



End User

PDS

UPGRADE THE POWER





MODULAR POWER DISTRIBUTION AND CONTROL SOLUTIONS

With Local Partner Support...

SECTORAL APPLICATIONS

INFRASTRUCTURE



DATA CENTER



INDUSTRY



MINING

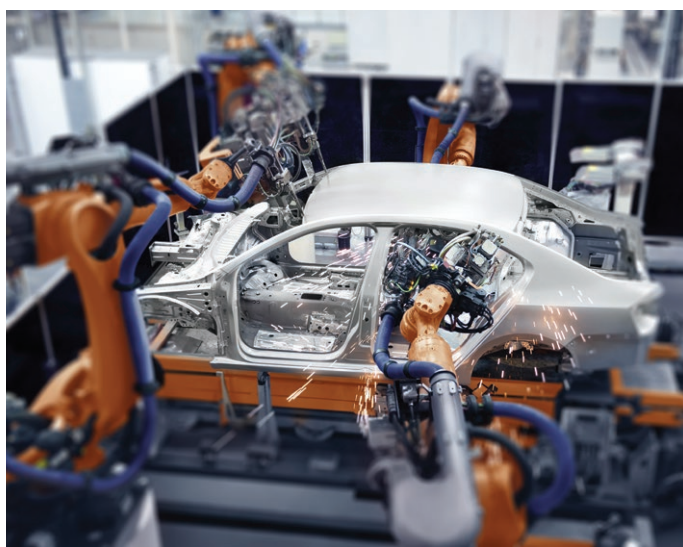


PDS is designed for the needs of consumers in many fields from heavy industry to constructions. PDS, providing safe working conditions from Form 1 to Form 4b with its fixed and withdrawable models, offers various advantages in its fields of use.

OFFSHORE & MARINE



AUTOMOTIVE



PORT



ENERGY GENERATION



RENEWABLE ENERGY



Sector-Based Specific Applications

- IP53 protection class against tough external factors
- Special paint protection applications for corrosive environments
- Withdrawable applications for power continuity
- Arc protection for high safety
- Special coating for the conductive parts in corrosive environments
- Material and coating diversity special to fields of use
- Air conditioning options

WIDE RANGE OF APPLICATION

Connection from Network to Panel entry via cable or busbar.

Input-output and coupling applications with withdrawable or fixed Open Type Circuit Breaker (ACB) applications.



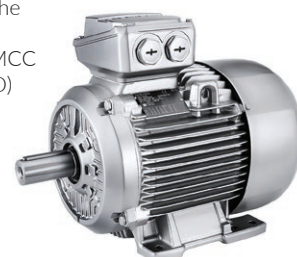
Supplying main panel system with cable or busbar connection from generators, automatic starting applications.

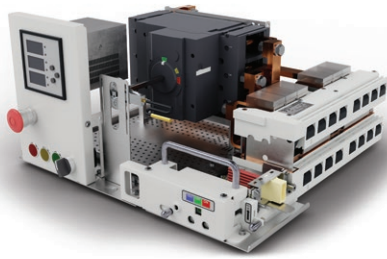


Supplying, or feeding and switching the local distributors with MCCB (Compact Circuit Breaker) applications.



Controlling the motors with Fixed Type MCC (DOL or DSD) applications.



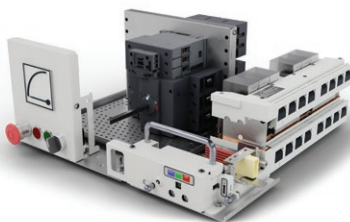


Possibility to replace with the spare equipment within 5 minutes with withdrawable MCCB (Compact Circuit Breaker) applications.

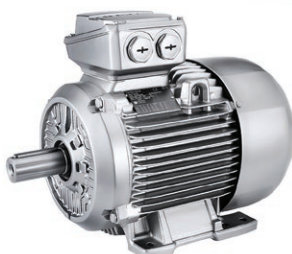


PDS

Full adaptation to the system with rail supported mounting modules in compensation applications.

