EVERTHING
UNDER CONTROL

BUILDING AUTOMATION & ENERGY MANAGEMENT

Overview and intro to the possibilities of the freely programmable universal controllers and extensions of the x2 series.

Building technology, intelligently regulated

The freely programmable devices of the x2 series are you tools for building automation and energy management.

Thanks to the many possibilities to connect different components – from 24V actuators to cogeneration units – you'll be able to flexibly plan and optimize your projects. Individual visualisation and wide-range monitoring included.
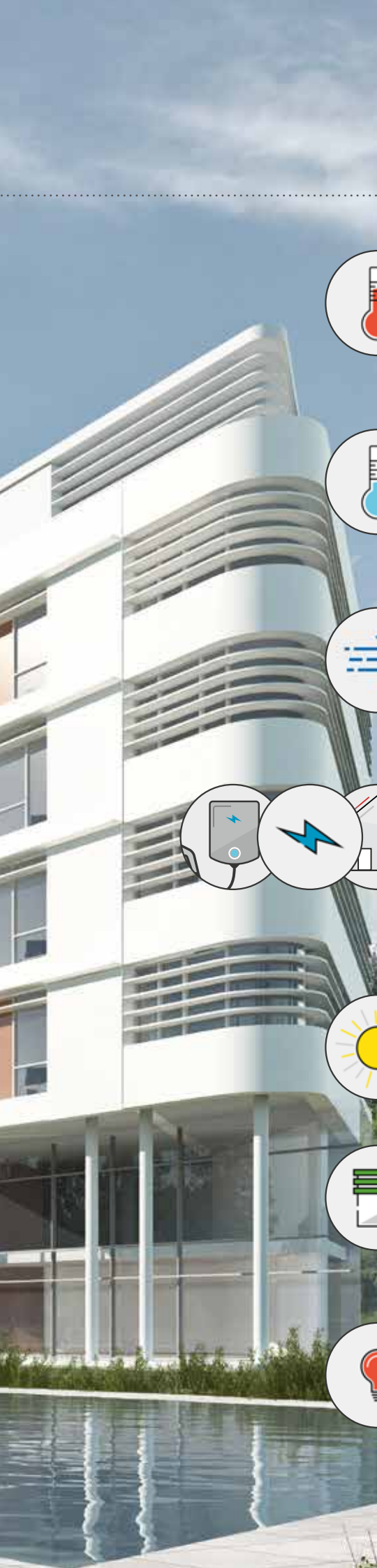
Manufacturer-independent and
flexible control of all energy-related
components of building automation.

HEATING

» Requesting and regulation of heat generators
» Heat distribution / heating circuit control
» District heating transmission

Cooling

» Cooling circuit control
» Switching air conditioners
» Requesting heat pumps

Ventilation

» Integration of ventilation systems
» Heat recovery
» Deactivate heating when windows are open

Energy management

» Sector coupling
» Utilise excess PV for heat pump, wallbox
  or electric heating element
» Load management

Solar & PV

» Regulation of thermal solar systems

Shading

» Control of rolling shutters and blinds
» depending on sun, global radiation and wind

Lighting

All examples of possible applications are depending on available

Interfaces and communication signals our controllers can work with.

The freely programmable x2 series

the Basics

All x2 devices can be interconnected via CAN-Bus to allow extension of more inputs, outputs, interfaces or operating units.

Additionally, our devices ship without programming, as our customers program devices to fit specific systems **using our free software "TAPPS2".**

The control and connectivity of building technology occurs using certain **signals** like 0-10V, PWM or 4-20mA, **pulses** or **interfaces** for Modbus, KNX or M-Bus.

CAN Bus

Our controllers communicate with one another using CAN bus. The CAN bus is a robust and reliable fieldbus system with linear topology and allows for **connection of up to 62 devices**.

CORA
thermostat

CAN-EZ3
Energy meter

UVR610S

UVR16x2S
variant for control panels
& mounting rails

Extensions & Interfaces

With up two 62 devices connected via CAN-Bus, any x2 device can be used as an extension to increase the number of inputs/outputs or interfaces as needed. For example, the CAN-I/O45 offers **additional inputs/outputs** or **Modbus, KNX and M-Bus** interfaces with the CAN bus converter CAN-BC2. Our **smart meter** CAN-EZ3 measured electricity and thermal energy.

