



INTELLIGENT
BUILDING
TECHNOLOGY

PRODUCTS

2024

WWW.TA.CO.AT





Dear customers, valued partners!

You are holding our current product catalogue for 2024 in your hands. If there is anything new during the course of the year, we will reliably keep you informed via our newsletter and on our website.

You will also find all the dates of our popular **seminars** and webinars there. To get you started, videos on YouTube and our Wiki (<https://wiki.ta.co.at>) are also available "on demand". Technical **support** is also available by telephone during office hours.

For new customers, we would also like to point out our **repair service**: Please do not dispose of defective devices prematurely. Oftentimes, cost-effective repairs are possible for us as the manufacturer.

We look forward to **supporting your projects** with our devices again this year. Thank you very much for your trust and partnership!

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Dip.Ing. Andreas Schneider

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For the currently valid prices, please refer to our PDF price list (www.ta.co.at).

Please mind the price groups of individual articles. Different conditions apply to price groups PG1, PG2 and PG3.

TABLE OF CONTENTS

STANDARD CONTROLLERS	04	DL-extension for 5 analogue inputs	25
Single circuit solar controller ANS	04	DL-extension for 4 analogue outputs.....	25
Charging pump controller ANS.....	04	Analogue signal converter.....	26
Swimming pool controller SBR.....	04	Analogue PWM converter.....	26
Simple solar controllers ESR NEW	05	Pulse converter.....	26
Universal controller UVR67.....	06	Relay modules.....	26
X2 CONTROLLER	07	SENSORS & ACCESSORIES	27
Universal controller UVR16x2.....	08	Room sensor.....	27
UVR16x2 Circuit board versions.....	10	Room sensor with remote display.....	27
Universal controller UVR610S	11	Outdoor temperature sensor.....	27
Universal controller UVR610S Modbus.....	11	Wireless system.....	28
Universal controller UVR610K.....	12	Temperature sensors PT1000.....	29
Accessories UVR16x2	13	Temperature sensors KTY	30
Accessories UVR610S.....	13	Thermocouple.....	30
 		Roll spring.....	30
X2 VISUALIZATION & INTERFACES	14	Mounting kit with ultra-fast sensor.....	31
Touch monitor 4,3".....	14	Mounting kit ventilation with sensor.....	31
CAN bus converter KNX/Modbus/M-Bus	15	Level measuring unit.....	31
CAN extension module.....	15	Current sensor.....	31
Control & monitoring interface CMI	16	Module for Grundfos Direct Sensors.....	32
CMI for switching cabinets	16	Humidity sensor	32
 		Wind sensor	32
CORA SMART HOME	17	Radiation sensor.....	32
CORA radiator thermostat NEW	17	Rain sensor.....	32
 		Differential pressure sensor	33
X2 ENERGY MANAGEMENT	18	Pressure sensors	33
Power to Heat - ATON	18	Volume flow sensor.....	34
Power to Heat - ATON+.....	19	Sets for heat metering.....	35
CAN energy meter 3	20	Flow switch	35
Accessories CAN-EZ3.....	20	Flow rate pulse generator.....	35
Immersion heater 3kW variable control.....	21	Universal 3-way valve	35
Immersion heater 3kW switchable	21	Lambda probe	36
Power controller.....	22	Ball valve.....	36
 		Immersion sleeves.....	36
EXTENSIONS	23	 	
Underfloor heating actuator NEW	23	PUMP GROUPS	37
CAN repeater	23	Fresh water stations.....	37
CAN bus surge protection.....	24	Pump-Mixer-Group 1 NEW	38
LED Dimmer.....	24	 	
Stepper motor control for valve motors.....	24	DISCONTINUED PRODUCTS	39
Potential-free signal converter.....	24	SERVICES	40
Universal measuring amplifier.....	25	REPAIR AND SERVICE CONDITIONS	41
DL-extension for 5 inputs.....	25	GENERAL TERMS AND CONDITIONS	42

STANDARD CONTROLLERS



ANS21

SINGLE CIRCUIT SOLAR CONTROLLER
CHARGING PUMP CONTROLLER

01/ANS21
01/ANS21-L

The ANS21 or ANS21-L unit is a solar controller which has been kept deliberately simple when it comes to installation and operation. Both, the collector and the tank temperature, are indicated using light bars.



ANS21-L

- » Adjustable differential temperature
- » Overtemperature protection for the tank or minimum threshold for boiler
- » Separate display for generator and tank temperature
- » Collector overtemperature switch-off
- » Sensor short circuit and open circuit detection
- » Switching between solar and load pump function is possible regardless of the front diagram.

2 INPUTS

- » 2x temperature

1 OUTPUT

- » 1 Relais output

INTERFACES

- » no interfaces



SBR22

SWIMMING POOL CONTROLLER

01/SBR22

Controller SBR22 is a differential controller for the solar charging of swimming pools. The two outputs allow controlling a change-over valve and the swimming pool pump.

- » Adjustable differential temperature
- » Separate display for generator and pool temperature
- » Collector overtemperature switch-off
- » Sensor short circuit and open circuit detection

2 INPUTS

- » 2x temperature

2 OUTPUTS

- » 2 Relais outputs

INTERFACES

- » no interfaces

Dimensions in mm (W x H x D):
126,8 x 76,5 x 45,5

Scope of delivery	01/ANS21	01/ANS21-L	01/SBR22	
KFPT1000	1		2	Collector sensor PT1000
KEPT1000		1		Boiler sensor PT1000
BFPT1000	1	1		DHW tank sensor PT1000
TH140	1	1		Immersion sleeve 140 mm
TH60NIRO			2	Immersion sleeve nickel plated 60 mm
Power cable	1	1	1	
Install. equipment	1	1	1	



ESR32



3 INPUTS

2 OUTPUTS

- » 1x Relais
- » 1x PWM / 0-10 V

SCHNITTSTELLEN

- » DL bus

SIMPLE SOLAR CONTROLLER 32

NEW

01/ESR32

The ESR32 is our rework of the ESR solar controllers built on a future proof basis. The ESR32 is a versatile differential controller. Additional information can be transferred via DL bus. Thus, in parallel to the controller operation (solar system) it is also possible to calculate the yield (thermal energy).

- » 10 different programs available
- » Status display for system malfunctions
- » Solar start function, frost protection
- » Pump blockage during excess solar collector temperatures
- » System status control functions
- » Heat meter
- » Speed control of high-efficiency pumps
- » DL bus for connection of sensors and data evaluation using our CMI



ESR31



ESR WITH GRAPHICAL DISPLAY

01/ESR31

The ESR31 has a graphic display that simplifies program selection and shows the position of the sensors in the hydraulic diagram. The range of use extends from the single circuit solar system through to sanitary water treatment by way of pump speed control.

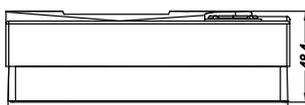
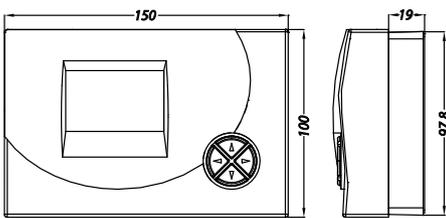
3 INPUTS

2 OUTPUTS

- » 1x relay or triac output
- » 1x PWM / 0-10 V

INTERFACES

- » DL bus



Dimensions in mm

RELAY MODULE STAG

01/HIREL-STAG

Relay module to connect to a 0-10V control output for special applications (e.g. error message, burner requirement).

Scope of delivery	01/ESR32	01/ESR32-3	01/ESR31-R	01/ESR31-R3	01/ESR31-D	01/ESR31-D3	
KFPT1000	1	1	1	1	1	1	Collector sensor PT1000
BFPT1000	1	2	1	2	1	2	DHW tank sensor PT1000
TH140	1	2	1	2	1	2	Immersion sleeve 140 mm
Power cable	1	1	1	1	1	1	
Install. equipment	1	1	1	1	1	1	



UVR67



Dimensions housing in mm
(W x H x D): 150 x 100 x 48,7

6 INPUTS

- » PT1000, KTY(2kΩ), Room sensor, radiation sensor
- » Input 6: additional pulse input for flow rate transducer (pulses max. 20 Hz) and wind sensor

7 OUTPUTS

- » 5 relay outputs
- » 2 multi-function outputs:
PWM / 0-10V

INTERFACES

- » CAN bus
- » DL bus
- » Micro SD card

ACCESSORIES

- » Room sensors (page 27)
- » CMI (page 16)

UNIVERSAL CONTROLLER WITH 800 PROGRAMS	01/UVR67
UVR67 HEATING CONTROLLER	01/UVR67-H, 01/UVR67-HU
UVR67 FOR DRYING OF BUILDINGS	01/UVR67-GT

The UVR67 is a **universal controller for use in solar systems, heating circuits and room drying**. It features several functionalities encompassing thermostats, differential temperatures, pump speed control and heating circuit control, easy to select via their program numbers. Every program can be further adjusted to the specific use case via several parameters.

Functions

- » 5 freely programmable time programs
- » Status display for system malfunctions
- » Pasteurisation function, pump anti-seizing protection
- » Collector cooling function
- » Collector overtemperature limitation
- » Checking system functions
- » 3 heat meters
- » DL bus for connection of external sensors
- » Datalogging via Micro SD card
- » Speed control of high efficiency pumps via 2 control outputs PWM / 0-10 V
- » Output 3 can be configured as potential-free

Possibilities with the CAN bus

- » Datalogging with the CMI
- » Remote access (CMI, CAN-MTx2, ...)
- » Custom visualisation (has to be created with our software TA-Designer)

Scope of delivery	01/UVR67	01/UVR67-3	01/UVR67-4	01/UVR67-H	01/UVR67-HU	01/UVR67-GT	
KFPT1000		1	1				Collector sensor
BFPT1000		2	3	1	3		DHW tank sensor
KEPT1000				1	1		Boiler sensor
RAS+DL				1	1		Room sensor
AUSPT				1	1		Outdoor sensor
RFS-DL						2	Humidity sensor
TH140		2	3		2		Immersion sleeve 140mm
RF				1	1		Roll spring
Power cable	1	1	1	1	1	1	
install. equipment	1	1	1	1	1	1	



UVR16x2S



UVR610S



CAN-MTx2 control unit



X2 SERIES | INTRODUCTION

The **x2 series** gives you the freedom to fulfil almost all requirements for building automation.

You aren't limited to preset programs for fixed schematics, instead you can entirely define the specific programming yourself. Every **x2 universal controller** is also expandable, either with extension modules or further x2 devices via the CAN bus.