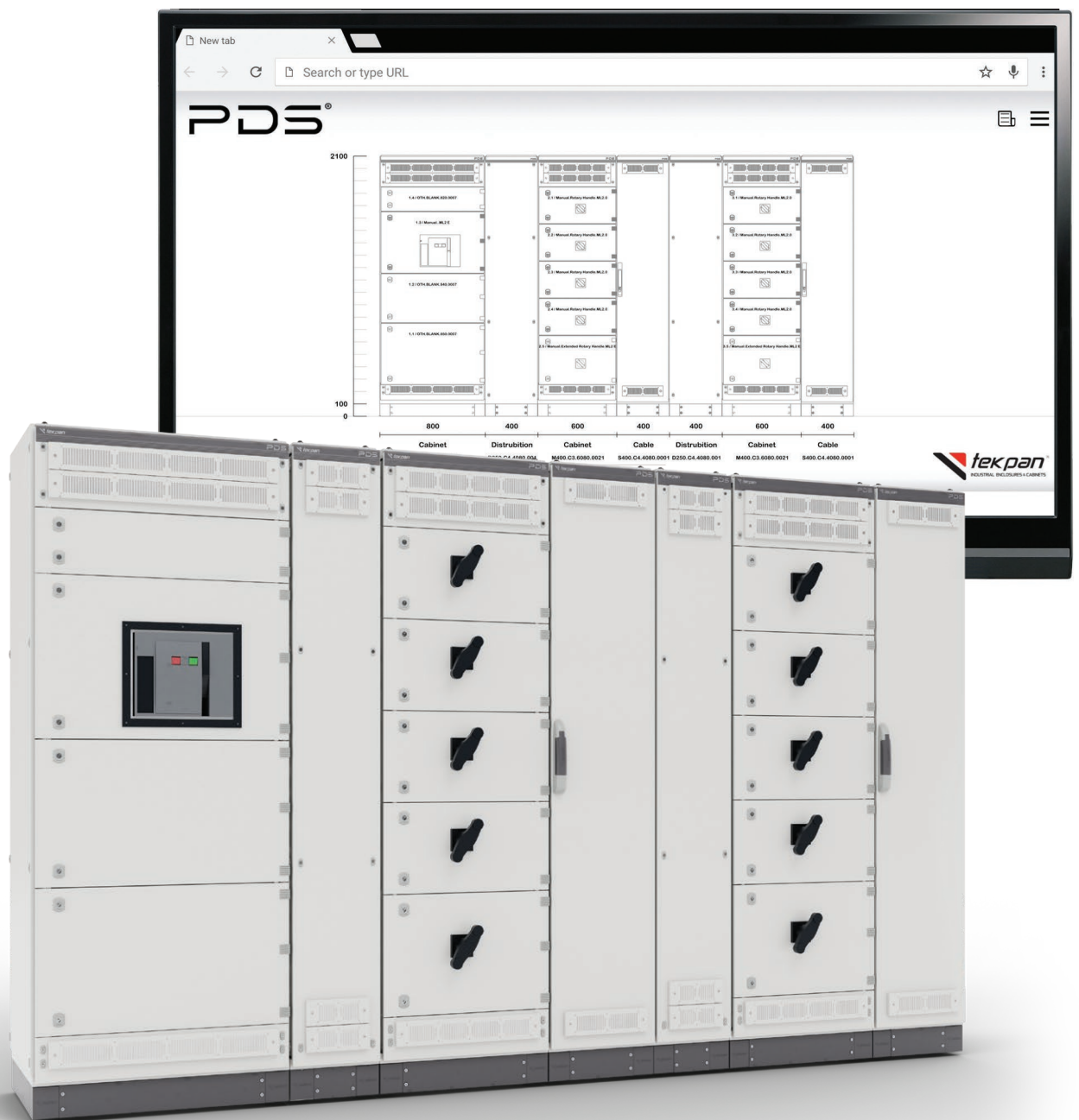


Full adaptation to the system with system modules with mounting plate or rail in speed control or automation applications.



Possibility to replace with the spare equipment within 5 minutes with withdrawable MCC (DOL or DSD) applications.

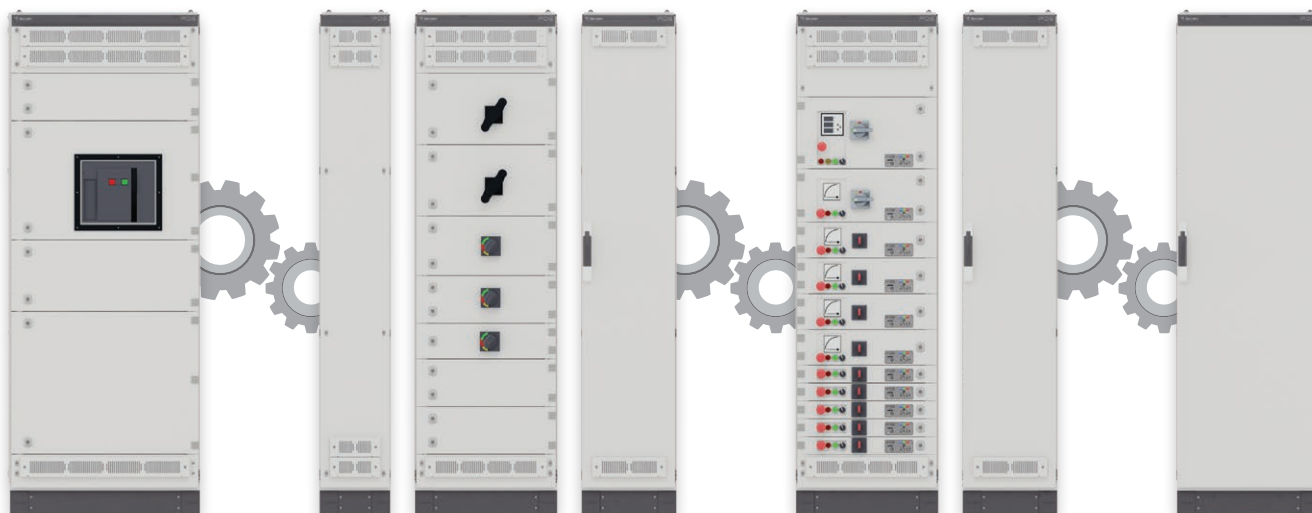




FROM SOFTWARE TO REAL PRODUCT

Perfect consistency with the products you received and the designs you made and approved via software.

