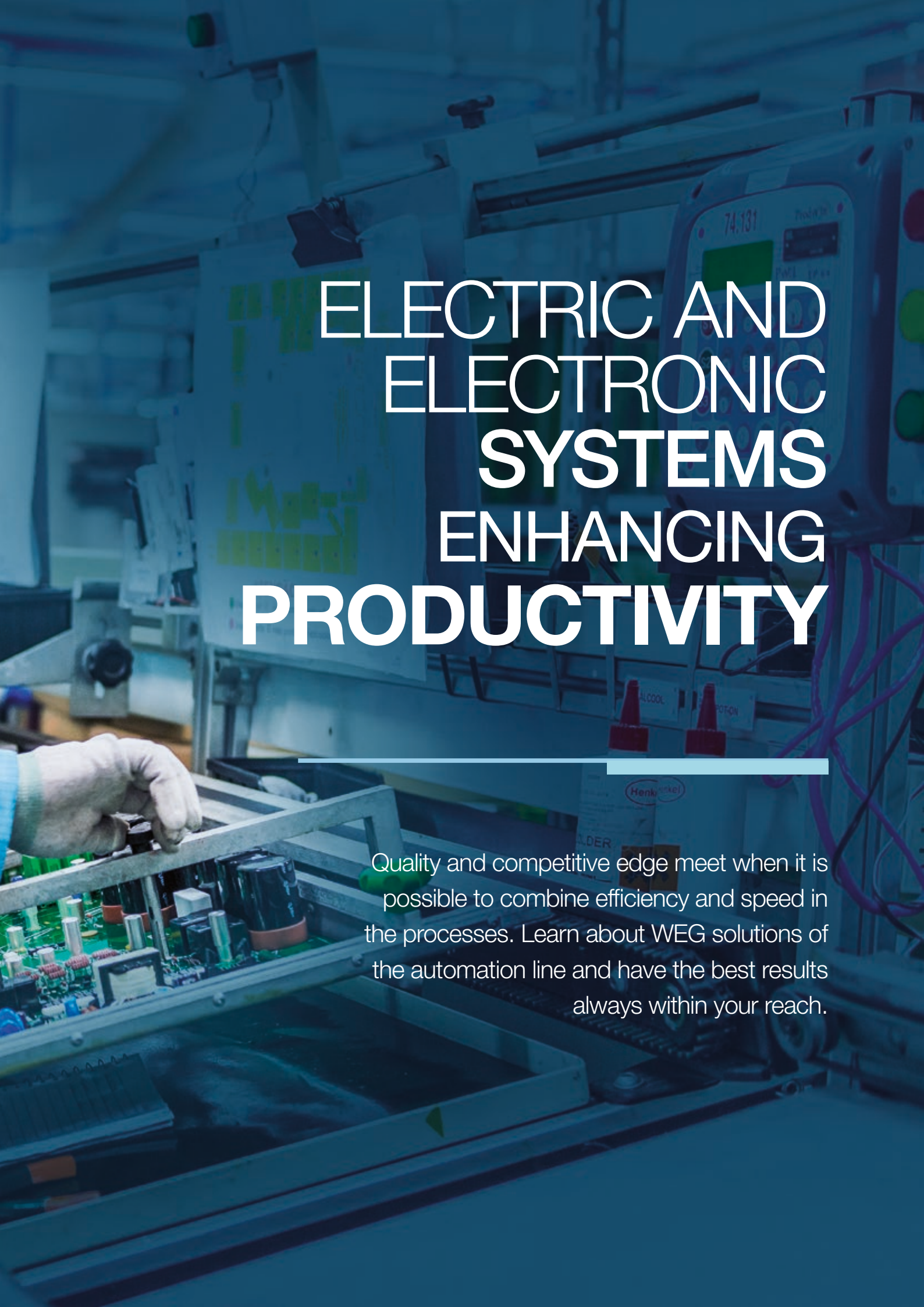
Automation

Product Line

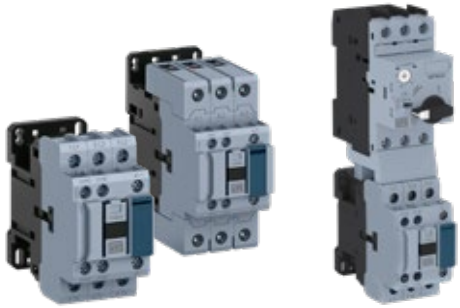


ELECTRIC AND ELECTRONIC **SYSTEMS** ENHANCING **PRODUCTIVITY**

Quality and competitive edge meet when it is possible to combine efficiency and speed in the processes. Learn about WEG solutions of the automation line and have the best results always within your reach.

Motor Start and Protection

CWB



Start with CWB contactor and MPW motor protective circuit breaker

Contactors

- Compact solution up to 80 A and up to 54 mm wide
- Built-in auxiliary contacts 1NO + 1NC
- Low energy consumption DC coils allow direct drive of the contactors via PLCs, inverter outputs or soft-starters without requiring an interface relay
- More compact assemblies of motor starters
- Developed according to IEC 60947 and UL 508 international standards
- Wide range of accessories

CWM

Modular Contactors

- Complete line from 9 to 800 A (AC-3)
- 3-pole and 4-pole contactors
- Quick mounting on 35 mm DIN rail or screw mounting
- Contactors available in several command voltages and frequencies (AC or DC)
- Direct mounting of contactors on overload relays up to 105 A
- Wide range of accessories
- Easy connection busbars for star-delta or reversing starters interconnection, allowing fast mounting and reducing space

CWC0

Compact Contactors

- Complete line from 7 to 22 A (AC-3)
- Quick mounting on 35 mm DIN rail or screw mounting
- Built-in auxiliary contacts up to 16 A
- Low-consumption DC coils, allowing direct connection to PLCs
- Direct mounting on RW17 overload relays
- Same dimensions (AC or DC coil) for models up to 16 A

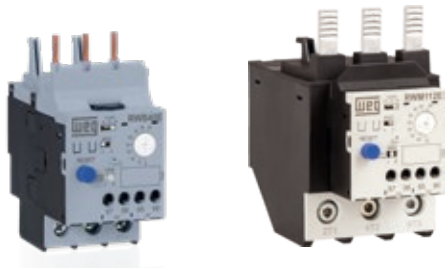
RW

Thermal Overload Relays

- Current setting range from 0.28 to 840 A
- Tripping class 10
- Versions allowing direct mounting to compact contactors/ contactors, screw mounting or DIN rail mounting with accessory
- Adjustable multifunction key with HAND, AUTO, H or A functions
- Auxiliary contacts 1NO + 1NC

Motor Start and Protection

RW_E



Electronic Overload Relays

- Three-pole electronic overload relay with selectable trip class: 10, 20 and 30
- Current setting range from 0.4 to 840 A
- Phase loss protection (time delay <5 seconds)
- Phase unbalance protection (>40% between phases)
- Temperature compensated
- Manual or automatic reset
- Direct mounting on CWB9...38 and CWM9...105 contactors
- Allows individual mounting with accessories
- Auxiliary contacts 1NO + 1NC

MPW

Motor-Protective Circuit Breakers

- Motor-protective circuit breakers with high short-circuit breaking capacity up to 100 A ($U_e \leq 690$ V)
- Compact solution up to 40 A and 45 mm wide and up to 80 A 54 mm wide
- Motor start and protection up to 40 HP at 220 V and 75 HP at 380/440 V
- Adjustable thermal releases to protect the motor against overload
- Magnetic releases for short circuit protection fixed at 13xIn

PDW

Starters

- Three-phase contactors in thermoplastic enclosures up to 40 HP at 220 V and 75 HP at 380/440 V, and single-phase contactors
- Star-delta starters in thermoplastic enclosures up to 20 HP at 220 V and 40 HP at 380 V
- Star-delta, reduced-voltage and series-parallel starters in metallic enclosure starting from 15 HP