Programming

Programming of devices is done using **TAPPS2**. With more than 40 different function modules, combinable however needed, the optimal control strategy for any system can be made.

By connecting up to 128 such function modules per device, programming is almost limitless.

The transmission of the programming ("function data") is done via SD card or the CAN bus. Devices without an SD card slot receive programming from an operating device or controller with a display or via "CMI".

CAN bus

The CAN bus connects up to 62 devices and allows for remote access to devices and CAN extension modules. Every CAN device with a display can be used to access all other devices in the bus.

Internet and LAN

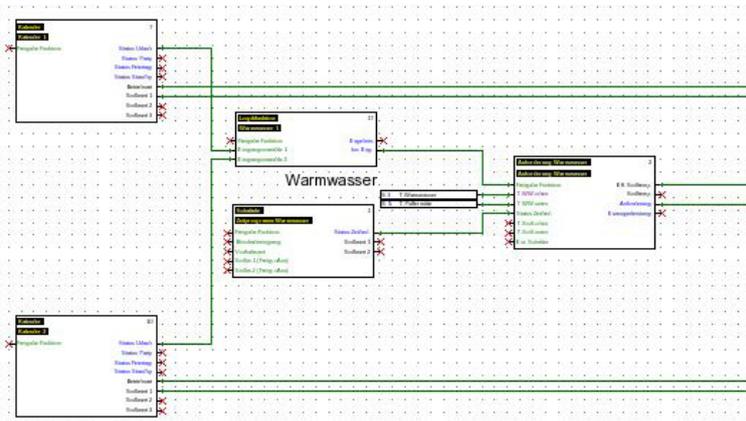
The CMI, another CAN extension, is our ethernet port. **Accessed via browser or mobile app**, it allows for data logging, visualisation, **operations in the system or for monitoring**. It also offers Modbus TCP/IP and a JSON API.

Visualisation

The free PC software **TA-Designer** allows you to freely customise visualisations for different devices. This can include a graphic interface for our mobile app or a text-based overview for the monochrome displays of the UVR610.

Data logging

Several choices are offered for data logging and the creation of trend curves, whereas the **CMI in conjunction with Winsol** has proven to be the most popular. Online data logging using our web portal is another possibility.



Programming interface (software TAPPS2)



UVR16x2S for for control panel
or DIN rail assembly



UVR16x2K with console for wall
mounting

There is a total of 6 available slots
for auxiliary relays or the PCB of the
wireless transmitter RCV-DL inside
the console.

FREELY PROGRAMMABLE UNIVERSAL CONTROLLER UVR16X2

for control panel / DIN rail assembly

01/UVR16X2S

with console for wall mounting

01/UVR16X2K

The UVR16x2 is **our flagship x2 device**. With 16 inputs and outputs, and a 4.3" touch display, it is ideal for a variety of control and regulation tasks in building automation or energy management. Like all x2 devices, it is expandable via the CAN bus, in case more inputs, outputs or interfaces to LAN, KNX, Modbus or M-Bus are needed.

Scope of application:

- » Heating and cooling control
- » Solar thermal systems
- » Request, output control and cascading of heat generators
- » DHW preparation
- » Ventilation control
- » Control of blinds and slats
- » And many more...

The inputs can process different analogue digital signals. Among those are several temperature sensors (PT1000, KTY, NTC, ...), but also pulses, voltage or analogue signals like 0-10V or 4-20mA.

Several versions

The UVR16x2 comes in many versions, among those several PCB versions or one with 24V-DC power input.

16 INPUTS

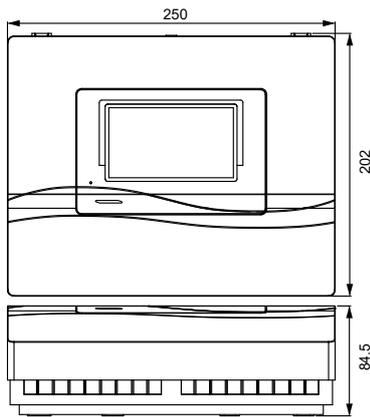
- » PT1000, KTY(1kΩ, 2kΩ), PT100, PT500, Ni1000TK5000, Ni1000, NTC, room sensor, radiation sensor, humidity sensor, rain sensor
- » Max. pulse 10 Hz, Voltage up to 3,3V, Resistance 1-100kΩ, digital
- » Inputs 7, 8: 2 x 0-10V, 1 x 4-20mA
- » Inputs 15, 16: 2 x Impuls max. 20Hz

16 OUTPUTS

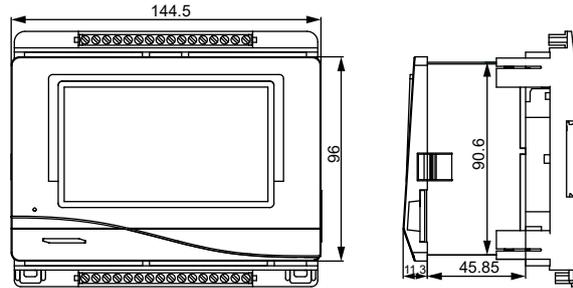
- » 11 Relay outputs
- » 5 Multi-function outputs
- » optionally 0-10V, PWM, relay (with HIREL-230V, HIREL-PF or HIREL22 relay module)
- » 24 V output (e.g. for actuators)

INTERFACES

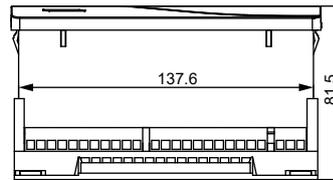
- » CAN bus
- » CORA-DL
- » DL bus
- » SD card
(UVR16x2E-NP: Micro SD card)



Dimensions UVR16x2K in mm



Dimensions
UVR16x2S in mm



UVR16X2 WITH 24V-DC SUPPLY
for control panel / DIN rail
with console for wall mounting

01/UVR16X2S-DC
01/UVR16X2K-DC

UVR16X2 TRIAC
DIN rail
wall mounting

01/UVR16X2S-D
01/UVR16X2K-D

Instead of the 24 V output, **there is an input here for a 24 V DC supply**. The original mains voltage input can accommodate any potential from 0 - 230 V AC or 0 - 50 V DC to supply the relays.

Versions with triac outputs, useable for e.g. speed control of older asynchronous pumps.



SENSOR PACKAGES

Prefabricated basic as well as complementary sensor packages. GP3PT corresponds to the sample program "Factory settings". GP4PT is optimized for UVR610-controllers. (Pages 11/12).

Scope of delivery	01/GP1PT	01/GP2PT	01/GP3PT	01/GP4PT	01/EP1PT	
KFPT1000	1	1	1			Collector sensor PT1000
KEPT1000	1	1	1			Boiler sensor PT1000
BFPT1000	6	5	8	3	4	DHW tank sensor PT1000
TH140	6	4	4	1	2	Immersion sleeve 140mm
TH90			2			Immersion sleeve 90 mm
RASPT		1	2	1	1	Room sensor PT1000
AUSPT		1	1	1	1	Outdoor sensor PT1000
RF		1	2	2	1	Roll spring
Power cable	1	1	1			



UVR16x2S-DE



UVR16X2 WITH EXTERNALIZED CONTROL UNIT 01/UVR16X2S-DE

The controller sits on the DIN rail in the control panel. Operation is convenient using the control unit built into the control panel door, connected with the controller via 700 mm ribbon cable.



Circuit board UVR16x2E-DE



UVR16X2 CIRCUIT BOARD WITH CONTROL UNIT 01/UVR16X2E-DE
OPTIONAL WITH 2 CURRENT SENSORS 01/UVR16X2E-DE-I

Like UVR16x2K, but **board version with separate control unit** for switch cabinet installation. Operating system, operation, function data and data transfer via SD card are also compatible with UVR16x2. The included 700 mm ribbon cable is provided for the connection board and control unit.



Control unit UVR16x2E-DE

Dimensions (W x H x D):

144,5 x 96 x 26,1 mm

- » Separate fuse for outputs 12 - 14
- » 3 multi-function outputs with integrated relay (switchable by jumper)
- » 24V power supply for **industrial sensors** and actuators (max. 6W)
- » Connection and recognition of a safety temperature limiter
- » Inputs and outputs have separate connections
- » Different plug systems prevent plugging errors between mains and low voltage protector

INTERFACES

- » Same as UVR16x2
- » SD card in the control unit

Dimensions (W x H):

250 x 125 mm



Circuit board UVR16x2E-NP



UVR16X2 CIRCUIT BOARD WITH PROCESSOR MODULE
without control unit 01/UVR16X2E-NP
without control unit, with 2 current sensors 01/UVR16X2E-NP-I

Similar to the UVR16x2E-DE, with identical performance characteristics but with an **integrated processor module** without control unit. Operated from a controller with display, the CAN-MTx2 or via C.M.I. over the CAN bus.

INTERFACES

- » Same as UVR16x2
- » **Micro** SD card slot on processor module



UVR610S



UVR610S-OD



Dimensions housing
(WxH): 106 x 91 mm
(6 division units)

6 INPUTS

- » PT1000, KTY(1kΩ, 2kΩ), PT100, PT500, Ni1000TK5000, Ni1000, NTC, room sensor, radiation sensor, humidity sensor, rain sensor;
- » Max Pulse 10 Hz
- » Voltage up to 3,3V; Resistance 1-100kΩ, digital
- » Inputs 5, 6: 0-10V

10 OUTPUTS

- » 6 relay outputs, one of which can be potential-free changeover contact
- » 4 multi-function outputs, optionally 0-10V, PWM, relay (e.g. with HIREL22)

FREELY PROGRAMMABLE UNIVERSAL CONTROLLER UVR610S

with display

01/UVR610S

without display

01/UVR610S-OD

The UVR610S is a universal controller with 6 inputs and 10 outputs, ideal for tasks in **building automation and energy management**. A 24V output and/or the M-Bus interface can be activated by jumpers. The UVR610S is designed for DIN rail mounting and is suitable for 45 mm standard installation bezel.

The UVR610S without a display is particularly **suitable as an extension and offers four 0-10V inputs instead of two**. The function data are transferred via the CAN bus.

UVR610S MODBUS WITH DISPLAY

01/UVR610S-MODB

UVR610S MODBUS WITHOUT DISPLAY

01/UVR610S-OD-MODB

Same functionality as the UVR610S. Instead of the switchable M-Bus interface, this device has a **Modbus RTU** interface.

