Voltage Switchgear up to 6300A

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# System pro E Power



ABB presents **System pro E Power**, the new main distribution boards up to 6300A  
A complete solution for the main distribution of electric energy for infrastructure,  
industry & building complexes.

# System pro E Power

## Technical features

### Dimensions (functional)

	Dimensions [mm]
Height	1800, 2000
Width	300, 400, 600, 800, 1000, 1250
Depth	200, 300, 500, 700, 900, 1250 *New

### Cable container dimensions (functional)

	Dimensions [mm]
Internal	400+200, 400+400, 600+200, 600+400, 800+200
Internal Rear	900+350 (1250) *New
External	300, 400

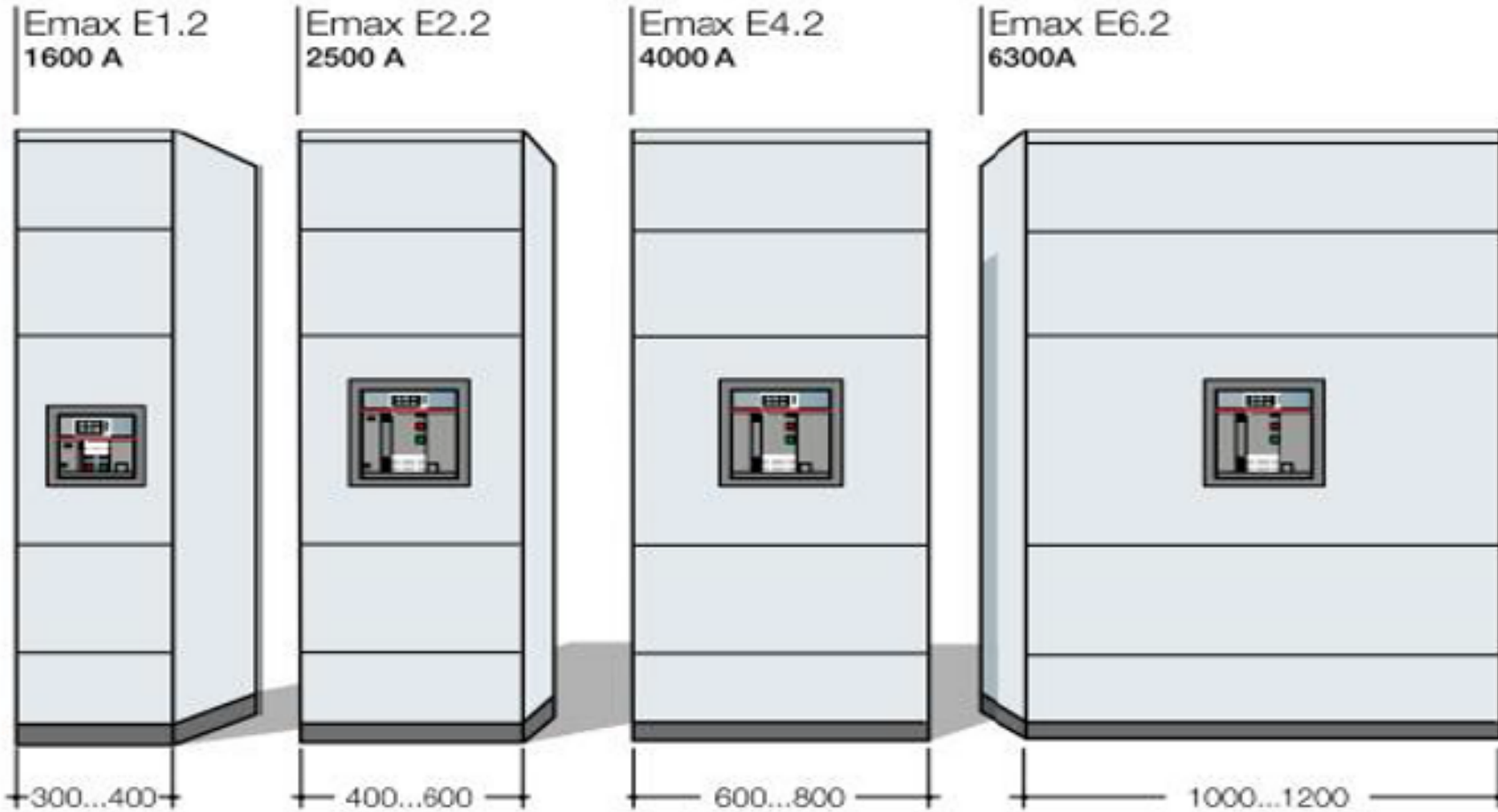
# System pro E Power

## Technical features

Rated Current	up to 6300A
IP	IP30, IP31, IP40, IP41, <b>IP43,IP54</b> IP65
Rated frequency	50-60 Hz
Ue (Rated service voltage)	up to 1000V AC/DC
Ui (Rated insulation voltage )	up to 1000V AC/DC
Uimp (Rated impulse withstand voltage)	12kV
Icw (Rated short-time current)	up to 120kA
Ipk (Rated peak withstand current)	up to 264kA
Standard of reference	IEC 61439-1-2 Edition 3.0
Vibration test	IEC 60068-2-57
Seismic test up to 0.69 G ( <b>default</b> )	IEEE Std 693
<b>Arc-resistant (default )</b>	<b>IEC 61641</b>

# Optimizing your LVS footprint

Satisfaction of requirements in the right size



# System pro E Power

## Technical features

### Dimensions (functional)

Breaker	Minimum functional cell dimension (mm)
E 1.2	400
E 2.2 F/W 3P	400
E 2.2 F/W 4P	600
E 4.2 F	600
E 4.2 W 3P	600
E 4.2 W 4P	800

Breaker	Minimum functional cell dimension (mm)
E 6.2 F 3P	1000
E 6.2 F 4P hs	1000
E 6.2 F 4P fs	1250
E 6.2 W 3P	1000
E 6.2 W 4P hs/fs	1250



# System pro *E*Power

Certified Assembler Partner

# System pro E Power – Partnership

## Assembler

Certificate  
System Pro-E Power Partner



... is authorized to project, manufacture and sell switchboard on its own responsibility by using ABB components and according to the relevant ABB manuals as well as the standard IEC 61439-1-2 up to 6300 A.

