Smart solutions.
Strong relationships.

emotron
DEDICATED DRIVE
A CG Product



Company brochure



Solutions under the Emotron brand

We are the technology partner of energy efficient products and solutions. Devoted to green-tech innovation. Committed to quality and reliable services.

CG Drives & Automation is a part of CG Power and Industrial Solutions Ltd, a global specialist in the management and application of electrical energy. We are focused on supporting the growing demand for a cleaner and energy efficient environment.

CG Drives & Automation has been developing, manufacturing and delivering efficient and reliable motor control equipment for more than 40 years. We offer optimized energy solutions for your needs based on our application know-how;

- ✔ Our smarter dedicated products which reflect robustness, ease of use and maximized connectivity
- ✔ Our faster, reliable, quality deliveries
- ✔ Our leaner approach to services in which we offer customization of products and proactive and integrated services

This ensures safe and cost-effective operation of demanding industrial applications. We provide smart solutions to users, operators, system integrators and OEMs globally, wherever there are demanding applications. We create robust, reliable and flexible drive solutions – resulting in lower operating costs and a longer service life.

We put all of our energy into saving yours. This slogan isn't just our attitude. It reflects the core of our operations – improving energy efficiency to reduce electric energy consumption – and reducing the overall carbon footprint of industrial processes.

Our Emotron solutions save energy and reduce dependence on fossil fuels, thereby reducing environmental impact and contributing to sustainable operations. Especially our active front-end and regenerating technology enable significant savings in kilowatt hours and carbon emissions, reducing costs for our customers and for society.

In 1977, Emotron was the first company to introduce an AC drive based on Pulse Width Modulation (PWM). The Emotron technology can provide direct torque control for high dynamic application due to extremely fast response time since actual and required torque is compared 40,000 times a second.

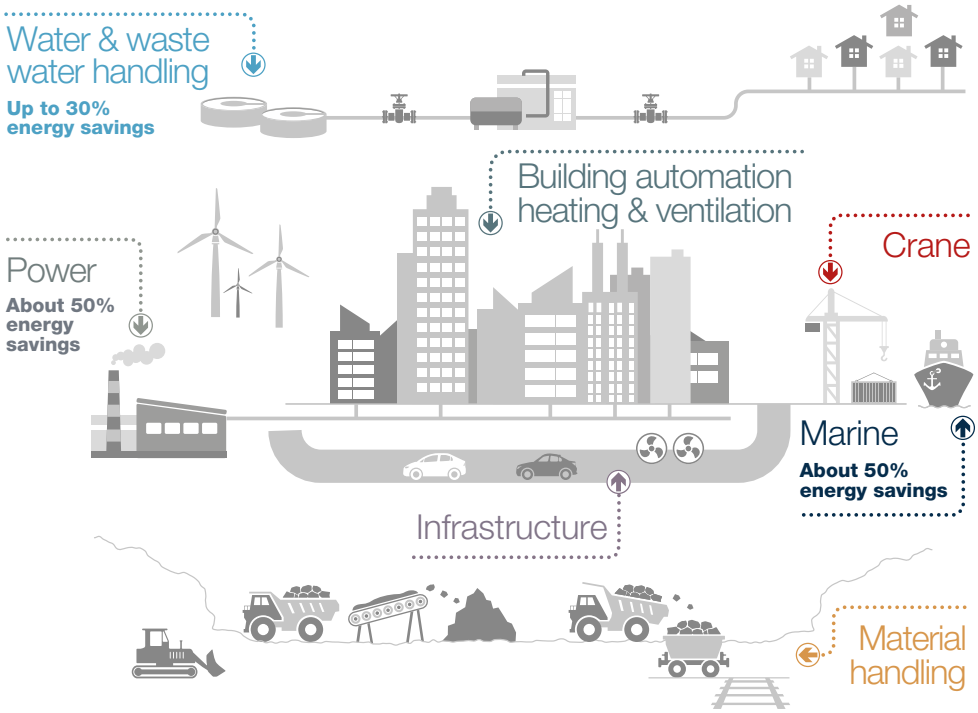
Secure your process and save energy

We offer energy efficient solutions, based on our dedicated drives. This ensure safe and cost-efficient operation of demanding industrial applications. The result is often big energy savings and always low lifetime cost of operation.

