☐ Features

- Microcontroller based
- Modular design, 36mm wide housing
- Heating/cooling operating modes selectable
- LCD display operating modes, set and operating temperature
- Temperature measurement range -25°C~130°C
- Alarm function
- Auto-reset
- Easy to set with keys
- AC/DC 24-240V wide input range
- DIN-Rail mounting

☐ Application

ESRD-TRS130, depending on the selected heating or cooling mode, is designed to measure the temperature of load via external sensor. It can be used for monitoring temperature in switchboard, heating systems, cooling systems, open space, etc.

☐ Main technical data

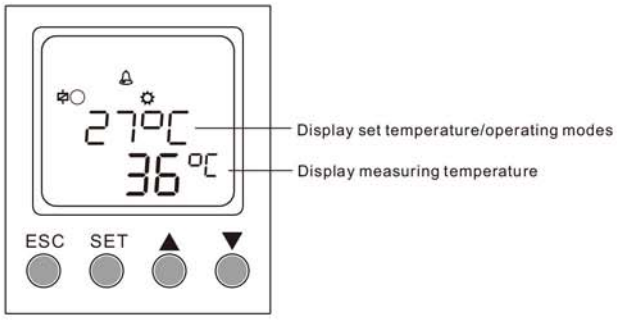
Supply terminals	A1,A2
Supply voltage	AC/DC 24-240V
Rated frequency	50/60Hz
Power consumption	1.5W
Measuring terminals	T1,T2
Alarm terminals	21, 24
Output terminals	11, 14
Temperature range	-25~130°C
Hysteresis	1~30°C
Correction range	-9~9°C
Setting step value	1°C
Display	LCD with backlight
Output contact	1NO
Current rating	16A/250V AC1
Switching capacity	4000VA/AC1, 300W/DC
Alarm current rating	2A/250V AC1
Protection degree	IP20
Pollution degree	3
Electrical life	10^5
Mechanical life	10^6
Altitude	≤2000m
Ambient temperature	-20°C~+55°C
Humidity	50% @40°C(without condensation)
Storage temperature	-30°C~+70°C
Wire size	0.5mm²~1mm²
Torque	0.5Nm
Mounting	TH-35 Rail

Temperature sensor

Model	RT801
Measure element	KTY81-210
Sensor dimensions	ϕ6mmx50mm
Sensor material	Stainless steel
Cable size and length	2x0.3mm²/2.5m
Cable material	Silicone

☐ Operating instruction

○ Display

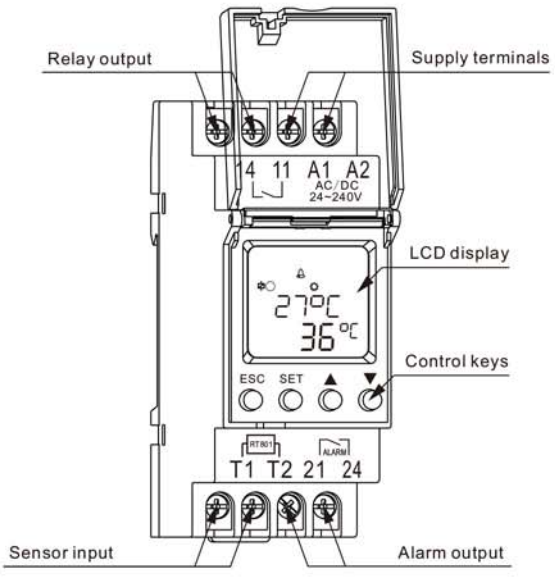


Symbol legend

- output contacts close — Alarm
- output contacts open — Heating mode
- SET — menu setting — Cooling mode
- MAX — Measured temperature ≥150°C, display value is 150°C.
- MIN — Measured temperature ≤-55°C, display value is -55°C.

Keys

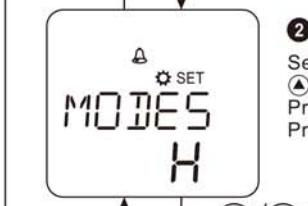
ESC ○Exit from settings	SET ○Enter setting menu ○Confirm selection
▲ ○Select menu ○Digit +	▼ ○Select menu ○Digit -



☐ Menu settings

❶ Display

Display the current state of operation and output relay, the set temperature, operating mode, and the measuring temperature.



