



# DIGITAL UNIVERSAL CONTROLLER

## Function:

- Manual output
- Heating / cooling control
- SP limiter
- Alarm for heating circuit interruption
- MV limiter
- MV change rate limiter
- Dig. input filter
- Input offset
- Run / Stop
- Options of protection features:
- Controller output modules
- Interface modules
- Dig. Inputs (i.a. for max. of 4 set values)

## Advantages:

- Self-optimizing PID-controller with adjustable fuzzy rate
- High accuracy ( $\pm 0.2\%$ )
- Exchangeable output modules
- 3 freely definable alarm outputs
- Ext. set value input 4 ... 20 mA
- Modular construction
- 100 ms detection time for analog inputs
- Decentralized set value setting
- Serial communication via RS-232C, RS422 or RS-485 and transmission output (4...20 mA)
- Step control
- Heating and cooling control
- Program regulation possible

## TECHNICAL DATA

**Design:**

Plastic housing for switch panel mounting

**Degree of Protection - front:**

NEMA4 for usage in confined spaces (corresponds to degree of protection IP66)

**Degree of Protection - back:**

Degree of protection according to IEC standard: IP20

**Clamps:**

Degree of protection according to IEC standard: IP20

**Dimensions:**

96 x 96 x 115 mm (WxHxD)

**Front panel:**

92 x 92 mm (WxH)

**Connection:**

Screw connection.

Wire cross section max. 2.5 mm

**Auxiliary voltage:**

100 ... 240 Vac, -15 + 10%, 50/60 Hz

**Power consumption:**

Approx. 16 VA

**Climate storage:**

-10 ... + 70 ° C

**Operation:**

0 ... + 50 ° C, 5 ... 95% rel. moisture, non-condensing

**Display:**

Two 4-digit seven-segment displays for PV and SV

**Heights of digits:**

PV = 15 mm red

SV = 11mm green

**Input 1:**

- Thermocouple types K, J, T, E, L, U, N, R, S, B, W or PLII
- Resistance thermometer JPt 100, PT100
- Voltage input: 0 ... 5 V, 1 ... 5 V, 1 ... 10 V, ( $R_i \geq 1 \text{ MOhm}$ )
- Current input: 0 ... 20 mA, 4 ... 20 mA ( $R_i = 150 \text{ Ohm}$ )

**Input 2:**

Decentralized set value 4...20 mA ( $R_i = 150 \text{ Ohm}$ )

**Controller output:**

(depending on integrated module)

**Relay output**

(potential-free contact)

**SSR output**

(semiconductor relay)

**Voltage output**

(active, pulse, 12 Vdc or 24 Vdc [NPN] / 24 Vdc [PNP])

**Current output**

(continuous 4 ... 20 mA or 0 ... 20 mA)

**Alarm output:**

Max. 3 alarm outputs each with 11 different alarm modes (with two-point controller)

**Setting:**

Digital adjustment with function keys

Control behavior: ON/OFF or PID-control with auto tuning

Proportional part: 0.1 ... 999.9 %

FS Integral time: 0 ... 3999 s

Differential: 0 ... 3999 s

**Other features:**

- Sensor calibration
- Adjustable switching frequency (output cycle)
- Selectable output for standard and reverse operation
- Upper and lower limit for set value
- Modulating controller configurable