SEGMENTS
Water & Waste Water
Material handling
Marine
Power
Oil and Gas

APPLICATIONS
Compressors
Conveyors
Fans/ventilators
Lifts
Power generation to grid
Cranes
Crushers
Extruders
Saw Mills

PRODUCTS
Industrial drives
Softstarters
Motor-mounted drives
Cabinet solutions
Service



Our dedicated industry segments:

Water & Waste Water

Whether you are operating in irrigation, sewage treatment, flood control or a process industry, we can set up a system dimensioned for your needs, with all necessary safety limits installed. Adapt the pressure/flow to the level required and protect your equipment from unnecessary downtime, energy loss and equipment damage.

Material handling

Mining or mineral processing means harsh operating conditions, often in remote locations. Emotron drives control multiple processes and optimise their performance under varying input conditions and with varying demand. Every drive is end-of-line tested to ensure the highest possible quality. Our equipment with remote access allows us to help you at your most remote locations.

Marine

Emotron drives offer special marine adaptations and our marine project team are experienced working with continuous improvement processes to achieve project approvals, type approvals and marine certifications as required. Connect power sources, generators and batteries regardless of power and operational levels. Flexible modular design makes the drives easily integrated.

Power

Emotron drives handle supply variations so that you can get the most out of your equipment. Our modular and efficient Active Front End (AFE) with grid support and protection against over-/under voltage is non-sensitive to voltage dips or harmonic disturbances. A DC/DC converter further improves grid stabilization and frequency and allows peak shaving and battery backups.

Oil and Gas

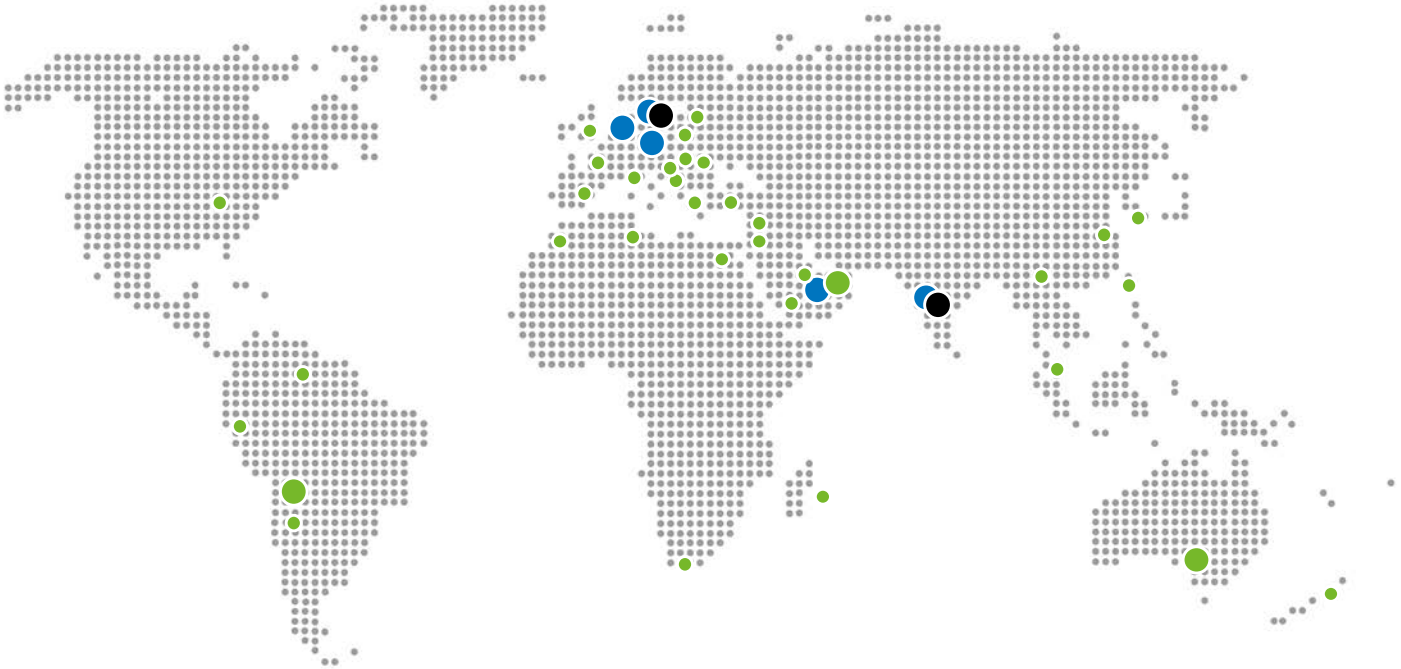
Working in oil and gas is all about safety, reliability and economic efficiency. Emotron drives are made in an electrical and mechanical robust design for reliable operations in rough environments. Their minimal energy losses, flexible modular build and all-metal IP54 casing will secure your operational efficiency. Project teams will cater for the most complex requirements and 24/7 service teams are always there to help you.