RTW17, RMW17, RIEW17, RNW, ERWT AND ERWM

Electronic Relays

- LED status indicators
- Simple configuration and operation
- Adjustments via external selectors
- High-reliability contacts
- Excellent accuracy, repeatability and noise immunity
- Mounting on DIN rail or screw mounting
- Compact enclosure 17.5 mm and 22.5 mm wide
- Available models:
  - Timers: simple function and timing (RTW17), multi timing (RTW-MAT/MBT) or multifunction (ERWT)
  - RIEW digital impulse relay: control of automation systems in homes, hotels and commercial or residential buildings
  - Voltage monitoring relays: single monitoring (RMW17) or multifunction (ERMW)
  - Level relays: filling and draining (RNW)

Motor Start and Protection

SRW01

Smart Relay

- Reliability and accuracy in monitoring, operation and protection of low voltage electric motors
- Supply voltage: 24 V ac / V dc or 110/240 V ac / V dc
- Plug & Play Philosophy
- Modular design
- Communication networks: Modbus-RTU, Profibus-DP, DeviceNet or EtherNet
- USB port
- Free WLP programming software (WEG Ladder Programming)

Optional Items:

- Operating interface (HMI) for cabinet door mounting: monitoring, parameterization and operation with copy function and serial communication
- Current and voltage or current measuring units
  - Current Measuring Unit (CMU): current monitoring on the three motor phases
  - Current and Voltage Measuring Unit (CVMU): current monitoring on the three motor phases, voltage monitoring up to 690 V, phase sequence, power factor and other motor powers, allowing the management of electric energy consumption in kWh

Push Buttons and Pilot Lights

CSW and CEW

Pushbuttons, Selector Switches and Pilot Lights

- Developed for different applications, harsh and industrial environments
- Degree of protection IP66
- Illumination blocks with integrated LED (high efficiency)
- Quick and easy mounting system
- High-reliability auxiliary contacts
- Wide range of accessories

Switch-Disconnectors

RIW

Rotary Switch-Disconnector

- Rated currents: 100 to 1,250 A
- Developed according to international standards IEC 60947-3 and IEC 60947-1
- Housing in self-extinguishing thermoplastic (flammability class V0)
- Auxiliary contact installed on the switch
- Complete accessory line
- Mounting in any position
- Safe operation
- Easy installation

Switch-Disconnectors

MSW

Compact Switch-Disconnector

- Rated currents: 12 to 160 A
- Developed according to IEC 60947-3
- Compliance with the requirements of NR12 standard
- Modern and compact design for simple installation
- Complete line of accessories
- Terminals with degree of protection IP20
- Handle with degree of protection IP65
- Handles allow using up to 3 padlocks
- Handles allow door interlocking
- ON/OFF indication on the handle in Portuguese, as required by Brazilian NR12 standard
- Base mounting or top mounting

RFW

Rotary Switch-Disconnector

- Rated currents: 100 to 630 A
- Developed according to international standards IEC 60947-3 and IEC 60947-1
- Housing in self-extinguishing thermoplastic (flammability class V0)
- Total fuse isolation with the switch in the OFF position
- Auxiliary contact installed on the switch
- Complete line of accessories
- Mounting in any position
- Safe operation
- Easy installation

FSW

Fuse-Switch-Disconnector

- Rated currents: 100 to 630 A
- Developed according to international standards IEC 60947-3 and IEC 60947-1
- Transparent cover allows viewing the contacts
- Possibility of checking the fuse state through holes in the cover
- Auxiliary contact installed on the switch
- Fast fuse replacement
- Safe operation
- Easy installation

Electrical Circuit Protection

MMW

Multimeters of Electrical Quantities

- Direct voltage measurement up to 500 V ac
- Current measurement via CTs (0.05 to 5 A)
- Built-in memory for data storage
- Internal memory for data storage Network Communication via RS485 and Modbus-RTU

Electrical Circuit Protection

FU

aR Ultra-Fast Fuses and gL/gG Circuit Protection

- Class gL/gG - for general electrical circuit protection
- Class aR - for semiconductor protection
- D-type gL/gG fuses with rated currents from 2 to 63 A
- NH-type gL/gG fuses with rated currents from 4 to 630 A
- NH-type aR fuses with nominal currents from 20 to 1,000 A in four sizes
- aR fuse with thread connection type (flush end) and currents of 450 A to 2,000 A
- High breaking capacity (type D = 50 kA, type NH = 120 kA, thread connection type (flush end): 200 kA)
- Technical specification according to IEC 60269 standard
- High breaking capacity

ABW

Air Circuit Breaker

- Rated currents: 800 to 6,300 A
- Available in two versions: fixed and withdrawable
- Short-circuit breaking capacity up to 120 kA (380/415 V)
- Standard protection units with:
  - LSIG protection
- Protection units with option of:
  - Earth leakage protection
  - Network communication
- Compact model
- Wide range of accessories
- More built-in protections as default
- Network communication: Modbus and Profibus (optional)

VBW

Vacuum Circuit Breaker

- Rated currents: 630 to 2,000 A
- Voltage class: 17.5 kV
- Short-circuit breaking capacity: 25 kA
- Complete line of accessories
- Robust and compact structure
- Vacuum-insulated ceramic bottle

ACW

Molded-Case Circuit Breaker

- Rated currents: from 20 to 1,600 A
- Short-circuit breaking capacity up to 200 kA (220/240 V)
- Broad range of internal and external accessories
- Trigger options:
  - Adjustable thermal and fixed magnetic
  - Adjustable thermal and magnetic
  - Electronic
  - Magnetic only
- Technical specifications according to IEC 60947-2

Electrical Circuit Protection

AGW

Molded-Case Circuit Breaker

- Designed in compliance with IEC 60947-2 standard
- Breaking capacity from 18 to 45 kA @ 380 V
- Available in 4 frames: currents from 15 to 800 A
- Complete range of accessories
- Compact size

DWB/DWA

Molded-Case Circuit Breakers

- WEG line of circuit breakers:
  - DWB/DWA Line - protection of distribution electrical circuits and generators
  - DWB/DWM Line - motor protection
  - IWB and IWA Line - electrical circuit switch-disconnection
- Rated currents: 16 to 1,600 A
- Short-circuit breaking capacity up to 80 kA (380/415 V)
- Models with thermal and adjustable magnetic triggers
- Broad range of internal and external accessories
- Technical specifications according to IEC 60947-2
- DWB1000 and DWB1600 with LSI electronic protection

VBWK

Input Module in MV for Masonry Installations

- Installation in masonry cabinets
- Vacuum-arc extinguishing technology
- Robust and compact structure
- Protection relay homologated by the utility companies
- Maintenance-free equipment in the primary part
- Visual indication of the VBWK operating conditions
- Input and output connections prepared to receive cables or rods
- Easy installation
- Supplied assembled with all the equipment interconnected, tested and ready for energizing

DWP

Molded-Case Circuit Breakers

- The DWP molded-case circuit breakers protect the low voltage distribution circuits against short circuit and overload
- Available in currents from 16 to 800 A with fixed thermal and magnetic releases

Electrical Circuit Protection

MDW

Miniature Circuit Breakers 3 kA

- Curves B and C
- Rated currents: 2 a 125 A
- 1, 2, 3 and 4 poles
- High breaking capacity:
  - 3 kA - NBR NM 60898 (residential purpose)
  - 5 kA - IEC/EN 60947 (industrial purpose)
- Side auxiliary contact block (optional)
- Padlock (optional)

