Intelligence and flexibility to solve your toughest challenges

Okken intelligent switchboard solutions for power distribution and motor control

more than

120,000

cubicles installed.

Customers worldwide trust Okken low voltage switchboard solutions.

Okken: intelligent switchboard solutions

With safety and reliability within reach, why settle for less?

Embodying decades of expertise, Okken™ solutions are complete and customised LV power distribution, motor control, and integrated power control centres. Okken switchboards answer the need for superior operational safety in today's high-performance LV power applications. Versatile and durable, Okken switchboards have the comprehensive capabilities and intelligence you need to keep your business competitive.

Industry-leading features, design, and support make implementation and operation quicker, easier, and more reliable, so you can lower costs and realise a faster return on investment.

Okken solutions combine best-in-class safety and reliability with an optimised footprint, modular architecture, and smart devices.

A global player with local capabilities

Schneider Electric™ is present in more than 100 countries, delivering reliable products and solutions around the world. Our global reach helps us ensure high quality and local project and service capabilities, no matter your location.

Smart grid-ready

Our broad expertise in electrical network management makes us a partner who knows what the smart grid means for your business, and how best to keep you at the forefront of technology.

*Based on previous data, 2015. This is not a guarantee of future performance or performance in your particular circumstances.

Total electrical safety for personnel

With Okken, protection is never left to chance

With high modularity and total insulation, safety is engineered into every Okken switchboard. From conception, through design, installation, and everyday operation, you can count on our commitment to maximising safety.

Smart engineering and user-friendly operation

Full type tests as per IEC 61439-1&2 confirm top-level electrical installation and operational safety. Insulation and provide screening of all live parts enhance service life and provide outstanding protection.

- Forms of internal separation up to 4b
- Embedded interlock systems to prevent on-load disconnection
- Safe live-part protection up to IPxxD
- Fully insulated busbars
- Padlockable with three different locks
- Protection with optional doors and accessories
- Closed door operation for extra operator protection in all drawer positions, particularly in case of internal short-circuit or arc fault, and even during connecting and disconnecting

Superior internal arc withstand and short-circuit protection

- Fully type tested in compliance with IEC TR 61641
- Internal arc withstand up to 100 kA / 0.5 s
- Arc-free zone in the whole switchboard: incomer, horizontal busbar, withdrawable cubicle
- Active optical arc-flash detection
- Maximised operator protection at three levels:
  - Horizontal and vertical busbars
  - Functional units, on all three positions of withdrawable drawers
  - Outgoing cable connections
- Internal arc risk reduction thanks to our unique Polyfast™ system
- Partitioned terminals for electrical insulation between the upstream circuit breaker and the double contact clamps on the main busbar
- Rated conditional short-circuit current (Isc) up to 150 kA

Tested and certified by independent ASEFA and LOVAG labs

Note: In working environment, full operator safety measures should always be adopted.

Three safe, interlocked drawer positions and drawer stop

Connected position

Test position

Disconnected position

Superior reliability and continuity of service

An 'install-and-forget' level of dependability

A robust architecture, type-tested, standardised modules, and integrated devices work together to improve functionality, safety, continuity of supply, and installation reliability, even in the most difficult environments:

- All components and devices are designed by Schneider Electric and manufactured to rigorous quality standards
- Tested and validated compatibility between switchboards, functional units, and built-in devices
- Outstanding electrical and mechanical consistency and electromagnetic compatibility (EMC) of all Schneider Electric components

Resistance to corrosive environments

- Tin, nickel, or silver busbar coating on copper conductive parts for H_2S and SO_2 atmosphere withstand
- Anti-corrosion surface treatments on metallic sheets
- Okken switchboards provide a variety of protection levels (up to IP54)

Thermal monitoring

- Permanent temperature monitoring with sensors on critical parts enables predictive maintenance

Tough enough for oil and gas applications

- Okken switchboards are DEP Shell approved for demanding needs of oil and gas facilities
- Total™, Chevron™, British Petroleum™, Air Liquide™, and others place their trust in Okken intelligent switchboard solutions