A worldwide organisation with global service coverage

Global service reach through dedicated partners

Saving energy is not just about your electricity bill. It's about relying on everything running efficiently without unpleasant surprises, and on us being there to support you if needed. As a customer of CG Drives & Automation, you will benefit from an international network for support and service.

Our presence across the globe



5 Core markets with Sales and Service Centers

Helsingborg, Sweden - HEAD OFFICE with Sales and Service Center
Mandideep, India - Sales and Service Center
Wernigerode, Germany - Panel building, Sales and Service Center
Dubai, United Arab Emirates - MEA Sales and Service Center
Bladel, the Netherlands - Benelux+France Sales and Service Center

2 Production and R&D Centers

Helsingborg, Sweden
Mandideep, India

3 Stacking partners with Assembly and Service

San Bernando, Chile
Dubai, UAE
Melbourne, Australia

40 Authorized Service Partners with Technical Service Capacity

+ 80 Distributors world wide



Application know how exactly when you need it

Your project management team will liaise with our product managers, the application team for your particular business segment and our R&D team if further customization is necessary. Both standard and customer specific solutions follow set procedures for efficient handling. Emotron project management allows for continuous improvement through agile project management methods.(project graphic)

100% approved for peace of mind

At Emotron, expert knowledge is always at your fingertips. Our R&D department will join you every step of the way. We test all of your components individually before commissioning and finally all of them together on-site.

A complete service offer

- Putting into operation/Commissioning
- 24/7 support
- Maintenance
- Security for critical processes
- Repairs
- Extended warranty
- Remote access
- Training
- Rental proucts








Powering your world with robust and reliable solutions



CG Drives & Automation Emotron offers complete drive solutions that ensure safe and cost efficient operation of demanding industrial applications.
Once you enter the world of Emotron, seamless integration between your dedicated project team, our product managers, the application team and the R&D team takes even your most complex challenge from design to commissioning and beyond. You can rely on us for optimising and adding efficiency to your operations.



Complete drive solution for best total performance

We manage your entire project including e.g. AC drive, motor, transformer and cabinet. In cooperation with your team, we ensure that your solution is fully optimized for your application. We take full responsibility for the dimensioning of all components regardless of their origin. This makes installation and commissioning not only easy but also cost-efficient.

Robustness and reliability

We make robust products for harsh environments, and we offer maximized connectivity which enable condition monitoring and proactive services. In our operations we combine Swedish design and quality along with a long tradition of manufacturing excellence from both Sweden and India. Our production plants in Helsingborg, Sweden and Mandideep, India carry out manufacturing, in-house assembly and testing with short lead times, even on customised solutions. We operate a global supply chain of components, under lean and flexible production methods that are ISO 9001 certified.

Easy to use and connect

Our products have been designed to support efficient installation and quick configuration. The menus are easy to navigate and offer a quick overview through local interface or through remote software. Our flexible interfaces are designed to match the new demands associated with Industry 4.0 and IOT requirements.