UVR610S WITH 24V-DC SUPPLY

01/UVR610S-DC

Instead of the 24 V output, there is an **input here for a 24 V DC supply**. The original mains voltage input can accommodate any potential from 0 - 230 V AC or 0 - 50 V DC to supply the relays.

INTERFACES

- » CAN bus, CORA-DL, DL bus
- » Micro SD card
- » M-Bus

UVR610S-OD

- » no Micro SD card
- » Inputs 3, 4, 5, 6: 0-10V

UVR610S-OD-MODB

- » no Micro SD card
- » Modbus instead of M-Bus
- » Inputs 3, 4, 5, 6: 0-10V



UVR610K



FREELY PROGRAMMABLE UNIVERSAL CONTROLLER UVR610K

with display

01/UVR610K

without display

01/UVR610K-OD

The UVR610K is a universal controller with 6 inputs and 10 outputs, ideal for tasks in **building automation and energy management**. A 24V output and/or the M-Bus interface can be activated by jumpers. The UVR610K comes in a console housing for wall mounting.



UVR610K-OD



The UVR610K without a display is particularly **suitable as an extension** and is the successor to the RSM610, whose functional data can be used for the UVR610. The function data are transferred via the CAN bus.

6 INPUTS

- » PT1000, KTY(1k Ω , 2k Ω), PT100, PT500, Ni1000TK5000, Ni1000, NTC, room sensor, radiation sensor, humidity sensor, rain sensor;
- » Max Pulse 10 Hz
- » Voltage up to 3,3V; Resistance 1-100k Ω , digital
- » Inputs 5, 6: 0-10V

10 OUTPUTS

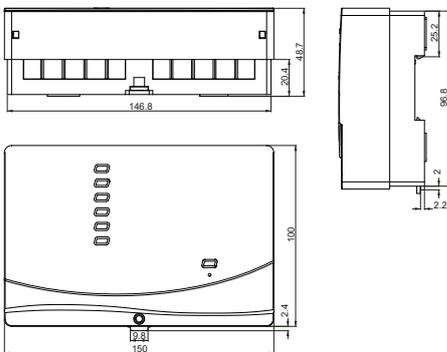
- » 6 relay outputs, one of which can be potential-free changeover contact
- » 4 multi-function outputs, optionally 0-10V, PWM, relay (e.g. with HIREL22)

INTERFACES

- » CAN bus, CORA-DL, DL bus
- » Micro SD card
- » M-Bus

UVR610K-OD

- » no Micro SD card



Dimensions in mm

(UVR610K and UVR610K-OD)

ACCESSORIES



Console UVR16x2

CONSOLE FOR WALL MOUNTING UVR16X2 01/KONSOLE UVR16X2

Console for wall mounting UVR16X2, comprising terminal mounting plate (relay version) and housing. Both parts can also be ordered separately.



Housing for UVR16x2 wall console

HOUSING FOR UVR16X2 CONSOLE 01/GEHAEUSE-KONSOLE UVR16X2

Housing for UVR16x2 wall console incl. installation equipment.



Mounting plate UVR16x2

MOUNTING PLATE UVR16X2 01/KLEMMPLATTE UVR16X2

For installation in the wall console, only suitable for relay version.



VTGH12L

DISTRIBUTOR ENCLOSURE 01/VTGH12L

Distributor enclosure (IP 56) for **12 division units** with integral top-hat rail and transparent hinged cover can accommodate e.g. two UVR610S.



SKL5x20

FUSE CLAMP 01/SKL5X20

Clamp with an exchangeable fuse, measuring 5x20mm, fast-acting, 6,3A. For optional external fuse protection of a UVR610.



CAN-MTx2-WT



CAN-MTx2-BK



TOUCH MONITOR X2 WHITE 4,3"

01/CAN-MTX2-WT

TOUCH MONITOR X2 BLACK 4,3"

01/CAN-MTX2-BK

The CAN-MTx2 with its 4.3" touchscreen serves as an operating unit for CAN bus networks, though it can also work with its own function data, created using TAPPS2. The program TA-Designer can be used to create a customized graphical user interface, where individual pages can be locked for certain users. Additionally, the CAN-MTx2 allows for full access to other controllers in the network. The monitor features internal sensory equipment for room temperature and humidity.

Dimensions (W x H x D):

144,5 x 96 x 26,1 mm

INTERFACES

- » CAN bus
- » CORA-F (wireless)
- » SD card

TOUCH MONITOR X2 WHITE 4,3" CO2

01/CAN-MTX2-CO2-WT

TOUCH MONITOR X2 BLACK 4,3" CO2

01/CAN-MTX2-CO2-BK

CAN-MTx2 with integral CO2 sensor to capture the indoor air quality.



Special version for
Cabinet door

TOUCH MONITOR X2 WHITE, CABINET DOOR

01/CAN-MTX2-ST-WT

TOUCH MONITOR X2 BLACK, CABINET DOOR

01/CAN-MTX2-ST-BK

Special version of CAN-MTx2 for mounting in cabinet door.



CAN-BC2



Dimensions (W x H x D):

126,8 x 76,5 x 45,5 mm



MD-KNX

KNX MODULE

01/MD-KNX

Connection to KNX with the option of issuing 64 values to the KNX and reading in 64 values from the KNX.



CAN-I/O45



Dimensions (W x H x D):

126,8 x 76,5 x 45,5 mm

CAN BUS CONVERTER

01/CAN-BC2

The CAN bus converter makes additional interfaces available for all CAN bus devices. It is programmed using TAPPS2 software. The CAN-BC2 can be operated via x2 controllers with display, via CAN-MTx2 or via the C.M.I. interface.

INTERFACES

- » 2 isolated CAN bus interfaces
- » 1 DL bus interface for reading in DL sensors
- » 1 M-Bus interface for reading out four M-Bus meters, each with 32 values

FURTHER INTERFACES

- » are available via the additional modules MD-KNX and MD-MODB
- » For each bus converter max. one additional module possible.

MODBUS/M-BUS MODULE

01/MD-MODB

- » One **Modbus RTU interface** which can be configured either as a master or slave, with the option of issuing **64 values to the Modbus and reading in 64 values from the Modbus**
- » One M-Bus interface for reading out further **four M-Bus meters, each with 32 values**

CAN EXTENSION MODULE

01/CAN-I/O45

The CAN-I/O module provides **additional inputs and outputs** for the freely programmable universal controllers UVR16x2 and UVR610. This extension can process up to 44 functions, has no clock function and no own power supply.

4 INPUTS

- » PT1000, KTY(1kΩ, 2kΩ), PT100, PT500, Ni1000TK5000, Ni1000, NTC, room sensor, radiation sensor, humidity sensor, rain sensor
- » Max. pulse 10 Hz; Voltage up to 3,3V; Resistance 1-100kΩ, digital
- » Inputs 3, 4: 0-10V

5 OUTPUTS

- » 3 Relay outputs
- » 2 multi-function outputs optionally 0-10V, PWM, relay (e.g. with HIREL22, see page 26)

INTERFACES

- » CAN bus, DL bus



CMI



Dimensions (W x H x D):

135 x 100 x 34 mm



CMI-S

Dimensions (W x H):

26,5 x 91 mm (1,5 division units)

INTERFACES

- » CAN bus, 2x data link inputs
- » Modbus TCP/IP
- » Ethernet (RJ45)
- » SD card

INTERFACES CMI-S

- » CAN bus
- » Modbus TCP/IP
- » Ethernet (RJ45)
- » Micro SD card



WNA

CONTROL AND MONITORING INTERFACE CMI

01/CMI

CMI INCL. POWER UNIT

01/CMI-NT

CMI FOR SWITCHING CABINETS

01/CMI-S

The CMI is an **interface** for convenient **system monitoring**, remotecontrol, **data logging and visualisation** of all controllers with DL or CAN bus.

- » Remote maintenance of CAN bus devices
- » Function data administration for CAN bus devices
- » Operating system management for CAN bus devices
- » System visualisation via PC, smart phone or tablet
- » Revision of parameters of CAN bus devices
- » Data logging via CAN bus or DL bus
- » Event-controlled notification via e-mail
- » DIN rail or wall mount
- » Option to connect to Modbus TCP

CMI for switching cabinets

The CMI-S has a shape different to that of the common CMI for wall-mounting, uses a micro SD card and has no DL bus interface. Installation in a switching cabinet via 45mm normed mounting bezel.

Operation / Access

- » Directly via LAN network
- » and/or via our free web portal <https://cmi.ta.co.at>
- » CMI App for Google Android™ and Apple iOS™

POWER SUPPLY 12V

10/NETZTEIL-12V

The power supply unit is required if additional CAN bus modules are connected to one controller along with the C.M.I., the C.M.I. is operated exclusively via DL bus or a GSM module MDC-GSM is used.

WIRELESS ROUTER

01/WNA

This router is an expansion to the C.M.I.. It comes with an individual power supply unit and can forward the Ethernet connection or an Internet connection to the C.M.I. via Wi-fi or UMTS stick (not part of the delivery scope).

CORA SMART HOME

CORA is our smart home communications protocol, usable wired or wireless. CORA is not a replacement for the CAN bus, but an extension of our x2 series. CORA is supported by most current x2 devices and various extensions. However, the CORA HKT is our first CORA Smart Home product.



CORA-HKT



CORA RADIATOR THERMOSTAT & ACTUATOR

NEW

Ø1/CORA-HKT

The CORA-HKT radiator thermostat is used to control the flow rate in radiators or surface heating systems (as an actuator on the distributor). One or more thermostats can be connected wired or wirelessly with an x2 device.

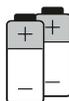
- » Connection with a freely programmable x2 device necessary
 - » Wired/wireless connection with CAN-EZ3
 - » Wireless connection with CAN-MTx2
 - » Wired connection with UVR16x2 or UVR610
- » Power supply via 2x AA batteries (not included) oder 12 V wired
- » Union nut made from glass fibre reinforced polymer
- » M30x1,5 and M28x1,5 union nuts included
- » Battery life: typically 2 years (can vary based on motor activity and batteries)

Features

- » Can detect opening of (nearby) windows through temperature drops
- » Measures room temperatures

Full flexibility

You decide, how you want to connect and supply the CORA-HKT:



CORA wireless
2x AA batteries



CORA wireless
12V cable



CORA-DL
12V cable





ATON

POWER TO HEAT

01/ATON

PLUG & PLAY



CAN-EZ3A



EHS-R



ATON

ATON is a set for usage of excess PV energy. The immersion heater features **stepless control from 50 W to 3 kW**, useful for DHW preparation or to support heating.

The set also features an energy meter that detects if and how much excess power is available and tells the immersion heater **how much power it should use**. Communication via CORA (wired or wireless).

