



INTELLIGENT
BUILDING
TECHNOLOGY

Energy management & building automation



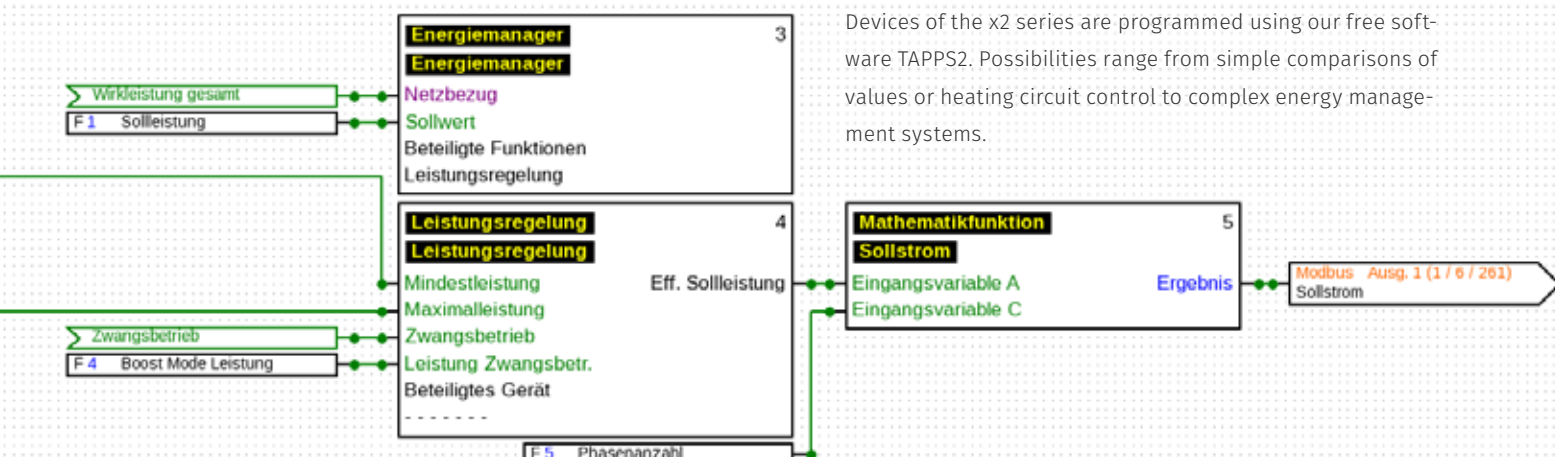
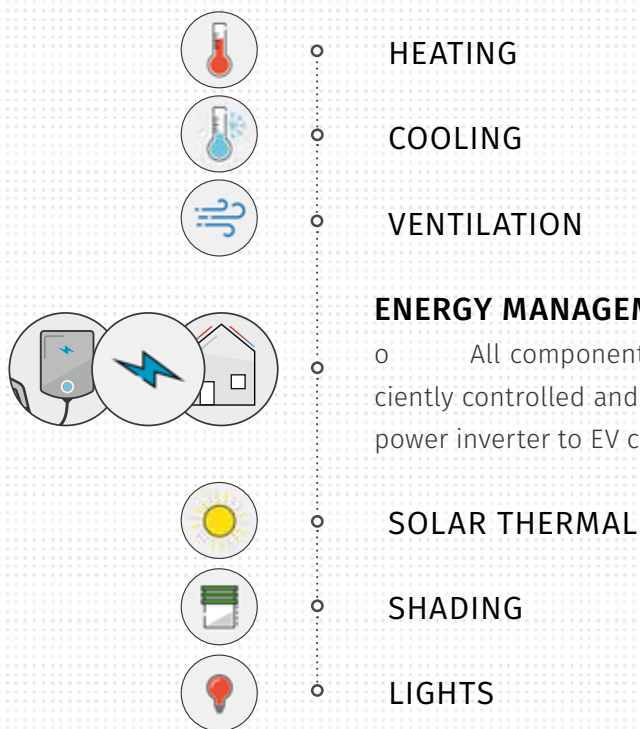
The x2 series as a solution for
comprehensive energy management.

www.ta.co.at

USE ENERGY EFFICIENTLY.

Efficient use of energy is a goal that drives us every day. An important factor to reach that goal is the intelligent networking of building technology components. From the heating circuit to the heat pump, to the power inverter, and the EV charging station.

Our freely programmable universal controllers are the tools in your hands to achieve this.



WHAT DOES “FREELY PROGRAMMABLE” MEAN?