At CG Drives & Automation, we use our know-how to create technical solutions, and our personal commitment to make them work in practice.

Personal commitment is always included

It is possible to save operating costs while improving process performance. We've been doing just that for customers around the world for 40 years by supplying efficient and reliable control of electric motors.

We combine state-of-the-art technology with simple, intuitive handling. To us, simplicity doesn't only mean user-friendliness, but also the flexibility and availability of our employees. Our people are ready and willing to roll up their sleeves and solve any challenge you might encounter.

A great place to work

CG Drives & Automation is proud to be certified as a great place to work. We are a technology driven greentech company, developing solutions for energy efficiency in electric motor control. In this way, we make the world a little greener and a little better. In our organization we believe that every person can make a difference in a helpful organization with high levels of camaraderie.

Are you interested in working with us? Visit https://career.emotron.com

Understanding your needs

Our customers are end-users and OEMs working in power generation, water/wastewater, marine, mining, process industries and more. Our experience and competence in these areas mean we can offer fit-for-purpose solutions, whether it is a single product or a complete drive system tailored to your requirements. Working with us means direct connection with the core of the company and access to a worldwide service network.

Smart power and voltage management for future energy grids



Future-proof your electrical systems with powerful Emotron drives to allow for full flexibility in an ever-changing world of renewable energy sources and energy saving devices.

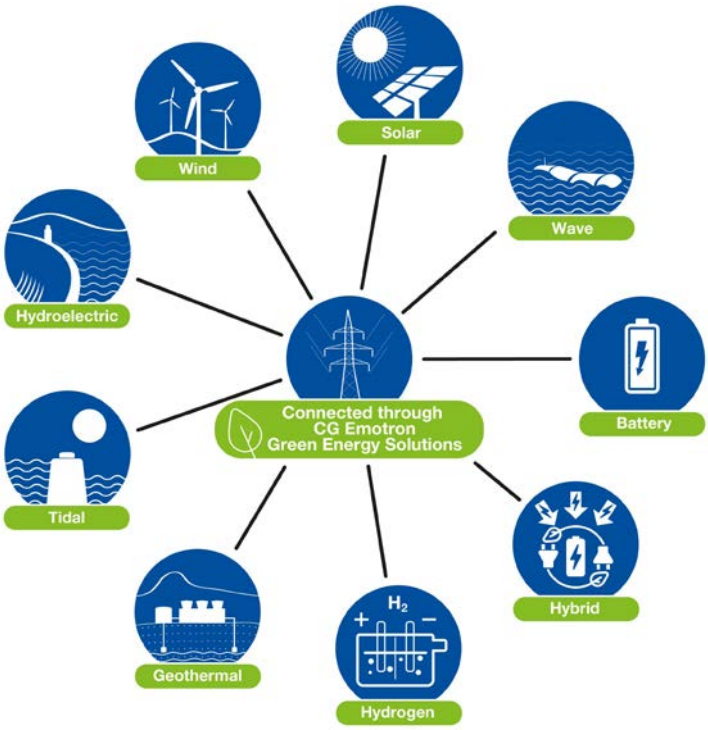
Emotron variable frequency drives from CG Drives & Automation form the backbone of any smart electrical grid. Your future smart electrical grid needs to be ready for a variety of additional power sources and energy saving devices and allow for scalability.

Emotron Hybrid Electric Systems allow your grid the full freedom of multiple sources and loads. The system is cleverly designed to be flexible around the energy source you choose and it handles large variations in supply power and voltage.

Emotron drives for any renewable energy application

Robust Emotron drives are made from compact modules with different cooling options. To avoid downtime, the modules are smart and interchangeable. Communication options are plenty and extensive service options include remote access.

