

Okken

High dependability, low voltage switchboard

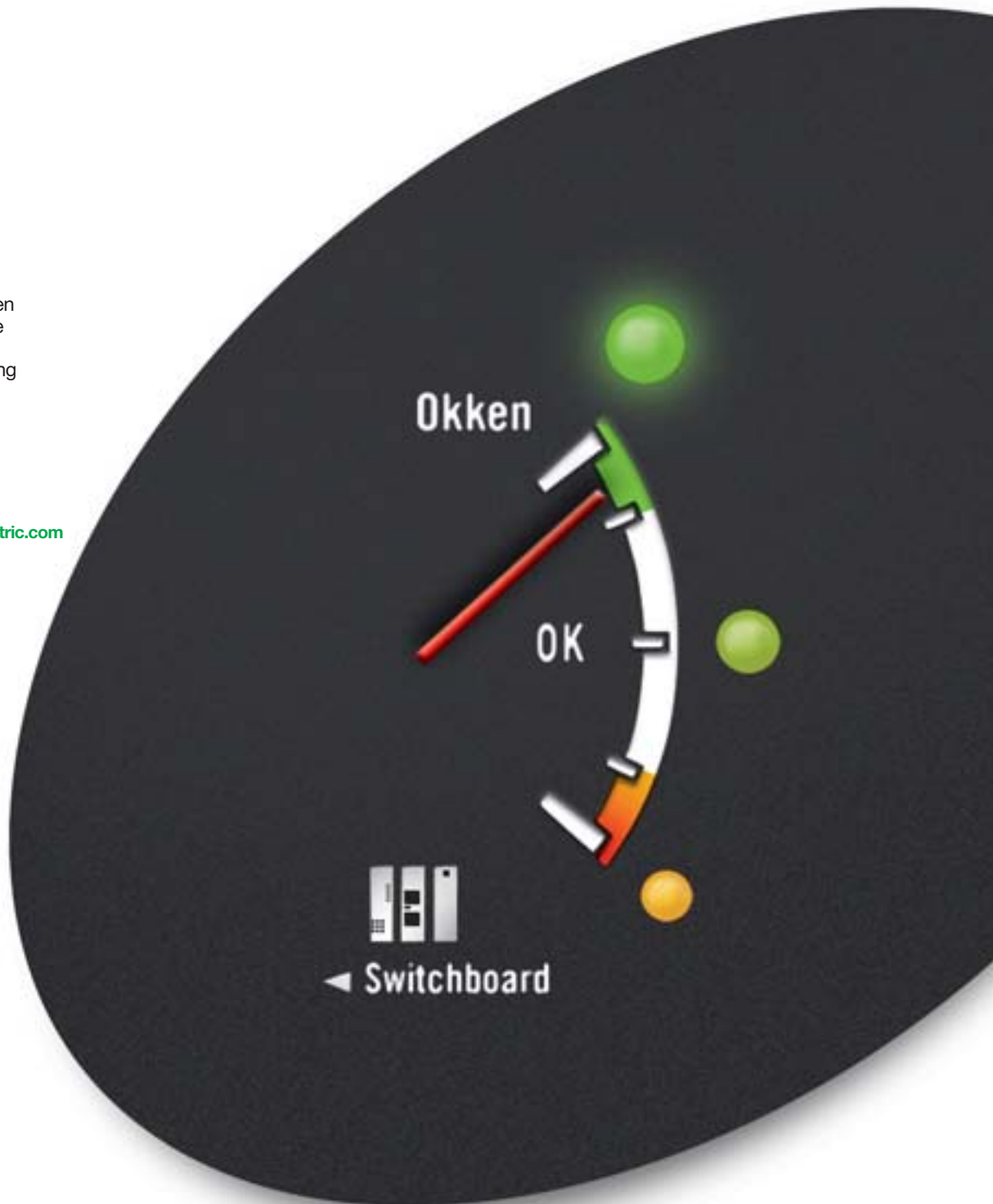
Okken, more than just OK



Okken

Schneider Electric's Okken range is a comprehensive range of low voltage switchboards incorporating the latest technological advances. With Okken, you also benefit from Schneider Electric's presence throughout the world.

www.okken.schneider-electric.com





Today's switchboards *are packed with technology...*

We are increasingly demanding of our low voltage switchboards. Today's switchboard is at the crossroads of internal pressure from the business with increasingly sophisticated applications, and external pressure related to changes in legislation. The switchboard must be capable of adapting to both environmental constraints and difficult operating conditions. Above all it must also contain the basis for tomorrow's solution as soon as it is purchased.

I want to be able to count on a system that gives me the required guarantees in terms of safety, upgradeability and cost control over the years. And if my supplier provides real local service, that is definitely an advantage!