## LICENSE

Power and productivity  
for a better world™ **ABB**

Certificate  
System pro E Power  
Main Distribution Boards up to 6300A



## Company

Address

... is authorized to

- produce switchboard components on its own responsibility by using ABB



# System pro E Power - Certification



**Certificate  
of Conformity**

LOVAG-Certificate No. **IT 14.087**

**A C A E**

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**PRD N°070 B**

Membro degli Accordi di Mutuo  
Riconoscimento EA, IAF e ILAC

Signatory of EA, IAF and ILAC  
Mutual Recognition Agreements

# IEC 61439-2

## Overview of product evaluation:

IEC 61439-2	Characteristics verified	Results
10.2.2	Resistance to corrosion	Passed
10.2.3.1	Verification of thermal stability of enclosures	Not applicable; not insulating material
10.2.3.2	Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects	Passed
10.2.4	Resistance to ultra-violet (UV) radiation	Not applicable; indoor installation
10.2.5	Lifting	Passed
10.2.6	Mechanical impact	Passed
10.2.7	Marking	Passed
10.2.8	Mechanical operation	Passed
10.3	Degree of protection of ASSEMBLIES	Passed
10.4	Clearances and creepage distances	Passed
10.5.2	Effective earth continuity between the exposed conductive parts of the ASSEMBLY and the protective circuit	Passed
10.5.3	Short-circuit withstand strength of the protective circuit	Passed
10.6	Incorporation of switching devices and components	Passed
10.7	Internal electrical circuits and connections	Passed
10.8	Terminals for external conductors	Passed
10.9.2	Dielectric properties Power-frequency withstand voltage	Passed
10.9.3	Dielectric properties Impulse withstand voltage	Passed
10.10	Verification of temperature rise	Passed
10.11	Short-circuit withstand strength	Passed
10.12	Electromagnetic compatibility (EMC)	Not applicable see J.9.4.2
IEC TR 61641	Guide for testing under conditions of arcing due to internal fault	Passed