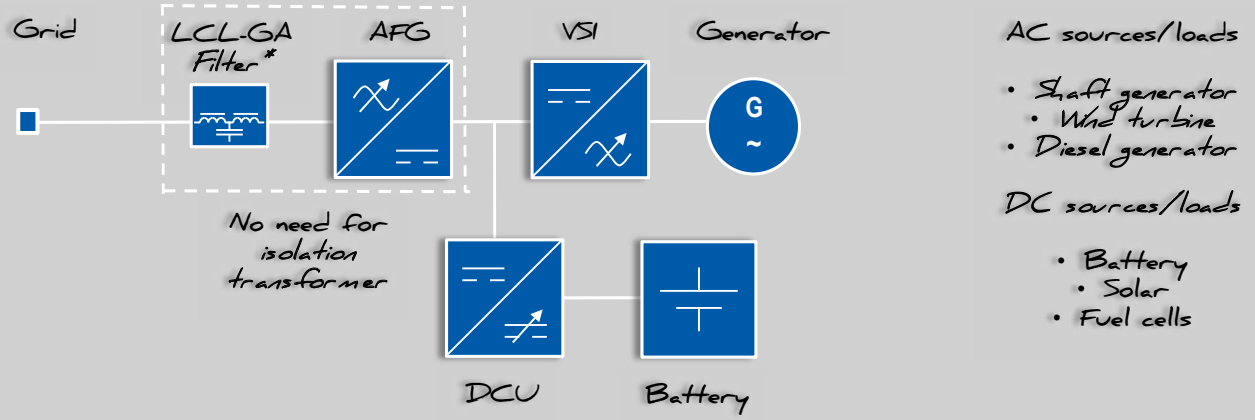
Emotron AFGs are grid converters with a range of possibilities. They can convert energy sources to feed the power grid, control voltage and frequency, provide inertia emulation and low-voltage ride through. A combination of Emotron variable frequency drives will support any renewable energy application, regardless of your grid requirements.



Tailoring the optimal solution using dedicated drives

Our project engineers will guide you to your solution based on your specific grid requirements. Their experience include the ability to create custom made grid software and power management systems.

The basic principle of our work is simple. Dedicated Emotron drives are combined to suit your particular configuration. Generally, the Emotron AFG is used for grid feedback, the Emotron VSI for generator control and the Emotron DCU for DC source connection e.g. for peak shaving and energy storage. The below picture shows a typical hybrid electric system.



Discover Emotron drives for any renewable energy application

Robust Emotron drives are made from compact modules with a variety of cooling options. To avoid downtime, the modules are smart and inter-changeable. Communication options are plenty and extensive service options include remote access.

Emotron AFGs are grid converters with a range of possibilities. They can convert energy sources to feed the power grid, control voltage and frequency, provide inertia emulation and low-voltage ride through. A combination of Emotron variable frequency drives will support any renewable energy application, regardless of your grid requirements.

For more information: www.emotron.com/emotron-modular-converters-for-green-energy

Emotron Drive	Marine	Wind	Wave	Solar	Water	Geothermal
AFG	Shore connection, Onboard grid (Microgrid)	Network feed	Network feed	Network feed	Network feed	Network feed
VSI	Shaft generator (PTI/PTO), Diesel generator, Propulsion, Thrusters	Generator control	Generator control		Generator control	Generator control
DCU	Fuel cells, Battery (Charging, Peak shaving, Islanding)	Battery backup, Peak shaving, Islanding	Generator control, Converting	Battery backup, Converting, Peak shaving, Islanding	Battery backup, Peak shaving, Islanding	Battery backup, Peak shaving, Islanding
VFX/ FDU	Propulsion, Thrust-ers, Pumps, Fans, HVAC, Winches	Slew, Pitch, Fans, Pumps	Shutters, Paddles, Fans, Pumps	Positioning of panels/mirrors, Pumps, Fans	Guide rails, Gates, Inlet hatch, Pumps, Cleaning grilles	Pumps, Fans, Valves

Our **product** portfolio

AC DRIVES



EMOTRON FDU DRIVES
Full control and optimised operation

Emotron FDU helps you to save energy and draw maximum efficiency on your process. Enabled with modern concepts, these drives are cost effective and are a perfect choice for customised requirements.