Devices of the x2 series are programmed using our free software TAPPS2. Possibilities range from simple comparisons of values or heating circuit control to complex energy management systems.

PRIORITISE RENEWABLE ENERGY.

As pioneers of control technology, we've always believed in renewable energy. What started with simple controllers for solar thermal systems, has now evolved into intelligent control systems for building technology.



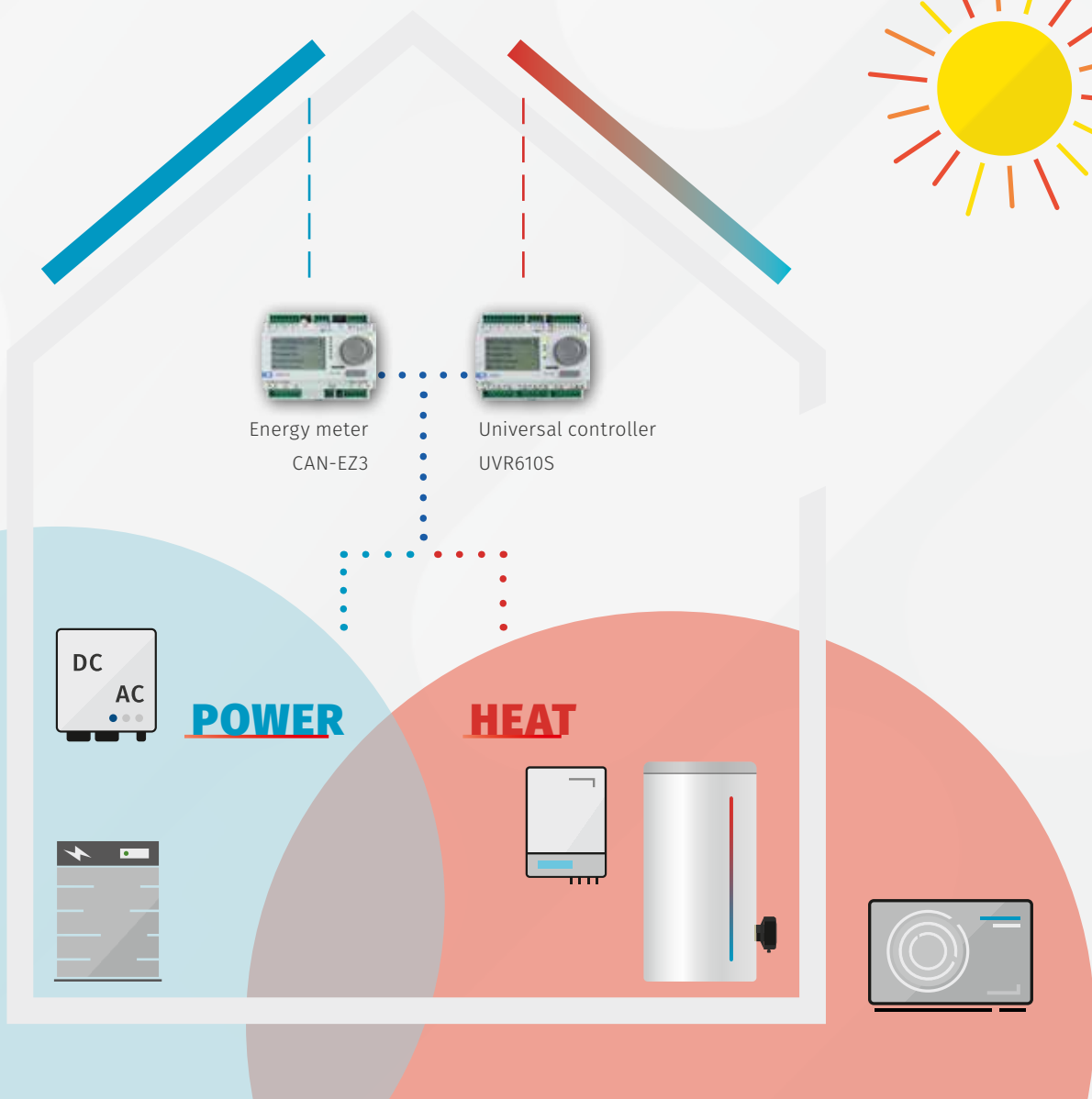
We pour our collective experience from 35 years of business into the hardware and software of our devices.

Customers across Europe and the whole world realise efficient, reliable, and flexible systems for different buildings. From skyscrapers in China to production facilities for ice cream in Germany and even holiday homes on a Danish island.