Properties

- » Programmed and coupled ex works
- » Suitable **for buffer cylinders**
- » **Expandable** for CAN bus (controller, input/output expansion, C.M.I. for remote access and visualisation) and DL bus (e.g., output controller)
- » **Freely programmable** (using free software TAPPS2)
- » **Wireless range** of ~1km in the open / through 2 reinforced steel floors or walls
- » TAB compliant
- » **Expandable** up to 12 immersion heaters

Functionalities

- » Adjustable (de)activation threshold (factory settings: 200 W)
- » Adjustable forced operation at certain times, independent of excess power (**minimum temperatures**)
- » **Data logging** to micro-SD card (not included) or via C.M.I. (CAN bus extension module)
- » **Visualisation** for browser or mobile app available for C.M.I. (CAN bus extension module)

The intelligent ATON immersion heater has a sinusoidal power intake, which helps prevent phase shifts and grid feedback to comply with the TAB standard many grid operators employ.

INTERFACES CAN-EZ3A

- » CAN bus, DL bus
- » CORA-F (wireless)
- » CORA-DL (wired)
- » Micro SD card (not included)

INPUTS (EHS-R)

- » 2 sensor inputs PT1000
- » 1 PWM input 0-100% if not CORA controlled

INTERFACES (EHS-R)

- » CORA-F (wireless)
- » CORA-DL (wired)

SCOPE OF DELIVERY (ATON)

- » Immersion heater EHS-R
- » CAN-EZ3A
- » 1 antenna (cable length: 3 meters)
- » 3 hinged current sensors 50A
- » 1 temperature sensor PT1000

AERIAL EXTENSION

10/GSM-VERLÄNGERUNG

Extension (2.5 meters) for the CAN-EZ3 / CAN-EZ3A antenna.



CAN-EZ3



EHS-R



INPUTS CAN-EZ3

- » 4 analogue inputs
- » 2 slots for direct connection of FTS-sensors or 2 impulse inputs

OUTPUTS CAN-EZ3

- » 1 S0-impulses

INTERFACES CAN-EZ3

- » CORA-F (wireless)
- » CORA-DL (wired)
- » CAN bus, DL bus
- » Micro SD card
- » Modbus RTU

SCOPE OF DELIVERY (ATON+)

- » Immersion heater EHS-R
- » CAN-EZ3
- » 1 antenna (cable length: 3 meters)
- » 3 hinged current sensors 50A
- » 1 temperature sensor PT1000
- » Micro SD card

ATON+

01/ATON+

ATON+ comes with the same functionalities as the standard version of "ATON", although its energy meter features an **additional Modbus RTU interface, S0 pulse output** and four sensory inputs.

This enables communication with foreign devices (e.g., power inverter) without additional modules, as long as the CAN-EZ3 is **programmed accordingly**, using our programming software TAPPS2.

Example: dynamic output control

Certain grid operators limit the amount of power that can be fed into their grids. This maximum amount can be a hard limit set in the power inverter, or it can also be a soft limit, set **dynamically by an intelligent controller**, under consideration of own consumption.



Set "ATON"

Due to galvanic reactivity, the immersion heaters are not suitable for installation in DHW cylinders. Install in such cylinders at own risk. This requires specific, standardized measures and frequent inspection (e.g., of the sacrificial anode).



CAN-EZ3



6 INPUTS

- » 4 analogue inputs
- » 2 slots for direct connection of FTS-sensors or 2 impulse inputs

1 OUTPUT

- » 1 50 pulse

INTERFACES

- » CORA-F (wireless)
- » CORA-DL (wired)
- » CAN bus, DL bus
- » Micro SD card
- » Modbus RTU

Dimensions housing (W x H):
106 x 91 mm (6 division units)



Current sensor KCT

CAN ENERGY METER

01/CAN-EZ3-0Z

The CAN energy meter **records electrical and thermal energy flows**. It is programmed using TAPPS2 software.

- » Mounting kit in control cabinet for 45 mm standard installation bezel
- » External clip-on current sensors (not included) allow quick change of the measured conductor. Voltage measurement inputs are integrated for all three phases. Connecting the first phase only is sufficient for a less precise measurement.

Possibilities

- » Comprehensive energy management to optimise on-site consumption from a photovoltaic system
- » Load management (e.g. to reduce load peaks in a commercial setting)
- » Integration of various consumers such as immersion heaters, infrared panels, air condition and ventilation units

Scope of delivery

- » **without current sensors**
- » 1 Micro SD card
- » Antenna (extension available, see page 18)

CURRENT SENSORS FOR CAN-EZ3, 50A	01/STROMSENSOR50
CURRENT SENSORS FOR CAN-EZ3, 100A	01/STROMSENSOR100
CURRENT SENSORS FOR CAN-EZ3, 400A	01/STROMSENSOR400

This pack consists of **three hinged ferrite sensors** for currents of up to 50, 100 or 400 Ampere AC. Current spikes of twice the nominal current are permissible for a few seconds, but can't be interpreted by the energy meter's measuring unit.

SENSOR PACKAGE FOR HEAT METERING WITH FTS4-50

01/EZ4-50

SENSOR PACKAGE FOR HEAT METERING WITH FTS5-85

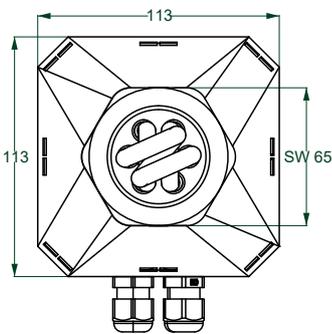
01/EZ5-85

Consisting of a **flow rate sensor FTS** (4-50 l/min or 5-85 l/min) with integral temperature sensor **and a fast immersion sensor** (MSP60) including sealing gland. For professional applications, we recommend the use of our ball valve (page 36). Only suitable for use with CAN-EZ3.



EHS-R

total length of immersion
heater: 430 mm
screw thread: 1 1/2"
inactive length: 120 mm



IMMERSION HEATER - 3000 W VARIABLE CONTROL

01/EHS-R

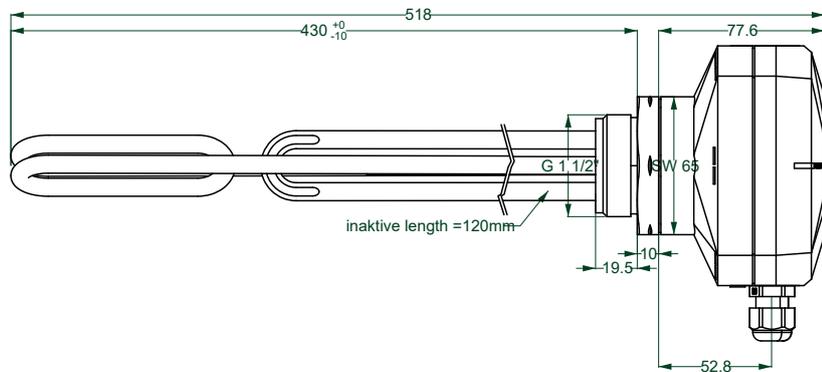
The immersion heater EHS-R features **stepless output control from 50 to 3000 W**. The energy meter CAN-EZ3 can serve as a controller for it (CORA wireless or wired), as can any other controller with CORA-DL. Output control via PWM is also available.

INPUTS

- » 2 sensor inputs PT1000
- » 1 PWM input 0-100% if not
CORA controlled

INTERFACES

- » CORA-F (wireless)
- » CORA-DL (wired)



EHS

IMMERSION HEATER - 3000 W

01/EHS

The EHS immersion heater **switches the heating output in 750 W stages**. In conjunction with the controlled EHS-R immersion heater or ATON, it is possible to arrange cascades economically. In the process, the EHS-R always performs the fine adjustment, which enables variable control of the output to be achieved.

INPUTS

- » 2 sensor inputs PT1000
- » 1 PWM input (in steps of 25%) if not
CORA controlled

INTERFACES

- » CORA-F (wireless)
- » CORA-DL (wired)

Due to galvanic reactivity, the immersion heaters are not suitable for installation in DHW cylinders. Install in such cylinders at own risk. This requires specific, standardized measures and frequent inspection (e.g., of the sacrificial anode).



LST2x2D-DL

Dimensions (W x H x D):
126,8 x 76,5 x 45,5 mm

DIMMABLE POWER CONTROLLER - 2X 400 W

01/LST2X2D-DL

The energy to be controlled can be specified separately from 0 to 100 % at 1 % intervals for each channel via the DL bus from an overriding controller. DL busload: 10% (12V supply voltage necessary)

Application areas

- » Infrared panels (e.g. in a bathroom or sauna area)
- » Heating elements (immersion heater, electric space heating)
- » Blowers/fans (single phase asynchronous capacitor motors)
- » Energy and load management in conjunction with CAN-EZ3 or ATON



LST3x13-DL

Dimensions (W x H x D):
126,8 x 76,5 x 45,5 mm

POWER CONTROLLER - 3X 3000 W

01/LST3X13-DL

All three channels can be switched separately or together via the DL bus. Unlike a standard switching element (contactor), the LST3x13 contains **special technology which is very quiet and durable**. DL busload: 10% (12V supply voltage necessary)

Application areas

- » Energy and load management in conjunction with CAN-EZ3 and ATON
- » Heating elements (immersion heater, electric space heating)
- » Three heating assemblies for a sauna heater (max. 9 kW)



LST6x13-DL

Dimensions housing (W x H):
106 x 91 mm (6 division units)

POWER CONTROLLER - 6X 3000 W

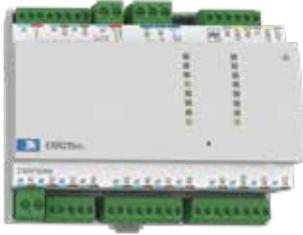
01/LST6X13-DL

Power controller for **switching of up to 6 consumers** with max 3 kW AC each. Outputs 4 through 6 have a **shared soft start functionality** of up to 5 seconds. This can be used, for example, when softly starting three-phase asynchronous motors (pumps, ventilators) with up to 1.5 kW. DL busload: 10% (12V supply voltage necessary)

Application areas

- » Energy and load management

EXTENSION MODULES



AFS215-DL



UNDERFLOOR HEATING ACTUATOR NEW

01/AFS215-DL

The AFS215-DL switches up to 14 thermal actuators. Output 15 is an additional relay (230V / 3A). The 14 triac outputs for actuators are specified for 100mA sustained current, and individual pulses (starting current) of 1A. DL busload: 10%

Expected to be available in Q2.