Rated power	0.55-4,000 kW
Supply voltage	230-690 V, 3-phase
Rated current	2.5-3,000 A
Protection class	IP20, IP21 IP54
Approvals	CE, UL, cUL, DNV & BV (IP54), EAC
Cooling	Air, water



EMOTRON VFX DRIVES
Full control with precision

The Emotron VFX variable speed drive optimises your process and prevents damage and downtime. The combination of direct torque control, accurate speed control and efficient vector braking, makes it the ideal solution for all dynamic applications such as cranes, crushers, mills, mixers and centrifuges.

Rated power	0.55-4,000 kW
Supply voltage	230-690 V, 3-phase
Rated current	2.5-3,000 A
Protection class	IP20, IP21, IP54
Approvals	CE, UL, cUL, DNV & BV (IP54), EAC)
Cooling	Air, water



EMOTRON AFE DRIVES
Cost-efficient and trouble-free operation

Emotron Active Frontend drives are available in two versions - Low Harmonic Drives and Regenerative Drives. Both are based on standard Emotron AC Drives, offering the same reliability, easy handling and advanced functionality. The drives are delivered as a complete solutions' package in IP54 classified cabinets.

Rated power	55-4,000 kW
Supply voltage	380-690 V, 3-ph
Protection class	IP54
Approvals	CE, UL
Cooling	Air, water



EMOTRON DSV15 & 35
High functionality in a compact size

Although small in size, our new Emotron DSV15 and DSV35 drive is equipped with high functionality and wide range of options. It offers great flexibility in all senses. Functionality is easily adapted to your specific application requirements.

Rated power	DSV15: 0,25–2,2 kW 1-phase DSV35: 0,37–30 kW 3-phase
Supply voltage	230 V 1-ph, 400–480 V3-ph
Rated current	1.3-47 A
Protection class	IP20/NEMA 250
Approvals	CE, UL, cUL



EMOTRON VS10 & VS30
Optimized in size and price for small powers

Although small in size, our new Emotron VS10 and VS30 drive is equipped with several advanced features. Functionality is easily adapted to your specific application requirements.
Emotron VS10 and VS30 offers reliable and cost-efficient operation of your pumps, fans and compressors as well as constant torque applications such as conveyors.

Rated power	VS10: 0,25–2,2 kW 1-phase VS30: 0,37–7,5 kW 3-phase
Supply voltage	230V 1-ph, 230–480V 3-ph
Rated current	1.7-16.5 A
Protection class	IP20/NEMA 250
Approvals	CE, UL, cUL



EMOTRON CDU / CDN / CDX
Compact and intelligent

Integrating speed control will add considerable value to your pump enabling you to increase your turnover. Optimise your pump with a plug-and-play solution with built-in intelligence. You will benefit from simplified installation, energy savings and improved process reliability - all from a single supplier.

Rated power	CDU/CDX: 3-22 kW, CDN: 0,75–7.5 kW
Supply voltage	CDU/CDN/CDX: 380-480 VAC CDU/CDX: 480-525 VAC, 3ph
Protection class	CDU/CDX: IP55 CDN: IP65
Approvals	Global standards

For further technical information, visit www.emotron.com or see the Emotron technical catalogues and datasheets.

MODULAR CONVERTERS FOR GREEN ENERGY



EMOTRON AFG DRIVES
Your grid ready AFE

The Emotron AFG is a grid-ready AFE, featuring grid code-compliant software. It allows you to connect directly to a public grid, be part of a microgrid, or form an island grid. With up to 98% efficiency and very low harmonic distortion to supply, it is an excellent choice for any grid application.

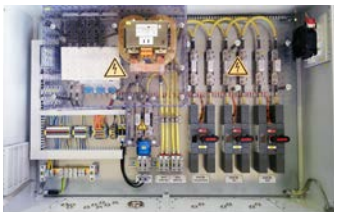
Rated power	19-4,000 kW
Supply voltage	230-690 Vac 3-ph (mains 400V) 400-690 Vac, 3ph (mains 690V)
Rated current	2.5-4,000 A
Protection class	IP54 cabinet build
Approvals	CE, UL/cUL, DNV (liquid cooled)
Cooling	Air, water



EMOTRON VSI DRIVES
Motor/generator drives

The efficient Emotron VSI drive optimises your motor/generator control. It has an impressive overload capability of 120 or 150%, making it an ideal solution for a variety or renewable energy generators and onshore power supply applications. Suitable for 400V/690V.