COMBINATION OF MODULES AND COMPLIANCE WITH STANDARDS



PDS 4000A SYSTEM

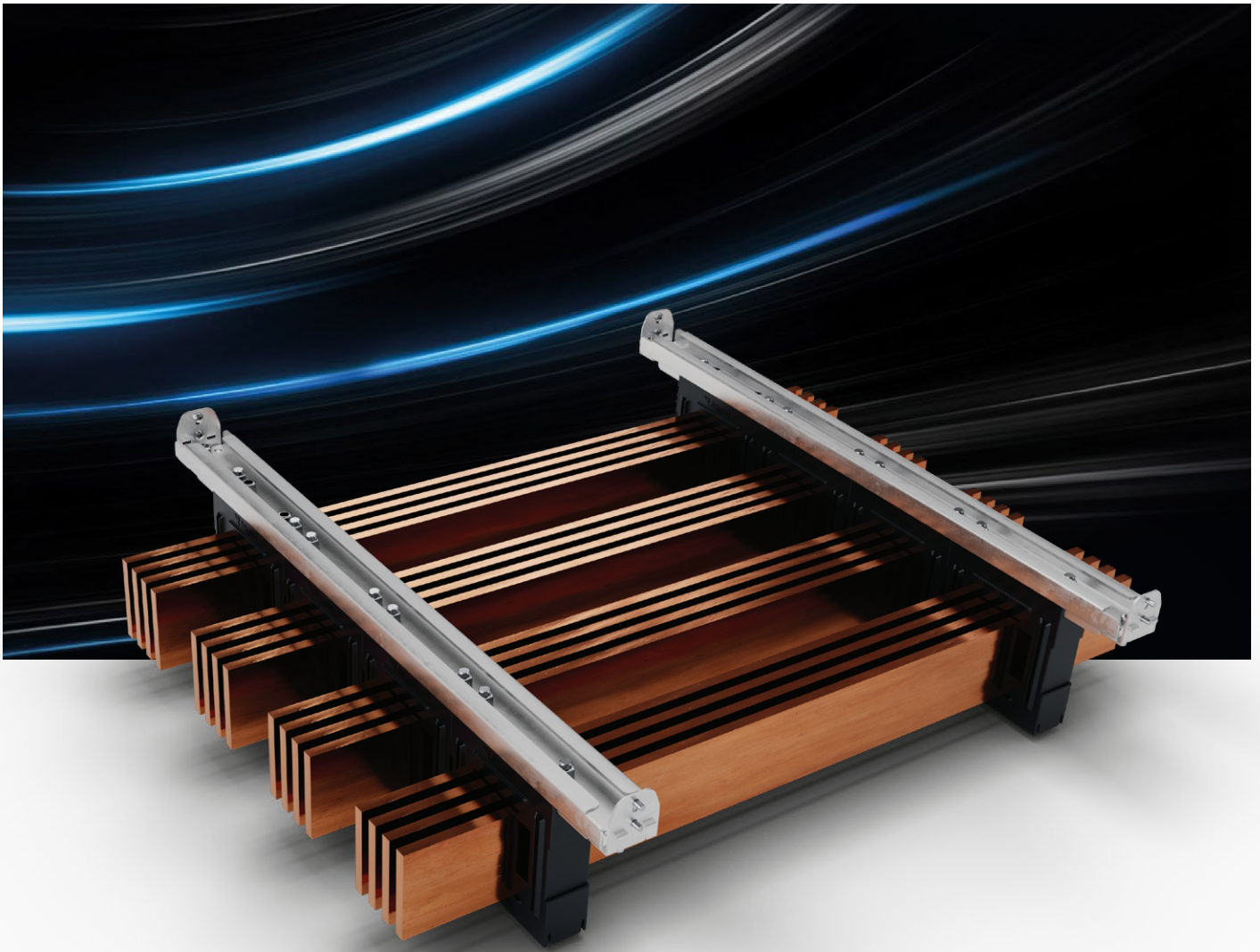
Compatibility between modules is ensured by pursuing all functions of type test from design to test process for the modules designed for different purposes. This way, compliance with standards in product assemblies is ensured independent of persons and perfect consistency is achieved in entire product group.

Applied Standard	IEC 61439-1/2 IEC 61641, IEC 62208 IEC 60529, IEC 60068-3-3
Rated Voltage (Ue)	690 V
Nominal Current (In)	Up to 4000A
Rated Insulation Voltage (Ui)	Up to 1000V
Rated Impulse-Withstand Voltage (Uimp)	Up to 12kV
Degree of Protection (IP)	Up to IP53
Mechanical Strength (IK)	10
Rated Peak Withstand Current (Ipk)	Up to 176kA
Degree of Separation	Form 1-4b
Rated Short Time Withstand Current (Icw)	Max. 85kA – 1s. / 65kA – 3s.
Connection Type	F.F.F – W.W.W
Pollution Degree	3
Material Group	IIIa
Internal Arc Withstand	60kA rms – 0,3ms
Seismic Withstand	Up to ZONE 3



IP53





SHORT CIRCUIT WITHSTAND OF BUSBAR SYSTEM AND ITS TECHNICAL SPECIFICATIONS

- Mounting places on support rails are designed as standard and precautions are taken against faulty assembly.
- Busbar clamps are produced from glass fibre reinforced polyamide 6, 6 material and is in compliance with (UL 94 V-0) standards.
 - Designs are made compatible with all grounding systems.

