

ResMa[®] Compact

Energy management for industry



Compact and cost-effective energy management system
for recording and evaluating energy data

Inexpensive entry-level solution for an expandable EnMS

Entry into energy management should involve as few resources as possible, before initial findings are established in order to justify a more extensive expansion. Therefore, Weidmüller GTI has developed an inexpensive entry-level Compact variant of the more comprehensive ResMa® solution, on the basis of industrial hardware. It can be used to record and evaluate conventional measurement counters with the standard Modbus RTU or Modbus TCP interfaces. The entry-level solution contains all the functions required by the TÜV (German technical inspectorate) for an EN 50001-compliant energy management system.



Simple recording of energy data

ResMa® Compact offers an integrated hardware and software solution for recording and evaluating energy data. You can connect up to 250 serial-networked measuring instruments to a compact and robust DIN rail mini PC via an RS485 interface and Modbus RTU protocol. Alternatively, you can connect measuring instruments via a TCP/IP network.

The ResMa® software installed on the Compact supports easy configuration of the connected devices and performs ongoing recording of measured values. Comprehensive functions allow convenient evaluation of the recorded data, through to complex energy reports. The open solution can be expanded in terms of its functional scope to create a complex, cross-location energy management system of the highest performance class.

Comprehensive evaluations and reporting

With the ResMa® Compact and ResMa® software, energy data can be visually illustrated. ResMa® falls back on the data recorded by the Compact system and it makes it available in various consumer overviews in the form of diagrams, value tables, pivots and reports.

ResMa® offers a comprehensive environment for administration of the system. It enables the user to perform a meaningful evaluation and analysis of all recorded measured values and it provides the necessary transparency for optimisation. The integrated documentation functions support the work of the Energy Manager and enable the integration of additional employees for the analysis or implementation of improvement measures. The high-performance software solution can be deployed in any sector.

It can be used to automatically record, visualise, analyse and optimise all relevant consumption data, whether current, active power, reactive power and apparent power or gas, water and heat.



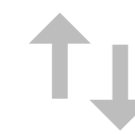
Management
of locations,
measuring points,
consumers,
service partners