Optimised for marine installations

- Okken switchboards satisfy the requirements of marine, offshore, and floating production storage and offloading (FPSO) applications
- They are DNV (Det Norske Veritas) and RINA (Registro Italiano Navale Group) certified for high vibration and saline environments

Durability for seismic areas

- Okken 2.7G and 5G ensure excellent mechanical resistance and secure installation in seismic zones in compliance with the most demanding local and international standards: IBC 2006/AC 156, IEC68-3-3, AS1170, EAK-2000, ENDESA-1986, GOST 17516.1-90, IEEE 693-1997, EDF CRT 91 C 112 00 (on Okken 5G)
- 5G versions are specifically engineered for high-safety nuclear and industrial applications

RINA SERVICES

DNV

Oil & gas

Oil & gas

Offshore platforms

Marine

Mining, metals, minerals

Water and wastewater treatment

Nuclear

Data centres

Outstanding safety and customised solutions for any application and severe environment

High performance and superior efficiency

Industry-leading capabilities

- Maximum busbar rating up to 7300 A
- Maximum rating of PCC, up to 6300 A
- Maximum rating of MCC, up to 250 kW
- Smart communicating devices for connected switchboards
- Compact design for higher stacking density and optimised footprint
- Safe upgrading of energised equipment

A disconnectable design for power distribution

The high-security power distribution switchboard offers maximum reinforced electrical isolation thanks to the Polyfast system.

Power distribution

Power Control Centre (PCC) including protection and power factor correction:

- Main busbar up to 7300 A
- Incomers up to 6300 A (Masterpact™ circuit breakers)
- Feeders up to 6300 A (Masterpact circuit breakers), and up to 630 A (Compact™ circuit breakers)
- Power factor correction up to 540 kVAR

A flexible, withdrawable design for motor control and power distribution

Compact and powerful Okken switchboards answer the needs of the most demanding motor control and power distribution applications. They combine outstanding continuity of supply and safety with long, reliable service.

Motor control

Motor Control Centre (MCC) including protection, starters, and drives:

- Conventional starters up to 250 kW
- Soft starters up to 250 kW
- Drives up to 160 kW

Up to 15% energy savings*

*Based on previous data, 2015. This is not a guarantee of future performance or performance in your particular circumstances.

Compact, modular design – the right fit for your organisation
Note: In working environment, full operator safety measures should always be adopted.

> Electrical distribution up to 7300 A
> Incomer and feeder up to 6300 A
> Motor control up to 250 kW

Improved versatility and flexibility

A compact and modular design for every function

Okken is a simple and modular solution that is easy to choose, intuitive to use, cost effective, and simple to install or upgrade.

Fast, easy installation, upgrading, and maintenance

Single front or double front access thanks to back-to-back configuration, top or bottom direct power connections, rear or side power connections for easy installation. Plus, standardised dimensions and an optimised footprint save time and money during installation.

- Fixed, disconnectable or withdrawable functional units
- Withdrawable drawer size optimisation: full and half-widths, different heights from 100 to 600 mm
- Direct power plug connection to the vertical busbar (50 mm pitch)
- Reliable drawer position indicators on front faces, and drawer stop
- Withdrawable Masterpact and plug-in Compact circuit breaker modules
- Current transformers inside

Upgrade Okken while under load in complete safety

- Easily modify and upgrade your Okken solution and add new functions as your needs change: scalability while under load, equipping of additional slots in reserved spaces, association of cubicles, fast interchangeability without special tools
- Degree of protection up to IPxxD on busbar and connections on busbar by plug-in clamps
- Customer connection separate from the functional unit (form up to 4b)

Smart devices to improve productivity and energy efficiency

All our standalone devices or fully integrated solutions for energy monitoring, motor control, or power factor correction offer advanced technology and outstanding capabilities.