INTERFACES

- » DL bus

2 INPUTS

- » 2x PT1000 temperature sensors

15 OUTPUTS

- » 14x Triac outputs
- » 1x relay 230V/3A



CAN-RP

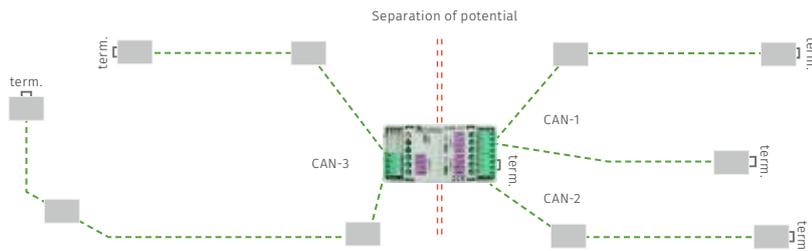
CAN REPEATER

01/CAN-RP

With the CAN repeater, branch cables are also possible in the serial CAN bus topology, whereby the CAN-RP does not have to be positioned at the end (see graphic). The CAN-3 terminal is electrically isolated from CAN-1 and CAN-2. Ensure that the devices are terminated correctly. A total of 62 subscribers are possible. Isolation: 3 kV

INTERFACES

- » CAN bus



CBV-GP

CAN BUS CONNECTOR, BASIC SET

01/CBV-GP

CAN BUS CONNECTOR, EXTENSION SET

01/CBV-EP

The CAN bus connector easily **connects two CAN bus devices mounted in a switch cabinet** (UVR610, CAN-EZ3) via the included ribbon cable. Available as basic set including 2 connectors and extension set with 1 connector. Ribbon cable length: ca. 123 mm



CAN-UES2



CAN-UES



LDIM5-DL



SMS14



PFSC

SURGE PROTECTION FOR CAN BUS

01/CAN-UES

SURGE PROTECTION FOR CAN BUS WITH HOUSING

01/CAN-UES2

Sturdy **surge protection for CAN bus** with two protection levels. Generally it can be used on every other CAN node. CAN-UES is suitable especially for direct installation in the mounting base of the UVR16x2 and the C.M.I. The CAN-UES2 can be mounted on a DIN rail.

5-CHANNEL LED-DIMMER

01/LDIM5-DL

Brightness control of LED strips (common anode) from a power supply unit with a maximum channel current of 3.5 A. The total current must not exceed 12 A. **With five channels** for RGB, warm white and cool white.

The DL bus is not suitable for normal switching of lighting fixtures. DL bus load: 10% (**12-24V supply voltage necessary**, depending on the LED strips)

STEPPER MOTOR CONTROL

01/SMS14

For controlling electronic (expansion) valves such as those used in air conditioning systems and heat pumps. Compatible with unipolar and bipolar motors with 500 or 1000 steps. Control takes place using PWM via one of our controllers, as does the 12 V supply.

POTENTIAL-FREE SIGNAL CONVERTER

01/PFSC

The PFSC is used **for electrically isolated control of third-party devices**, whose internal electronics cause signal interference. The PFSC mitigates these interferences.

1 INPUT

» 1x PWM

2 OUTPUTS

» 1x PWM

» 1x 0-10V



UMV5-DL



UNIVERSAL MEASURING AMPLIFIER

01/UMV5-DL

For measurement of direct current and thermocouples, as well as Redox or pH sensors. For the connection of Redox and pH sensors, the adapter set is required, consisting of two adapter cables with a BNC connector. DL bus load: 10%

5 ANALOGUE INPUTS

- » 0-30 mV, 0-3 V, 0-30 V
- » Input 2: 0-30 mV or 0-300 mV or thermocouples Type K
- » Inputs 3, 5: Redox/pH Sensors

ACCESSORIES

- » Thermocouple (page 30)
- » Set of adapter cables for Redox/pH sensors



UMV-BNC-ADAPTER

ADAPTER CABLE FOR REDOX/PH SENSORS

01/UMV-BNC-ADAPTER

Two adapter cables with BNC female plugs, length: 25 cm



TDI5-DL



DL-EXTENSION FOR 5 INPUTS

01/TDI5-DL

The module processes **PT1000 temperature values and digital signals**, and outputs them to corresponding indices on the DL bus. Due to the low transfer rates, the DL bus is not suitable for switching light. DL bus load: 30 %



AI5-DL



DL-EXTENSION FOR 5 ANALOGUE INPUTS

01/AI5-DL

The module enables an **additional 5 analogue inputs (0-10V)** for devices with x2 technology. DL bus load: 11 %



AO4-DL



DL-EXTENSION FOR 4 ANALOGUE OUTPUTS

01/AO4-DL

The module enables **4 analogue outputs for devices with x2 technology**. Communication with the controller takes place via the DL bus. Selecting an index allows you to choose 0-10 V or PWM mode for each individual output. DL bus load: 5 % (12V supply voltage necessary)



ACON34

ANALOGUE SIGNAL CONVERTER

01/ACON34

This device is suitable for converting signals between UVR controllers and third party devices or industrial sensors. Signal conversion from 0-10 V => 0-20 mA and from 0-10 V => 0-24 V, two adjustable amplifiers with voltage output: 0-10 V or 0-20 mA signal with amplification of 1-5 and damping 1-5. PWM signals can also be converted into analogue values thanks to input filters.



APC

ANALOGUE-PWM-CONVERTER

01/APC

The APC converts 0-10V control signals into PWM signals (PWM1 = 100-0%). Suitable if, for example, a 0-10 V pump is to be replaced by a PWM pump and the existing controller cannot output a PWM signal. Supply with 8-28 V DC or 230 V AC.



IK22

PULSE CONVERTER

01/IK22

The IK22 converter converts and splits pulses from third party devices and sensors with an adjustable division rate of between 0.1 and 1023. A signal input captures the pulses from a potential-free contact or open collector output (NPN transistor). A second input captures the 100 Hz half waves from 230 V~ signals. One sensor input in the controller is sufficient for the signal transfer and supply. Usable as AC/DC detector.

Dimensions housing (W x H x D):
80 x 40,5 x 22,5 mm
for wall mounting or DIN rail



RELAY MODULE 230V
01/HIREL-230V



RELAY MOD. POTENTIAL-FREE
01/HIREL-PF



RELAY MODULE 22
01/HIREL22

Relay module 230V with current distributors for expansion of the UVR16x2K to include **two 230 V fused relay outputs**, mounted inside the casing.

Relay module for expansion of the UVR16x2 with **2 potential-free relay outputs**, mounted on the mounting plate.

Expansion of the UVR16x2, RSM610 and CAN-I/O45 universal controllers to include **2 potential-free relay outputs**.

SENSORS & ACCESSORIES



RASPT

Dimensions (W x H x D):

81,5 x 81,5 x 18 mm

ROOM SENSOR PT1000

01/RASPT

ROOM SENSOR KTY

01/RASKTY

The room sensor provides the possibility of changing the measured room temperature in heating mode by approximately +/- 4K and select one of the individual operating modes (normal, lowered or automatic mode or frost protection).

» Permissible temperature range: 0°C to 40°C



RAS+DL

Dimensions (W x H x D):

81,5 x 81,5 x 18 mm

ROOM SENSOR WITH REMOTE DISPLAY, WHITE

01/RAS+DL

ROOM SENSOR WITH REMOTE DISPLAY, BLACK

01/RAS+DL-BK

The RAS+DL transfers the value of the room temperature, the room humidity, the dew point, absolute humidity, the operating mode and the correction value to the nominal value (+/- 4K) via the DL bus. It also functions as a remote display for the sensor values, output statuses, heat meters and network inputs received from the controller via the DL bus.

» DL bus load without 12V supply: 20 %

» DL bus load with 12V supply: 10%

» **Sensor for air pressure:** cancelled due to change of components



AUSPT

Dimensions (W x H x D):

53,6 x 41 x 23,2 mm

OUTDOOR TEMPERATURE SENSOR PT1000

01/AUSPT

OUTDOOR TEMPERATURE SENSOR KTY

01/AUSKTY

Air temperature sensor with integrated overvoltage protection, as external sensor for heating controllers.

» Permissible temperature range -30°C to 50°C.

Wireless system

868 MHz



RAS-F

Dimensions (W x H x D):

81,5 x 81,5 x 18 mm

Using the 868 MHz wireless system up to 8 wireless sensors can be coupled to the wireless receiver RCV-DL. In the open air the range extends to 1000 m while in buildings at least 2 steel-reinforced concrete ceilings/walls can be transmitted through. **Not compatible with CORA.**

WIRELESS ROOM SENSOR

01/RAS-F

WIRELESS ROOM SENSOR WITH HUMIDITY SENSOR

01/RAS-F/F

The wireless room sensor transmits the following data: **room temperature, desired deviation** (+/- 5K from the rotary wheel position) plus the operating mode (normal, lowering or automatic mode or frost protection function).

By use of jumpers, the room sensor is converted to a pure remote control with a fixed value of 20 °C instead of the room temperature. A CR2032 battery supplies the sensor.

Wireless room sensor with humidity sensor

The RAS-F/F transmits additionally measurement of the room humidity and calculation of the dew point.



GBS-F

Dimensions (W x H x D):

98 x 59 x 36 mm

WIRELESS RADIATION SENSOR

01/GBS-F

GBS-F WITH COLLECTOR SENSOR PT1000

01/GBS-F+KFPT

For **measuring the solar radiation [W/m²]**. The sensor simplifies system startup or makes possible more precise „switching up“ in the priority consumers with multi-circuit solar systems. The sensor is supplied from a small solar panel.

Set with collector sensor

A PT1000 collector sensor (included in set GBS-F+KFPT) can be connected to the GBS-F, the measurement value of which is likewise transmitted to the receiver.



RCV-DL

Dimensions (W x H x D):

98 x 59 x 36 mm

WIRELESS RECEIVER

01/RCV-DL

The receiver forwards the signal via the DL bus to the controller. During startup, the transmitters to the receiver are allocated unique DL bus addresses.

» DL bus load: 43 %

PT1000 sensors are our standard sensors (Precision class B)



KFPT1000

COLLECTOR SENSOR, 2M CABLE 01/KFPT1000
COLLECTOR SENSOR, 4M CABLE 01/KFPT1000 4M
KFPT1000 WITH SENSOR CAP 4X35MM 01/KFPT1000 4X35MM

Temperature resistant sensor with PT1000 characteristics, with 2 or 4 m silicone cable for collector, supplied with connection box and overvoltage protection.



