Wachendorff universal controller URDR001A



- PID controller for DIN rail mounting
- Programmable via PC software, APP or keypad
- Universal power supply
- Universal input for process signals, thermocouples, Pt100, potentiometer
- 2-line LED display
- Analog output and SSR driver output
- 3 relays and one RS485 interface

https://www.wachendorff-prozesstechnik.de/en/URDR001A

Description

The new generation of the compact universal controller for the DIN rail is an all-rounder. We combine proven hardware with new technology. With a universal input for almost all commercially available temperature sensors, potentiometers and process signals, a universal power supply and modern programming, operating and control technologies, this DIN rail controller can be used for almost all applications. In addition to an excellent price/performance ratio and high quality, the DIN rail controller impresses with its robust housing and brilliant display. With the Wachendorff EMG app, you can experience a completely new way of parameterizing the DIN rail controller. The Wachendorff EMG app has currently only been developed for Android operating systems, other operating systems such as Apple iOs are not currently supported by the app. The development of a Wachendorff EMG app for iOs operating systems has already begun. The app allows you to read, write, program and manage your Wachendorff devices with NFC interface. By connecting via NFC, the universal controller is automatically recognized and the app opens. All you have to do is hold your smartphone in front of the controller for a few seconds. After successfully reading out the existing parameters, you can then view each parameter individually and change them as required. You can also simply save the configuration you have read out on your smartphone and reload it at any time. Once you have changed the desired parameters, you can load the new configuration into the device. You can also send the saved configuration file (.atr backup file) via e-mail, SMS, WhatsApp, Bluetooth, WiFi Direct, etc. Another programming option is to use the “Wachendorff EMG DESKTOP” PC software via USB (2.0A to Micro-USB cable). You can save configurations to the optional USB memory card (SFUR0USB) and then transfer them to other devices—ideal for series commissioning.

Product details

Entrance areas:	16-bit resolution Setting the input signal in the programming via keypad or via APP Possible input signals: Thermocouple type K, S, R, J, T, N, B Cold junction: internal (from -25 °C to 85 °C) Cold junction accuracy 0.1 °C/°C Temperature sensors: Pt100, Pt500, Pt1000, Ni100, PTC1K, NTC10K(ß 3435K) Process signals: 0 V to 10 V; resolution 50,000 points 0/4 mA to 20 mA; resolution 40,000 points 0 mV to 60 mV; resolution 25,000 points Potentiometer: 1 kOhm to 150 kOhm; resolution 50,000 points
Accuracy:	Tolerance at 25 °C ±0.2 % ± 1 digit for thermocouple input, temperature sensor and analog signal.
Input impedance:	0 to 10V: Ri> 110K 0 to 20mA: Ri< 5K 0 to 60mV: Ri> 1M
Display:	2-line LED display Upper line: Actual value, 4-digit, white with 12.7 mm digit height Lower line: Setpoint, 5 digits, red with 7.6 mm digit height
Keyboard:	4 buttons for programming and setting the setpoint.
Measurement cycle:	programmable up to 2.12 msec (470 Hz).
Cycle time:	Internal cycle time is 100ms (cannot be changed).

Relay output:	3 relays: 2 x changeover relays with 5 A at 250 VAC resistive load 1 x NO relay with 2A at 250 VAC resistive load Programmable as control output for heating/cooling or alarms.
Analog output:	Adjustable by programming. Programmable analog output 0 VDC to 10 VDC or 4 mA to 20 mA with a resolution of 40000 steps ±0.2% F.S. Programmable as a control output or for transmitting the actual/setpoint value.
Digital outputs:	2x digital outputs (PNP) Programmable as control output or alarm or Programmable as SSR output for controlling soild-state relays. Range: 12 VDC@25 mA or 24 VDC@15mA; Range depends on the setting of the sensor supply
Sensor supply:	12 or 24 VDC (adjustable); max. 25 mA
Current/measuring transformer input (T.A*):	max. 50 mA Response time 800µs- Resolution 4096 points e.g. for heating current monitoring.
Power supply:	24 VAC/DC to 230 VAC/DC ±15 %, 50/60 Hz, 9 VA
User input:	2 digital inputs: Alternatively adjustable ON/OFF functions for the autotuning function, Start of program cycles/settings, selection of setpoint, programming lock.
Ambient conditions:	Operating temperature: 0 °C to +45 ° C; Relative humidity 35 % to 95 % rH, non-condensing.