The General Secretary

Date: 2020.12.10

*Wojciech Scislawski*

ACAE is member

# Indonesia DtC Projects Reference YTD-2021



## Data Center Projects References < Y2022

Project Name	Switchboard type	PnB Name	Project Location	Dtc Type
AWS CGK-63/64/65	Genset Control Panel	PT. ECI	Cikarang	Hyperscale
TELKOM HDC	Distribution Panel	PT. GSPE	Cikarang	Hyperscale
Kemenkeu DtC 2021	Distribution Panel	PT. SEMESTA	Jakarta	Enterprise
Neucentrix 2021	Distribution Panel	PT. GSPE	TBA	Colocation
NTT L8	Distribution Panel	PT. DLGP	Bekasi	Hyperscale
JKT02 Microsoft	Panel Distribution	PT. DLGP	Cikarang	Hyperscale





# What is an Arc Flash

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## Types of risks in LV Switchgear

# LV Switchgear Failures

Short Circuit

Overheating

Arc Faults

# What is an arc flash

Arc flash is a dangerous condition that occurs when there is a loss of insulation between two live conductors inside electrical equipment.

Arc Flash numbers per year



**400 arc flash deaths**



**7,000 burn injuries every year**

**2,000 hospitalizations**



**30,000 arc flash incidents**

It is the light and heat generated by the electrical arc that can cause substantial damage.



Temperature of 20000°C



Fire



Noise blast up to 160 db



Explosion spray molten metal at speed up to 1600 km/h

Arc Flash is measured in terms of incident energy (cal/cm<sup>2</sup>) used to determine the level of the Personal Protective Equipment (PPE)

# IEC TR 61641

## Arcing Classes

### 4.1 Classification with regard to the protection characteristic

According to their characteristics under arcing conditions ASSEMBLIES can be classified by the manufacturer into:

- Arcing class A – ASSEMBLY providing personnel protection under arcing condition by arc tested zones conforming to arcing conditions in 8.7, criteria 1 to 5, and by arc ignition protected zones, if any;
- Arcing class B – ASSEMBLY providing personnel and ASSEMBLY protection under arcing conditions by arc tested zones conforming to arcing conditions to 8.7, criteria 1 to 6, and by arc ignition protected zones, if any;
- Arcing class C – ASSEMBLY providing personnel and ASSEMBLY protection under arcing conditions by arc tested zones conforming to arcing conditions with limited operation in 8.7, criteria 1 to 7, and by arc ignition protected zones, if any;
- Arcing class I – ASSEMBLY providing a reduced risk of arcing faults solely by means of arc ignition protected zones.

Personnel protection

Personnel and Plant protection





# Types of Arc Protection

## Passive

Switchgear designed and tested to mechanically withstand the electric arc. Protection is afforded by the containment of the arc within the switchgear. Passive solutions also include advanced switchgear design features to reduce the probability of an arc fault occurring, such as insulated busbars and segregation between compartments.

## Active

Switchgear equipped with devices to limit the arc incident energy (the amount of thermal energy generated during an electric arc event) and consequently limit the damage to the equipment.

## Preventative

Switchgear equipment for remote operation, so that standard operations such as asset checks, monitoring, racking in / out etc can be conducted outside of the dangerous arc flash exposure area. Preventative solutions also include predictive maintenance of assets, which enables a reduction in the number of live equipment interactions to only the most necessary and targeted actions as identified by the preventive devices.