PDS 4000A SYSTEM

In = Up to 4000A *I*_{cw}

I_{cw} = Up to 85kA

I_{pk} = Up to 176kA

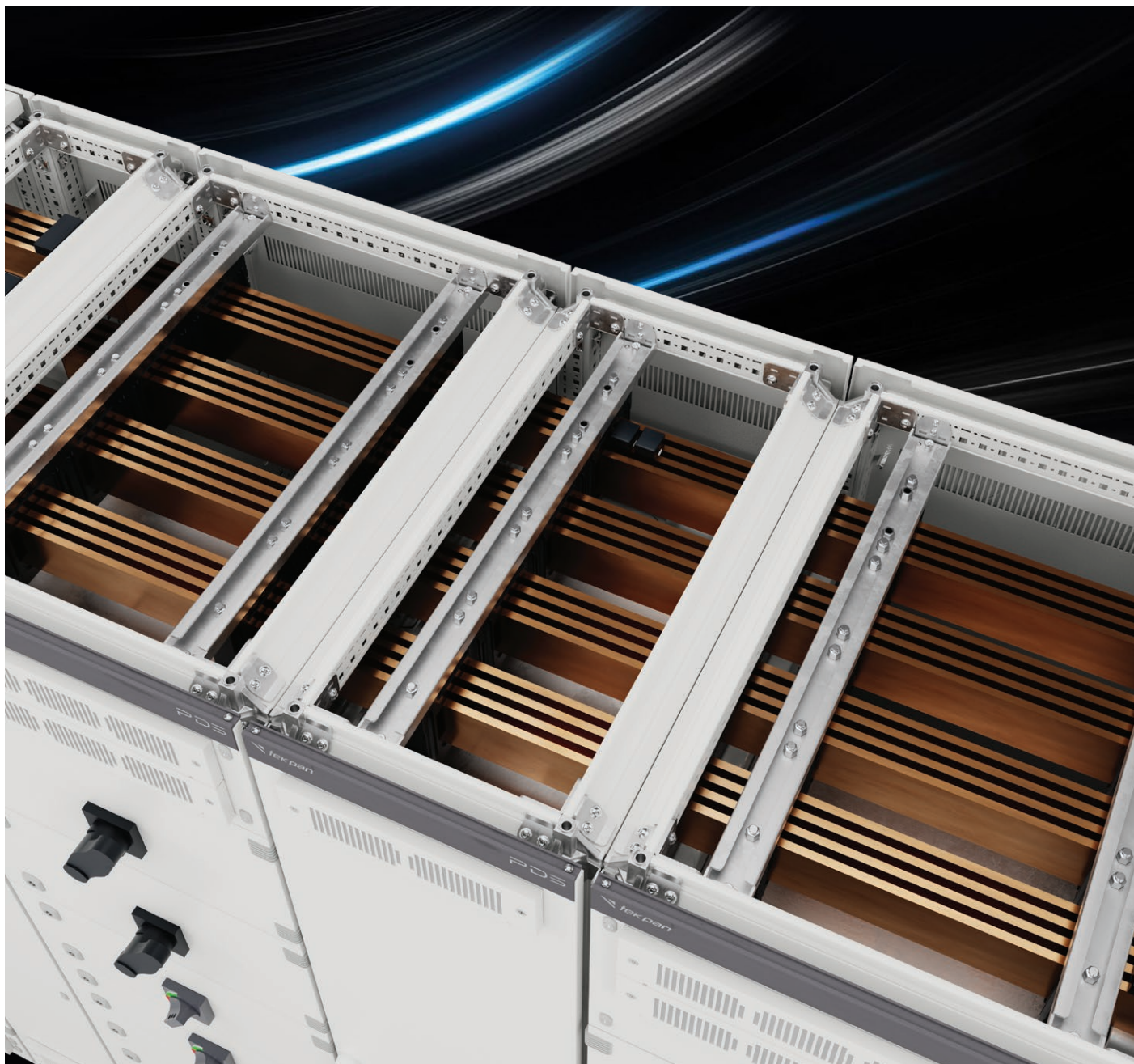
U_e = 690V

U_i = 1000V

U_{imp} = 12kV

SHORT CIRCUIT WITHSTAND OF BUSBAR SYSTEM

Short circuit withstand (Icw) is tested for 1sec. and 3sec. periods and passed the tests successfully even in most risky module assemblies.



STATIC AND DYNAMIC STRENGTH

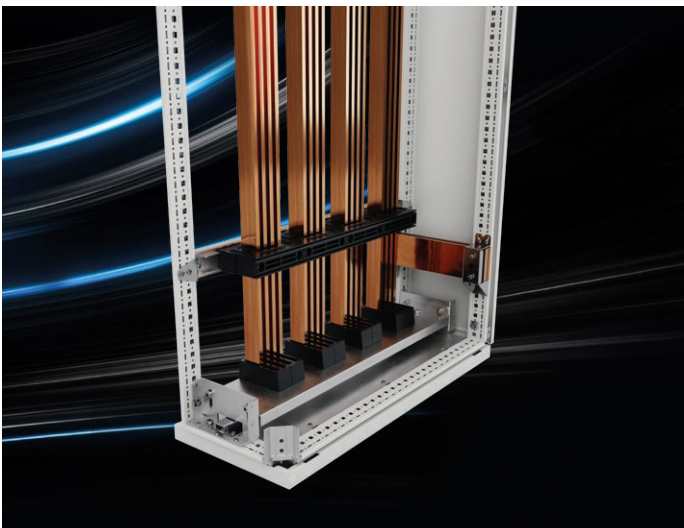


Teos body profiles produced with closed profile structure are coupled with the special non-welded clamping system. Their resistance to both vertical and horizontal stresses is extremely high compared to open type profile structures. This strength fully ensures both the resistance in movement and in short circuit cases for the installed equipment.

- IEC 60068-3-3 ZONE 3 class protection in standards up to 7,0 according to Richter scale
- IEC 62262 IK10 level protection in the toughest conditions against mechanical impacts
- ICE 62208 Compliance with all low voltage panel standards with Teos infrastructure



- Application of push-in technology with plug-in bracket structure and releasing the load from the screws
- Double-faced strong busbar rails with 3 mm thick material



- Bottom support rail and systems in duct/distribution busbars

COOLING SYSTEM



- Continuous cooling thanks to special metal filter application suitable for temperature tests and compatible with high temperature conditions on panel modules.
- Filters are produced from metal material and have IP53 protection class. It can be removed and cleaned from outside. It is resistant to arc flashes and high temperature
- In Form3 and above closures in the output modules inside the panel, cold air enters from the side and exits from the top air filters by exiting from the top of the mounting plate to the back of the panel. Output modules are prevented from loading heat to each other.

PROTECTION AGAINST DUST AND LIQUID

IP53 PROTECTION CLASS/UL NEMA 12



Sealing foam gasket is used in the door that closes the panel, back door and all covers such as side covers and top cover. With this gasket which is applied without joints, complete isolation is ensured in between -40°C and +100°C.

All sealing applications on covers apply pressure to the convex frame curves in carcasses. Dust and water particles are kept in between these convex curves and the pressure on the gasket is prevented.

Bottom base system provides full protection both with the contact surface on carcass and the gasket at the contact point of bottom cover to base cover.

In the outer door external separation system, IP53 protection class is continuously provided with the specially designed dividing method.



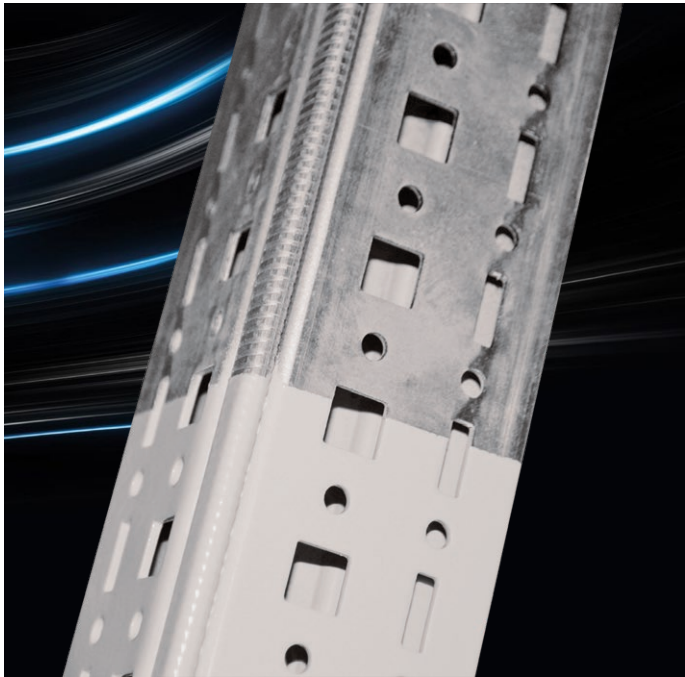
Air conditioning filters are designed with double-layered mesh. Metal filters have IP53 protection class and can be easily removed and cleaned from outside.