Power circuit protection and control
Masterpact NT and NW, Compact NS and NSX up to 690 V

Motor motion control
AltivarATV630,ATV31,ATV61, ATV71, Altistart ATS48

Energy server
Com'X 200

Coupler control
Sepam

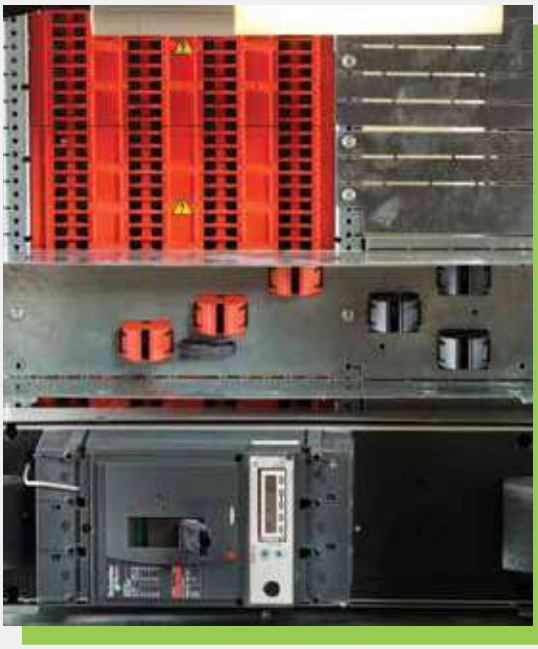
Motor protection and monitoring
TeSys™ T, TeSys U, TeSys D

Process automation
Quantum, Premium, M340 and M580

Energy and power quality metering
PowerLogic PM 800

24/7 visibility of energy use and power quality

Double front access



Plug-in distribution feeders on Polyfast

Comprehensive range of full
and half-width drawers

Direct connection to the arc-free
vertical busbars

Schneider Electric devices inside

iPMCC by Okken: built-in intelligence

The intelligent Power and Motor Control Centre (iPMCC) by Okken is a highly capable and advanced smart solution for fault prevention, protection, and automatic restart in continuous and critical processes. It helps you boost productivity, optimise the energy management and efficiency of your assets while maximising safety, enhancing continuity of service, and reducing downtime.

Energy savings up to 15%*

- Integration of all your equipment to lower electrical energy consumption
- Synchronising motors to loads with progressive starters and variable speed drives and reducing peak consumption by 50% or more*
- Managing reactive power compensation (capacitors) and thermal withstand control to reduce costs and increase energy availability

Optimised motor performance

- Motor monitoring and protection with failure activities in accordance with IEC/EN 60947-7-1
- Motor and protection device configuration accessible at all times
- Associated with TeSys T, iPMCC by Okken enables the detection of faults like no-load running, shaft bearing seizure, abnormal starting or heating, pump cavitations, and pulsating torque

Enhanced control and monitoring

- Better traceability and control
- Local or remote real-time information access
- Motor operating status and time monitoring (alarms and tripping)
- Parameter monitoring and management of status, measurements, diagnostics, trends, and energy consumption

Smart-grid integration

- Reliable, highly dependable, and pre-tested communication architectures offering leading industry protocols engineered to optimise asset energy efficiency (Ethernet TCP/IP, Ethernet/IP, Profibus-DP, DeviceNet, Modbus, CANopen, etc.)
- Seamless integration with energy management and control systems (EMCS), and process automation management systems (DCS)
- Complete range of design assistance tools

*Based on previous data, 2015. This is not a guarantee of future performance or performance in your particular circumstances.

Greater reliability, superior efficiency, and enhanced productivity

Discover the iPMCC by Okken: our best-in-class digital solution for power distribution, motor control, and power factor correction

Up to **15%** increase in productivity*
Up to **70%** reduction in untimely shutdowns*
Up to **90%** fewer motor burn-outs*
Up to **50%** reduction in maintenance costs*

*Based on previous data, 2015. This is not a guarantee of future performance or performance in your particular circumstances.

A complete range to match your toughest needs

For power distribution and motor control including variable speed drives, motor starters, power factor correction and harmonic filtering.