MDWH

Miniature Circuit Breakers 10 kA

- Curves B and C
- Rated currents: from 6 to 63 A
- 1, 2, 3 and 4 poles
- Breaking capacity:
  - 10 kA - NBR NM 60898 (residential purpose)
  - 10 kA - IEC 60947-2 (industrial purpose)
- Installation of accessories, such as padlock, undervoltage release and auxiliary blocks, supplied as optional items

SIW

Switch-Disconnectors

- They disconnect electric circuits with rated currents up to 100 A
- 2, 3 and 4 poles
- According to standard IEC 60947-3
- Possibility of padlock locking (optional)
- Auxiliary contact block (optional)

RDW

Residual Current Circuit Breakers

- Current leakage protection
- 30 mA sensitivity (life protection) or 300 mA (installation protection)
- 2 and 4 poles
- Rated currents: 25 to 100 A
- Padlock (optional)

SPW

Surge Suppressors

- Protection of equipment and installations
- Class I (direct discharges) and II (indirect discharges):
  - 12, 20, 45 and 60 kA (class II)
  - 12.5 kA (class II / I)
- Mechanical status indicator on the front of the device
- Plug-in connection
- Remote indication contact (SPWC)

QDW

Distribution Boards

- Installation of 4, 8, 12, 18, 24 and 36 circuit breaker modules
- Wall and flush models
- Smoked and white cover finish
- Connection and distribution busbars (optional)
- Neutral and ground busbars (optional)
- Complete line of accessories

Electrical Circuit Protection

TTW01-QD

Distribution Boards

- Simplified installation and operations
- Robust and compact structure
- In accordance with the applicable safety standards
- Metal boards in a single set, allowing faster assembly and greater robustness in handling and maintenance
- Wide range of mounting kits, offering a great variety of arrangements

Shielded Busbars

BWW

Shielded Busbars

- Fast and safe installation
- Flexibility in the relocation of electric energy consumption points
- Low maintenance
- Reduced installation space in relation to the conventional cable method
- Product manufactured and tested according to NBR IEC 60439-2 and IEC 61439-6, ensuring performance and safety of operation
- Fire protection barriers
- Aluminum enclosures, eliminating excessive heating and increasing current capacity

Industrial Plugs and Sockets

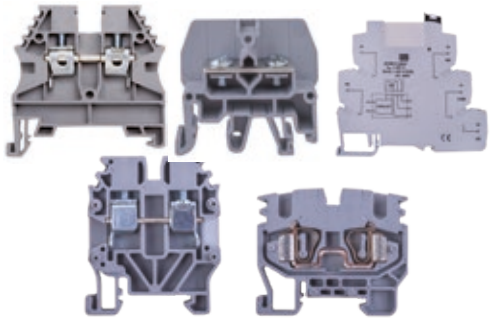
PIW

Flush and Surface-Mounting Plugs, Connectors and Sockets

- Interchangeable with other products developed according to IEC 60309
- Resistant to impacts and corrosion
- Protection against indirect contact
- Housing in self-extinguishing thermoplastic PA6 (flammability class V0)
- Rated operating voltage:
  - 100/130 V ac - yellow
  - 220/240 V ac - blue
  - 380/440 V ac - red
- Insulation voltage: 600 V ac
- Rated currents: 16 A, 32 A, 63 A and 125 A
- Number of poles: 3 (2P+G), 4 (3P+G) and 5 (3P+G+N)
- Frequency: 50 / 60 Hz

Electrical Connectors

BTW



Terminal Blocks

- Screw line: cables from 0.5 to 240 mm^2
- Cage clamp line: cables from 0.5 to 10 mm^2
- Push-in line: cables 0.5 to 10 mm^2
- Lug line: cables 0.5 to 10 mm^2
- Relay line:
  - Reversible contact
  - Plug-in relay
- Mini Terminal Screw Line: cables 0.5 to 4 mm^2
- Mini Terminal Cage Clamp Line cables: 0.5 to 2.5 mm^2
- Wide range of accessories
- Many options of identifiers and markers

Plotter

Plotter

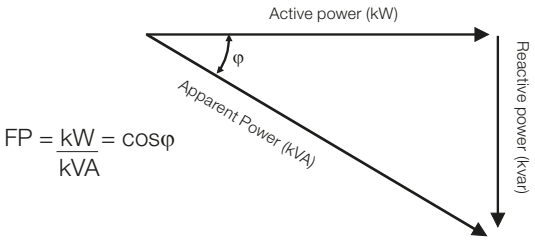
- A3 printing area (440 mm x 305 mm) and A4 (297 mm x 210 mm)
- Allows quick change of printing plates
- Able to print on elements up to 10.5 mm high
- Automatic calibration - prevents manual adjustments
- USB connection
- Complete line of accessories

Power Factor Correction

Power factor | *Energy efficiency factor*

In a three-phase power line, three quantities represents the electrical installation:

- Active power: kW (generates work)
- Reactive power: kvar (creates magnetic field)
- Apparent power: kVA (total power consumed)



(The more kvar circulates through the line and the transformer/generator, the higher the kVA consumed and the lower the power factor.)

Power Factor Correction Capacitors

- Coils produced with self-healing, dry dielectric, metalized polypropylene film
- Built-in discharge resistors in three-phase units, modules and banks
- Dielectric losses smaller than 0.4 W/kvar
- Manufactured in 50 and 60 Hz, in accordance with NBR IEC 60831
- Self-healing
- Explosion protection device

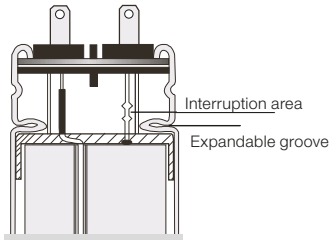


Fig. 1 Internal view of UCWs

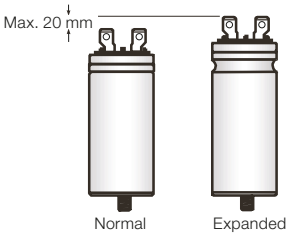


Fig. 2 UCW normal x UCW expanded

UCW

Single-Phase Capacitive Units

- Power up to 10 kvar, diameters from 40 to 75 mm and 535 V ac
- Capacitive units for mounting of modules and three-phase banks
- Replacement of expanded cells in the modules and banks
- Separate discharge resistors

UCWT

Three-Phase Capacitive Units

- Ideal for localized/individual motor correction:
  - 0.5 to 20 kvar at 220 V
  - 0.5 to 35 kvar at 380/440/480 V
  - 40 to 50 kvar at 380/440/480/535 V
- Built-in discharge resistors
- Protecting cover for connections
- Philips and box terminals

MCW

Three-Phase Capacitor Modules

- Power: up to 60 kvar and 480 V ac
- Single-phase capacitive units connected in delta
- Built-in discharge resistors
- You can associate up to 4 modules through interconnection busbars, reaching the equivalent powers to the banks (best cost-benefit)

Power Factor Correction

CWMC

Contactors for Switching Capacitors

- Available for switching capacitor banks of up to 61 kvar at 400/415 V
- Direct mounting on DIN rail 35 mm or screw mounting
- Developed with pre-charge resistors to reduce high in-rush currents

BCW and BCWP

Three-Phase Capacitor Banks

- Power: up to 75 kvar and 480 V ac
- Capacitors connected in delta
- General protection with “NH” fuses or circuit breakers
- Electronic timing relay that protects the capacitors in the reenergizing

PFW01

Automatic Power Factor Controllers

- Single-phase and three-phase measurement models
- 6 and 12-stage outputs to control contactors to switch capacitors
- Unloaded transformer power factor correction
- Harmonic distortion filter control through output 1 of PFW01
- Measurements of current, voltage, power and harmonic distortion
- Alarms for minimum and maximum voltage, current and power factor, and total voltage harmonic distortion
- Modbus-RTU communication (optional)