Administration
of user rights and user
groups



Electronic
and manual recording



Import & export
functions



Testing
and optimisation
using interactive
documentation



Evaluation
of energy data via
interactive charts and
pivots



Evaluation
via reports generated
online



Evaluation
via energy key figures
created online



Monitoring
of faults

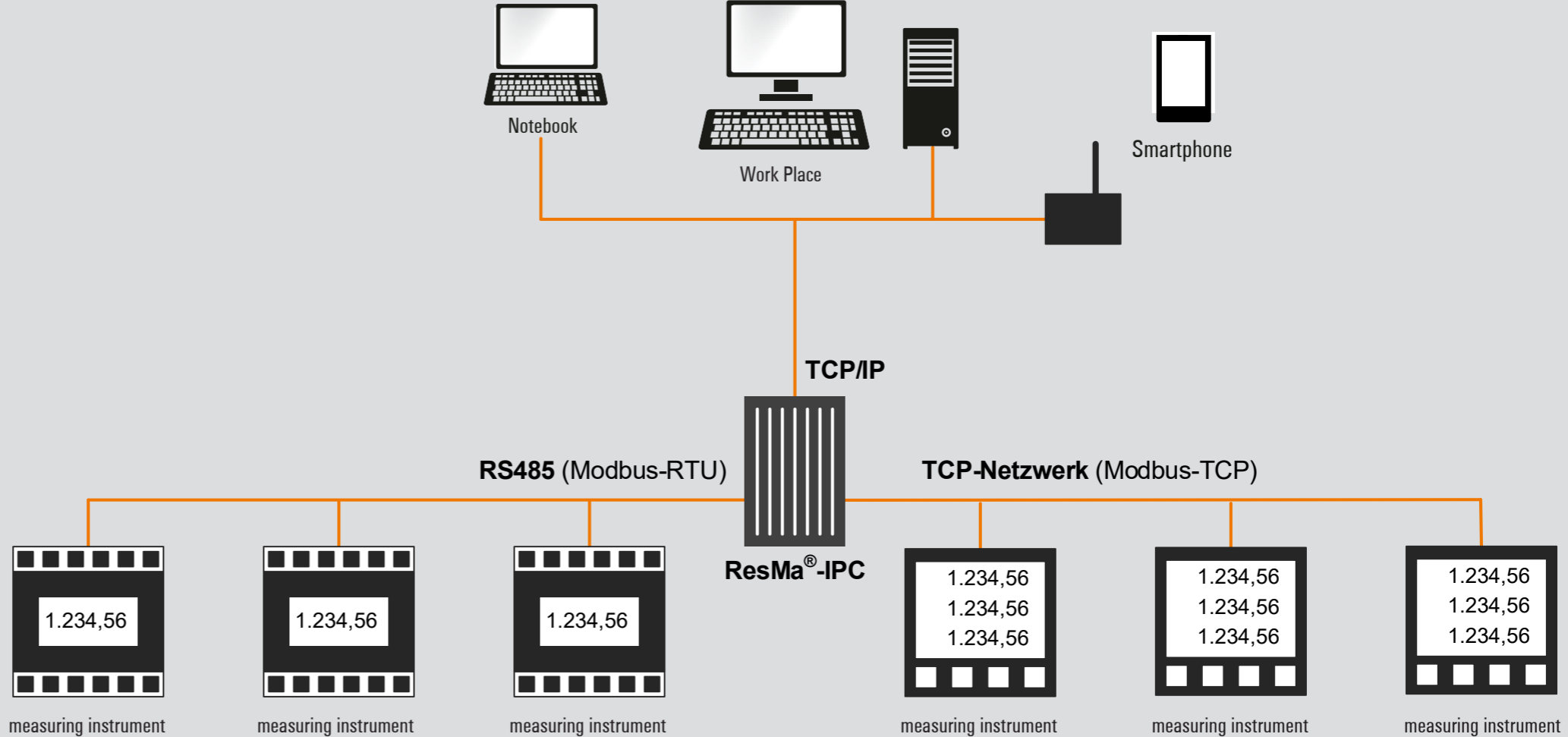


Upgradeable
to include expanded
functional scope

ResMa[®] Compact system structure

The user interface is built as a web application and can be used by up to three users at the same time per web browser, without a software installation.

The ResMa[®] system is mounted on the DIN rail in a control cabinet and is supplied with 24 Volts. A network interface is used for integration into the company network in order to evaluate the energy data. A second network interface and the integrated RS485 interface are used to connect network-compatible measuring systems.



TÜV certified

ResMa® has been tested and certified by TÜV-SÜD in terms of the DIN/EN 50001 requirements. This guarantees that all the requirements of an eligible EnMS are met. The ResMa® is therefore also included in the Bafa list as an EnMS, as the basis for the application for subsidies.



Technical data and system variants

Hardware:

- Fanless IPC for mounting on a DIN rail
- CPU: Celeron J1900 (4x 2.0 GHz, to 2.42 GHz burst)
- Main memory: 4 GB
- Mass memory: SSD with 64 GB
- Interfaces: 2x LAN RJ45 1000 Mbit/s, 2x COM (1x 24VDC, 1x RS232/422/485), 1x USB 3.0, 1x USB 2.0, 1x DVI-D
- Power supply: 18 ... 32 V, less than 25 Watt (must be supplied externally)
- Dimensions: 182 x 185 x 48 mm
- Operating system: Windows 10 IoT Enterprise 64 bit

Software:

- ResMa® Version 3.0 compact, 3 users
- SQL database (Microsoft SQL Server 2014 Express)
- ResMa® Direct Connect for Modbus RTU and Modbus TCP
- Configurator for ResMa® Connector
- Upgrade available for extended functional scope and for additional interfaces

Constant view of energy data

Web interface	ResMa® is accessed via a web browser (Internet Explorer 9/10/11, Chrome, Firefox etc.). Directly within the network or the company's intranet, via VPN outside of the company network.
User rights	Personal log-in is required in order to use ResMa®. Each user is assigned individual rights and access options.
Dashboard	The Dashboard is the home page of the ResMa® interface. Usually, the displays that are frequently viewed by the user are selected individually for the Dashboard.
Object tree	The object tree illustrates all the data points that are configured in the system in a tree structure. The user can switch between viewing and editing mode. Individual data points can be moved via drag & drop, added to a specific structure point for positioning or edited.
Charts and pivots	The display options for charts and pivots can be individually adapted to various forms for each evaluation. Individual data points are moved via drag & drop to the chart or the pivot table and enable the illustration of several curves, as well as a comparison of the same curve across different time periods (before and after comparison). All charts and pivots can be exported as an Excel file, a PDF document or saved as a profile.
Comments	In order to highlight any anomalies in the curve progression, selected values can be commented upon and highlighted in colour in the diagram.
Documentation	Using the interactive documentation, anomalies can be directed at employees or service partners via a text field enabling the sharing of information and tasks. This provides extensive collaboration support with the advantage of being able to directly access the stored documents via a link to the diagram concerned.
Derived values	Derived values are calculated values and consist of a formula. To illustrate a derived value, formula parameters can be selected directly from the object tree via drag & drop and specified at an explicit structure level in the object tree.
Limit-value monitoring	Limit value monitoring can be added for each measured value, with the criteria min, max, day, time and alarm.
Online report generator	Derived values are calculated values and consist of a formula. To illustrate a derived value, formula parameters can be selected directly from the object tree via drag & drop and specified at an explicit structure level in the object tree.

System variants

ResMa® Compact is available in two system variants that differ in terms of the maximum number of measured points that they support. A data point is a measured value from a counter or a derived internal operand.

There are extended variants available for larger applications or the construction of a complex and cross-location energy management system. These variants enable additional options for connecting to building automation systems or industrial control systems. These can also be installed on virtual servers and support cross-location energy management. ResMa® Compact can be upgraded to support such applications. Existing licence models are changed and previously recorded data and created reports can be transferred.

	ResMa® Compact Basic	ResMa® Compact Standard
Licence	ResMa® Compact 200	ResMa® Compact 500
Data points	for up to 200 data points	for up to 500 data points
Users	for up to 3 simultaneous users	for up to 3 simultaneous users

Training and equipment

If required, we can configure the system on your site to incorporate your measuring equipment, if you carry out the necessary cabling requirements. This includes training on the system with regard to the inclusion of additional measuring points and evaluation options.



Weidmüller – Your Partner in Industrial Connectivity

As experienced experts we support our customers and partners around the world with products, solutions and services in the industrial environment of power, signal and data. We are at home in their industries and markets and know the technological challenges of tomorrow. We are therefore continuously developing innovative, sustainable and useful solutions for their individual needs. Together we set standards in Industrial Connectivity.

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