Using our DL bus or our new CORA protocol, different extension modules in a compact casing can be integrated. This could be various sensory modules (differential pressure, flow etc.), but also signal converters or input/output extensions.

CORA

CORA is our in-house protocol, running either on a two-wire line or wirelessly. CORA allows for the connection of extension modules and actuators – e.g. the CORA thermostat.

DL Bus

The DL bus is our in-house-developed bus system, which allows a multitude of sensory equipment and signal converters to be utilized.

Analogue PWM converter
One of many extension modules in universal casing.

Remote access & visualisation

Visualisation

Create a **personalized visualisation** for your system to simplify operation for customers and technicians. In addition to the UVR16x2 itself, we offer CAN bus operating units with 4,3- or 9,7-inch touch displays.

Templates simplify the process of creating overviews for common installations like heating circuits or single rooms.

The "CAN-MTx2" is available with black or white housing.

The "Control & Monitoring Interface"

The CMI is a compact webserver that provides online visualisations and access via browser and app. The visualisation is, once again, created using the free program TA-Designer.

But it can do so much more: it allows for remote access to the entire CAN bus via PC. Access using our web portal (internet connection required) is available (optional). This enables you to **update firmware and programming remotely**.

The CMI enables remote access, data logging and online visualisations.

Data logging

Like all x2 devices with an SD card slot, the CMI, too, can log system values and store them on its SD card. A great advantage here is the possibility to load the data remotely and evaluate it using the program WINSOL. Find potential for optimization or causes of problems quicker.

Remote access to the CMI also gives you full access to the CAN bus.

The Web portal

You can find our free web portal at https://cmi.ta.co.at.

Using this, your customers can allow you access to their systems. Many errors fixes or changes, but also updates, can be done remotely to save you unnecessary trips.
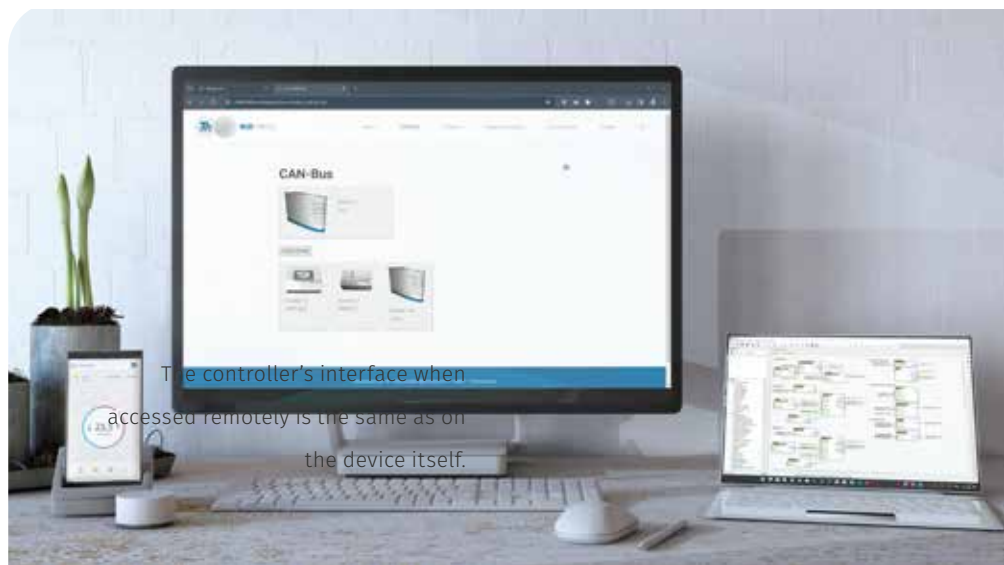
The controller's interface when accessed remotely is the same as on the device itself.

Sensors and extension modules

Sensors and extension modules

We offer a broad line of different sensory equipment. Anything from room and outdoor temperature, buffer temperature sensors or thermocouples, even humidity, fluid level measurement, pressure and much more.