What is IP53 According to IEC 60529

- Protective against dust. Dust affecting working and safety of devices inside the panel cannot enter.
- Water-injection coming from both sides at 60 degrees should not leave harmful effect.

RESISTANCE AGAINST CORROSION (EN 12944-2 and 6)

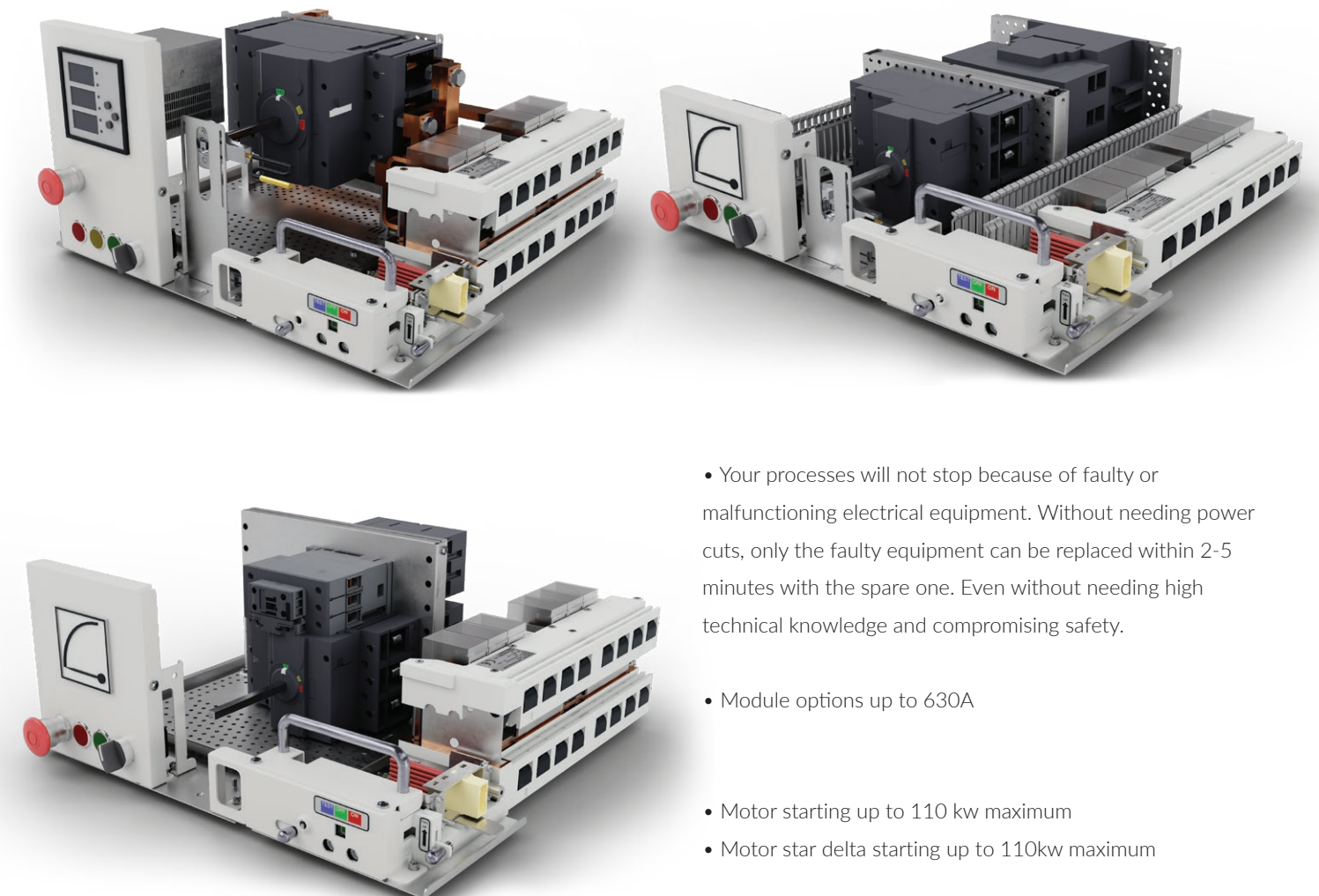
(C3 class protection)



- All parts of PDS cabinets on the outer surface, including case profiles, are processed with electrostatic powder coating. In full automatic systems, parts are exposed to surface cleaning and iron phosphate processes, then painted and fired in standard.
- Materials inside the cabinet are not painted in order to sustain their conductivity. For corrosion protection, zinc coating is applied according to its wrought iron structure, or they are produced with cold galvanized sheet.
- PDS cabinets are suitable for use in indoors or rain protective areas according to EN 12944-2 standard. It is suitable for use in schools, shops, hotels, warehouses, sports halls and production areas which have highly humid and a little polluted air (food facilities, laundries, beer production facilities, milk facilities).
- The setup, which is protective against rain and in compliance with IP53 class, is suitable for use in city and industrial atmosphere, in outdoors where there is medium level of sulphur dioxide pollution and low salt rate.
- Being in compliance with all these standards, PDS cabinets are in UL/NEMA 12 standard.



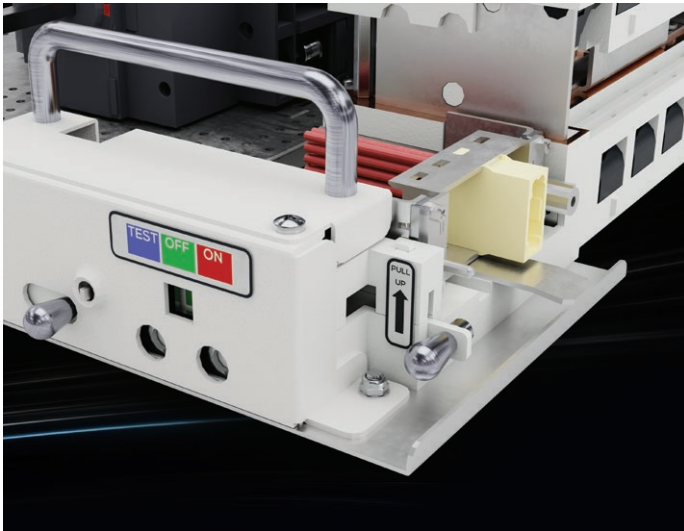
UNINTERRUPTIBLE POWER



- Your processes will not stop because of faulty or malfunctioning electrical equipment. Without needing power cuts, only the faulty equipment can be replaced within 2-5 minutes with the spare one. Even without needing high technical knowledge and compromising safety.
- Module options up to 630A
- Motor starting up to 110 kw maximum
- Motor star delta starting up to 110kw maximum

