

RE70 TEMPERATURE CONTROLLER



(Preliminary datasheet)

FEATURES:

IP65

SMART
PID

Password
protection



Features:

- * Universal measuring input for resistance Thermometers and thermocouple sensors,
- * Relay output with SPDT contacts,
- * Manual control,
- * Password protect menu,
- * Self-tuning,
- * Innovative smart PID algorithm,
- * Configurable by Push button
- * Control algorithm: P, PD, PI, PID, two-state with hysteresis
- * Way of output action: - reverse : for heating
- direct : for cooling
- * Signalling:
 - a. output state c. manual mode
 - b. setpoint display d. self-tuning

INPUTS:



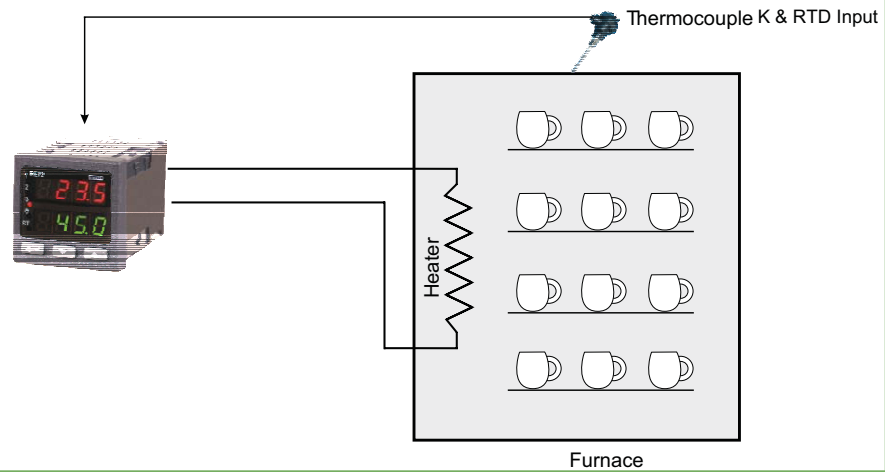
OUTPUTS:



GALVANIC ISOLATION:



EXAMPLE OF APPLICATION



INPUTS

| Sensor type | Standard | Notation | Range | Accuracy |
|---------------|-----------------------|----------|------------------|----------|
| Pt100 | PN - EN 60751+A2:1997 | Pt100 | -199 ... 850°C | 0.2% |
| Pt1000 | PN - EN 60751+A2:1997 | Pt1000 | -199 ... 850°C | 0.2% |
| Fe -CuNi | PN - EN 60584 -1:1997 | J | -100 ... 1200°C | 0.3% |
| Cu -CuNi | PN - EN 60584 -1:1997 | T | -100 ... 400°C | 0.3% |
| NiCr - NiAl | PN - EN 60584 -1:1997 | K | -100 ... 137 2°C | 0.3% |
| PtRh10 -Pt | PN - EN 60584 -1:1997 | S | 0 ... 1767°C | 0.5% |
| PtRh13 -Pt | PN - EN 60584 -1:1997 | R | 0 ... 1767°C | 0.5% |
| PtRh30 -PtRh6 | PN - EN 60584 -1:1997 | B | 0 ... 1820°C | 0.5% |
| NiCr -CuNi | PN - EN 60584 -1:1997 | E | -100 ... 999°C | 0.3% |
| NiCrSi - NiSi | PN - EN 60584 -1:1997 | N | -100 ... 1300°C | 0.3% |

Measurement time 0.33 s
 Detection of error in the measuring circuit:
 - thermocouple, Pt100, PT1000
 - overrunning the measuring range

Additional errors in rated working conditions caused by:
 - compensation of the thermocouple cold junction $\leq 2\text{degC}$,
 - ambient temperature change $\leq 100\%$ of accuracy /10 K.

OUTPUTS

Relay
 SPDT
 Max. switching:
 Voltage: 250V a.c., 150V d.c.
 Current: 5A 250V a.c., 5A 30V d.c.
 Power (for resistance load) 1250VA, 150W

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| EXTERNAL FEATURES | | |
|-------------------------------------|------------------------------|------------------------------|
| Weight | < 0.25 kg | |
| Dimensions | 48 x 48 x 93 mm | |
| Protection grade (acc. to EN 60529) | ensured by the housing: IP65 | from the terminal side: IP20 |

| RATED OPERATING CONDITIONS | | |
|--|-------------------------------|---------------------------|
| Supply voltage | 230 V a.c. \pm 10%, 50/60Hz | power consumption: < 3 VA |
| Temperature | ambient: 0...23...50°C | storage: -20...70°C |
| Relative humidity | \leq 85% | (without condensation) |
| Operating position | any | |
| Preheating time | 30 min | |
| Resistance of wires connecting RTD with the controller | <20 Ohm | |

| SAFETY AND COMPATIBILITY REQUIREMENTS | | |
|--|--|----------------------|
| Electromagnetic compatibility | Noise immunity | acc. to EN 61000-6-2 |
| | Noise emissions | acc. to EN 61000-6-4 |
| Isolation between circuits | basic | |
| Pollution grade | 2 | |
| Installation category | III | |
| Maximal phase-to-earth operating voltage | for the supply circuit, outputs: 300 V | acc. to EN 61010-1 |
| | for input circuit: 50 V | |
| Altitude above sea level | < 2000 m | |

CONNECTION DIAGRAMS

Fig. 1. View of the controller's connection strips.

Fig. 2. Input signals

Fig. 3. Supply

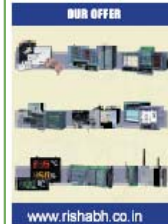
Fig. 4. Control/Alarm output

Fig. 5. RS-485 interface (only for configuration)

ORDERING

| Temperature controller RE70 – | XX | X |
|---|----|---|
| Version: | | |
| standard, Polish..... | PL | |
| standard, English..... | EN | |
| custom-made *..... | XX | |
| Acceptance tests: | | |
| without extra quality requirements..... | | 0 |
| with an extra quality inspection certificate..... | | 1 |
| acc. to customer's requirements *..... | | X |

*After agreeing with the manufacturer



For more information about RISHABH products please visit our website: www.rishabh.co.in

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