Rated power	0,55-4,000 kW
DC range	450-1120 VDC
Protection class	IP54 cabinet build
Approvals	CE, UL/cUL, DNV (IP54)
Cooling	Air, water



EMOTRON DCU DRIVES
Your DC/DC converter

A DC/DC converter that allows seamless integration of various DC sources for optimal utilization of renewable energy sources and energy storage systems. Whether facilitating low-to-high “DC booster” or high-to-low voltage conversions, the Emotron DCU proves invaluable for optimizing battery voltage in microgrid applications.

High voltage	450-1,120 VDC
Low voltage	15-85% of high voltage
Protection class	IP54 cabinet build
Approvals	CE, DNV (liquid cooled version)
Cooling	Air, water

SOFTSTARTERS



EMOTRON TSA SOFTSTARTERS
Starts, stops and protects

Emotron TSA softstarters take motors to a new level. Soft torque starting and intelligent load monitoring, real time clock, programming block, by-pass contactor gives low losses, in an all inclusive robust and compact design.

Supply voltages;	200 – 525 VAC, 3-ph 50/60 Hz 200 – 690 VAC, 3-ph 50/60 Hz
Rated current	16 – 960 A
Rated power	5.5 – 1000 kW
Control supply voltage	100 – 240 V, 1-ph
Ambient temperature	0 – 55 °C
Protection class	IP20, NEMA Type Open
Approvals	CE, UL, cUL, DNV, EAC

SHAFT POWER MONITORS

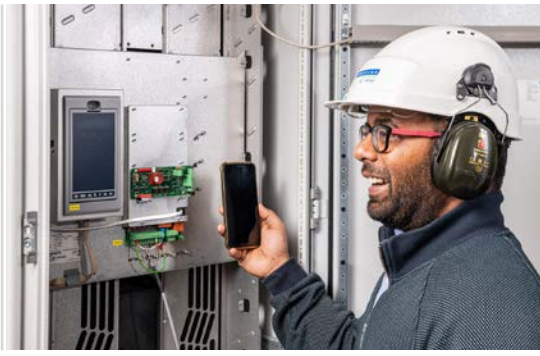


EMOTRON M20 SHAFT POWER MONITORS
Your shield against overload and damage

Emotron M20 shaft power monitors help you save time and money. They protect your pumps and other equipment against damage and inefficient processes. Early warming allows you to take preventive action. Unique features include measuring shaft power output and using the monitor as a sensor. The result: reduced maintenance and installation costs, extended equipment lifetime and increased reliability.

Supply voltage	100-240/380-500/525-690VAC
Rated current	Up to 999A via current transformer
Frequency	50/60 Hz
Protection class	IP20
Approvals	CE, UL, cUL

SERVICE PRODUCTS



EMOTRON SERVICE PRODUCTS
A service offer for peace of mind

As a customer of CG Drives & Automation, you will benefit from an international network for support and service with a large selection of service products:

- Putting into operation / Commissioning
- 24/7 support
- Maintenance
- Security for critical processes
- Repairs
- Extended warranty
- Remote diagnostics
- Training

We put all our energy into saving yours

About CG Drives & Automation (Emotron)

CG Drives & Automation has developed, manufactured and delivered efficient and reliable motor control equipment for over 40 years under the brand of Emotron. Since 2011 we form a part of CG Power and Industrial Solutions Ltd., a global pioneering leader in the management and application of electrical energy.

At CG Drives & Automation we use our know-how to create technical solutions that fit your requirements, and our personal commitment to make them work in practice.

Simplicity and reliability are keywords applying to our products and solutions, as well as the service and support that our committed professionals provide.

CG Drives & Automation has five core markets with sites in the Nordics, India, Germany, the Netherlands, MEA and a dedicated partner network worldwide.

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