❷ Operating mode setting

Select operating mode by pressing ▲▼ keys.
Press (SET) to confirm.
Press (ESC) to cancel the setting and exit.

Symbol	Operating mode
H	Heating mode
C	Cooling mode

❸ Temperature setting

Set the desired temperature by pressing ▲▼ keys. Setting range is -25~130°C.
Press (SET) to confirm.
Press (ESC) to cancel the setting and exit.

❹ Hysteresis setting

Set the desired hysteresis by pressing ▲▼ keys. Setting range is 1~30°C.
Press (SET) to confirm.
Press (ESC) to cancel the setting and exit.

❺ Alarm temperature setting

Set the alarm temperature by pressing ▲▼ keys. Setting range is 2~10°C
Press (SET) to confirm.
Press (ESC) to cancel the setting and exit.

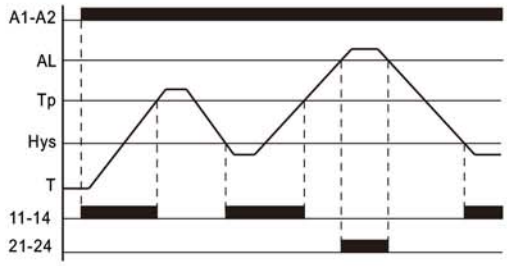
❻ Temperature correction setting

Set the alarm temperature by pressing ▲▼ keys. Setting range is -9~9°C (exceeded the set temperature).
Press (SET) to confirm.
Press (ESC) to cancel the setting and exit.

Long press ▲ 0.5s, increase the numerical value quickly
Long press ▼ 0.5s, decrease the numerical value quickly

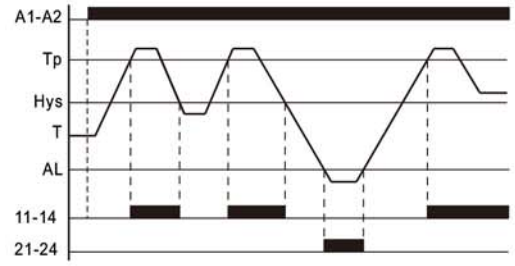
☐ Function diagrams

○ Heating mode



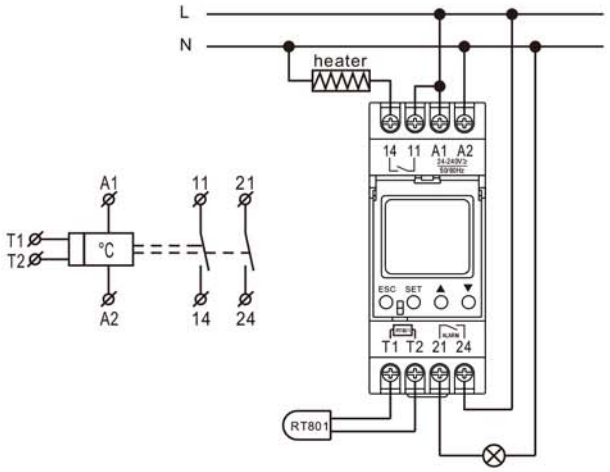
After energization, if measured temperature T is higher than the set temperature Tp, output contact 11 and 14 switch OFF; when the measured temperature T drops to the "Hys" position, output contact 11 and 14 switch ON.
If measured temperature T is higher than the alarm temperature, alarm contact 21 and 24 switch ON, or it will switch OFF.

○ Cooling mode



After energization, if measured temperature T is higher than the set temperature Tp, output contact 11 and 14 switch ON; when the measured temperature T drops to the "Hys" position, output contact 11 and 14 switch OFF.
If measured temperature is lower than the alarm temperature, alarm contact 21 and 24 switch ON, or it will switch OFF.

☐ Wiring diagrams



☐ Dimensions