Hans Werner,
Oil Platform Project Leader



Okken's modular structure

enables upgradeable electrical distribution and motor control switchboards to be produced.

Okken is designed to meet the requirements

- Of large tertiary, industrial and infrastructure sites
- Of major international projects
- Of critical process sites

Okken's characteristics are ideally suited to

- Electrical distribution and motor control (MCC) applications up to 6,300 A and 690 Vac
- High short circuit current withstand
- Internal arc containment
- Fixed, disconnectable or withdrawable functional unit mounting

Okken, more than just OK!



Okken is a fully tested switchboard solution

- According to IEC 60439-1 standard which guarantees:
 - electrical installation safety,
 - operating dependability.
- All of these tests are certified by the ASEFA and LOVAG

List of tests

- Temperature rise limits
- Dielectric properties
- Short circuit withstand
- Protection circuit efficiency
- Fault line insulating distance
- Mechanism operation
- Protection index





Maximum service level, *absolute safety for people and property*

The service level is our main performance indicator. That is why we prefer solutions that allow faultless operation, quick maintenance, and easy modifications. But above all, our people have to be able to work under the highest conditions of safety... even when feeders that are vital for operations remain energized.

When it comes to making the choice, I'm very attentive of the design and production. For dependable operation in all circumstances, the smallest detail counts: handling of drawers, markings and indication, protection, prevention...

Justin De Vooclerc, Textiles Mill
Electrical Manager



Okken is designed to guarantee the safety of people

- The energized parts are indicated and protected by IP20 screens
- Secure handling of drawers:
 - fool-proofing,
 - interlocking,
 - mechanical or electrical releases.



Okken guarantees a high level of availability

- No busbar maintenance throughout the switchboard's life
- No wear on moving parts thanks to the double clamp
- Easy maintenance and upgrading when energized



Okken technology reduces the risk of internal arcing

- By using the Polyfast® system
- By containment at several levels:
 - at switchboard level (IEC 1641),
 - at column level (IEC 1641),
 - at functional unit level (AS3439-1).



Okken, more than just dependable!



Okken works in the most difficult environments

- Okken offers various levels from IP, 30 and 41 through to IP 54, to meet the requirements of industrial processes: cement works, iron and steel works, etc
- Okken can be given specific anticorrosive treatments of conductive parts for applications in the water, paper mill and refinery sectors...

Okken is approved for off-shore, FPSO and marine applications

- Okken is - Det Norsk Veritas (DNV) certified

Okken guarantees continuity of electrical distribution in the case of an earthquake

- The Okken 2G option meets earthquake zone requirements for all types of applications
- The Okken 5G option meets requirements for nuclear power stations



Okken *More than just OK!*





Investing today *for tomorrow's operations*

It is difficult to have an accurate vision of what our processes will be in the next 10 years. There is no question of investing in solutions that will rapidly become obsolete. Therefore we have a strong expectation for upgradeability. Each upgrade must be quick to implement and in complete safety, without being detrimental to operations.

Our installation is designed to suit our business today. But what about tomorrow? I think it's more than reassuring to know that I can fit new feeders without any problem if the business changes. And I really mean without any problem.

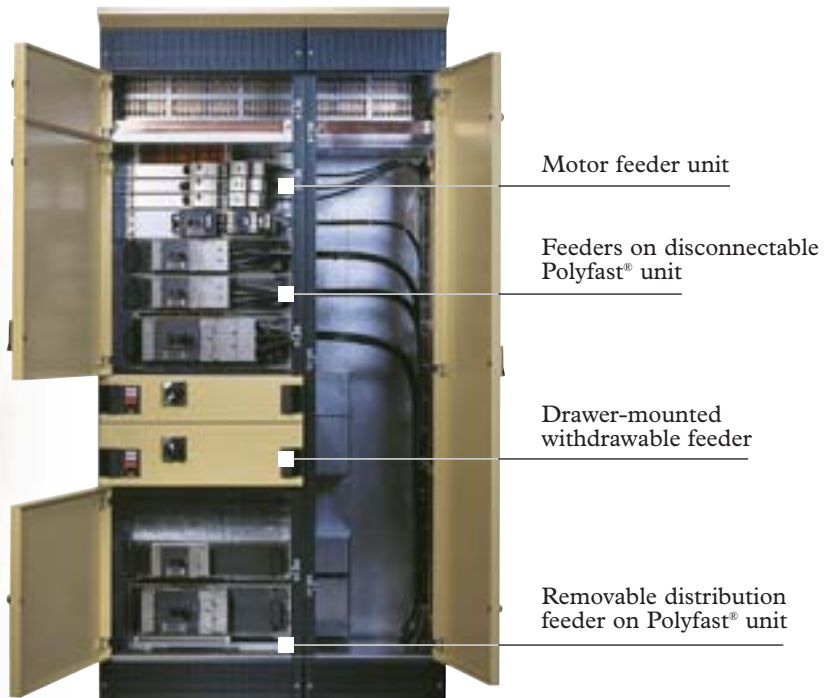
Michael Morrison, Bottling plant
Maintenance Manager