KFPT10004x35mm

- » Permissible temperature range -50°C to 240°C
KFPT1000 4x35mm: -20°C to 240 °C
- » Briefly loadable up to 260 °C
- » Temperature resistant cable
- » Sensor cap 6 x 27 mm



KEPT1000

BOILER SENSOR 01/KEPT1000

Temperature resistant sensor with 2 m silicone cable for the boiler area with PT1000 characteristics, permissible temperature range 0°C to 160°C (briefly loadable up to 180°C).

- » Temperature resistant cable
- » Sensor cap 6 x 20 mm



BFPT1000

DHW TANK SENSOR , SENSOR CAP 6X20 MM 01/BFPT1000

Temperature sensor with 2 m cable for the tank area with PT1000 characteristics, permissible temperature range 0°C to 90°C, briefly loadable up to 100°C.

DHW TANK SENSOR, SENSOR CAP 4X35 MM 10/BFPT1000 4X35MM

Temperature sensor with 2 m cable for the tank area with PT1000 characteristics, permissible temperature range -20°C to 240°C.

SENSOR PACKAGES

For information on available sensor packages, see page 9.

DHW TANK SENSOR, SENSOR CAP 5X60 MM 01/BFPT1000 5X60MM

Temperature sensor with 2 m cable for the tank area with PT1000 characteristics, permissible temperature range 0°C to 90°C. Suitable for installation in ball valve.

KFKTY



COLLECTOR SENSOR 01/KFKTY

- » **KTY Semiconductor**
characteristic 2000 Ω / 25°C
- » Permissible temperature range
-20 °C to 160 °C
- » Briefly up to 180 °C
- » Sensor cap 6 x 20 mm

Temperature °C	R (PT1000) Ω	R (KTY81) Ω
-20	922	1367
-10	961	1495
0	1000	1630
10	1039	1772
20	1078	1922
25	1097	2000
40	1155	2245
50	1194	2417
60	1232	2597
80	1309	2980
100	1385	3392

KEKTY



BOILER SENSOR 01/KEKTY

- » **KTY Semiconductor** characteristic 2000 Ω / 25°C
- » Permissible temperature range 0 °C to 160 °C
- » Briefly up to 180 °C
- » Sensor cap 6 x 20 mm

BFKTY



DHW TANK SENSOR 01/BFKTY

- » **KTY Semiconductor** characteristic 2000 Ω / 25°C
- » Permissible temperature range 0 °C to 90 °C
- » Briefly up to 100 °C
- » Sensor cap 6 x 20 mm

THEL



THERMOCOUPLE TYPE K-GLS, 1630 MM 10/THEL-1,63M

THERMOCOUPLE TYPE K-GLS, 2500 MM 10/THEL-2,50M

For measuring high temperatures up to 600 °C in conjunction with the universal measuring amplifier UMV5-DL (page 25). These sensors are available in lengths of 1630 mm and 2500 mm.

RF



ROLL SPRING 10/RF

Simple fitting of the sensor as a clip-on sensor, large range of use (15-45 mm pipe diameter)



MSP130

MOUNTING KIT ULTRA-FAST SENSOR PT1000

Sensor cap 5 x 60 mm, Precision class B

01/MSP60

Sensor cap 5 x 130 mm, Precision class B

01/MSP130

Brass mounting kit with ultra-fast sensor for sanitary **hot water preparation** MSP130 or **heat metering** MSP60. Cable length: 2 m; Fitting: 1/2";



MSL130

MOUNTING KIT VENTILATION WITH SENSOR PT1000

Sensor cap 5 x 60 mm, Precision class B

01/MSL60

Sensor cap 5 x 130 mm, Precision class B

01/MSL130

Mounting kit with **temperature sensor** with stainless steel fitting for **installation in the air ducts**.



NME5-DL

LEVEL MEASURING UNIT

01/NME5-DL

LEVEL PROBES (SET OF 3)

01/NS3



NS3

This unit measures how full cylinders, cisterns, etc. are using the current flow between an emitter and up to 5 probes, which are electrically isolated from the controller. The standard pack contains three probes for detecting two fill levels. DL bus load: 5% (12V supply voltage necessary). A total of **five fill levels can be detected** with the supplementary set of 3 probes.



IS-DL

CURRENT SENSOR

01/IS-DL

CURRENT SENSOR WITH EXTERNAL SENSOR

01/ISE-DL

With this sensor, the **true effective current (RMS) can be measured for any consumer** up to 16 A. The resolution is 10 mA and a pulse load of up to 100 A (e.g. starting current) is permissible. DL bus load: 19 %



Current sensor KCT

Current sensor with external 50A snap-on sensor

The ISE-DL has no internal current sensor and ships with the 50A snap-on ferrite sensor.



GDS-DL



SENSOR MODULE FOR GRUNDFOS DIRECT SENSORS 01/GDS-DL

With this extension module, up to **two Grundfos Direct Sensors can be detected** and transferred to the controller via the DL bus. DL bus load: 10%



RFS-DL

Dimensions (W x H x D):

53,6 x 41 x 23,2 mm



HUMIDITY SENSOR 01/RFS-DL
HUMIDITY SENSOR WITH EXTERNAL SENSOR 01/RFSE-DL

The RFS-DL was developed for control tasks in the air conditioning sector and **measures relative and absolute humidity, temperature and dew point temperature**. The RFSE-DL has an external humidity sensor sitting on an 65 mm extension of the circuit board. Suitable for installation (for example) through a sauna's roof. Instructions on prolonging the extension can be found in the manual. DL bus load: 8 %

RFSE-DL



» Permissible temperature range -10°C to 50°C (up to 110°C in extended accuracy range)



WIS01

WIND SENSOR 01/WIS01

The wind sensor WIS01 is suitable for measurement of wind velocity up to 140 km/h with a maximum error of 5 % in conjunction with our controllers.



GBS01

RADIATION SENSOR 01/GBS01

GBS01 was developed for **measurement of the solar radiation [W/m²]** when used in conjunction with our controllers. Using this sensor system startup is simplified or a more accurate "Switch-up" to the priority consumer is possible when used with multi-circuit solar systems.



RES01

RAIN SENSOR 01/RES01

Using the outside circuit board, the humidity is detected via the resistance value. The sensor is suitable for our controllers and extensions as well as for other (see the manual). RES01 was developed **for weather-guided control tasks** (e.g. opening and closing of winter garden windows).



DPS23-DL



DIFFERENTIAL PRESSURE SENSOR

+/- 2,5 mbar	01/DPS23-2MB-DL
+/- 10 mbar	01/DPS23-10MB-DL
+100 / -10 mbar	01/DPS23-100MB-DL
+1 / -0,1 bar	01/DPS23-1B-DL
+10 / -1 bar	01/DPS23-10B-DL

SCOPE OF DELIVERY

- » DPS23-DL in universal housing
- » 1 Pneumatic tube 4x0,75mm
length: 2 meters
- » 1/8" tube fitting

The differential pressure sensor has two ports: one **for non-corrosive liquids** (+ port, positive pressure) and the other **for gases** (- port, negative pressure). In addition, three inputs are available for PT1000 sensors or digital on/off signals. DL bus load: 39% (15 %, if inputs S1-S3 are not used)

ADAPTER, ACCESSORIES FOR DPS23-DL

	Adapter 3/8" brass	13/FA3/8"MS
	Adapter 1/2" brass	13/FA1/2"MS
	Adapter 3/4" brass	13/FA3/4"MS
	Adapter conical, stainless steel	13/FA8MM-KONISCH-NIRO

Adapter with external thread for connection to the 1/8" tube fitting of the DPS23-DL.



PRS0-6DL



PRESSURE SENSOR DL

01/PRS0-6DL

Electronic pressure sensor for system monitoring.

- » **Measurement of system pressure between 0 and 6 bar**
- » Maximum permissible pressure (burst pressure) 12 bar
- » Measurement principle insensitive to medium properties
- » Temperature range +2° to +90°C
- » Connection thread G 3/8"
- » With adapter board for direct connection to the DL bus
- » DL bus load: 13 %



PRS0-6

PRESSURE SENSOR FOR FTS-DL

01/PRS0-6

With 0.7 m special **cable to connect to the adapter electronics** of a volume flow sensor **of the FTS series**. The measured value is transmitted to the control with the FTS signals. Additional DL bus load: 5 %



FTS-DL



VOLUME FLOW SENSOR

Measurement range 2 to 32 l/min	01/FTS2-32DL
Measurement range 4 to 50 l/min	01/FTS4-50DL
Measurement range 5 to 85 l/min	01/FTS5-85DL
Measurement range 5 to 85 l/min	01/FTS5-85DL-1"
Measurement range 9 to 150 l/min	01/FTS9-150DL
Measurement range 14 to 240 l/min	01/FTS14-240DL

CONNECTION THREAD

» 01/FTS2-32DL	1/2"
» 01/FTS4-50DL	3/4"
» 01/FTS5-85DL	3/4"
» 01/FTS5-85DL-1"	1"
» 01/FTS9-150DL	1 1/4"
» 01/FTS14-240DL	1 1/2"

OVERALL LENGTH

» 01/FTS2-32DL	118 mm
» 01/FTS4-50DL	130 mm
» 01/FTS5-85DL	151 mm
» 01/FTS5-85DL-1"	151 mm
» 01/FTS9-150DL	120 mm
» 01/FTS14-240DL	134 mm

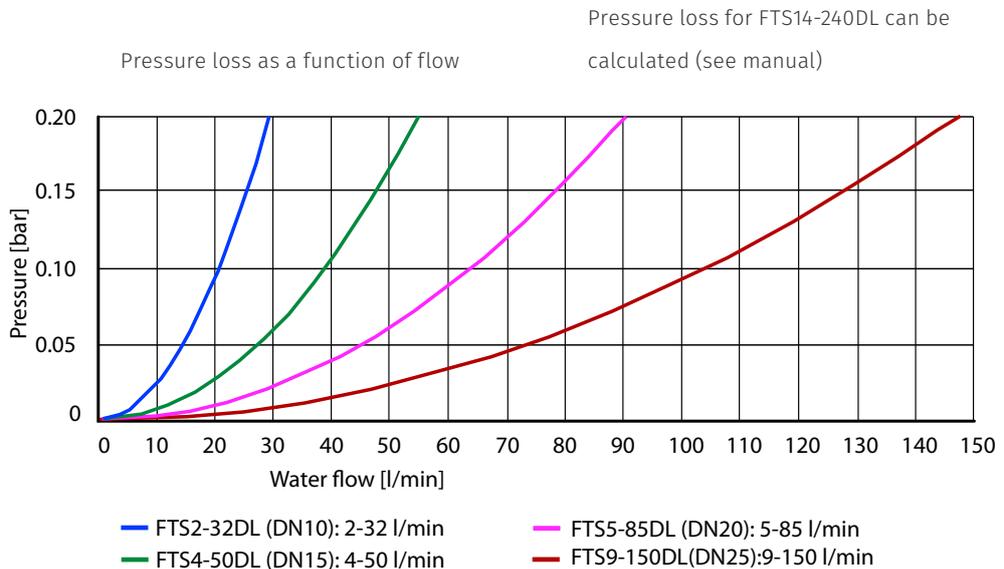
The measurement principle of the FTS electronic volume flow sensor is based on Karman vortex streets. An obstructing body projecting into the flow generates eddies. These are detected by a piezoelectric paddle and evaluated by the integrated electronics. A microprocessor converts the analogue measurement values into a serial digital signal suitable for the DL bus.