Extension modules can cover additional requirements. Signal and pulse converters, auxiliary relays, actuators for stepper motors or I/O extensions are available.
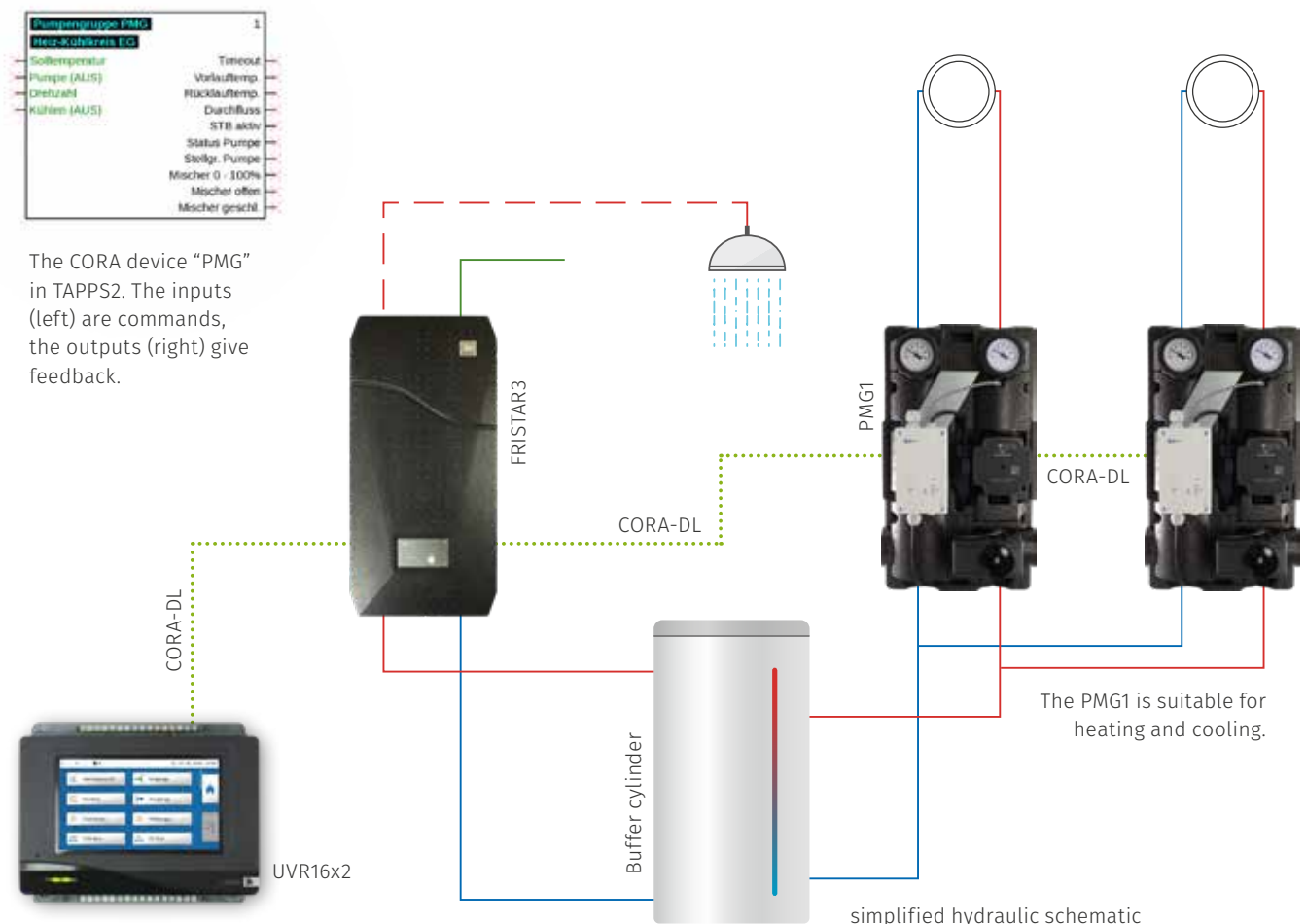
Hydraulic assemblies. Perfectly tuned for the x2 series.

To further simplify functionality of fresh water stations or even heating circuit assemblies, we offer our own products for this segment.