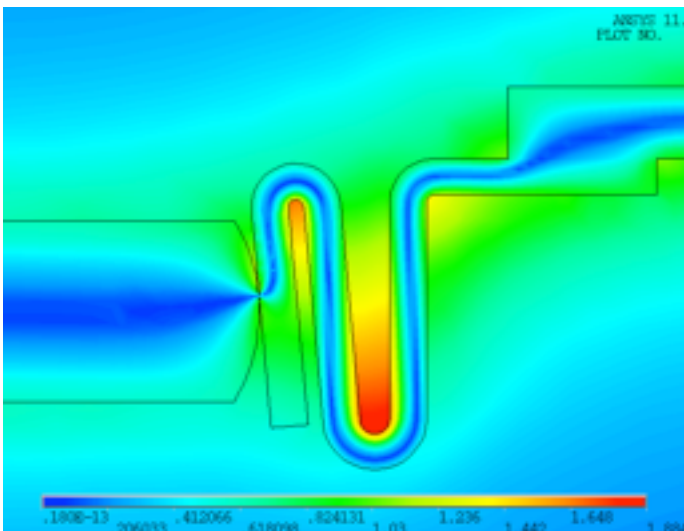
FEATURED PROPERTIES IN WITHDRAWABLE SYSTEMS

CONTROL OUTPUTS



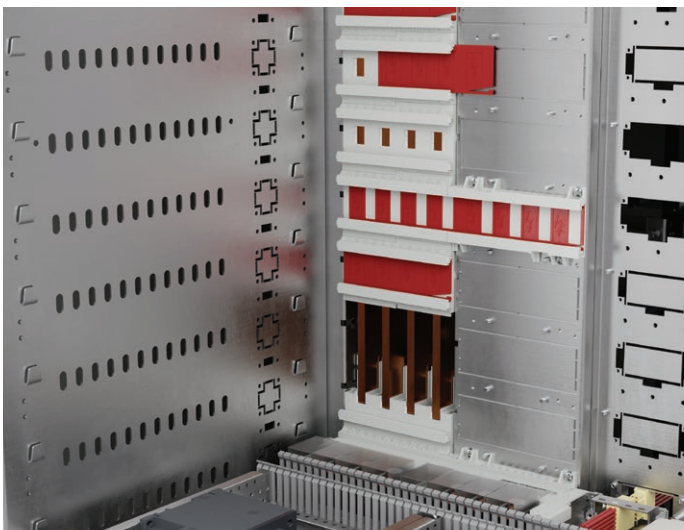
With its modular structure, control connections in the drawers can be made in different combinations. In addition to signal and RJ45 outputs, it is also possible to use cable connectors. It is possible to have up to 96 control outputs from drawers.

COMPRESSED CONNECTION SYSTEM



Compressed connection systems in Vertical Busbar connection modules provide a continuous and safe connection thanks to the special structure of internal copper layer. In contrast to conventional connection systems, it is not affected from the magnetic field that occurs during short circuit moment and does not allow contact loss.

VERTICAL BUSBAR SYSTEM



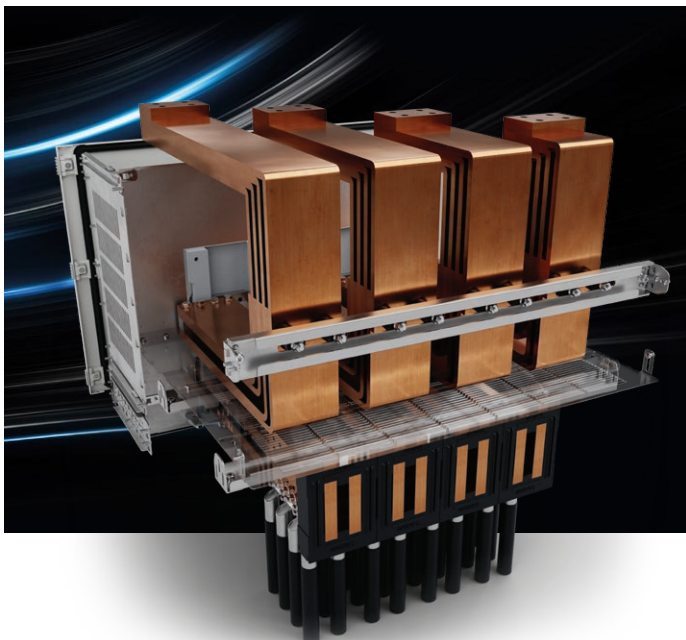
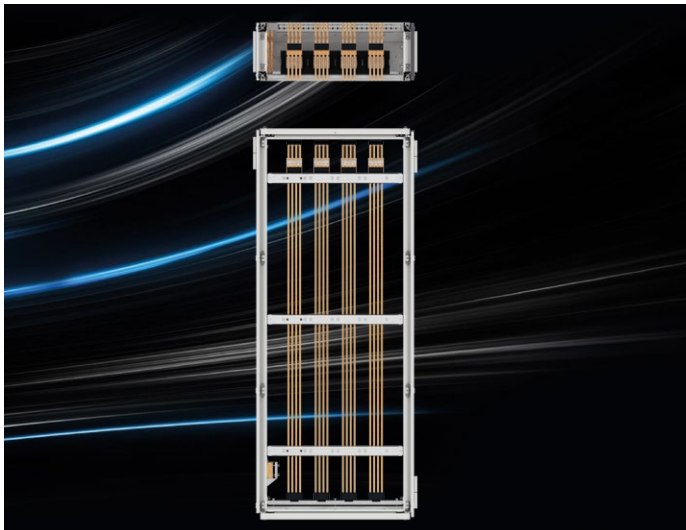
Full insulation between the conductors in vertical busbar compartment is ensured. This way, arc faults occurring in this compartment or in other compartments are prevented from proceeding through the compartment. With the automatic closers at all connection points, user safety is ensured. Thanks to its safe structure, withdrawable systems can be removed when the line is powered.