The most popular use case of our devices is in single family homes, largely due to the consistent price-performance ratio.

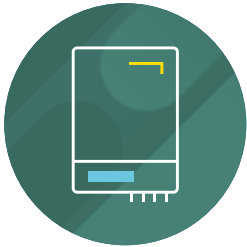
Intelligent use of power and heat has long been a day-to-day business, but coupling these two sectors is not always trivial.

The x2 series offers highest flexibility to realise your control strategy.



AN OVERVIEW OF YOUR POSSIBILITIES.

The universal controllers, energy meters and extension modules of the x2 series see use in many different sectors – heating, cooling, ventilation and such. The x2 series plays its strengths right where many different such sectors must be controlled and regulated together.



HEATING CONTROL

A very general term, with a large scope of tasks upon closer inspection. From the simple requests of heat generators to heating circuit control, DHW preparation, and intelligent cylinder charging.



4,3" touch display

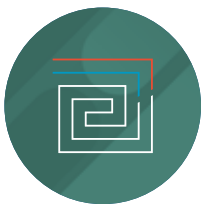
The UVR16x2 is our “biggest” controller with the most inputs and outputs, available in different shapes, including a PCB version.



M-Bus

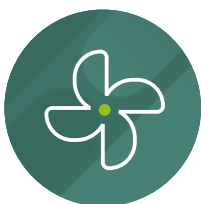


Die UVR610S bietet in ihren Varianten alle Möglichkeiten - mit und ohne Modbus, als reine Erweiterung ohne Display oder auch als 24V DC-Version.



HEATING AND COOLING CIRCUIT CONTROL

Controlling flow temperature depending on outdoor and/or room temperatures is standard practise, but depending on the heat source (direct or from a buffer) and number of circuits quickly turns into **a job for the x2 series**.



VENTILATION CONTROL

Ventilation is not limited to, but still very prevalent in **hotel and business sectors' energy management systems**. Only in a generalised system with heating and air conditioning can comfort and efficiency be matched optimally.



BLINDS & LIGHTS

A part of building automation is also light control and control of shading depending on sunlight and wind – the latter of which should allow limited sunlight into the building, depending on room temperature.



USE OF EXCESS PV ENERGY

The **central task of energy management** consists of prioritising available forms of energy depending on **demand, yield, storage capacity and costs**.

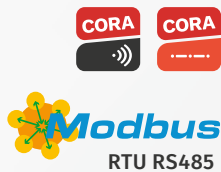
INJECTING DYNAMIC POWER TARIFFS

The new CAN extension module **FCI** allows for the injection of dynamic power costs into the controller to activate power consumers when it is most cost-efficient to do so.

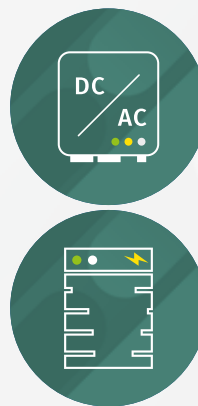


POWERING HEAT PUMPS WITH EXCESS ENERGY

The heat pump is often a **central component of energy management systems**. As an electric consumer, it can be targeted to run off excess PV output, delivering power in form of available heat for rooms and DHW preparation – or instead for cooling purposes.



CAN-EZ3



THE CAN-EZ3 AS A SMART METER

The CAN-EZ3 provides measurements to the power inverter via Modbus RTU and with the right model can even replace the manufacturer's own smart meter. Saves costs and space.

Values from battery storages can also be monitored and taken into account.



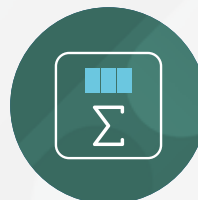
POWER TO HEAT

The simplest form of “power to heat” is the use of excess power with an immersion heater. Our ATON set or immersion heaters offer a standalone solution, without need for extra controllers.



CHARGE ELECTRIC VEHICLES

Charging an EV also demands smart usage of power – with affordable grid power or own PV excess power.



CALCULATE COP & SCOP

By **measuring the heat output and the electrical power consumption**, you can calculate the Coefficient of Performance (COP) and the Seasonal Coefficient of Performance (SCOP). These metrics help you assess the efficiency of a heat pump over time.

To perform these calculations, you'll need the CAN-EZ3, along with compatible current sensors and the FTS volumetric flow sensor.

To judge the efficiency of a system, heat metering must be carried out – e.g. using our FTS flow sensor on the CAN-EZ3.

