**DISPLAY AND KEYS**

1. Unit of measurement or number of program running or number of loop displayed.
3. Displays program number, step number, unit of measurement (°C, K, °F, RPM).
4. Control function description:
   - RUN = functioning (normal functioning, steady on, program running).
   - STOP = stop.
   - TUN = PID parameters tuning active.
   - MAN = manual/automatic (0 = automatic control, 1 = manual control).
   - RCP = remote control enabled.
   - SDP1 = setpoint active (0 = setpoint, 1 = setpoint).

**Side 1 Warnings**

- Do not use solvents derived from hydrocarbons (trichlorethylene, gasoline, etc.).

**CONNECTIONS**

1. SV display: parameter values. Configurable with parameter dS.SP (default = setpoint).
2. F/ display: parameters, display status and main menu.
   - The key is active only when the display shows the process variable.
   - A function can be assigned via parameter but1.

**Connections**

- The controller can support voltages of 8 V to 55 V, 20 mcd, in all directions (A, K, °F, °C).
- If the device is mounted on a support, ensure that the support is stable. It is advisable to provide a separate support to reduce vibrations.
- The temperature in the housing exceeding the controller must NOT exceed 50°C. Never block the ventilation slots. Failing to comply the example, with a break of the rear of the controller may cause measurement errors.
- The controller must produce no noise or display in not subjected to bright sunlight or in a strong source of light. If necessary, filter direct light, for example, with a reflector screen. The controller must be fixed between 30° and 120°.

**MAINTENANCE**

Do not use detergent in alcohol or water to wipe the front panel and the housing.

The controller is sensitive to strong electromagnetic fields. Do not position it near radio devices or other equipment that may be influenced by the electromagnetic environment.

**SERVICE**

- The controller’s terminal box must be opened for maintenance.
- The controller’s terminal box is to be opened for maintenance. To protect the exposed terminals on the rear of the controller, it is advisable to install a front panel of adequate protection index of the faceplate.

**PACKAGE CONTENTS**

- 1 x 1850 Separation Column 1/4 DIN model 1635
- 1 x Mounting bracket with screw
- 2 x RJ11 connector (M3) for dial tone
- 1 x Instruction sheet

**WARNINGS AND SAFETY**

- Always consult the instruction that MUST be followed to prevent hazards.
- Indicates contents of sections, general instructions, notes, and other points to which the reader’s attention is drawn.
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- DO NOT install the controller in a potentially inflammable or explosive atmosphere. It can be connected to Ling machines or production process plants that are able to protect the exposed terminals on the rear of the controller.
- The controller is sensitive to strong electromagnetic fields. Do not position it near radio devices or other equipment that may be influenced by the electromagnetic environment.
DRILLING DIMENSIONS AND TEMPLATES

[Image of drilling dimensions and templates]

TECHNICAL DATA

OPERATION INTERFACE

DISPLAY
- LCD black background
- Screen area: 61 x 44 mm
- Display: Backlit with backlight, 6 digits in 20 mm height, 19 steps load, 12 steps load, 3 steps load, 22 steps load
- PV display: Number of digits: 8 to 14 segments, with decimal point
- Input impedance (Ri): 10 Ω
- Text entry: All alphanumeric, 24 characters

AUXILIARY INPUT

ANALOG INPUT
- Type: Dual input, 1 NTC, 1 RTD
- Temperature unit of sensor: °C
- Accuracy: ±0.2% of reading in °C
- Linearization: DIN 43760 or custom
- Resolution: 12 bit
- Input impedance (Ri): ≥ 10 MΩ
- Isolation: 250 V

DIGITAL INPUTS
- Type: configurable
- Number of digits: 7 to 14 segments, with decimal point
- Signal interval: Type: linear
- Linearization accuracy: 0,005% F.S. /°C from 25°C
- Current indication: 0...100% f.s.
- Digit height: 23 mm
- Color: white

LOGIC OPERATIONS
- Blocks: max 32, with 4 input variables per block
- Max. number of external transfer: 20, with 4 input variables per block
- Max. 4 x 10 mA, 4 x 20 mA, 4 x 50 mA
- Fieldbus: MODBUS, DeviceNet
- Baudrate: 1200, 2400, 4800, 9600, 19.200, 38.400

DIAGONSTIC
- Sensor output: +, -
- Power supply: 20...27 VAC/VDC ±10%, 50/60Hz
- Output: ±0,005% of reading in °C
- Life cycle: > 100.000 operations Double isolation

ENERGY CONSUMPTION
- Internal: 0.01 W
- Memory: > 10 years
- Resolution: > 1.000 digits

PROTECTION
- Level 2
- Installation category: II
- Pollution degree: 2
- IP 65 on front panel (as per IEC 68-2-3)
- Storage temperature: -20 ... +70 °C (as per IEC 68-2-14)
- Retention: > 10 years

INPUTS/OUTPUTS
- Main input: 2 x NTC, 1 x RTD, 1 x 0/4...20 mA, 1 x 0...5 V, 1 x 0...10 V
- Max. current: 5 A
- Max. line resistance: 20 Ω
- Isolation: 1500 V
- Life cycle: > 100.000 operations Double isolation

SETPOINT PROGRAMMER
- (Double programmer, 8+2 loop)
- Number of variables: 16 (4-20 mA, 0-10 V, 0-5 V)
- Number of steps: 16, each with own start value, ramp time and hold time
- Time scale: 180mm fleet
- Scale: ±0,005% of reading in °C
- Resolution: ±0,005% of reading in °C
- Accuracy: ±0,005% F.S. /°C from 25°C ambient temperature
- Linearization: DIN 43760 or custom

TECHNICAL DATA

DIGITAL FILTER
- Type: selectable from keypad
- Spectrum: 10 kHz
- Bandwidth: 0,01 Hz
- Power supply: DC ±20 mA
- Temperature unit of sensor: °C
- Accuracy: ±0,2% of reading in °C
- Linearization: linear or custom
- Resolution: 12 bit
- Input impedance (Ri): ≥ 10 MΩ
- Isolation: 250 V

POWER SUPPLY
- Voltage: 20...27 VAC/VDC ±10%, 50/60Hz
- Current: ±0,005% F.S. /°C from 25°C ambient temperature
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MULTIPLE SETPOINTS
- Number of segments: max 4 segments from digital input
- Each segment change is subject to set ramp, different for up and down ramp
- Sensor: NTC, RTD (PT100, JPT100), IR ES1B, DC linear
- Type: selectable from keypad
- Spectrum: 10 kHz
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