Okken provides the right answer for the operation and maintenance of your applications



- Disconnectable motor control unit:
 - simple and economical,
 - functionalized for motor feeders up to 32 kW,
 - customer connection: form 2a, 3a and 3b.
- Disconnectable Polyfast® unit for electrical distribution:
 - safe and economical,
 - functionalized for distribution feeders up to 630 A,
 - direct customer connection to the device (form 2b).
- Removable Polyfast® unit for electrical distribution:
 - safe and upgradeable,
 - functionalized for distribution feeders up to 630 A,
 - customer connection via a separate cluster and plate (form 4).
- Withdrawable drawer for distribution and motor control:
 - replacement or modification without wasting time,
 - test, locking, indication, front face control,...
 - customer connection via a separate clamp and plate (form 4).

Okken, more than just upgradeable!



Okken offers great flexibility

- Total mixability in the same column of:
 - distribution feeders and motor control feeders,
 - various types of installation (disconnectable, removable, withdrawable drawer).
- Easier last minute modifications or additions

Okken has been designed for easy upgrading when energized.

- Busbar protection index IP2
- Busbar connections with removable IP2 clamps
- Customer connection separate from the functional unit (form 4b)
- Easier adding of a new feeder or modifying of an existing feeder



Reserve space available for future equipment

Okken *More than just OK!*





Real profitability *is calculated in the long term*

Some equipment can have a very attractive initial purchase price but prove to be very expensive in operation. Before investing in a unit that commits you for years, it is a good idea to take account of the overall cost of ownership including operating, maintenance and upgrade costs as well as operational losses due to prolonged stoppages.

At first I was looking at equipment that was cheaper to purchase, but without much upgradeability. In the end I was convinced that Okken, with MotorSys solutions, was the right choice.

Elsa Zvysserwein, Financial Director
of a lubricant manufacturer



Okken has a truly low cost of ownership.

- The execution, ordering and commissioning time is reduced
- Investment is optimized:
 - reserve spaces that can be equipped as and when required.
- Optimized maintenance:
 - reduced number of replacement parts,
 - minimized stoppage time,
 - preventive maintenance.
- Upgrading is made easier:
 - no loss of operation when upgrading the installation.
- Materials are easy to recycle.

Okken has the smallest footprint on the market

- Okken technology allows the installation of:
 - up to two Masterpact NW 4000 A per column with a busbar that takes less copper,
 - up to 48 motor feeders per column, or 5 compact NS 630 feeders.



Okken, more than just optimized!



Okken iMCC and MotorSys: improve your efficiency

MotorSys solutions guarantee you have the ideal configuration for your process, with optimal reliability and the best return on investment:

■ MotorSys E@gle

- Interoperability certificates with the most common DCS's
- High level motor protection
- Current, voltage, earth protection, temperature sensors
- Local logic
- Redundant communication ports

■ MotorSys Multifunction

- TeSys T motor protection relay
- Direct connectivity with the main communication buses on the market
- High level protection: current, voltage, earth protection, temperature sensors
- Local logic
- Easy and cost effective Ethernet connection
- The highest number of feeders per column on the market (with TeSys U)

■ MotorSys Advanced

- TeSys U motor protection relay
- Connectivity with PLC units
- Intelligent current-based motor protection

■ MotorSys Classic

- TeSys D conventional thermal relay
- Optional network connection



Benefits:

Reducing unexpected process downtimes by at least 70%.

Eliminating 90% of motor burnouts.

Reducing maintenance costs by over 50%.





Close to you... *throughout the world*



Netherlands, China, Taiwan, Latvia, New-Zealand, Egypt, Saudi Arabia, Australia, Argentina... just a small part of the list of 50 countries where you can count on a Schneider Electric technical agent. Nearby, competent, available, at your service...

At the moment we're commissioning on every continent. For our most distant programs, which in addition use the most advanced processes, it's really essential to be able to count on local technical support that is effectively available. To be honest, it's the final argument that made us decide in the last phase of supplier consultation.

Alessandro Fontanarosa,
International Energy Development director

The Okken network of panel-builders guarantees optimum local service

- Okken can be supplied by Schneider Electric equipment units or by licensed partner panelbuilders.
- These partners are chosen for their expertise. They are trained and periodically audited by Schneider Electric to guarantee equipment that is of perfect quality.



