

GMC-I GOSSEN METRAWATT

Safety through Competence.

GMC-I Gossen-Metrawatt GmbH Thomas-Mann-Str. 16-20 D-90471 Nürnberg Phone: +49 911 8602-111 +49 911 8602-777

E-mail: info@gossenmetrawatt.com www.gossenmetrawatt.com

Camille Bauer AG Aargauerstr. 7 CH-5610 Wohlen Phone: +41 56 61 82-111 Fax: +41 56 61 82-458 F-mail: info@camillehauer.com www.camillebauer.com

GOSSEN Foto- und Lichtmesstechnik GmbH Lina-Ammon-Str. 22 D-90471 Nürnberg Phone: +49 911 8602-181 Fax: +49 911 8602-142 E-mail: info@gossen-photo.de www.gossen-photo.de

GMC-Instruments France S.A.S. 5, rue Pasteur F-91349 Massy Cedex Phone: +33 1 6920 8949 Fax: +33 1 6920 5492 E-mail: info@gmc-intruments.fr www.gmc-instruments.fr

GMC-Instruments Italia S.r.I. Via Romagna, 4 I-20046 Biassono (MI) Phone: +39 039 2480 51 Fax: +39 039 2480 588 E-mail: info@gmc-i.it www.gmc-instruments.it

GMC-Instruments Nederland B.V. Daggeldersweg 18 NL-3449 JD Woerden Phone: +31 348 42 11 55 Fax: +31 348 42 25 28 E-mail: info@gmc-instruments.nl www.gmc-instruments.nl

GMC-Instruments Schweiz AG Glattalstr. 63 CH-8052 Zürich Phone: +41 44 308 80 80 Fax: +41 44 308 80 88 E-mail: info@gmc-instruments.ch www.gmc-instruments.ch

Electromediciones Kainos S.A. Poligon Industrial Est, Energía, 56 E-08940 Cornellá de Llobregat, Barcelona Phone: +34 934 742 333

Fax: +34 934 743 470 F-mail: kainos@kainos es www.kainos.es

GMC-měřicí technika s.r.o. Fügnerova 1a CZ-67801 Blansko Tel.: +420 516 482 611/-617 Fax: +420 516 410 907 E-mail: gmc@gmc.cz

www.gmc.cz

www.dranetz-bmi.com

Dranetz-BMI Inc. 1000 New Durham Road Edison, New Jersey 08818-4019, USA Phone: +1 732 287 3680 Fax: +1 732 248 1834 E-mail: info@dranetz-bmi.com

Electrotek Concepts Inc. 9040 Executive Park Drive, Suite 222 Knoxville, TN 37923-4671, USA Phone: +1 865 470 9222 / +1 865 531 9230

Fax: +1 865 470 9223 / +1 865 531 9231 E-mail: info@electrotek.com

Daytronic Corporation 2211 Arbor Boulevard Dayton, Ohio 45439-1521, USA

www.electrotek.com

Phone: +1 937 293 2566 Fax: +1 937 293 2586 E mail: info@daytronic.com www.davtronic.com

Measuring – Testing – Controlling World Class Hardware and Software

Competence and reliability: a good reputation carries a lot of weight



"Lots of things have become simpler for our customers. In addition to our premium products, we also offer a matching spectrum of consultation, project engineering, systems, training and services."

"Measuring and test systems from GMC-I are reliable and economical" - this is what users tell us again and again, and we're very glad to hear it. That's exactly what we strive for, and it's what distinguishes us from the competition. And we've got enough self-confidence to go a bit further as well: GMC-I Gossen-Metrawatt stands for competence and reliability in the field of measuring and test technology.

Metrawatt was founded in 1906, Gossen followed in 1919, and the third company in our network of internationally recognized experts in the field of measuring and control technology came into being roughly 50 years ago as Camille Bauer in Switzerland. The competence of these tradition-rich enterprises, combined with advanced technology and a highly innovative spirit, is the basis of a spectrum of products and services which are fully aligned to the needs of our customers.

Globalization promotes innovation and growth

And we're always thinking one step ahead. Trends in the field of power generation and distribution, as well as tasks involving environmental protection and medical engineering, are seen as an opportunity for further developing our tradition-rich company. New and creative solutions are in demand. We're working on them. The acquisition of Dranetz-BMI, market leader for power quality analysis devices in the USA, as well as Daytronic and Electrotek Concepts, is expanding our competence in this field. And we're preparing to meet the challenges of future market developments with attractive products, as well as services such as consultation, engineering and customer support.

Take advantage of this brochure to gain a quick overview of the range of products and spectrum of services offered by GMC-I Gossen-Metrawatt. We can talk about the details at a personal meeting. I look forward to hearing from you.