PCC(1)

230
Very high-power incomers and feeders up to 6300 A

115
High-power incomers and feeders up to 4000 A

Single NW
Single incomer or feeder

(width 650 mm)

Single NT/NS
Single incomer or feeder

(width 450 mm)

70-F
Fixed feeders

185
Fixed feeders

PCC/MCC

115-70
Mixed incomers and feeders

MCC and PCC

70-M *
Withdrawable feeders

70-2
Polyfast plug-in feeders

MCC(2)

VSD(3)
Variable speed drives and soft starters

PFC(4)

PFC(4)
Capacitors

(1) PCC = Power Control Centre
(2) MCC = Motor Control Centre
(3) VSD = Variable Speed Drive
(4) PFC = Power Factor Correction and harmonic filtering

* For specific applications (marine, seismic, nuclear...), please contact Schneider Electric.

Okken intelligent switchboard specifications

General data	
Applications	Power distribution, motor control
MCC (Motor Control Centre)	up to 250 kW
VSD (Variable Speed Drive)	up to 160 kW
PCC (Power Control Centre)	incomer & feeder up to 6300 A
PFC (Power Factor Correction)	up to 6* 90 kVAR
Standards	IEC 61439-1 & 2, IEC TR 61641, IEC 60529
Certifications	EAC (Gost), CCC, AS
Electrical data	
Voltage	up to 690 Vac (50/60 Hz)
Main busbar rating	up to 7300 A
Distribution busbar rating	up to 2100 A
Rated short-time current (Icw)	
horizontal main busbar	up to 150 kA rms - 1s (peak current Ipk up to 330 kA)
vertical distribution busbar	up to 100 kA rms - 1s (peak current Ipk up to 220 kA)
Conditional short-circuit current (Isc)	up to 150 kA
Internal arc withstand current	100 kA – 0.5 s (IEC TR 61641)
Earthing system	TT-IT-TNS-TNC
Communication	
Protocols	Ethernet TCP/IP, Ethernet/IP, Profibus-DP, DeviceNet, Modbus, CANopen, etc.
Mechanical data	
Form	2b/3b/4a/4b
Withdrawability	FFF/WFD/WFW/WWW
Seismic withstand	IBC 2006 / AC 156 (site class B-C-D, floor level only), IEC68-3-3 (equivalent to Richter scale up to level 9), AS1170, EAK-2000, ENDESA-1986, GOST 17516.1-90 (civil market, all seismic intensity, up to installation level 2), IEEE 693-1997, EDF CRT 91 C 112 00 (Okken 5G only for nuclear applications)
Installation	indoor environment type 2
Degree of protection	IP20, IP31, IP41, IP54
Operating temperature	- 5 °C to 35 °C / 50 °C

Green Premium™ equipment

> Ecologically designed and manufactured without hazardous materials
> Compliant with RoHS and REACh standards
> Designed for reduced carbon footprint and energy consumption
> Designed for optimal recycling and end-of-life management

Dedicated support for complete peace of mind

Around the world, the acknowledged leadership of Schneider Electric in energy management and power protection means you can count on us to deliver the products, services, and support you need to be most efficient.
Our highly skilled service and support professionals are there to provide business-aligned results for a measurable return on your investment through:

Tools and support services

- Validated tools and architectures
- Regional and local services for the installed base, plus assistance and troubleshooting
- Customised vocational training, on site or in one of our training centres

Auditing, consulting, and solution engineering

- Customised projects, including critical applications
- Engineering expertise for new and existing sites
- Installation and energy audits
- Enterprise-wide energy efficiency solutions

The Okken panelbuilder network guarantees optimum localised service

- Okken can be supplied by the Schneider Electric Equipment Units or by licensed partner panelbuilders present around the world
- These partners, selected for their expertise, are trained and regularly audited by Schneider Electric to guarantee top-quality equipment and support

Make the most of your energy℠

Schneider Electric Industries SAS

Head Office
35 rue Joseph Monier
92500 Rueil Malmaison Cedex- France
Tel.: +33 (0)1 41 29 70 00
www.schneider-electric.com

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