- AERONAUTICS**
AERODROME DE RENNES
CSG KOUROU
EADS AIRBUS NANTES
EADS AIRBUS P22-23
EUROCOPTER HELISIM
EUROCOPTER
SNECMA MOTEURS
AIRBUS NANTES
BAE SYSTEMS
EADS BAT 35/36
EADS BAT HT10
EADS TGBT M1
EUROCOPTER BAT H3
AEROPUERTO CIUDAD REAL
- AIRPORTS**
AEROPORT D'ALMATY
AEROPORT DE MARSEILLE
ADP ORLY - TOUR DE CONTRÔLE
ADP ROISSY
AEROPORT DE BREST
PORT AUTONOME NANTES ST NAZAIRE
AEROPORT DE BARCELONE
BIAC
TOWER DUSSELDORF
ADP TOUR DE CONTRÔLE NORD
FARNBOROUGH AIRPORT
ACC TORREJON
ADP ROISSY
AEROPORT DE NICE
PAPAI REPTER
- ARMAMENT**
VOPAC
- WASTE TREATMENT/INCINERATION**
SYCTOM IVRY
KVA TRIMIS
UJOM TOULOUSE
DEPURADORA CENTRAL TERMICA
CICLO COMBINADO ACECA
PRIDESA IDAM CARTAGENA II
- INSURANCES**
STECO MACIF
STECO MAAF NIORT
AXA
- BANKS**
CALYON UNIFICA
ROYAL MINT
BANK OF MAURITIUS
BSCH AMPLIACION
CPD BANKINTER
BANKINTER MADRID
- BUILDING**
MCLEOD BUILDING
BELGRAVE HOUSE
LE GROUP-CONTACT
CENTER-EXENTER
MINCING LANE
ANCHOR MALL DEVELOPMENT
HALLENSTATION
ALDERMASTON WTP
ASSOCIATED BRITISH PORTS
ROYAL FESTIVAL HALL
UEA NORWICH
CGBT AYUNTAMIENTO PORTUGALETE
CGBT PALACIO LAS ARTES, VALENCIA
- CEMENT WORKS**
CIMGABON
LAFARGE MAROC
CIMTOGO
CIMENTOS DE LUKALA
MEKNES
MOSCOW CONCRETE PLANT
LAFARGE
ARBOS
CIMENTERIE CHLEFF CLINKER



- FOOD INDUSTRY**
CEVITAL
CUCA BRASSERIE
ROQUETTE
AVEBE LATENSTEIN
CARGILL B PLANT
CARGILL MEMBRANE
LIANOZOVO
BALTICA
INABENSA
DAMSON/DAIRY CREST
EPWICK KWEST
DAMSON/DAIRY CREST
KATIE'S KITCHEN
P&I FOODS
KELLOGG BUILDING
SUIKERGROEP MOERBEKE
COCA-COLA CHAUDFONTAINE
NESTLE (SAMARA)
ADNAMS PLC-SOLE BAY BREWERY
VEETEE RICE LTD
PETERS FOOD SERVICES
LTD-BEDWAS
PURA FOODS
INWIRON.TULIP FOODS
UNILEVER BESTFOODS UK -
PURFLEET FACTORY
MASTERFOODS - BIRSTALL
CGBT (ALCURNIA)
DANONE
CGBT AZUCARERA MIRANDA
DE EBRO
BRASSERIE ST GEORGES
CUCA BRASSERIE
CARGILL ST NAZAIRE
GLOBE EXPORT KOUMASSI
GLOBE EXPORT NDOKOTI
NESTLE WATER
SODEBO
DANONE BARCELONA
FABRICA PIENSOS COVAP
SA GORDOBA
CENTRO LOGISTICO MERCADONA
CIEMPOZUELOS
SEDA SOLUBLES PALENCIA
CENTRO LOGISTICO MERCADONA
SAN SADURNI
CENTRAL LECHERA ASTURIANA
ASTURIAS

- Schneider Electric Equipment Units
- Schneider Electric licensed partners

Schneider Electric a worldwide partner

Schneider Electric has considerable experience with a major installed switch-board equipment base on large-scale sites.



CIEMENTERIE SAIDA
LAFARGE LE HAVRE
LAFARGE MARTRES
LAFARGE PESCARA
PLACOPLATRE VAUJOURS
SCHENCK
CEMENTOS DEL CANTABRICO
ABONO ASTURIAS

CHEMICALS
OMYA ORGON
NAPHTACHIMIE
SAINT GOBAIN THOUROTTE
CYTEC
SRD DUNKERQUE
ANHUI FENGYUAN BIOLOGY
CHEMICAL CO
TVK RT CHEMICAL COMPANY
HUNTSMAN-CHEMICAL COMPANY
LONZAC
ATIL COBRA