Dr. Hans-Peter Opitz Chairman of the management





Worldwide presence



"Our competence and knowledge regarding international markets, as well as regional and national circumstances, make it possible for us to offer individualized solutions."

Wherever people - conduct tests and measurements - and place their faith in technology, GMC-I Gossen-Metrawatt is a competent partner. For example, our explosion-proof multimeters are used in coal mining applications in South Africa. We provide for efficient energy management at Athens International Airport. Automatic test systems monitor mains power quality in low and medium-voltage systems at power utilities in India. Our measuring transformers are utilized for large-scale switchgear manufacturing in Abu Dhabi. And we conduct testing for preventive maintenance at large transformers in Mexico.

Just a few of the innumerable possible examples, but each alone plainly demonstrates that where reliability and quality are concerned, measuring and test systems from GMC-I are always first choice.

Your tasks demand our competence

International presence is one of the reasons for our leading market position. Proximity to the customer is proximity to the market. Accurate knowledge of the market is required in order to competently address the needs of the users, and to supply our customers with technically and economically ideal solutions.

GMC-I Gossen-Metrawatt is represented in Europe's largest countries and in the USA with fully owned subsidiaries. Partner companies stay in touch with our customers in more than 40 countries throughout the world.

Qualified engineers are responsible for on-site customer support at these locations, and they're assisted by professional support teams located at our manufacturing facilities in Nuremberg in Germany, Wohlen in Switzerland and Edison, New Jersey in the USA.

Our business partners can be contacted directly via the Internet. Anyone who wants to gather quick, comprehensive information is assured direct access to our various offerings, product data, current issues and topics of special interest.

Contact address: www.gossenmetrawatt.com





GMC-I GOSSEN METRAWATT

Recognizing and exploiting potential savings



"Our service package consisting of hardware, software and project engineering assures the controllable operation of technical building equipment and the efficient use of energy."

Efficient, safe use of energy is top priority in today's world. We're faced with the challenge of making prudent use of scarce resources and reducing the costs of energy consumption to a minimum. This applies to all types of properties, production and administrative buildings, and extensive facilities. GMC-I Gossen-Metrawatt is ready to help where the recognition and exploitation of potential savings by means of intelligent facilities management is concerned.

Our contribution towards reaching this goal includes a service package plus software, as well as intelligent hardware components. This combination assures the controllable operation of technical building equipment and the efficient use of energy.

We provide for safety and efficiency at your facilities

The GMC-I system is based on a modular structure and encompasses facility management for properties, buildings and their technical equipment, event and error management, meter reading and equipment management, control of safety testers, key management and fire prevention management. Points of departure for other cost-saving innovations result from interaction with the hardware.

Getting your personnel costs under control

Our concept supports the testing of systems and operating equipment. Safety inspections of electrical equipment, inspections for hazard assessments and fire prevention, and maintenance and repair can be automated to a great extent. Personnel costs are thus minimized. Otherwise necessary investments in a variety of measuring and test instruments become superfluous. Temperature, light, pressure, flow rate, humidity and EMC, as well as electrical, heat, gas and water meter readings are acquired at the same time by the GMC-I system, integrated into local networks.





On the safe side with outstanding competence



"The broad range of devices produced in our manufacturing facilities are characterized by precision and reliability."

In the field of machinery and equipment manufacturing, the manufacturers are differentiated above all with regard to the quality, precision and efficiency of their products. GMC-I Gossen-Metrawatt is always striving to assert itself in existing markets, thus securing a promising future. Our contribution: world class industrial measuring and control technology.

You maintain uniform product quality as a result.

The primary focus of attention is a broad range of devices manufactured at our own production facilities. Despite their highly diverse functions, they all have two things in common: precision and reliability.

One example of this principle is our multi-channel high speed temperature controller which is used in semiconductor manufacturing, industrial and laboratory ovens, textile and packaging machines, and in the chemical, glass and ceramics industries. An application involving injection molding machines provides a vivid illustration. Temperature is precision controlled in the various heat zones in order to assure uniform product quality with high production output.

Angular position measuring transducers for use in railway applications, in ships and in wind power turbines offer yet another example. A patented wear-free, maintenance-free measuring concept and absolutely minimal torque are taken advantage of in this case.

More safety in potentially explosive atmospheres

Sequences are automated to a great extent in the field of process engineering. Especially high demands are thus placed upon measuring and control systems. And these requirements are fulfilled by our intrinsically safe measuring systems for potentially explosive atmospheres with an integrated service concept for all process engineering quantities, sensors and measuring transducers, as well as signal isolating and coupling devices.