» Measurement of flow rates

- » Measurement of **media temperature** (PT1000 sensor)
- » Connection option for an additional PT1000 sensor
- » Connection option for a pressure sensor PRS0-6
- » No moving parts in the flow channel

» Freely selectable fitting position

- » Measurement principle insensitive to contamination and medium properties
- » Drinking water approvals: KTW and DVGW process sheet W270, WRAS
- » **FTS14-240DL**: only suitable for controllers with x2 technology
- » DL bus load: 25 %





Set for Heat metering

SET FOR HEAT METERING, 1"
SET FOR HEAT METERING, 3/4"

01/WMZ-SET-1"
01/WMZ-SET-3/4"

This set consists of an FTS-DL, two ball valves and a fast-acting temperature sensor PT1000 for mounting inside a ball valve.



STS02AC

STS01DC

FLOW SWITCH AC 01/STS02AC-1"
FLOW SWITCH AC 01/STS02AC-3/4"
FLOW SWITCH DC 01/STS01DC-1"
FLOW SWITCH DC 01/STS01DC-3/4"

Switches from a volume flow of approx. 1.5 litre/min. Installation: vertical with flow from bottom to top. External thread and conical face union.

- » Permissible temperature range 0°C to +80 °C.
- » **Warning:** Not suitable for use with asynchronous pumps or in combination with after-running or time relays of any type or model.
- » STS02AC: AC version only for direct switching of high-efficiency pumps connected to the 230 V AC mains up to 1.5 A
- » STS01DC: DC version as a signal generator at the usual controller inputs up to 30 V DC/AC max. 10mA



VIG

FLOW RATE PULSE GENERATOR 0,3 TO 40 L/MIN 01/VIG0,3-40
FLOW RATE PULSE GENERATOR 0,5 TO 65 L/MIN 01/VIG0,5-65

Impeller meter for precise measurement of the volume flow. Temperature range up to 90 °C; Impulsausgang potentialfrei - Pulse output potential-free: max. load 10 mA; Measurement: 0.5 litres/pulse;



UDV-3/4"

UNIVERSAL 3-WAY VALVE 01/UDV-3/4"

Ball valve 3/4" up to 100°C with T-bore and valve setting display. All materials in the hydraulic area have drinking water approval. But it is not DVGW certified as a unit. Internal coding and random positioning of the motor allows free selection of the hydraulic paths (left-right, straight-left, straight-right).



LAMBDA-DL

DL⁵

Dimensions housing (B x H x T):

126,8 x 76,5 x 45,5 mm

LAMBDA PROBE

01/LAMBDA-DL

The lambda probe is used to control the residual quantity of oxygen in boilers. For this we use a professional probe of the kind often installed in biomass boilers. DL bus load: 10%

- » Sensor heating consumes just 8 W
- » can be switched via DL bus
- » the switching power supply unit has a standby consumption of just 0.2 W
- » Additional input for thermocouple type K up to 1200 °C (thermocouple is not included)
- » can be used as flue gas sensor (see manual)



KH 3/4"

BALL VALVE 1"

01/KH-1"

BALL VALVE 3/4"

01/KH-3/4"

The ball valve has a M10 x 1 fitting opposite the lever for insertion of the temperature sensor 01/BFPT1000 5x60MM for a heat meter arrangement. The ball also has a hole at that location. This places the sensor in the flow channel at the centre of the ball. When the valve is shut off, the sensor is sealed off as well, allowing it to be removed easily (e.g. for calibration).

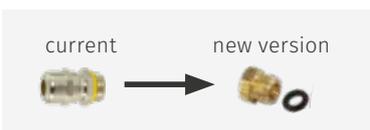


Immersion sleeves (available with plastic or brass cable gland)

IMMERSION SLEEVES

SEE PRICE LIST FOR ARTICLE NUMBERS

Precisely manufactured brass ensures effective heat transfer to the sensor. 6 mm internal diameter, 1/2" external thread, 22 mm AF, internal thread PG7 for the also supplied strain relief device. All versions (40 to 300 mm length, brass or stainless steel) with article numbers in the price list, further lengths on request.



The brass gland will be changed to a new version over the course of the year.



THV (set of 5)

EXTENSION FOR IMMERSION SLEEVES, 80MM (SET OF 5) 01/THV

Brass extension for sensor wells, for easier and more precise installation of the temperature sensors in cylinders where the insulation is thicker than the connectors are long.

PUMP GROUPS



FRISTAR3



Dimensions (W x H x D):
366 x 573 x 160 mm



FRISTAR3WP



Dimensions (W x H x D):
366 x 810 x 160 mm



VMS

FRESH WATER STATION 3

01/FRISTAR3

FRESH WATER STATION 3 FOR HEAT PUMPS

01/FRISTAR3WP

Optimal matching of the control behaviour to the high efficiency pump, the valve and the heat exchanger guarantees **perfect stabilisation of the outlet temperature regardless of flow changes**. Uniform and interchangeable G3/4" connections reduce the assembly effort.

A heat exchanger with twice the heated length has been integrated **for systems with low flow temperatures**. The FRISTAR3WP therefore achieves the **specified draw-off rate of 30 litres/minute** at half the temperature differential between the cylinder flow and DHW outlet (compared to FRISTAR3).

- » Easy operation and installation
- » No unwanted circulations possible
- » LED status indicators
- » Integral heat and water meter
- » Data output via DL bus
- » Connection for circulation pump in pulse mode
- » High efficiency pump
- » Stainless steel plate heat exchanger, copper soldered
- » Interchangeable connections (left/right)
- » 4 stopcocks
- » Cascading of several modules possible
- » Draw performance:

FRISTAR3:.....	max. 30 l/min (65 °C / 45 °C)
FRISTAR3WP:.....	max. 30 l/min (55 °C / 45 °C)

Both versions are delivered with a preinstalled insulation cover, ready to be installed.

PRE-MIXING SET

01/VMS

- » Setting range: 30 °C to 70 °C
- » Must be used if the tank is operated with a temperature 70 °C



PMG1



The PMG1 can only be controlled with CORA-capable devices (UVR16x2, UVR610, CAN-EZ3, CAN-MTx2).

The pump and mixer group serves to control the flow temperature in heating and cooling circuits. The PMG is connected via CORA-DL to an x2 device. The integrated controller does not serve as a standalone controller for the PMG. Connection with a freely programmable controller (via CORA-DL or CORA wireless) and integration into its programming is necessary.

- » **All-in-one solution** for heating or cooling circuits
- » Communication via CORA-DL or CORA wireless
- » No further wiring for sensors or outputs is necessary
- » Integration into the TAPPS2 programming as a CORA device necessary (TAPPS2 version min. 1.20)
- » Optional inputs on the PMG:
 - » 1x contact thermostat for High limit safety cut-out (HLSC)
 - » 1x PT1000 sensor or FTS flow sensor
- » All values transmitted to x2 controller via CORA
- » Simple installation

Thanks to the special insulation and selection of components, the PMG1 is also suitable for use in cooling circuits.



The FTS4-50 is part of the set for heat metering in the PMG1

The PMG1 has a connection on the controller for an FTS volumetric flow sensor for heat metering. With this set, the FTS4-50 can be installed in the return flow within the PMG1. Expected to be available from Q2 on.

Scope of delivery:

- » FTS4-50
- » Ribbon cable for connection to PMG1
- » Pipes and accessories
- » Installation manual

PWM signal cable for speed control of the Grundfos UPM3.

DISCONTINUED PRODUCTS



EWS16x2

DEVELOPMENT SET UVR16X2

01/EWS16X2

Controller UVR16x2 with development environment SIM-BOARD16x2 for the testing of function data, simulation of 16 PT1000 sensors as well as digital signals on inputs 15 and 16 directly on the console. Rear connection option for CAN and DL bus. CAN bus cable enclosed.

To install the control unit you need:

- » Wall mounting with 01/KONSOLE UVR16X2
- » Mounting on DIN rail with 01/KLEMMPLATTE UVR16X2



SIM-BOARD16x2

SIMULATION BOARD UVR16X2

01/SIM-BOARD16X2

In combination with a UVR16x2 controller for simulating the generated program.

Please note: Simulation is also possible with our software TAPPS2 or x2-simulator.

Discontinued products will no longer be listed in next year's catalogue and will only be available while stocks last.

SERVICES



Seminars for technicians

We offer multi-day seminars for technicians, in which we teach the **basics for beginners** but also **enhance skills of advanced users**. Using practical examples, programming and visualisation are taught. **Seminars offered in German only.**

www.ta.co.at/seminare/uebersicht/

Tech support

Our **experienced technicians** are available for technical questions regarding our products.

Business hours are from Mon to Thu, 7am to 3pm and Fri, 7am to 1pm.

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

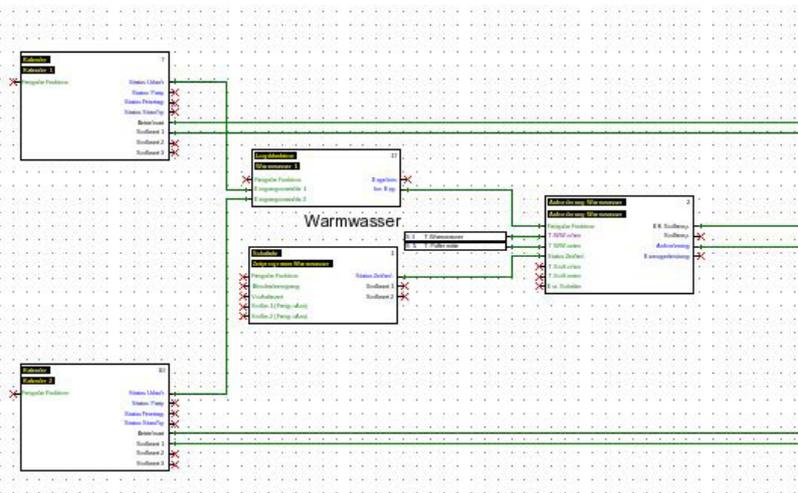


Programming service for related industries

Our support department offers the individual programming of x2 devices, if needed.