INITEC
AIR LIQUIDE
FOSTER W,
INTECSA
INAGRA
CLH
GOLDSCHMIT
AIR LIQUIDE FRANCE
AIR LIQUIDE ESPANA
HEYMO
UCB DRAGENBOS
OIL TANKING
RUTGERS
UCB-BRAINE
KNAUF ALCOPOR
UCB BAT R1
CABOT
CHEVRON ORONITE
SOLVAY
BP OIL CASTELLON
REPSOL CORUÑA
CCM4 PLANTA DE OLESA
CGBT
CCM PLANTA ERKIMIA B FLIX
SOLVAY
ESSO/HAMON
YARA
SODA M.TWY
FIRMA CHEMIZNA DWORY
LONZA BIOTEC
ARKEMA LAVERA
ARTESIENNE VINYLE
ELIOKEM
GCT M'DHILLA
GROUPE CHIMIQUE TUNISIEN
MYRIAD CORUS COLOURS
NAPHTACHIMIE
OXOCHIMIE LAVERA
TOTAL PETROCHEMICALS
YARA MONTOIR
ROGETTER
CELANESE
ASLAND

IT
MENSCAP
EDS
INTEL CHINA
STM SINGAPORE
PHILIPS CAEN
GLOBAL SWITCH
SOITEC
DHL

EDUCATION
SWANSEA UNIVERSITY
UNIVERSITY OF GLASGOW

ELECTRICITY PRODUCTION
EDF ST TULLE
CENTRAL PUNARUU - TAHITI
EDF CENTRALE DU VAZZIO
EDF CENTRALE MANOSQUE
OMOKU
CENTRALE DONIAMBO
DUNAMINTI POWER STATION
TFP DEVEN - POWER STATION
BE RT KISPEST-POWER STATION
PAE RT- NUCLEAR POWER STATION
VERTESI EROMU-POWER STATION
PPC-SES MEGALOPOLIS
PPC-SES LINOPEREMATA/CHANIA
SE CRAIOVA 2
THYSSEN KRUPP POWER PLANT
STADTWERKE LEVERKUSEN
CEA CADARACHE
PPC-SES CHANIA (CRETE ISL.)
SE CRAIOVA II
CEA CADARACHE

CEA SACLAY
EDF PORCHEVILLE
SONELGAZ
EDF CHATOU
TRANS AMADI POWER STATION
HUA NENG POWER PLANT
EMPRESA NACIONAL ELECTRICIDAD

ELECTRONICS
ST ROUSSET IONICS
IMEC (GTI)

GLASS INDUSTRY
BOR GLASS PLANT
ST GOBAIN MERS-LES-BAINS
SOTUVER
KERAGLASS
BOR GLASS PLANT
OWENS C
GLAVERBEL
BSN WINGLES

HOSPITALS
CHU DE CREIL
CHU DE SETE
CHU DE NIMES CAREMEAU
HOPITAL DE CORENTIN CELTON
HOPITAL DE DAX
HOPITAL DE DINAN
CHR LILLE
CHR NANTES
CHR ST ELOI
CHU CRETEIL HENRI MONDOR
CHU TROUSSEAU
CLINIQUE ST LAURENT
HOPITAL DE CLOCHEVILLE
HOPITAL DES FEUGRAIS
HOPITAL EUROPEEN G.POMPIDOU
HOPITAL DE MARTIGUES
HOPITAL MILITAIRE ORAN
HOPITAL MILITAIRE CONSTANTINE
CHU DE NANTES
CHU D'ORAN
HMURU CONSTANTINE
HOPITAL DELAFONTAINE
HOPITAL MILITAIRE ORAN
HOPITAL STE MARGUERITE
CLINIQUE DE BARCELONE
HOPITAL CARLOS III MADRID
MARY LYON CENTER-HARWELL
EVELINA HOSPITAL
HOLBEACH
NEW CROSS HOSPITAL
64 BED WARDS
CENTRE HOSPITALIER POISSY
HOPITAL D'ARRAS
HOPITAL DE MEULAN
HCL MATERNITE CROIX ROUSSE
HOPITAL CONCEPTION
CANCER RESEARCH
CENTER-CAMBRIDGE
HEATHERWOOD & WEXHAM
HOSPITAL
QUEENS PARK HOSPITAL -
BLACKBURN
GSK ADDENBROOKES HOSPITAL
MODIFICACIONES CGE, HOSPITAL
CARLOS III
HOSPITAL SAN SEBASTIAN
CENTRE F. BACLESSE CAEN
CENTRE HOSPITALIER F. GUYON
CHU CAEN
CLINIQUE ST VINCENT
HCL LYON NEURO CARDIO
HOPSTE MARIE DE OL FERRAND
HOPITAL DE MONT DE MARSAN
HOPITAL DE CONCEPTION
HOPITAL DE LA COLOMBIERE
HOPITAL MILITAIRE DU VAL-DE-GRACE
HOPITAL DE NEUILLY/SEINE
HOPITAL DE PERPIGNAN
HOPITAL DE REMIREMONT
HOPITAL DE ST-ETIENNE
HOPITAL DE VERNON
HPGO
INSTITUT GUSTAVE ROUSSY
CENTRE F. BACLESSE CAEN
CENTRE HOSPITALIER F. GUYON
CHU DE CAEN
CLINIQUE ST-VINCENT
HOSPITAL CLINIC SUR BARCELONA
CLINICA QUIRON MADRID
HOSPITAL CLINIC NORTE
BARCELONA
HOSPITAL CASTILLEJA DE LA CUESTA
SEVILLA
HOSPITAL ARNAU BARCELONA
HOSPITAL LUGO