DRW

Detuning Reactor

- Voltage: 220, 380 and 440 (V)
- Power: 9.0…63.3 (kvar)
- Reduced vibration
- Reduced noise
- Insulation class H (180 °C)
- Insulation voltage of 1 kV
- Use of spacers between winding layers: it aids in thermal dissipation by reducing the operating temperature
- Special silicon steel plate: excellent magnetic properties in all directions, reduced losses and low operating temperature

Safety Line

Safety light screens

Zero-force electronic push-buttons

Magnetic safety switch with radio frequency

Magnetic sensors with safety function

Safety blocks for presses

Rope pull emergency stop switch

Two-hand control

Safety interlock switches

Safety relays

Safety PLC

3-stage safety foot switch

Emergency-stop push-button with monitored contact

Contactors for safety applications

Safety Light Screens

LSP

Light Screen Plex

- Height of the protection area 200 to 1,600 mm
- 14 or 30 mm resolution
- Finger, hand and arm protection
- 24 V dc power supply
- Compact size
- Dual channel output
- Floating and fixed blanking
- Autocheck: continuous monitoring of the functions
- Protection category 4/PL e/SIL 3
- Certification: TÜV Rheinland
- IP65 protection rating

Zero-Force Electronic Push-Buttons

SS, PALM and ST

Soft Switch, Palm Switch and Soft Touch

- Zero force to operate
- Reduce the stress caused by repetitive strain and consequently the occurrence of occupational diseases
- Resistant to liquids, dust, oils and mechanical vibrations
- IP67 protection rating
- Category 4/PL e/SIL 3 – with WEG safety relay
- Certification: TÜV Rheinland (Brazil)

Safety Emergency Switch

CEC

Rope Pull

- Cable length up to 80 meters
- Start the emergency command from any point along the length of the installed cable
- Built-in emergency-stop push-button, reset and LEDs
- Rugged cast metal housing
- Category 4/PL e/SIL 3 – with WEG safety relay
- IP67 protection rating
- Certification: TÜV Rheinland, CE, UL

Magnetic Sensors with Safety Function

H5 and M5

Magnetic Sensors

- Used to monitor grilles, doors, gates or the like
- 10-30 V dc supply voltage (model H5)
- Power supply directly on the safety relay (model M5)
- Coded actuator
- IP67 protection rating
- Category 4/PL e/SIL 3 - with WEG safety relay

Magnetic Sensors with Safety Function

RFID

Magnetic Sensor

- Provides high protection level and avoids tampering with the safety system
- Coded switch with a unique code (1 in 32 million combinations): works only with the actuator provided in the set
- Can be used with CP-D and CPA-D safety relays, not requiring special relays
- Can be interconnected in series with other similar sensors, interlock switches, emergency-stop pushbuttons and other devices of the Safety Line
- Rugged plastic housing with IP67 protection rating, allowing its application in any type of environment
- No moving parts: long service life, shock and vibration resistant

Safety Interlock Switches

Tongue Operated

- Selectable actuators (tongues)
- Models with and without solenoid
- Used to monitor grilles, doors, gates or the like
- Ideal for applications in restricted spaces and aggressive environments
- IP67 protection rating
- Category 4/PL e/SIL 3 - with WEG safety relay
- Certification: TÜV Rheinland, CE, UL

Safety Relays

Safety Relays

- CS Line - Simultaneity control
- CP Line - Emergency stop control
- SZS - Zero speed monitor
- PSSR - Auxiliary relay
- Dual channel outputs
- Contact supervision
- Protected against faults and tampering
- Category 4/PL e SIL CL 3
- TÜV Rheinland certification

Contactors for Safety Systems

Contactors for Safety Systems

- Three-pole power versions CWBS (9....80 A) and CWMS (40…105 A). Auxiliary versions CAWBS and CAWMS (I_{th}: 10 A)
- Enclosed design protected against the ingress of foreign bodies and against inadvertent touches
- Auxiliary contacts permanently connected to the contactors
- Specific color that enables easy identification on machinery and equipment panels
- Developed in compliance with the standards: IEC 60947-1, IEC 60947-4-1 (Mirror Contacts - Annex F) and IEC 60947-5-1 (Mechanically Linked Contacts - Annex L)
- Main certifications: UL, CE, TÜV Rheinland
- Units assembled and tested at the factory

Contactors for Safety Systems

CPSW

Programmable Safety Controller

- Compact modular system
- Configurable up to 15 modules
- Modules with different functions: safety inputs and outputs, speed monitoring and network communication
- 24 V dc power supply
- Push-in terminals
- Safety category SIL 3 / PL e / Cat 4

Safety Accessories

CBM

Two-Hand Control

- 24 V dc power supply
- Degree of protection IP20
- Used with the other products of the Safety Line
- Category 4/PL e, SIL CL 3 (with safety relay CS-D/CS-D201)
- TÜV Rheinland certification (CS-D/CS-D201 built-in)

PD3S

3-Stage Safety Pedal

- 3 actuation stages
- Monitored contact block with positive trip
- Guard to avoid inadvertent actuation
- Must be used with the CS-D/CSD201 relay and CP-D/CPA-D emergency stop relay

CA

Safety Block for Presses

- Adjustable height from 150 to 900 mm
- Withstands up to 20 t
- Monitored by safety interlock switch
- Used with the other products of the Safety Line
- Compliance certificate

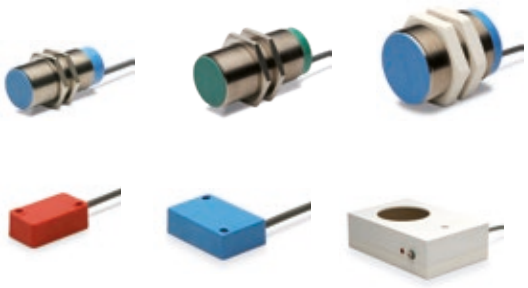
PSI-D

Inclinometer

- Monitors the inclination of surfaces. When the angle is greater than 10°, it activates the auxiliary outputs and indicates the inclination direction (right or left) on the front panel.
- Supply voltage: 24 V ac / DC ± 10%
- Consumption current: 20 mA at 30 V dc
- Maximum indication current: 100 mA
- Maximum safety output current: 100 mA
- Minimum detectable inclination angle: ± 3°
- Switching of the auxiliary outputs: 10°
- Switching the safety outputs: 15°

Industrial Sensors

SL Line



Inductive Sensors

- Wide variety of models and shapes
- Detection of metal parts
- Protection against overload, short circuit, transient noise and reverse polarity
- Metal or plastic housing
- Activation indicator LED
- Reduced size
- Shock and vibration resistant
- IP67 protection rating
- Output with cable (fixed or coupling) or M12 connector (selectable)

SC Line

Capacitive Sensors

- Cylindrical shape
- Detection of metallic or non-metallic solid objects, and fill level control of liquids and solids
- Metal or plastic housing
- Protection against overload, short circuit, transient and reverse polarity
- Activation indicator LED
- Shock and vibration resistant
- IP67 protection rating
- Output with cable (fixed or coupling) or M12 connector (selectable)

SO Line

Optic Sensors

- Models
  - Barrier sensors (EO/RO)
  - Reflective (SR)
  - Diffuse (SD)
  - Diffraction (SDF)
- Cylindrical or rectangular shape
- Metal or plastic housing
- Protection against overload, short circuit, transient and reverse polarity
- Activation indicator LED
- Shock and vibration resistant
- IP67 protection rating
- Output with cable (fixed or coupling) or M12 connector (selectable)

SMI Line

Magnetic Sensors

- Mounting on pneumatic cylinders with magnetic plunger
- Precise activation
- Activation indicator LED
- Robust mounting in plastic
- IP67 protection rating
- 2 m cable

SE Line

Electrostatic Sensors

- Sensors able to detect static energy from synthetic or natural yarn when they are moving
- Used to detect the break of yarns in textile machines
- “U” or “hook” type models

