

Perfect Throughout 4 Quadrants

GOSSEN METRAWATT

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Interfaces for recording, transducing and alarms

Limit Monitor **standard**

2 limit value relays, changeover contacts, freely configurable and assignable, hysteresis, alarm memory

Serial Communication **standard**

RS 232 and RS 485 Modbus, Profibus DP, LON, Ethernet as options

Multi-Transducer **standard**

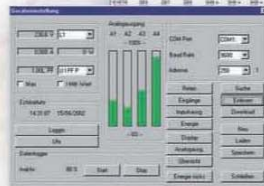
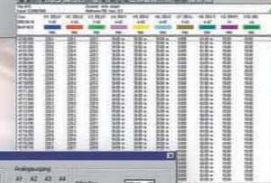
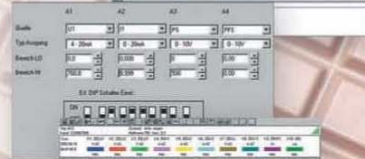
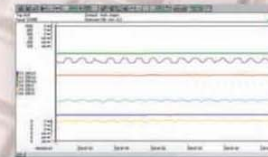
2 analog outputs, optionally 4, current: 0/4 ... 20 mA, ± 20 mA, voltage: 0/2 ... 10 V, ± 10 V, freely configurable and assignable

Energy Meter (I/Os) **optional**

2 pulse outputs as option, adjustable pulse rate and duration, freely assignable energy meter
1 synchronizing input as option, synchronization of the measuring interval, switching to and from peak / off-peak tariff, trigger disabling for data logger

Measuring Error

Current, voltage	$\pm (0.25\% + 1 \text{ digit})$
Power	$\pm (0.5\% + 1 \text{ digit})$
Power factor	± 0.02
Frequency	$\pm 0.02 \text{ Hz}$
Energy	$\pm 0.5\%$



Technical Data

Measurement Inputs		
Voltage	L-L	0 ... 500 V
	L-N	0 ... 290 V
	f	40 ... 70 Hz
Current	0 ... 1 A and 0 ... 5 A elect. isolated	
4 quadrant operation Import and export, inductive and capacitive		
Auxiliary Power	230 / 115 V~	
	20 ... 69 V~, 20 ... 72 V=	
	73 ... 264 V~, 73 ... 276 V=	
24 V ~, 20 ... 36 V		
Data Logger	12 measured quantities, 63,000 values	
Sampling time	0.3 s ... 24 hrs. (in steps)	
Time reference	Real-Time Clock	
Front Panel Dimensions	144 x 144 mm	

Top Performance at No Extra Cost - METRAWin

Regardless of whether you want to configure the A2000 easily and conveniently, read out the data logger, continuously record measured values or display them at adjustable time intervals in tables, line diagrams or bar graphs, save configurations to memory, export data to other Windows programs or run mathematical calculations – METRAWin always provides you with the right solution free of charge. Download your A2000 measuring system from our website today.



It's square,
it's practical ...

A2000 – monitor,
analyze and optimize
mains operation

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LONWORKS®
MODBUS

ETHERNET
PROFI®
BUS

A2000 - One for All

User, planners, energy optimizers and system integrators are all in agreement: The A2000 fulfills all requirements for switchgear used in power generation and distribution, in industrial as well as building and facility management applications.

Typical Applications

- Measurement and monitoring of electrical systems, supply lines, switched load circuits and equipment
- Evaluation and optimization of system utilization, avoidance of critical states
- Monitoring of power factor and reactive power compensation
- Analysis of harmonic contamination within the system
- Recording of load profiles as a basis for maximum value and process optimization
- Acquisition of energy consumption

Convenience at a Glance

Clear-cut display for four 3-phase quantities



- Fast access** via individual keys for
- Phase, star and delta values
 - Measured quantities
 - Maximum and minimum values
- Continuous display** 9-place energy meter

Separate configuration level with disabling to prevent erroneous adjustment

Highly flexible - current connection for 1 and 5 A transformers, voltage connection for up to 500 V, or via voltage transformer, adjustable transformation ratio