MOTOR INDUSTRY
MICHELIN VANNES
RENAULT CLEON
RENAULT LE MANS
MICHELIN ROMANIA
MCA MALBEUGE
RENAULT AGI LE MANS
RENAULT CLEON
GIBBS-CAR PART FACTORY
DACIA SA- RENAULT
TOWER
VOLVO
OPEL
MICHELIN ALGER
SODEMECA
DACIA SA - RENAULT
IVECO
OKKEN JEAN MULLER (FORD)
VALLADOLID
FENICE FIAT BIELSKO BIA A
ELIOKEM
FAURECIA
MICHELIN CATAROUX
MICHELIN MONTCEAU
MICHELIN VANNES
PSA EQUILIBRE
PSA LA GARENNE
RENAULT AUBEVOYE
RENAULT LE MANS
TOYOTOMI ET BOSHOKU
WOCO
IBIDEN
FORD VALENCIA
MICHELIN VITORIA
MERCEDES VITORIA
BENTLEY VIGO
MICHELIN VALLADOLID

OFFSHORE
WP13 BONGKOT PHASE3
TOTAL GABON

OIL & GAS
ECOGAZ (MOSCOW AVTOFRAMOS)
CPC (CASPIAN PIPELINE CONSORTIUM)
MOL
PETROM SA
OLTOHIM SA
KINTEC
AIR FILTRATION SYSTEM REPLACEMENT
BUSAHA INTAGRETED CONTROL
SYSYSTEM (HICS)
BUSAHA SITE CAMP
NORTH & EAST EAB DEVELOPMENT-
INFRASTRUCTURE, PHASE 1
SAFETY BUILDING
LAM-10 PLATFORM UPGRADE
1 CCM REGASIFICADORA DE SAGUNTO
2 CUADROS GENERALES
REGASIFICADORA DE SAGUNTO
PKN ORLEN
PETRO ASFALT
SAPREF
MOL OIL AND GAS COMPANY
BEFESA
GAZCOMPLEX
GASCO
CARRICO PORTUGAL
BEFESA
EXXON ECLAIRAGE E1-E2
TOTAL AUSTRAL
AL KHALIJ NORTH AREA
ATOFINA
BHP
BP LAVERA
CAMBRIUM TRANSFERT PUMPS
ELF GABON CAP LOPEZ

MARINE
KAHN I
SCHEVENINGEN 171
SCELVERUNGH HOPPER
IZAR
ELECTRORAYMA
DUBAN HARBOUR
PORT
DON BREST
DCN RUELLLE BAT 92
IDHA
KAHN 2
DP MP VESSEL B393
DON ILE LONGUE
PORT AUTONOME HAVRE
PORT AUTONOME MARSEILLE
PFSO

MINES
POMPAGE MAURITANIE
SEPR
BAUXITES DE GUINEE
LE NICKEL-SLN
KGHM
SLN
KGHM POLSKA MIELD
PBG GUINEE
CPG
OMYA OMEY
SLN
SOCIETE LE NICKEL

PAPER-MAKING INDUSTRY
CASCADES LA ROCHETTE
BOLLORE / POSTE BATTERIES
PAPETERIES DE MAUDUIT
PAPETERIES DE VOIRON
GDM POSTES 3-1
LTR LE MANS
PDM EXT.PA25
PDM EXT.PA20
LTR LE MANS
PAPIERINIA KOSTRZYŃ
VIPAP-PAPER FACTORY
ENGE
KIMBERLY
SAPPFINE
CONDAT
SOPORCEL
ZAK ADY PAPIERNICZE KOSTRZYŃ
EUROPACK