Industrial Power Supplies

PSS

Switched-Mode Power Supply - 24 V dc

- Full range supply voltage with automatic selection
- Protection against EMI
- Frontal wiring terminals
- Protection against short circuit at the output
- Mounting on DIN rail or with screws
- Metallic enclosure with electrostatic coating

PS

Power Supplies for Industrial Sensors

- Used with industrial sensors
- Version for safety relays

NA

NAMUR Standard Power Supply

- Version for NAMUR sensors

PSS24W

Switched-Mode Power Supply

- Output voltage: 24 V dc
- Output current range: 0.65 to 10.0 A
- Powers: 15 to 240 W
- Universal AC input
- DIN rail mounting
- Indication LEDs
- Compact and excellent cost effectiveness
- CE and UL certifications
- Overvoltage and overcurrent protection

DC Converters

Auxiliary

- Filling Level - PSN
- Optical Amplifiers - AO
- They are part of auxiliary systems in automation and operate together with several sensor models, being suitable for many different applications

Special Power Supplies

They are devices that can send a control panel information regarding the stop, speed and movement of sensors

- Zero Speed Sensor - MZA
- Speed Monitor - MV
- Displacement Monitor - MD
- Sensor Activated Timer - TUV

Drives

CFW100

Frequency Inverter

- Single-phase supply voltage of 220 V
- Rated currents: 1.6 A to 4.2 A
- Maximum applicable motor of 0.25 HP (0.18 kW) to 1 HP (0.75 kW)
- Vector control (VVW) or scalar control (V/F)
- Plug & Play accessories
- Built-in operating (HMI) interface
- Surface or DIN rail mounting
- Protection degree IP20
- Removable fan
- Alarm or fault diagnosis
- Several accessories for network communication, input and output expansion, RFI filter, all of them with the Plug & Play concept
- Electronic protection against motor overload
- Remote operating (HMI) interface (accessory)
- Flash memory module (accessory)
- Communication RS485 (accessory)

CFW300

Frequency Inverter

- Rated output current of 1.6 to 15.2 A (0.25 cv / 0.18 kW to 5 cv / 3.7 kW), single-phase power supply 100-127 V ac, 200-240 V ac single or three-phase, or 280-340 V dc
- 4 configurable (PNP or NPN) digital inputs, 1 relay output 0.5 A / 250 V ac, 1 analog input 0-10 V dc / 4-20 mA
- Selectable V/F, quadratic V/F or VVW vector control modes
- 2 slots for function expansion, such as communication or number of I/O
- Conformal Coating: class 3C2 coating
- (IEC 60721-3-3) in the internal circuits for greater protection in aggressive environments
- Built-in SoftPLC function - adds the functionalities of a PLC
- Free WPS programming and monitoring software
- IP20 protection rating
- EMC footprint filter (accessory)
- Protections, alarm and diagnostics functions
- Operating interface (HMI) with built-in LED display
- RFI footprint filter (accessory)

CFW10

Frequency Inverter

- Supply voltage: 110-240 V
- Rated currents: 1.6 to 15 A (0.25 to 5 HP)
- Linear V/F or adjustable quadratic control
- Compact dimensions
- 4 isolated digital inputs
- 1 programmable relay output
- 1 isolated analog input
- Degree of protection IP20
- EMC filter
- Diagnostic functions
- Operating interface (HMI) with 3-digit LED display
- Linear ramp or S-Type, slip compensation, electronic potentiometer, PID, up to 8 fixed preset speeds, JOG, DC breaking
- IGBT module (dynamic breaking)
- Models Standard, Clean, Plus e Cold Plate

Drives

CFW500

Frequency Inverter

- Single or three-phase supply voltage of 200...480 V
- Rated output current of 1...56 A
- Voltage vector control VVW - Voltage Vector WEG, and vector with or without encoder (sensorless)
- Software applications dedicated to pumping - Pump Genius
- Plug & Play Concept
- Built-in SoftPLC function - the functionalities of a PLC added to the CFW500
- Smart thermal management of the fan
- Degree of protection IP20 or NEMA1
- LCD operating interface (HMI) with backlight
- RFI filter according to the levels of EN 61800-3 standard (optional)
- Communication protocols: CANopen, DeviceNet, Profibus-DP, EtherNet/IP, Modbus-TCP, PROFINET-IO, RS485 and RS232 (available by means of accessories)
- Flash memory module (optional), enabling the data transfer (parameters and applications) between inverters without turning them on

MW500

Motor Drive

- Three-phase supply voltage: 220-480 V
- Output rated current: 2.6 to 16 A
- Maximum applicable motor of 1.5 HP (1.1 kW) to 10 HP (7.5 kW)
- 4x/IP66 NEMA protection
- Adaptable to WEG W22 motor line or wall mounting
- Switch-disconnector (optional)
- LED operation indicators
- Compatible with the main accessories of the CFW500

CFW700

Frequency Inverter

- Single or three-phase supply voltage of 200...600 V
- Rated output current of 3.6...211 A
- Maximum applicable motor of 1.5 HP (1.1 kW) to 175 HP (132 kW)
- VVW Voltage Vector WEG, vector with and without encoder (sensorless)
- Plug & Play Philosophy
- Built-in SoftPLC function - adds the functionalities of a PLC to the CFW700
- Smart thermal management
- Degree of protection IP20, IP21, NEMA1 and IP55
- Incorporated DC link inductor
- Incorporated input for incremental encoder and RS485 communication port (Modbus)
- LCD operating interface (HMI) with backlight and USB port
- RFI filter according to EN 61800-3 (optional)
- Communication: CANopen, DeviceNet and Profibus-DP (optional)
- Safe Torque OFF Module (STO) for safety stop (optional):
  - Category 3 / PL d / SIL CL 2 certified by TÜV Rheinland® according to EN ISO 13849-1, IEC 61800-5-2, IEC 62061 and IEC 61508 standards
- Flash memory module (optional)
- Free WLP and SuperDrive G2 programming softwares

Drives

CFW501 HVAC

Frequency Inverter

- Supply voltage of 200...480 V
- Rated output current 1...31 A, 0.33...25 HP (up to 7.5 HP @ 220 V)
- Control types: scalar (V/F) and voltage vector VVW - Voltage Vector WEG
- Low input harmonic distortion
- Special functions:
  - Energy saving
  - Dry pump and broken belt to identify load anomalies
  - Short cycle protection to increase the service life of compressor applications
  - Bypass - allows the motor to be directly started from the power supply
  - Fire mode - ideal for applications with smoke exhausters and heating system exhaust fans
  - Sleep mode - optimizes the use of the motor
  - SoftPLC: adds the functionalities of a PLC to the CFW501 HVAC
  - Advanced PID
- Built-in accessories:
  - RFI filter
  - Operating interface (HMI) with specific units for HVAC applications
  - BACnet, Metasys N2 and ModBus-RTU communication protocols
  - SuperDrive G2 and WLP free software

CFW701 HVAC

Frequency Inverter

- Supply voltage: 200-600 V
- Rated currents: 2.9 to 211 A (2.0 to 175 cv)
- IP20, IP21, NEMA1 or IP55 protection rating
- Special functions:
  - Energy saving
  - Dry pump - protection of the pump in case of lack of water and indication of the fault
  - Protection against short circuits increases the useful life of compressors
  - Bypass - the motor can be directly driven through the power line
  - Fire mode - when activated, the protections are disabled and the inverter continues to operate even under adverse conditions. Ideal for applications in fume extraction
  - SoftPLC - the functionalities of a PLC added to the CFW701 HVAC
  - Sleep mode - the motor is prevented from operating at low speeds for long periods, increasing the system useful life
- RFI filter
- Inductor on the DC link
- Operating interface (HMI) with specific units for HVAC applications
- BACnet, Metasys N2 and ModBus RTU communication protocols
- Free WLP and SuperDrive G2 programming software
- Built-in USB communication port