INSULATION AND DIELECTRIC DESIGN

INSULATION GAPS AND SURFACE LEAKAGE PATH LENGTHS

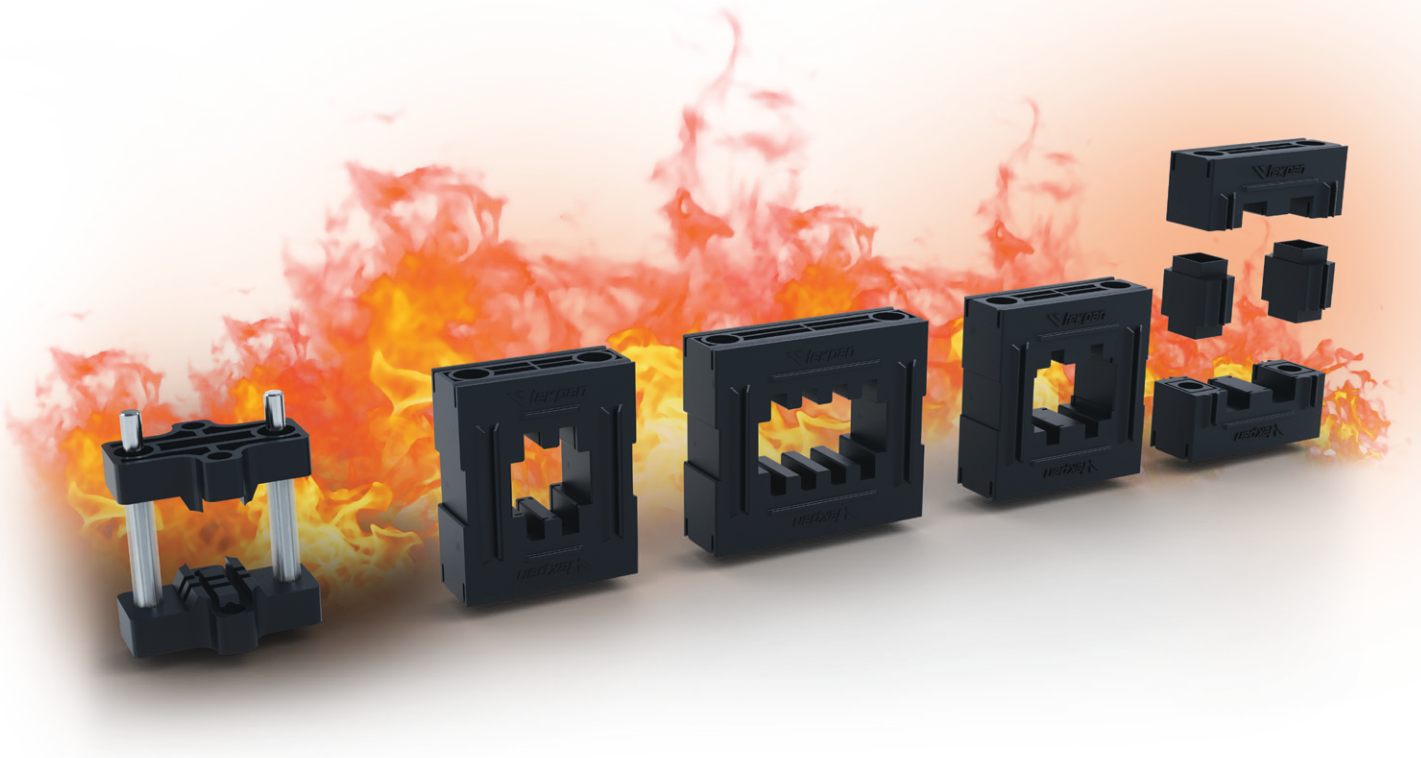


Rated impulse-withstand voltage and rated insulation voltage are taken into account in specifying the insulation gaps and surface leakage path lengths between different circuits. On the busbar systems ensuring easy mounting, thanks to the modular structure, it is designed to make insulation gaps between phase-phase and phase-neutral 70mm in the smallest point. Since the assembly locations on the support rails are already designated, possibilities of mistake during production are eliminated.



On the open type circuit breaker input busbars which are compatibly designed for all open type circuit breakers, the problems that might originate due to heating and dielectric are taken into account. For avoiding heating problem, ventilation spaces are created to provide IP XXB protection in separators which are formed.

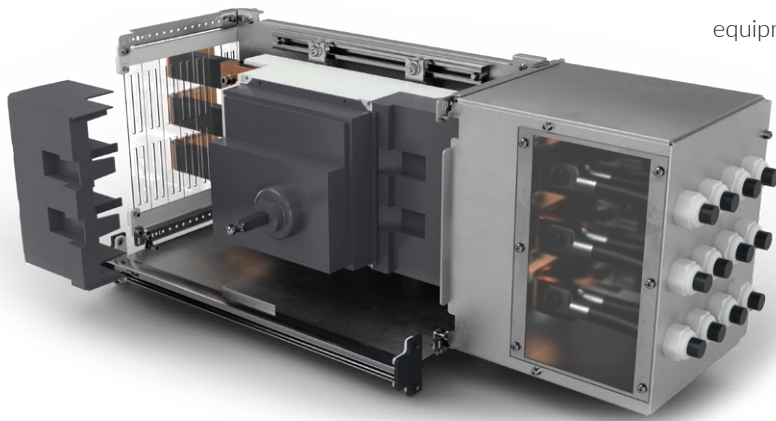
FLAME-PROOF PLASTIC PARTS



For the purposes of isolation and protection of equipment from the forces originated by magnetic field in PDS cabins, insulated plastic parts are used. These plastic materials are produced accordingly with the heat resistant injection method.

- Isolator busbar clamps used on main busbar and secondary output busbars are produced with PA(6,6) material and in V0 degree of incombustibility according to UL94 standards.
- For preventing the operator to contact with the conductors, polycarbonate plates are used. Its resistance against flame is in B-S1-d0 degree according to EN 13501-1 standard.