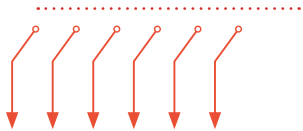


PROGRAMMING

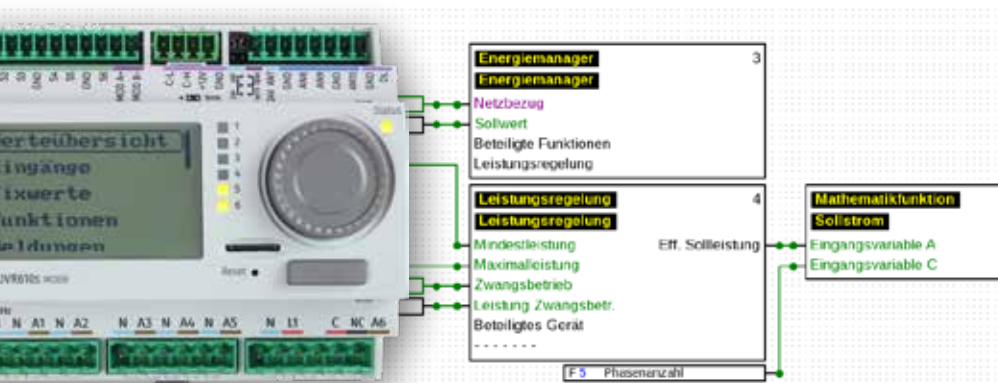


Our controllers are not programmed in code, but using our free software TAPPS2 – the TA's own planning and programming software.

The basics are simple. On one side, the different inputs of the controller are read. This could be values measured directly from a sensor or values sent by a bus system (CAN, Modbus, KNX, DL, CORA).

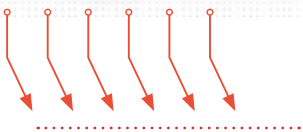


In TAPPS2, the **sensor and network inputs are parameterised** accordingly to flow into the programme.



Using **over 40 different function blocks** – from simple mathematics functions to comprehensive heating circuit control – your own programme is created. In it, necessary functions and signal inputs, outputs etc. are linked together.

TAPPS2 offers a **comfortable simulation mode**, which requires no extra hardware.



The outputs of a controller (physical and network outputs alike) **are parameterised similarly** to inputs. Each output can be connected with the result of one or many functions, to activate it once desired conditions are met.



CMI

The “function data” exported by TAPPS2 is loaded into the device using an SD card (not all devices have an SD card slot) or transmitted via CAN-Bus. The CMI offers the most comfortable way to do this: using a PC via the Internet.

DATA LOGGING & MONITORING

The CMI logs desired **measurements and conditions** (e.g. of switching or analogue outputs) in the system, which are then displayed in the free software WINSOL.

Yield and usage statistics can also be logged and viewed.



CUSTOMISED VISUALISATION



CMI



To offer the end user a **comfortable interface**, besides B&W displays of the UVR610, the 4,3" touch displays of the UVR16x2 and CAN-MTx2 are also available.

Ideally, a CMI (control and monitoring interface) is installed, which acts as a web server for a **customisable user interface**. Reachable via browser or the **CMI mobile app**.



The interface is designed using our **free software TA-Designer**.



visualisation
example

SENSORS AND ACCESSORIES

Handy accessories and a broad palette of sensory equipment complete our range of products.

Pictured right: the new **RAS-CT4 room sensor** offers control over several heating, cooling and individual room control circuits,



ANY QUESTIONS LEFT?

Likely so. Here's a few more interesting notes. Our tech support team is also available for advice.

Yes, there's a **free web portal** (<https://cmi.ta.co.at/>) to access all your CMIs and controllers.

No, there's no licensing costs of any kind. All of our software products are available for free, even without purchase of hardware.

Up to 62 devices can be connected using CAN-Bus, for exchange of data.

Every x2 device works autonomously and has its own programme.

The SD card is only needed for file transfer and datalogging (if activated).

You can reach our **support** line at:
support@ta.co.at | +43 (0)2862/53635

SEMINARS

We offer **beginners' and experts' seminars** in Austria and Germany (in **German only**). Held by our technicians with years of experience, these three-day seminars are the most effective entry point into working with the x2 series.

<https://www.ta.co.at/seminare>



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SALES PARTNERS

We sell our devices to specialist wholesalers and expert technicians (heating/electrical engineering and plumbing).

As a private individual, please contact your trusted wholesaler.

If questions arise, our free support lines are open.



We reserve the right to make any technical changes. Typesetting and printing errors reserved. Our products are subject to constant technical progress and development. Therefore, we reserve the right to make changes without prior notice.

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