### v) Forms of separation

Forms of separation in accordance with IEC 61439-2 are intended to improve access to parts of an assembly while other parts remain energised. They might also assist in containing an arc to a compartment within an assembly, but this is not their intended function. They are not verified as having any arc containment capabilities.

# Energy-Reducing Maintenance Switching with local status indicator

Energy-reducing maintenance switching with local status indicator is one of the most common technique to reduce the risks when personnel are near the equipment. When activated, this switch decreases the circuit breaker's tripping time and threshold to a safer level.

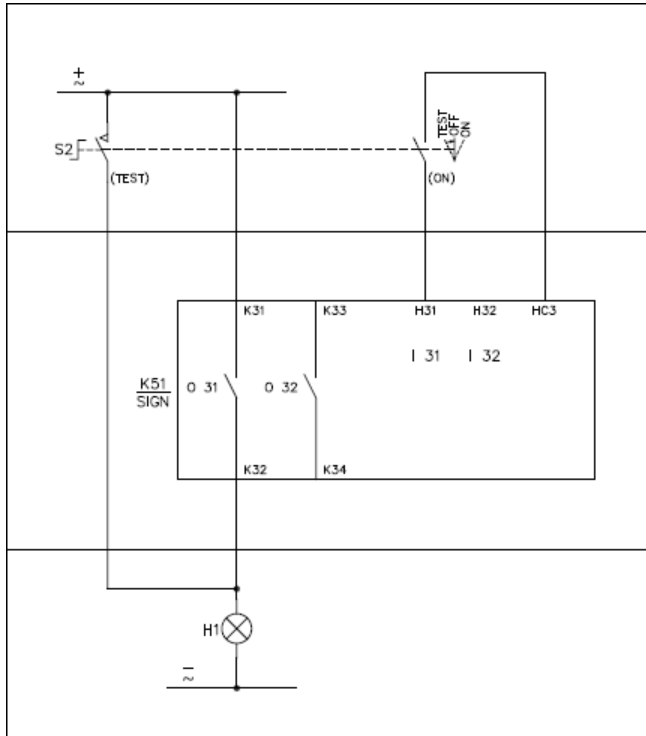
The local status indicator is typically mounted in front of the cabinet door in order to allow activation of the switch when the door is closed. This switch should include a means to LOTO (Lock Out Tag Out).

This switch should include positive feedback input with indication that confirms the circuit breaker is in the safer condition.



# Reduced Energy Let Through

## Wire



## Install

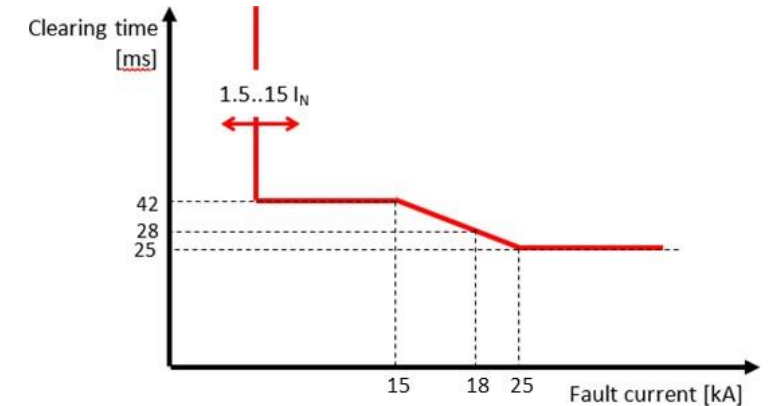
- Install the module and power up with 24V\*
- Select the menu **Advanced** **2I protection** **RELT Wizard**
- Press YES on the installation wizard



\*REL T Wizard page appear automatically at the first trip unit starting up

## Protect

- Less than 28ms clearing time above 18kA at 60Hz



**ABB**