Absolutely safe, thanks to electrically isolated circuits

Minimal installation depth: 59.1 mm - fits in any control cabinet

Cost reducing replacement: reduced number of devices, cabling and bursts



Convenient wiring and quick replacement thanks to plug-in screw terminals

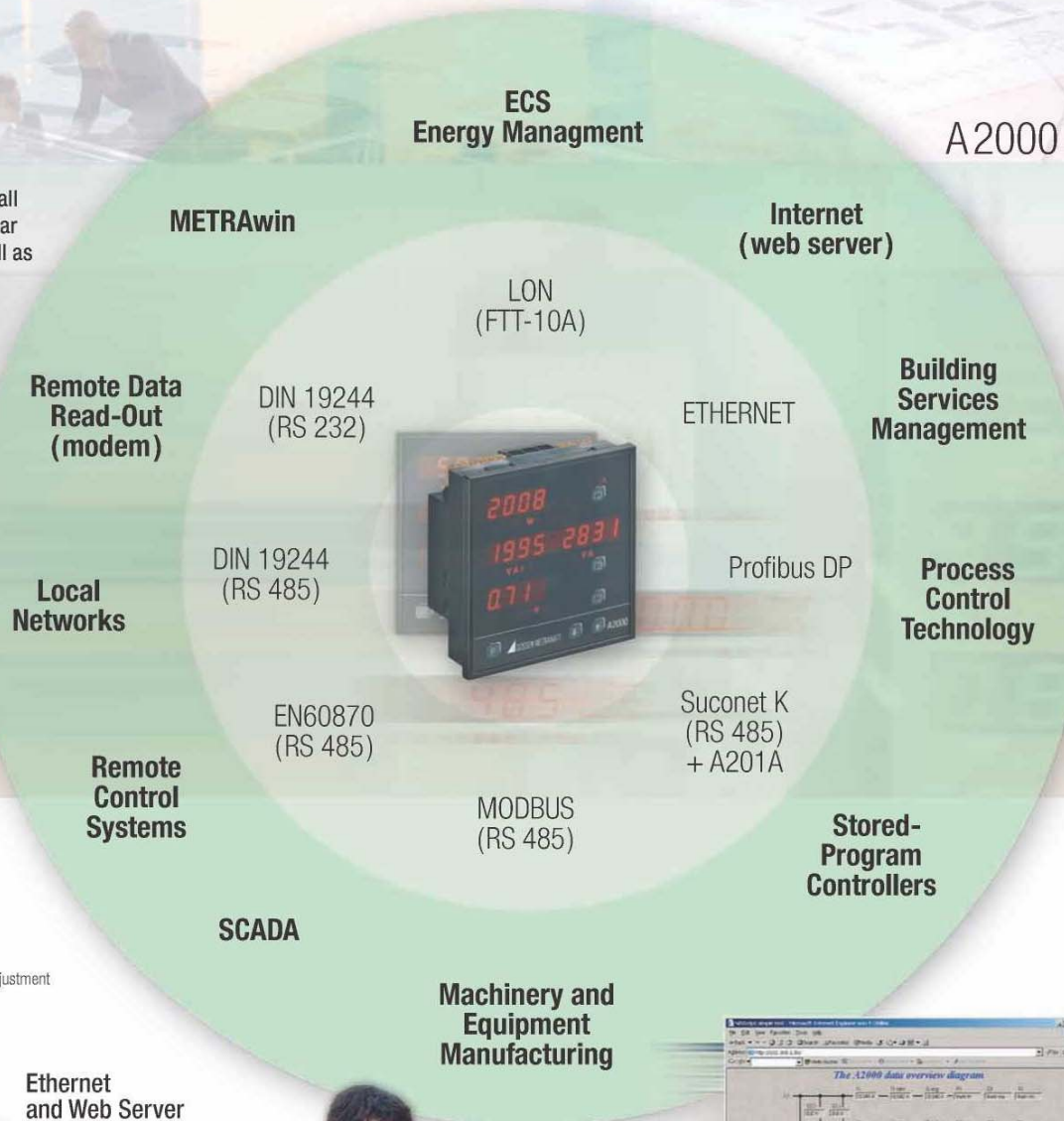


Ethernet and Web Server

The integrated web server at the Ethernet interface of the A2000 provides an overview of all significant measured quantities in the 3-phase system at any browser. All other data are available as well in combination with METRAwin software.



A2000 - the Power Concept



Functions:

Mains Monitoring

- Current, voltage, active, reactive and apparent power, power factor per phase and as total
- Line frequency
- Neutral conductor current
- Maximum value memory, minimum value for power factor
- Mean current values comparable to bimetallic indicator
- Calculation of reactive power using 3 different processes
 - Per DIN 40110
 - Fundamental reactive power with preceding sign
 - Compensated reactive power

Maximum Value Monitor

- Trend calculation for active, reactive and apparent power at the end of the measuring interval
- Values from the last 10 intervals are saved to memory
- Internal interval of 1 to 60 min. or external interval control via optional synchronizing input

Limit Monitor

- 2 limit value relays, freely assignable to measured quantities
- Adjustable response delay and hysteresis
- Alarm acknowledgement with key if alarm memory has been activated

Data Logger

- Up to 12 measured quantities with capacity for 63,000 values
- Continuous or event controlled recording
- Adjustable sampling time and recording duration
- Pre-trigger for pre-history

Harmonic Analysis

- Acquires harmonics up to the 15th harmonic for current and voltage at each phase
- Indicates overall harmonic distortion
- Maximum value memory - also includes date and time with the data logger variant

Energy Meter

- Depending upon operating mode, eight meters acquire active and reactive energy for:
- Individual phases and as total
 - Overall import or export relative to peak or off-peak tariff
 - Tariff control with internal clock
 - External tariff switching and two pulse outputs as options

Multi-Transducer

- 2 scalable analog outputs, freely assignable measured quantities
- 2 additional analog outputs as option
- No analog outputs if the Profibus DP interface is included



Mobility for Energy Managers

Are you familiar with requirements for sporadically checking compensating equipment for correct functioning, acquiring load data and power factor for machines and equipment, acquiring load characteristics for various company divisions or gathering information regarding harmonics within your electrical system?

Our **A2000 Mobile-Set (A202A)** provides you with the ideal solution. The portable power analyzer is equipped with a data logger, a synchronizing input and a serial interface.

The rugged carrying case also contains a set of measurement cables, an interface cable and METRAwin software for evaluation of measurement results in presentation quality. And there's enough room for optional clip-on current transformers as well.