Drives

CFW11

Frequency Inverter

- Single or three-phase supply voltage of 200...690 V
- Output rated current: 2.7 to 2,850 A[1)]
- Plug & Play Concept
- IP20, IP21, NEMA1 or IP55 protection rating
- Built-in DC link inductor, eliminating the necessity to add a line reactance and complying with the requirements of IEC 61000-3-12 regarding harmonic levels
- Option of connection to a single DC link
- Built-in USB communication port
- Real time clock
- Input and output expansion through plug-in modules
- LCD operating interface (HMI) with backlight
- RFI filter in compliance with the EN 61800-3 (optional in frames A to D and built-in in frames E to H)
- Communication protocols: CANopen, DeviceNet, Modbus, Profibus-DP, EtherNet/IP, Modbus-TCP, PROFINET-IO and EtherCAT (optional)
- Safe Torque OFF (STO) safety stop module (optional):
- Category 3 / PL d / SIL CL2 with certification TÜV Rheinland®, according to EN ISO 13849-1, IEC 61800-5-2, IEC 62061 and IEC 61508
- Flash memory module (included)
- Built-in disconnecting switch on IP55 models (optional)
- Side-by-side mount, allowing the installation without space between the inverters, streamlining the panel size

APW11

Self-Supporting Frequency Inverter

- Streamlining of space and flexibility
- Standard electrical panel with degree of protection IP20/IP21 or assembly kits
- Easy installation and operation
- Supply voltage: 380-480 V
- Rated currents: 105 to 720 A
- Rated output power: 75 a 550 cv
- Inductor on DC link (of the CFW11)
- Low noise level, with RFI Filter (of the CFW11)
- Free SuperDrive G2 programming software
- Ease of use

AFW11

Complete Drive with Frequency Inverter

- Mounting on panel with degree of protection IP42
- Supply voltage: 380 to 480 V - 50/60 Hz
- Rated currents: 3.6 to 1,141 A
- Maximum applicable motor: 2 HP (1.5 kW) to 970 HP (700 kW)
- Command voltage: 220 V ac - 50/60 Hz
- Optional accessories
- Assembly warranty
- Ease of use

Drives

AFW11M/AFW11W

Modular Frequency Inverter

- Solution in a compact structure, increasing reliability and simplifying maintenance
- Features an air-cooled heatsink
- 6-pulse, 12-pulses or regenerative input rectifier
- It can be configured with up to five power units (UP11) and three rectifying units (UR11), according to the current variation, plus one control unit (UC11) and connecting cables
- The power units (UP11) are directly powered by the DC link, and the control unit is powered by a +24 V dc power supply

MVW01

Medium Voltage Frequency Inverter

- Motor voltages: 2.3 kV up to 6.9 kV
- Maximum applicable motor of 500 HP (400 kW) to 22,500 HP (2,200 kW) (16,875 kW)
- Power and control insulated by fiber optic
- Withdrawable power arms for quick and easy replacement
- Easy-to-use graphic operating interface (HMI)
- Compact model with standard 18-pulse rectifier
- Network communication: DeviceNet, Modbus, Profibus-DP and EtherNet
- Dry-type plastic film power capacitors with high reliability and long life
- Imposed voltage
- Air-cooling
- High efficiency (>99%)
- High power factor (>95%)
- Low noise level (<75 dB)
- Low heat dissipation

MVW3000

Medium Voltage Frequency Inverter

- Motor voltage: 2.3 kV to 13.8 kV
- Motor current: up to 340 A[1)]
- Input voltage: 2.3 kV...13.8 kV
- High-efficiency air cooling
- Compliance with the harmonic limits of IEEE 519
- Fully integrated solution, reducing the system commissioning and start-up time
- High power factor (>0.95)
- Optimized input harmonics; no filters required
- The sinusoidal output voltage and current reduce the motor losses, vibration, torque pulsation and motor overheating

Note: 1) For higher currents, please contact WEG.

Drives

CVW300

Electric Traction Inverter

- Frequency inverter for electric traction applications
- Rated currents: 100, 200 and 400 A peak for 2 minutes
- Supply voltage by battery system of 24 to 72 V dc
- Vector control with encoder
- Connection of the control signals via automobile plug-in connectors
- Coldplate mounting base with options of mounting in systems with air cooling (forced ventilation), water cooling or heatsink
- SoftPLC to implement functions
- Free WLP Software for SoftPLC programming
- Degree of protection IP66
- RS485 interface with Modbus-RTU protocol
- CAN interface with configurable protocol
- Programming via external operating interface (HMI), RS485 or USB (available only on the external HMI)

CVW500

Conversor de Frequência de Tração

- Rated supply voltage: 200-400 V dc
- Rated output current: 275 Arms
- Overload current 1 minute: 550 Arms
- Rated switching frequency: 8 kHz
- Water cooled
- High compactness and power density
- Algorithm to control three-phase induction motors
- Scalar control (V/F) or vector control programmable on the same product
- The vector control with encoder enables high precision in the drive throughout the speed range (even with the motor stopped)
- Built-in regenerative braking function
- Built-in SoftPLC Programmable Logic Controller
- IP66 protection rating

CVW900

Traction Frequency Inverter

- Supply rated voltage: 650 V dc
- Rated output current: 450 Arms
- 1 minute overload current: 750 Arms
- Rated Switching frequency: 5 kHz
- Water-cooling
- Weight: 65 kg
- High compactness and power density
- Algorithm for control of three-phase permanent magnet motors
- Scalar (V/F), VVW or vector control programmable on the same product
- Vector control with encoder allows high degree of precision in the drive, throughout the speed range (even motor stopped)
- Built-in regenerative breaking function
- Integrated PLC11-01 programmable logic controller
- Degree of protection IP66
- Main applications: electric buses, hybrid buses, fuel cell buses, induction and trolleybuses, electric trucks, Bus Rapid Transit (BRT), Light Rail Vehicles vector (LRV) and heavy electric vehicles in general

Drives

SSW05

Soft-Starter

- Output rated current: 3 to 85 A
- Voltage: 220 to 575 V
- Built-in bypass
- Control with digital processor (DSP)
- Electronic thermal relay
- Built-in motor protections
- High efficiency
- Compact
- Simple electrical installation
- Easy to operate, adjust and service
- Extended motor and equipment lifespan, eliminating mechanical shock

SSW06

Soft-Starter

- Fault diagnosis, recording: voltage, current and state of the soft-starter at the error event
- Actuation of the programmable faults
- 32-bit, RISC type, high-performance microcontroller
- Built-in electronic thermal relay
- Fully programmable control types
- Totally flexible torque control
- Limitation of current peaks on the line
- Limitation of voltage drops at the start
- Voltage (220 to 575 V ac) or (575 to 690 V ac)
- Switched-mode power supply of the electronics with EMC filter (94 to 253 V ac)
- Monitoring of the electronics voltage, allowing backups of the motor thermal image values
- Protection against over and undervoltage on the motor
- Protection against voltage and current imbalance on the motor
- Protection against overload on the motor due to over and under: current, power or torque
- Input for the motor PTC
- Elimination of mechanical shocks

SSW07

Soft-Starter

- Output rated current: 17 to 412 A
- Maximum applicable motor of 5 HP (3.7 kW) to 450 HP (330 kW)
- Supply voltage of 220 a 575 V
- Incorporated bypass
- Full electronic motor protection
- Kick start function to start loads with high static friction
- Electronic thermal relay
- Switched-mode power supply of the electronics with EMC filter (110 to 220 V)
- Thermal image (monitoring of the electronics voltage, allowing the backup of the current and voltage values)
- Interconnection with Fieldbus communication networks: Modbus-RTU, DeviceNet and Profibus-DP (optional)
- Free SuperDrive G2 programming software