OTHER INDUSTRIES
3M CERGY
BROCHOT
CITE DES SCIENCES
LANDY WILSON
ROHM & HAAS
XUJI ELECTRIC CO.
PROTOTYPE ELCANO
BOSCH
CEA PIERRELATTE LASERS
LANDY 2
PLACOPLATRE
STM CROLLES
K.UNIVERSITEIT
BEIJING THERMAL PLANT
FIAT
SIBERIA INDUSTRIAL PARK
TIMKEN ROMANIA
SUNRISE DHL
SHANGHAI CAOHEJING
DEVELOPMENT AREA
SUM.ELECT.CASTELLON
SCHNEIDER ELECTRIC ESPAGNE
UCM SINGAPOUR
DURIE CENTER-BASINGSTOKE
GENERATORS LOAD SHARING PANEL
SCOA INTERNATIONAL-AFRICA
KIMBERLEY CLARKE
WILKINSON DISTRIBUTION CENTER
BD-PLYMOUTH
CRANES IPSWICH OVENS
AYENSU STARCH FACTORY-ACCRA
CHELTENHAM RACECOURSE
LONDON STOCK ECHANGE
OLD OAK COMMON DEPOT
INDIA PROJECT
ATS PANEL
SPANLUX IMPREGNATION
SCHNEIDER JPH
KBC MECHELEN
INSTALLATION POUR LE HALL
D EXPOSITION DE DUSSELDORF
CGE N'TOUM
EURODISNEY EXTENSION
TINKOFF BREWERY
(ST-PETERSBOURG)
RAMSTOR KAZAN
HUNTSMAN
SAPPI
COLD STORAGE
CUMMINS-CONVERGYS
RELIANCE GEARS
HARLANG SIMON PLC - BELFAST
TELEGRAPH
TRAFFORD PARK PRINTERS
FG WILSON.BECAD
CUMMINS - MIDROCK, ETHIOPIA
VARIOUS CUMMINS STANDARD
C/COVER PANELS
CGBT PVECTO ITACA (ADISSEO)
CGBT BOSCH
CGBT CERAMICA SALTICERAM
GHT
SUIKERGROEP
AGFA GEVAERT
CARLAM TOUJRS A CYLINDRES
TOYOTA ZAVENTEM
HOLCIM T3
SONATRACH ALGERIJE DEEL 1+2
BURGO
SPANLUX + PROFILAGE
BOC

GSO
KATCO
LABO.SOUTERRAIN MODANE
PTTUT CENTRAL UTILITY
KELENFOLDI EROMU
WU HAN STEEL CO.GROUP
MA AN SHAN STEEL CO.GROUP
GSK SINGAPORE
CERAMICAS ARGENTA CIUDAD REAL
VALVITRUM VIDRIO BARCELONA
SIDMED SAGUNTO
FORMICA VALENCIA
ANOVAL VALENCIA
ATLANTIC COPPER HUELVA
ACERINOX ALGERICAS
ATLANTIC COPPER HUELVA
CARBUR EIBAR BILBAO
HIDRONITRO HUESCA

TERTIARY
HOTEL CORINTHIA - GAMBIE
KNAUFF DUCLAIR
FOUR SEASONS HOTEL
GALERIES LAFAYETTE
SHERATON HOTEL
MILLENNIUM CENTER - CARDIFF
CGBT
ARBRE BENIT
COLRUYT (VLEVICO)
ING ZERO COUPEUR
KBC MECHELEN CCM1
KBC LIEUVEN CCL
KBC MECHELEN CCM2
ELECTROLUX
FRANCAISE DES JEUX
BEIJING COMMERCIAL STREET
BUILDING
GUANG ZHOU METRO LINE
4 EXTENSION AND LINE 5
BEIJING METRO LINE 5
PUERTO BILBAO
MAERKS ALGECIRAS
CENTOCOR
CENTRE COMMERCIAL NANCY
FEDEX ROISSY

ESSE NOROXO
ESSO SAF NDC
EXXON S/STATION 20B1
KUMKOL TANK FARM
MAZEIKIU LITUANIE
RAS LAFFAN
TENGIZCHEVROIL
TENGIZCHEVROIL-ENVIRO CENTER
EXXON PJ21
EXXONMOBILE
NOVOPOLOTSK
QATAR PETROELUM
TOTAL AUSTRAL
TOTALFINAELF
NIZNEKAMSK
MAZEIKIU
HUNGARIAN OIL AND GAS COMPANY

OTHER INDUSTRIES
3M CERGY
BROCHOT
CITE DES SCIENCES
LANDY WILSON
ROHM & HAAS
XUJI ELECTRIC CO.
PROTOTYPE ELCANO
BOSCH
CEA PIERRELATTE LASERS
LANDY 2
PLACOPLATRE
STM CROLLES
K.UNIVERSITEIT
BEIJING THERMAL PLANT
FIAT
SIBERIA INDUSTRIAL PARK
TIMKEN ROMANIA
SUNRISE DHL
SHANGHAI CAOHEJING
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SCHNEIDER ELECTRIC ESPAGNE
UCM SINGAPOUR
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SCOA INTERNATIONAL-AFRICA
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CGBT BOSCH
CGBT CERAMICA SALTICERAM
GHT
SUIKERGROEP
AGFA GEVAERT
CARLAM TOUJRS A CYLINDRES
TOYOTA ZAVENTEM
HOLCIM T3
SONATRACH ALGERIJE DEEL 1+2
BURGO
SPANLUX + PROFILAGE
BOC