Operating safety takes precedence



"Recognize mains problems early and increase operating safety."

Innumerable measuring tasks are necessary for the generation and distribution of electrical power. The electrical mains have to be monitored continuously, and qualified information regarding mains quality needs to be gathered. GMC-I Gossen-Metrawatt and its subsidiaries in the USA, Dranetz-BMI and Electrotek Concepts, are at the forefront where operating safety and mains quality are concerned.

Our contribution: a large selection of components consisting of intelligent, interconnectable modules.

Early recognition of mains problems

We monitor low and medium-voltage systems with automated test systems, multifunctional power meters, measuring transducers and energy consumption meters — with optional interfacing to common bus systems such as LON, PROFIBUS, HART und CAN. Information gained in this way provides assistance in recognizing mains problems early, and contributes to increased levels of operating safety.

And that's not all: Power generation and distribution become more economical, energy costs can be allocated to the actual users in an error-free fashion and equipment failures are prevented.

Power supply modules for telecommunications networks and laboratory power supplies round out the offerings.

Play it safe with professional equipment

The installation and operation of electrical and electronic devices and equipment are subject to strict safety requirements. We're well prepared for this challenge in the field of energy test technology. A broad range of test instruments and professional testers manufactured in accordance with the applicable standards are used to monitor the electrical safety of cables, machines and equipment.

PC interfaces facilitate the evaluation, documentation and archiving of test results. And the software required to this end comes from GMC-I Gossen-Metrawatt as well.

Our range of precision multimeters with DKD calibration certificate, calibrators and clip-on meters can be variably configured in accordance with user requirements.





Measurably at the forefront



"Investments are protected by precision measurement and recording of electrical, thermal, optical and mechanical quantities."

Every electrician in trade, commerce and industry has to answer questions regarding current, voltage, resistance and power in order to assure reliable evaluation of electrical processes. GMC-I Gossen-Metrawatt is always ready to help where measuring and test systems for safety checks at electrical devices are concerned.

Protect your investments

The basis is comprised of a large selection of panel-mount measuring instruments for all electrical and process engineering quantities. World class safety is assured by our systems for the performance of measurements in commercial applications, as well as for electrical medical devices.

R&D and calibration laboratories, and production and test departments prefer durable measuring and test systems from GMC-I. The reason is obvious: High-precision measuring and recording of electrical, thermal, optical and mechanical quantities help to protect investments in valuable equipment.

Unsurpassed photometry

And that's not all: There's no viable alternative as far as consulting and engineering offices are concerned, or for demanding amateur and professional photographers: Professional light meters and exposure meters manufactured by our subsidiary, GOSSEN Foto- und Lichtmesstechnik, are unsurpassed where quality and reliability are concerned.

Reliable quality, manufactured in accordance with your requirements

The quality of our innovative products is no accident. It's influenced to a great degree by the entire product development process. We've been developing, manufacturing and shipping devices and measuring systems since 1992 in accordance with applicable national and international quality assurance standards (ISO), which are frequently configured in accordance with our customers' requirements.

However, our objective is not just to comply with the standards, but rather to continually redefine our own standards of quality. Our R&D departments work in close cooperation with universities and research centers to this end.



You can rely on us



"Basic training and continuing education for our employees, and above all for the users of our devices and systems, are the key to a lasting partnership."

GMC-I Gossen-Metrawatt consistently places the customers' requirements at the center of corporate activity. For this reason, high performance customer services including consultation, project engineering, support and training are an additional factor which distinguish us within the market.

Last but not least, basic training and continuing education for our employees, and above all for the users of our devices and systems, are the key to a lasting partnership.

Fitness training for your employees

Qualified electricians and safety inspectors are required to test, repair and operate systems and devices. We prepare you for these tasks in seminars and by means of practical experience — either at our training center in Nuremberg or on site.

Training and laboratory directors, service technicians and R&D engineers learn to work with the hardware and software components included in our measuring systems.

Quality assurance demands reliable test equipment in production, in R&D and in the lab. Employees learn all about standards and regulations in seminars and training programs – also via Internet – and learn how measuring instruments and systems are monitored, calibrated and maintained.

We keep you up to date

We teach technicians who are responsible for the condition of electrical systems and power consumers to correctly evaluate power supply fluctuations and the performance of non-linear power consumers. In the case of systems which require explanation such as complex networks for energy control systems, instruction for the operators is included as part of a comprehensive service package.

Our calibration service is highly rated by customers all over the world. Where consultation, replacement parts and repairs are concerned, email and the telephone hotline offer direct lines of communication to customer service at GMC-I.