The connectivity via CORA allows e.g. up to 12 heating and cooling circuits to be controlled by a single UVR controller. All sensor values (temperature, flow, HLSC, …) are transmitted back to the UVR.

All of this with just a single wire. The PMG1 also allows for wireless connection, if a device capable of CORA wireless is in use (e.g. CAN-MTx2).

This keeps all of the UVR's inputs and outputs free, which would otherwise be occupied by sensors, pumps, and mixer valves.

The CORA device "PMG" in TAPPS2. The inputs (left) are commands, the outputs (right) give feedback.

CORA-DL

FRISTAR3

CORA-DL

PMG1

CORA-DL

UVR16x2

Buffer cylinder

The PMG1 is suitable for heating and cooling.

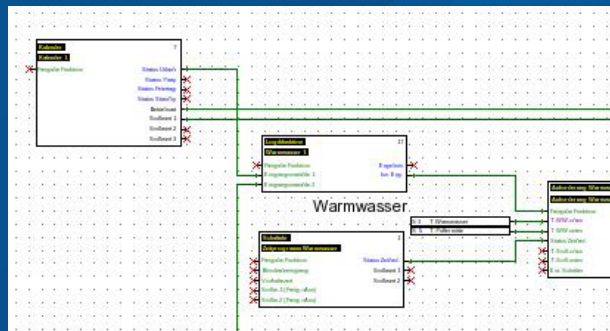simplified hydraulic schematic

Free software package

The Basics
All x2-devices are delivered without any programming.

TAPPS2

Create your own customised programming for all freely program-mable x2 devices with this software. **Over 40 pre-defined function modules** are available – logic gates and mathematics functions, even extensive heating circuit or individual room control functions.

You can also simulate the current state of your project at any time, directly in the software itself.

TA-Designer
The TA-Designer is used to create visualisations for our opera-ting units, but also for smartphones and tablets. Once created and saved as a template, visualisations for new projects are quickly assembled, all to suit your corporate design.

WINSOL
Logged values can be depicted in clearly arranged **trend curves or bar diagrams**. This makes finding potential for optimization or causes of problems as easy as can be.

Reference projects

Automotive industry

The requirements were clear: **a significant improvement to fail-safety** to recognise problems early and make the system accessible to personnel. Due to data security requirements, the new MSR system couldn't be connected to existing networks in the production halls. This rules out Bluetooth and Wi-Fi as well. Existing switching cabinets had to remain in use, **but the reconstructions couldn't interfere with ongoing production**.

As per the complexity of the system, including 37 ceiling fans, several outdoor air registers, ventilation systems with heat recovery, a district heating station and 15 heating circuits, the decision fell on the freely programmable devices of the x2 series.

One of the greatest challenges were the l**arge halls** and their long pipes. In the end, 2,800 meters of CAN bus wires were laid, split into two networks and an own LAN network, on which runs a visualisation alongside Modbus TCP/IP communication.

The production halls finally run without interruptions. Energy efficiency has significantly improved, since the different heating and ventilation systems are now centrally controlled.

Realised by:
Kompetenzcenter Braunschweig
Westbahnhof 5
38118 Braunschweig, Germany
www.kompetenz-bs.de

"Renewable" outdoor pools

As two outdoor pools in North Rhine-Westphalia (cities of Unna and Fröndenberg), Germany, are **switched to renewable energy**, the company "MCC Regelungssysteme GmbH" is setting a standard for the future.

The core of the changeover consists of three/five highly modern air heat pumps each, which heat the water in the main pools (1200/2100 cubic meters).

The smaller of the pools saw any heating at all for the first time, **extending its open season and allowing swimming lessons to be held all season.**

The bigger one of the pools was **switched from its existing natural gas heating to renewable energy.** To allow even the smallest of guests to splash around in a comfortably temperate environment, two specialised, smaller air heat pumps were installed for the kid's pool.

Through deployment of **six and 14 CAN-EZ3 energy meters each**, all power consumption of both estates is logged, enabling detailed analysis and optimisation of heat pump demand, grid feed and draw, PV yield, and power consumption of miscellaneous installations.