ESSE NOROXO
ESSO SAF NDC
EXXON S/STATION 20B1
KUMKOL TANK FARM
MAZEIKIU LITUANIE
RAS LAFFAN
TENGIZCHEVROIL
TENGIZCHEVROIL-ENVIRO CENTER
EXXON PJ21
EXXONMOBILE
NOVOPOLOTSK
QATAR PETROELUM
TOTAL AUSTRAL
TOTALFINAELF
NIZNEKAMSK
MAZEIKIU
HUNGARIAN OIL AND GAS COMPANY

OTHER INDUSTRIES
3M CERGY
BROCHOT
CITE DES SCIENCES
LANDY WILSON
ROHM & HAAS
XUJI ELECTRIC CO.
PROTOTYPE ELCANO
BOSCH
CEA PIERRELATTE LASERS
LANDY 2
PLACOPLATRE
STM CROLLES
K.UNIVERSITEIT
BEIJING THERMAL PLANT
FIAT
SIBERIA INDUSTRIAL PARK
TIMKEN ROMANIA
SUNRISE DHL
SHANGHAI CAOHEJING
DEVELOPMENT AREA
SUM.ELECT.CASTELLON
SCHNEIDER ELECTRIC ESPAGNE
UCM SINGAPOUR
DURIE CENTER-BASINGSTOKE
GENERATORS LOAD SHARING PANEL
SCOA INTERNATIONAL-AFRICA
KIMBERLEY CLARKE
WILKINSON DISTRIBUTION CENTER
BD-PLYMOUTH
CRANES IPSWICH OVENS
AYENSU STARCH FACTORY-ACCRA
CHELTENHAM RACECOURSE
LONDON STOCK ECHANGE
OLD OAK COMMON DEPOT
INDIA PROJECT
ATS PANEL
SPANLUX IMPREGNATION
SCHNEIDER JPH
KBC MECHELEN
INSTALLATION POUR LE HALL
D EXPOSITION DE DUSSELDORF
CGE N'TOUM
EURODISNEY EXTENSION
TINKOFF BREWERY
(ST-PETERSBOURG)
RAMSTOR KAZAN
HUNTSMAN
SAPPI
COLD STORAGE
CUMMINS-CONVERGYS
RELIANCE GEARS
HARLANG SIMON PLC - BELFAST
TELEGRAPH
TRAFFORD PARK PRINTERS
FG WILSON.BECAD
CUMMINS - MIDROCK, ETHIOPIA
VARIOUS CUMMINS STANDARD
C/COVER PANELS
CGBT PVECTO ITACA (ADISSEO)
CGBT BOSCH
CGBT CERAMICA SALTICERAM
GHT
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Okken *More than just OK!*



Technical characteristics

general characteristics

applications	distribution motor control
service index (IS)	211 to 333
reference standards	IEC 60439-1 NF EN 60439-1 IEC 60529
climatic withstand	
humid heat withstand	IEC 60068-2-30
dry heat withstand	IEC 60068-2-2
low temperatures	IEC 60068-21
salt mist	IEC 60068-2-11
installation	indoor
environment (EMC)	type 2

mechanical characteristics

cable entry	high/low
access	front/rear
protection index (IP)	31/41/54
shock withstand index (IK)	10
form	2b/3b/4a/4b
withdrawability	FFD/WFD/WFW/WWW
dimensions (mm)	
height	2200/2350
width	650/900/1000/1100/1150/1300
depth	600/1000/1200/1400
average weight	650 Kg
casing coating	polymerized epoxy/polyester powder (SP03), > 50 µ
frame	galvanized
casing color	RAL 1000

electrical characteristics

rated insulation voltage (Ui)	1 000 V
rated service voltage (Ue)	690 V CA
rated frequency (F)	50/60 Hz
rated impulse withstand voltage (Uimp)	12 kV
rated auxiliary circuit voltage	230 V AC max.
overvoltage category	IV
pollution index	3
rated current (In)	6 300 A
horizontal busbar rating	7 300 A
vertical busbar rating	4000 and 2100 A
horizontal busbars	
rated short time withstand current (Icw) 1s	50/80/100/150 kA rms
rated peak current	110/176/220/330 kA peak
vertical busbars	
rated short time withstand current (Icw) 1s	50/80/100 kA rms
rated peak voltage	110/176/220 kA peak
rated conditional short circuit current (Isc)	up to 150 kA
internal arcing personal protection IEC 61641	100 kA rms 0.3 s
earthing arrangement	TT-IT-TNS-TNC
power incomer and feeder limits	up to 6 300 a
motor control feeder limits	up to 250 kW 400 V

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As standards, specifications and designs change from time to time, please ask for confirmation of the information given in this publication.



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