Programming:	Programming and operation is menu-guided via the front buttons. Programming is also possible via the Wachendorff EMG APP (via NFC/ RFiD*) for Android smartphones. For programming via APP, the DIN rail controller can also be in a de-energized state. The Wachendorff EMG app is currently only suitable for Android operating systems. A Wachendorff EMG app that supports iOs operating systems will follow soon. Another programming option is to use the “Wachendorff EMG DESKTOP” PC software via USB (2.0A to Micro-USB cable). You can save configurations to the optional USB memory card (SFUR0USB) and then transfer them to other devices—ideal for series commissioning. *: When scanned by a reader that supports the NFC-V protocol, the device is to be regarded as a VICC (Vicinity Inductively Coupled Card) in accordance with the ISO/IEC 15693 standard. The controller operates at a frequency of 13.56 MHz. The device itself does not emit any radio waves. You can save configurations on the optional SFUR0USB USB memory card and then transfer them to other devices.
Notes on programming via app:	The NFC sensor of the controller is located on the left-hand side between the arrow up and arrow down buttons. Protective covers for smartphones can interfere with the connection and should therefore be removed from the smartphone for the programming period.
Functionality:	The URDR universal controller includes a control output for two-point control (with hysteresis) with P, PI, PD and PID behavior. The output is time-proportional. In addition, a cycle control for a control valve can be programmed (three-point control).
Alarm operating modes:	They switch when the temperature or deviation exceeds or falls below the deviation; band alarm; limit value or continuous signal switching. Standby and hysteresis programmable. In the event of sensor breakage: Reaction as for overtemperature.
Interface:	1 x RS485 (Modbus RTU slave)
Data protection:	Password-protected access to setpoint, alarm values and parameters.
Certificates & approvals:	CE, UL
Dimensions (WxHxD):	72 mm x 90 mm x 64 mm Width: 4 modules, DIN43880, Mounting on DIN rail DIN EN50022

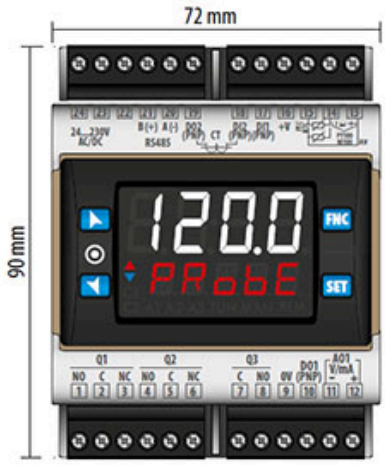
Housing:	Gray-black, impact-resistant plastic housing. Polycarbonate V0 PC UL94V2 self-extinguishing
Weight:	approx. 210 gr
Protection class:	IP20
Customs tariff number:	8542 31 90
Manufacturer:	Wachendorff Prozesstechnik GmbH & Co. KG

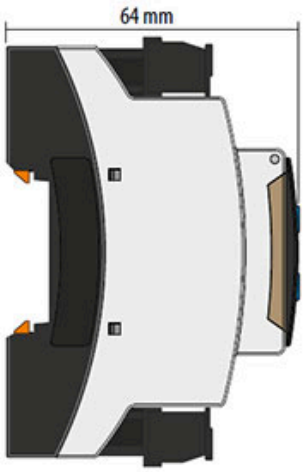
Products Order no.	
URDR001A	Universal regulator, 24 to 230VAC/ VDC

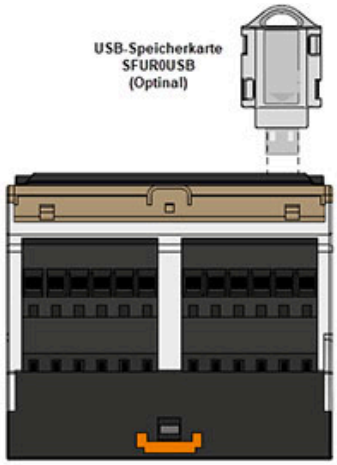
Accessories Order no.	
SFUR0USB	USB programming module (optional for series commissioning)
KABUSBM2	USB programming cable, USB 2.0A to micro USB, 2 m cable
AMR3-24	DIN rail power supply unit for building automation, 90 to 264 VAC, 24 VDC, 1.5 A
DRS4-24	Power supply unit for DIN rail, 85 to 264 VAC, 24 VDC 4.2 A, spring terminal

Drawings

Dimensions







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