Drives

SSW08

Soft-Starter

- Output rated current: 17 to 412 A
- Maximum applicable motor of 5 HP (3.7 kW) to 450 HP (330 kW)
- Supply voltage of 220...575 V
- Incorporated bypass
- Full electronic motor protection
- Kick start function to start loads with high static friction
- Electronic thermal relay
- Switched-mode power supply of the electronics with EMC filter (110 to 220 V)
- Thermal image (monitoring of the electronics voltage, allowing the backup of the current and voltage values)
- Simple electrical installation
- Interconnection with Fieldbus communication networks: Modbus-RTU, DeviceNet and Profibus-DP (optional)
- Free SuperDrive G2 programming software

SSW900

Soft-Starter

- Supply voltage from 220 to 575 V ac
- Oriented start-up
- Option of standard connection (3 cables) or motor inside delta connection (6 cables)
- Elimination of mechanical shocks
- Pump control function for smart control of pumping systems that prevent water hammer and pressure overshoots in the hydraulic piping
- Integral motor thermal protection
- Longer lifespan of the motor and equipment
- Limitation of voltage drops at the start
- Great reduction of the forces on the couplings and on the transmission devices (gearboxes, pulleys, gears, belts, etc.) during the start
- Operation at ambient temperature up to 55 °C without current derating
- Three braking methods to stop the motor and the load faster Braking methods with or without a contactor
- Built-in bypass: minimizing power losses and heat dissipation in the thyristors, providing space reduction, contributing to energy saving and increasing the product lifespan; available in models from 10 to 412 A

Drives

SSW7000

Medium Voltage Soft-Starter

- Supply currents: 2.3 kV, 4.16 kV or 6.9 kV
- Power: 600 HP to 7,500 HP (other values on request)
- Rated currents: 125 A, 180 A, 250 A, 300 A, 360 A, 500 A and 600 A
- Degree of protection: IP41, NEMA12
- Operating interface (HMI) with graphic LCD
- Real time clock
- Main and bypass vacuum contactors
- Medium voltage fuses
- Input switch-disconnector
- Power and control insulated by fiber optic
- Flash memory module (optional)
- SoftPLC function
- Free WLP and SuperDrive programming software
- USB connection to PC
- Motor thermal protection - Pt-100 (optional)
- 5 starting modes
- Boards for network communication: DeviceNet, Profibus-DP, EtherNet and Modbus, RS232 or RS485 interfaces (optional)

ECW500

Automatic Voltage Regulator

- Drive of synchronous machines with brushless excitation
- HMI with 2.5” display
- Supply voltage:
  - 85/242 V ac (50/60 Hz)
  - 85/150 V dc
- Field current: 20 A
- Five control modes:
  - MTVC - Voltage control
  - MECC - Current control
  - MTVC_DROOP - Voltage control mode with reactive droop
  - MPFC - Power factor control
  - MRPC - Reactive power control
- RS485/422 communication

SCA06

Servoconvertidor

- Supply voltage of 220...230 V or 380...480 V
- High performance
- Motion control accuracy
- Closed loop operation
- Position feedback by means of resolver
- Control and power with independent power supplies
- Flexibility and integration to the drive
- Simple operation: positioning via parameters
- HMI with 6-digit LED display
- USB port
- CANopen / DeviceNet in the standard version
- Free programming software: WLP, WPS and SuperDrive G2
- RFI filter (optional)
- Product compatible with the previous version

Drives

SWA

Servomotors

- Supply voltage: 220 V ac or 380 V ac
- Torque: 0.8 to 40 Nm
- Servomotor option with electromagnetic brake at 24 V dc
- Degree of protection IP65
- Internal thermal Protector (PTC) 55º
- Rare earths magnets (neodymium, iron, boron)

CTW900

AC/DC Converter

- Drive and control of direct current (DC) motors
- Rated currents: 20 to 2,000 A
- Speed or torque control
- Simplified connections to power and control
- Internal supply for the field bridge
- Operating interface (HMI) with LCD display
- USB port for serial communication and software update
- SoftPLC function on the standard CTW900 to create specific programs
- Free programming and monitoring software
- Memory card for backup of parameters and software applications
- 3 options of speed feedback: incremental encoder, DC tachogenerator or counter-electromotive force (CEMF)
- Network communication: DeviceNet, Profibus-DP, EtherNet-IP, Modbus-TCP, PROFINET-IO, RS485 and RS232

Programmable Logic Controllers - PLC

Clic02 3rd

Programmable Logic Controller

- Maximum configuration of 55 I/O points, using up to 3 expansions
- Power supply in 12 V dc, 24 V dc or 110/220 V ac - 50/60 Hz
- Real time clock
- On-line message visualization and parameter change
- Fast inputs up to 1 kHz
- Pulse train and PWM output
- Modbus communication
- LCD Display (4 lines x 12 characters)
- Arithmetic functions (Addition/sub. Mul/Div)
- PID Control Function
- Free Clic Edit programming software
- Programming in ladder or block diagram of the function

Programmable Logic Controllers - PLC

TPW04

Programmable Logic Controller

- Equipment dedicated to automation
- Streamlined high-speed counter, pulsed output and interpolation function for positioning control
- Multiple communication protocols supported
- High processing speed: 0.18 micro-seconds/step
- High memory capacity
- Easy installation of input and output expansions
- Expandable up to 384 points
- Several types of expansion boards: digital, analog and communication function

Programmable Logic Controllers - PLC

PLC300

Programmable Logic Controller

- PLC with incorporated HMI, complete and expandable
- 10 digital inputs and 1 analog input
- 9 digital outputs (1 fast) and 1 analog output
- Battery voltage monitoring, informing the replacement moment without losing the application
- PWM ramp function
- Internal flash memory that enables the automatic recovery of the resource in case of battery fault
- 5 incorporated ports: EtherNet, CANopen, RS232, RS485 and USB
- Expansion of digital and analog inputs and outputs via CANopen or CFW11 modules
- SD memory card (Secure Device)[1)] for data, program and event log storage
- Programming in ladder language via WPS software (WEG Programming suite), according to IEC 61131-3
- Built-in encoder input (100 kHz)
- RUW01: 14 - DI and 10 - DO, PNP/NPN at 24 V dc
- RUW01-CN13DI: 13 - DI, PNP/NPN at 24 V dc
- RUW02: 7 - analog inputs 0 to 10 V dc or 4 to 20 mA 24 bits
- RUW04: 7 - J/K type thermocouple inputs 24 bits
- RUW06: 2 analog inputs for load cell
- RUW03-CN8AO: 8 analog outputs of 0 to 10 V dc or 4 to 20 mA
- RUW05-CN4RTD: 4 Pt-100 or Pt-1000 inputs

Note: 1) SD card not included.