FORMING AND WORK SAFETY



- Separation between the terminals of horizontal output equipment is provided with isolation plates. This way, operator's accidental contact with power busbar inside the section or output equipment in terminal section is prevented.

- Separation plates used on bottom and top of horizontal output equipment plays a role to avoid hand contact in operational mistakes, and also protects equipment from each other in arc and short circuit conditions. (In Form 2a-4b options)



- Open type circuit breaker sections are separated from top and bottom sections and input-output terminals inside its own section with sheet metal, and input-output terminals are separated from each other with plastic insulation sheet. This way, accidental contact of operator with conductors is prevented / limited. (In Form 2a-4b options)



- In cable outlet modules, main busbar is separated with isolation plate and contact of operator to main busbar is prevented. (In Form 2 and higher options)

- Connection of outlet cables with terminals is closed with the box housing and contact of operator with terminal contacts is prevented. (In Form 4b options)

GROUNDING CONTINUITY



- Grounding hooks located on aluminium corner combination that joins main carcass structure are mounted to the internal surface of the unpainted profile tightly and abrasively. Thus the grounding continuity is ensured in all profiles and the parts that will be mounted to them.



- Grounding busbar in PDS panel modules is contacted to the panel in a way that it's conductive all the way through, being modular without drilling holes. Thanks to the connection system, ground busbar and panel carcass connection is ensured.
- In the cable module, connection of ground busbar to main ground busbar or ground cable from outside to busbars are accurately provided.



- In PDS panels, grounding contact in all outer doors are provided through the screws that are welded before painting.

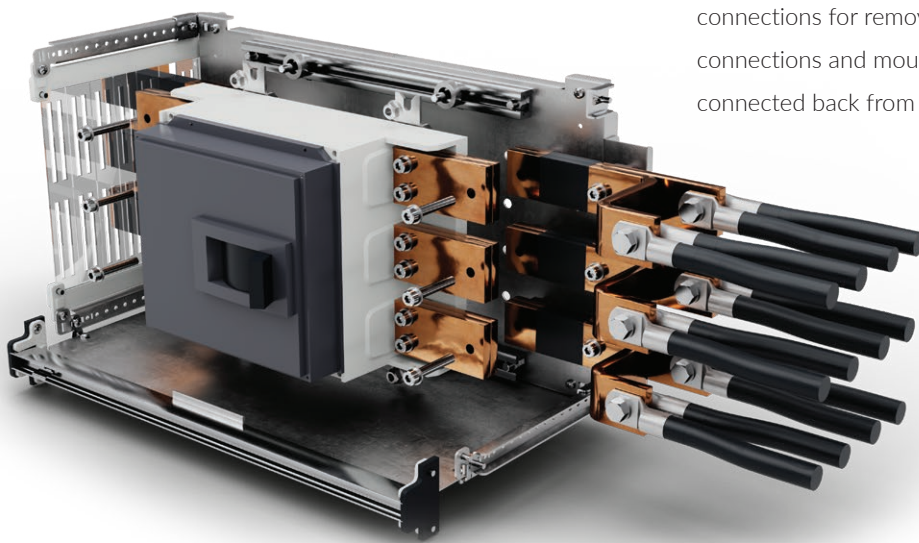


- In PDS panel, grounding contact in all inner covers is provided through the screws that are welded before painting.

MAINTAINABILITY AND EASY PART REPLACEMENT



- Only 5 minutes is enough to replace any faulty part in the groups located on PDS withdrawable modules. Even with the personnel trained in average level.
- During the replacement of the faulty part inside the drawer, other sections can continue to fully function.
- Spare drawer on withdrawable module can be used for future needs and can easily be put into use.



- MCCB(Compact Circuit Breaker) replacement within 10 minutes.
- Thanks to the Easy-Fix assembly system for MCCB outputs in PDS panels, it is not necessary to remove all busbars and terminal connections for removing equipment. MCCB input and output connections and mounting plate can easily be removed and connected back from the front side of the body connection.

INTERNAL/EXTERNAL FRONT PROTECTION



- There are 2 types of front protection options in PDS panels.
- In Internal front protection option; the panel is protected with full size glass or closed door from outside, and the front surface of sections are protected with internal hinged covers from inside. Thus, external intervention to equipment is limited.
- Provides high degree IP protection.
- Since there is a limited area between outer door and inner cover, there are limitations in using levers of the equipment.

- In External front protection option, each equipment section can be opened independently.
- It is easy to intervene from outside.
- There are no limitations in using levers of the equipment.

EASY FIELD CONNECTION



During start up stage of PDS system, cable connections can be made in two different ways:

- Connection to cable module with cable penetration through bottom cover with cable gland or foam isolation and fixing with cable load relieving clamps across the terminal.
- In case the cables come from the top of the panel, penetration to the cable part from back of the panel module, from terminal level.
- Since the cable penetration section area surface is large enough, it is suitable for numerous cables.
- Cable penetrations are provided with gland or foam isolation.

DESIGN YOUR OWN PROJECT THROUGH SOFTWARE



The PDS software all use to design the project requirement and prepare your drawing-supported visuals.

The PDS software is open to all users and is easy to use.

TAKE ADVANTAGE OF ALL BRANDS



PDS system is designed complying to standards, being compatible with the products of all switching equipment manufacturers. You can make the combinations you wish with infinite options of each brand and product.



INTERNATIONAL PARTNERSHIP NETWORK AND EXPERIENCE



PDS Power distribution and control solutions is the new face of Tekpan experience in power distribution panels since 1976.

Our products are used in 85 countries and reaches to our worldwide customers with 32 distributors every day.

PDS partner network will be ready to serve you in both your local needs and international projects.

HIGH TECHNOLOGY PRODUCTION



From design to metal production, painting process to packaging, PDS products are produced in accordance with standards with automation systems with high technology machines.

Metal production is done in DIN 2768-m standards with lean manufacturing techniques; production of injection and solid parts is done in DIN 2768-f standards.



- For providing EN 12944-2 C3 class corrosion protection capability, all parts are painted in the high technology full automatic painting facility.
- For the painted parts which follow the same process line, colour and the external view is produced in the same standards.



The parts which will be mounted by PDS partners are processed with partial mounting and packaging with computer-aided techniques.



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