Prerequisites: full schematic of the system, devices bought from us and customer must be from related industries.

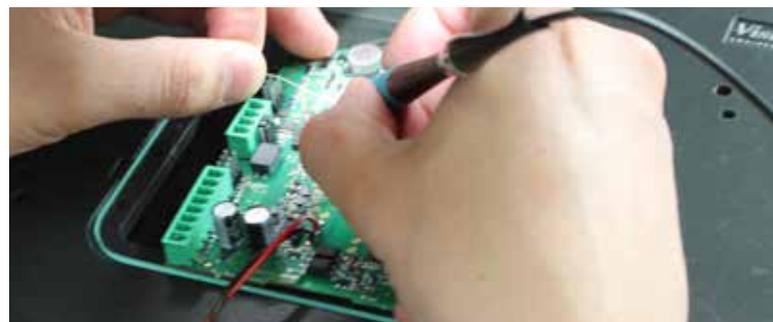
<https://www.ta.co.at/programmier-service/>



In-house repair department

We offer affordable rates for the repairs of each of our products to ensure economically sensible repairs.

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



REPAIR AND SERVICE CONDITIONS

If the device is past its warranty period of 2 years or was damaged by improper handling (e.g., overvoltage), costs are billed according to the pricing table below.

If repairs are no longer possible, you will be informed. If the description of the fault is insufficient, additional administrative and technical costs of 30 € will be billed, regardless of the warranty period. Labor costs of exchanging devices and expenses for the determination of faults are explicitly not covered by us.

Repair plus exchange

An exchange of devices must be agreed upon with a support technician of the Technische Alternative RT GmbH and constitutes a voluntary service of ours. The defective device and attached exchange advice form must be fully returned to us within one month after receipt of the exchange device. Additionally, customers agree to the following terms when requesting an exchange:

For every device exchange outside the warranty period, a handling fee of 65€ is billed. A device exchange is generally only possible for freely

programmable devices. Excluded from device exchange are ATON, FRISTAR and UVR1611 with a serial number below 100,000.

For devices within the warranty period, no handling fee will be billed. Exceptions apply for devices damaged by improper handling. Additional repair fees may also arise. If repairing the device is no longer possible or viable, the value of the exchange device will be billed.

Unjustified claims

If no fault is found during repairs (operational error, malcompliance with manual), the device will be returned and a checkup fee of 50 € will be billed.

Costs of packaging and shipping

No shipping fees will be billed within the EU. For differing delivery addresses, handling fees of 10 € will be billed. Outside the EU, costs are billed as per actual expenses. Non-prepaid deliveries will be billed after the fact.

Data security

We are not liable for any loss of data.

Device	Fees		
	65 Euro	+ 30 Euro	Original price
Basis costs	x		
Devices older 10 years	x	x	
FRISTAR, EHS, EHS-R	x	x	
Additional costs*		x	
Small devices **			x

* Additional costs due to missing or insufficient error descriptions, such as "defective device" or "doesn't work".

** In terms of our repair service, small devices are all devices with a listed price below the minimum charge of 65€. The original price is the listed price excl. discounts and incl. VAT.

GENERAL TERMS AND CONDITIONS

The supplies, services and offers of Technische Alternative RT GmbH, hereinafter called TA, are subject to these terms and conditions. These terms and conditions apply to the whole of Europe and are based on a recommendation of the Association of the Austrian Electrical and Electronics Industries.

1. GENERAL

These terms and conditions form an integral part of any offer and associated legal transaction with TA. Deviating agreements, especially contradicting verbal agreements are only legally valid if they are confirmed by TA in writing. Conditions of the customer which are contrary to these terms and conditions or deviate from them are not recognized by TA. Technical documents as well as samples, catalogues, brochures, images, etc., remain the intellectual property of TA at all times. Any use, reproduction, distribution, publication or presentation requires the express agreement of TA.

2. CONCLUSION OF THE CONTRACT

A contract offer or an order of the customer requires an order confirmation by TA. If the order confirmation forwarded by TA is not contradicted by the customer immediately upon receipt, then the legal transaction is concluded through implicit acceptance. Offers are valid for 1 month from date of issue or until the expiration date stated in the offer.

3. PRICES

Prices are ex works and for domestic deliveries excluding any statutory sales taxes (VAT). Deliveries within the EU internal market will only be exempt from VAT for orders where the valid sales tax identification number (VAT registration number) of the recipient is specified. Our terms of delivery and payment apply. The prices within a list are valid until a new pricelist is published. Errors excepted. When shipping to a third party address (e.g. end customer), TA applies a handling fee of €10.

4. DELIVERIES AND SERVICES

Delivery is at the cost and risk of the customer. Partial deliveries are possible. Upon transfer of the goods to the carrier, the risk of damage and loss – even when delivered “free to destination” or “freight prepaid” – is transferred to the customer. The place of performance for delivery and payment is TA's registered office. TA is free to choose the type of dispatch of the goods and the means of transport. The delivery address is generally the customer's address. Delivery periods are subject to TA's suppliers making correct and timely delivery. If a fixed delivery date has not

been expressly agreed, the delivery periods are always non-binding. Unless otherwise agreed, the specified delivery dates are given ex place of dispatch (ex works). Force majeure and other such events which are unforeseeable by TA or over which TA does not have any influence, such as labour disputes, sovereign action, traffic disruption, disruption of energy supplies and the like, and traffic accidents for which TA or its suppliers are not responsible, exempt TA, for the duration of the impact, from the duty to deliver, even if they involve the suppliers or their sub-suppliers; however in any case only insofar as TA proves to the customer that these events are the cause of the impairment of performance. If, due to the aforementioned events, delivery is impossible, TA's duty of delivery also lapses subject to the same conditions. Replacement of goods is generally only possible within 14 days from the date of delivery, provided the goods remain in their original packaging (undamaged seal), unused and the return does not incur any costs for TA.

5. TRANSPORT DAMAGE

TA goods are packed in accordance with industry practice. Transport losses caused by force majeure or other risks excluded from the liability insurance of the carrier shall be borne by the customer. In general, the goods will only be insured by written request and at the cost of the customer against damage or loss during transport.

6. SHIPPING COSTS

Deliveries in Austria and Germany are free of charge from a net invoice amount of € 300, below this amount, in Austria a shipping charge of € 5 applies and in Germany € 10. In the rest of the internal EU market and in third countries, we deliver EXW Amaliendorf. The INCO-TERMS in force on the date of conclusion of the contract apply.

7. CLAIMS AND WARRANTY

The recipient of the goods is obliged to immediately inspect them upon delivery and to report in writing any detected defect to TA without delay. TA must be notified of hidden and thus not immediately identifiable defects in writing no later than seven days after delivery. If the above terms and conditions for reporting claims or transport damage are not adhered to, loss of warranty applies to the customer, provided that the transaction concerned is not a consumer transaction. If a defect becomes apparent at a later date, but before expiry of the statutory or agreed warranty period, the customer must report it immediately in writing to TA. In the

event that timely notification does not occur, the goods are classed as approved, provided that the transaction concerned is not a consumer transaction. Within the scope of product liability, TA is not liable for damage due to incorrect installation that is not in line with the operating and installation instructions, incorrect commissioning or storage, as well as mechanical factors. TA accepts no liability for consequential losses. The fulfilment of the warranty claim is, at the discretion of TA, either by repair or replacement of the defective goods, unless a repair or replacement is impossible. Replaced parts and products become our property. Labour costs associated with the replacement to rectify the defect are accepted by TA subject to the following rules up to a maximum of the value of a replacement delivery: if a TA product is suspected of having a material defect, it must be demonstrated that the matter has been raised with our support team. Only standard professional rates for statutory normal working time will be accepted. In the event of excessive and repeated trips, TA reserves the right to appoint a trusted service provider to perform troubleshooting and replacement.

8. RETURN OF GOODS

When returning faulty goods, please note the "Repair and service conditions". Please ensure that sufficient postage is paid for returns. Unpaid postage will subsequently be charged to the customer. A return of supplied, defect-free goods is only possible in exceptional cases and only after prior written agreement has been given. Furthermore, a credit note is only possible if the goods are unused and in their original packaging, the latest engineering standards are met, we do not incur any costs for the return shipment and our invoice number is stated. Binding information about acceptance of returned goods can only be given following an assessment at our factory. A credit note will be issued for returned and accepted articles, from which 15 % of the list price (at least €5 per device) will be deducted. Special designs or custom orders cannot be returned.

9. TERMS OF PAYMENT

Unless otherwise agreed, all invoices must be prepaid. Bank transfers must be free of charge. Payments with debt-discharging effect can only be made to the account given in the order confirmation and invoice. An indicated VAT amount of the total price shall be paid in full according to the invoice. Incoming payments shall be credited to the oldest demand. In the event that the due date for

payment is exceeded, late interest of 12 % shall be charged by TA.

10. RETENTION OF TITLE

All delivered, installed or otherwise transferred goods remain the property of TA until complete payment of the purchase price. For running accounts, the retention of property acts as security for all open balance demands.

11. PLACE OF PERFORMANCE JURISDICTION

The place of performance for both contracting parties is TA's registered office. The contracting parties agree on Austrian domestic jurisdiction. For all legal disputes arising between the contracting parties, the court of law responsible from a professional and geographical viewpoint, for TA's registered office is agreed upon, provided the transaction concerned is not a consumer transaction.

12. APPLICABLE LAW

Austrian law applies. The applicability of the UN Convention on Contracts for the International Sale of Goods (CISG) is explicitly excluded. The contract language is German.

13. DATA STORAGE

The customer agrees that TA shall save their personal data within an IT system insofar as necessary for the purposes of business and in conformance with data protection legislation. The customer is obliged to inform TA of changes to their personal or business addresses insofar as the legal transaction is not fully completed by both parties. In the event of failure to do so, declarations shall be considered delivered if they are sent to the last known address.



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Mo - Thu 7 am - 15 pm

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This catalogue presents our product portfolio as of 1 March 2024. Our products are subject to constant technical progress and further development. We therefore reserve the right to make changes or discontinue products without separate notification. Typesetting and printing errors reserved.

The currently valid price list can be found on our website or is available on request.

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