System status, parameters and power consumption are always accessible with a user-friendly interface. The interface can be used via browser, mobile app, or on-site with an installed touch display. Permanent data logging with automated alerts in case of errors allows for year-round **affordable and sustainable** documentation of both systems.

Realised by:
MCC Regelungssysteme GmbH
Dieselstraße 5
59174 Kamen, Germany
www.mcc-regelungssysteme.de

District heating Alfhausen

The erection of a district heating system in Alfhausen, Germany, gave citizens and communal facilities a chance to rid themselves of their dependence on fossil fuels. They managed to switch to climate-friendly heat supply in record time. Of the roughly 900 households, about 400 are already connected – and the customers are fully satisfied.
The district heating supply requires a reliable controller for the customers. Here's where the products of the TA come into play.
The transfer stations are controlled by a combination of UVR610S without screen and a CAN-MTx2, to display a user-friendly interface. The controllers were interconnected with an in-house narrowband wireless system.
Now, the district heating system supplies more than 10 million kilowatt hours of heat, controlled by the freely programmable devices of the x2 series.

Realised by:
Rasche und Weßler GmbH
Heeker Straße 9
49594 Alfhausen, Germany
www.rasche-wessler.de

Support & Repair

Tech Support

Experienced and well-trained technicians are ready to help you with hardware and software alike, available Monday through Friday via telephone or e-mail.

84 % of satisfied customers confirm the great and competent work of our support team. 54 % of the customers surveyed even responded with "extremely satisfied".

Seminars for professionals

Seminars for beginners, experts and for visualisations take place roughly 20 times a year, across Austria and Germany. These are held by the experienced technicians of our own Tech Support and R&D departments.

In these seminars, the handling of hardware is taught, but more importantly so, the creation of programming for controllers. In no more than three days you will learn all that's necessary to efficiently work with our freely programmable devices. Seminars in German only.

Programming service

We offer an affordable programming service for the professional trade and system partners.

We merely need a schematic of hydraulics (hand drawn will suffice) via e-mail. We will get into contact with you to clear up any detailed questions on our behalf and then proceed to make you an offer over the programming plus required hardware components.

This only leaves putting the hardware into service and setting up parameters to you.

Repairs instead of disposal

For 30 years now, our repair service has been an important pillar of our corporate philosophy.

Repairs come at intentionally fair prices, making them a good option financially – even with 20- or 30-year-old devices.

The Technische Alternative

Building technology, intelligently regulated.
Thermal solar systems had their first spike in popularity in the late 80's. However, technicians and end users alike struggled with the usually overpriced and unreliable controllers.

Ing. Kurt Fichtenbauer faced this problem together with a colleague and began developing his own solar system controller, in his own garage at first. Reliable, easy to operate and at a good price-performance ratio, these controllers quickly gained popularity.

Technicians with heart and soul
Today, DI Andreas Schneider runs the Technische Alternative, together with founder Kurt Fichtenbauer. The principles of product development haven't changed. We develop reliable and universally deployable controllers, extensions and accessories for the entirety of building technology at fair prices.

Dipl.Ing. Andreas Schneider

From an idea to serial production
Every device is developed and produced in our company's site in northern Lower Austria, from an idea, to prototypes and finally to a finished product. All related software is also developed in-house, for programming and visualisations. Our own SMD assembly line guarantees high flexibility and quality from individual pieces up to serial production.

We sell our devices worldwide via specialist wholesalers, but also directly to expert technicians and OEM customers in different sectors, from heating to switch cabinet construction.

Ing. Kurt Fichtenbauer

Roughly 70 employees work at the company site in Amaliendorf, Austria

A part of our SMD assembly line

Support

+43 (0)2862 53635-850

support@ta.co.at

Mo bis Thu 7 am - 3 pm

Fr 7 am - 1 pm

Sales

+43 (0)2862 53635-840

order@ta.co.at

Don't want to miss any more news?
Subscribe here:
https://www.ta.co.at/newsletter

Video-Tutorials
www.ta.co.at/youtube

Guides & Manuals
https://www.ta.co.at/en/downloads/documents/
https://wiki.ta.co.at

Sales partners

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

As a private individual, please
contact your trusted wholesa-
ler. If questions arise, our free
support lines are open.