Operating Interface

MT

Graphic Operating Interfaces (HMIs)

- Color graphic HMIs with touchscreen, available in 4, 3, 7, 10 or 15” models
- Modern visual with flexible and versatile programming software
- Application simulator software
- Degree of protection IP65
- USB, EtherNet, RS232, RS485 and RS422 communication ports

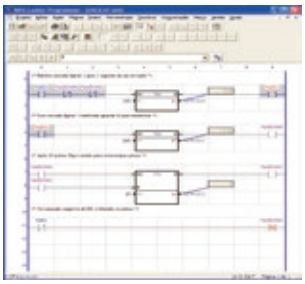
Solutions for Solar Energy

SIW600

Solar Inverter

- Application to three-phase system at 380 or 440 V ac
- Direct connection to the line (transformerless)
- Maximum efficiency >98%
- 2 MPPTs for maximum efficiency
- Degree of protection IP65 for external installation
- Externally accessible plug-in connections
- Touch-sensitive keys and alphanumeric LCD display
- Modbus-RTU, EtherNet and USB communication

Free Software

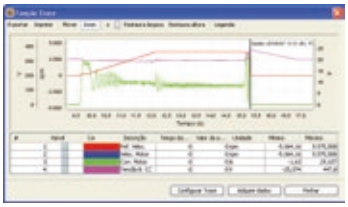


WLP - WEG Ladder Programmer

- Development of software applications
- Function programming
- SoftPLC
- Ladder language
- Control mathematical PLC blocks
- On-line monitoring and help
- USB connection

SuperDrive G2

- USB connection to inverter, servoconverter and soft-starters
- Parameterization, command and signaling
- Recording of software application (via SoftPLC)
- On-line monitoring and help

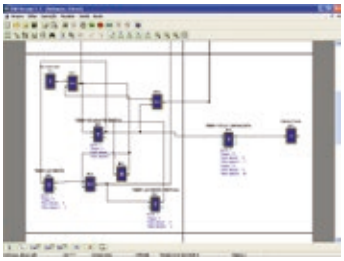


Trace Function

- Customizable tool that monitors and stores variable registers in the inverter memory, activated by the occurrence of an event (e.g., overload)
- Registration and graphic view of inverter variables
- Excellent tool for fault diagnosis in remote locations
- Simulates an oscilloscope
- Included in SuperDrive G2 software

TPW - PC Link

- Software to program the TPW controllers
- Programming in ladder language
- On-line monitoring and via graphs
- Hot download (PLC in RUN mode)



Clic Edit V3

- Programming of the Clic02 3rd
- Ladder or FBD language in Portuguese
- On-line editing and monitoring

Available on website: www.weg.net

Free Software

ADP - HMI Programming

- Easy editing of screens and recipes
- Several incorporated communication protocols
- Alarm editing

Dimensioning

- Soft-starters (SDW) and servo drives (DSW)
- Help with sizing and specifications
- Various application options
- Different starting conditions
- List of basic starting parameters

WPS Programming Software

- Ladder programming according to IEC 61131-3
- Integrated tool, same software, enabling screen edition of the HMI, PLC and configuration of the CANopen network
- On-line logic monitoring and charts, recipe edition, SD card file handling

WEG Equivalent

- On-line tool, available on WEG website which allows users to find equivalent product models and easily replace them with WEG products

Return On Investment with Frequency Inverters

- Easy to use
- Pumps and fan applications
- Easy visualization of electrical energy savings
- Estimated return on investment

Available on website: www.weg.net

Electrical Panels

MTW

Medium Voltage Switchgear

- Voltage class: 7.2 to 36 kV
- Short-circuit current: 25 / 31.5 / 40 / 50 kA
- Substation of utility companies
- Main disconnection and protection of manufacturing plants and industrial installations
- Pumping stations
- Railroad systems
- Thermal and hydroelectric plants for power generation
- Start of medium-voltage motors
- Unitary substations
- Load switch board panels
- Motor control center
- Internal arc resistant - Classification IAC BFALR/AFLR

CCW

Compact Medium Voltage Switching and Protection Set Up to 20 kA / 24 kV

- Compactness, operating safety and modularity are outstanding characteristics of the Medium Voltage Controlgear and Switchgear of the CCW series
- These arc proof and air insulated switchgear comply with NBR IEC 62271-200 and the requirements of NR10
- I ts standardized columns provide versatility so as to economically fulfill a great variety of configurations, topologies and requirements of utility companies
- Modules with circuit breakers: rated current of 630 A
- Modules with switch-disconnectors: rated current of 630 A
- Internal arc resistant - Classification AFL/AFLR

LCW

Low Voltage Panels

- Lower risk of accidents with operators
- Fast and easy maintenance
- Modular system enables easy expansion
- Easy rear access to the electric cable terminals
- Greater reliability on the protection system
- Direct protection: through the tripping devices incorporated to the circuit breakers
- Secondary protection: through the secondary protection relays and
- CTs (IECs), which can be connected to network (Modbus,
- DeviceNet, Profibus, IEC 61850)
- Totally tested - TTA/PTTA (according to IEC 61439-1)
- Internal arc resistant
- Rated currents:
  - Main busbar up to 6,000 A
  - Vertical busbar up to 4,000 A
- Constructive form: 3b and 4b

Electrical Panels

TTW01

Totally Tested Panels

- In accordance with the requirements of NBR IEC 60439-1: 2003
- Operating safety
- Performance reliability
- Fast manufacture and delivery
- Panel assembled by panel builders with the guarantee of WEG quality
- Modularity - allows expansion without requiring electrical mechanical intervention on the existing panel
- Rated current: main bus up to 3,150 A
- Short-circuit current: 65 kA/11
- Constructive form: 1 and 2b

MCC

Low Voltage Motor Control Centers

- User safety during operation, supervision and maintenance
- I nstallation in centralized locations to simplify operation and maintenance
- Versatility to command and protect a great number of motors
- Extremely compact design that enables maximum use of space
- Fast and easy maintenance, especially because of the extraction of the drawers and their interchangeability
- Modular system enables easy expansion
- High safety, because it allows the execution of maintenance and other services in a certain device without de-energizing other equipment
- Communication networks: Profibus, DeviceNet, Modbus, EtherNet-TCP, EtherNet-IP and PROFINET
- Communication with other PLCs in open protocol network
- Electric arc resistant: on request
- Short-circuit current: 50/65/80 kA
- Rated current:
- Main busbar up to 5,000 A (other on request)
- Vertical busbar: 630, 800, 1,000 and 1,200 A
- Constructive form: 2, 3 and 4b

Electrical houses

E-Houses

- Reduction of the lead time to assemble the substation
- Greater control on the equipment testing process at the plant and single responsibility/guarantee on the process with a single supplier
- Flexibility for the installations and possibility of relocation without adding major costs
- Convenience for installation in the field (reduced civil works)
- Engineering consolidated in a single machine
- Easy customization to meet all customer needs

Notes

Notes

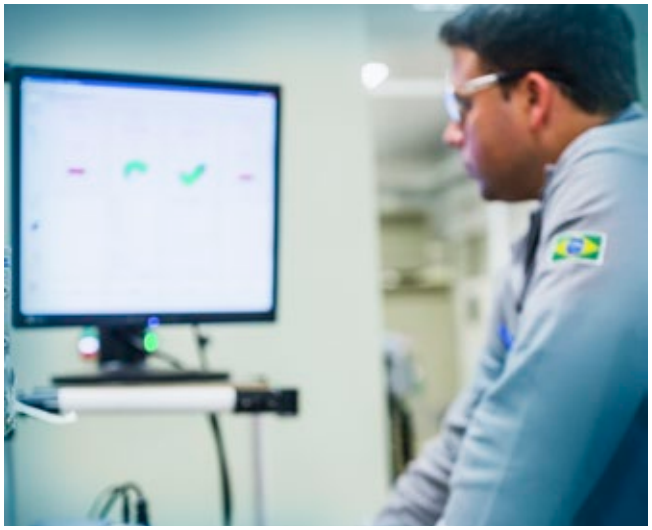
Global presence is essential, as much as understanding your needs.

Global Presence

With more than 30.000 employees worldwide, WEG is one of the largest electric motors, electronic equipments and systems manufacturers. We are constantly expanding our portfolio of products and services with expertise and market knowledge. We create integrated and customized solutions ranging from innovative products to complete after-sales service.

WEG's know-how guarantees our ***product line*** is the right choice for your application and business, assuring safety, efficiency and reliability.

- ***Availability*** is to have a global support network
- ***Partnership*** is to create solutions that suit your needs
- ***Competitive edge*** is to unite technology and innovation



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