



RES-5007

Changeover instructions RES-403 ->RES-5007





The new RESISTRON temperature controller RES-5007 (production date starting from 01/2020) has been equipped with a more powerful processor to enable new functionalities. In addition, new functions and interfaces have been integrated. The current version of the RES-5007 is functionally downward compatible with the previous devices. It can thus be integrated into existing systems as a replacement.



The assignment of the connection terminals was changed.

The changes of the new generation are described below.

New functionalities

- A micro USB interface is available directly on the device. The RES-5007 can be connected directly to a PC to facilitate maintenance and commissioning using the ROPEXvisual[®] visualisation software, which can be downloaded free of charge. The CI-USB-1 can no longer be used for this purpose.
- The RES-5007 provides a RESET input to acknowledge alarms. The RES-403 has to be power cycled instead.
- The ANALOG input of the RES-5007 for adjusting the temperature set point can be used as voltage input in combination with a ANALOG output of a plc.

A detailed description of the new functionalities is given in the operating instructions of the RES-5007. The operating instructions and the visualisation software ROPEXvisual[®] can be downloaded free of charge from the download area at <u>https://ropex-group.com</u>.

Discontinued functionalities

- The RES-403 provides a button for starting the AUTOCAL function. The RES-5007 does not provide this button. An external button can be connected between terminal 5 (AUTOCAL) and 12 (+24 VDC) for starting the AUTOCAL function.
- The RES-403 provides an relay contact as ALARM output. The RES-5007 provides a semiconductor output switching to terminal 12 (+24 VDC) instead.
- The modifications MOD26 (BOOSTER connection), MOD40 (Temperature reached signal) and MOD46 (Temperature OK signal) are not available for the RES-5007. Use RES-5027 instead.

Certification

Version

18.7.23

• The RES-5007 has UL certification for USA and Canada (cULus), file number: E464680

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Device connection

1. Device selection

The power supply for the RES-5007 can be in the range from 110 VAC to 480 VAC. It is no longer necessary to distinguish between the power supplies 115 VAC, 230 VAC or 400 VAC.

Mains power supply	RES-403 Art. no.	RES-5007 Art. no.
115 VAC	740301	
230 VAC	740302	7500700
400 VAC	740303	

2. Supply

Apart from the mains power supply, the RES-403 did not require any other voltage supply. The RES-5007 on the other hand requires an additional 24 VDC supply, which must be connected to terminals 12 (+) and 13 (-). As long as only this 24 VDC supply is switched on and the power supply is still missing, the RES-5007 remains in a standby state. The actual value 0 °C is output at the ANALOG output at terminal 17.

As soon as the power supply is switched on, the RES-5007 changes to measurement mode or control mode. 3. **Terminal assignment**

The terminal strip for the power supply (terminals 1 to 4) is no longer mechanically compatible with the previous terminal strip. However, the terminal assignment has remained identical.

Representation of the terminal strips:





Power supply terminal for RES-403 with Art. no. 740301 740302 740303 Power supply terminal for RES-5007 with Art. no. 7500700

The assignment of the terminal strips for the control signals (terminals 5 to 18) is no longer compatible with the previous assignment. The following changes were made:

Signal	Previous assignment RES-403	New assignment RES-5007
+24 VDC	-	12
ALARM OUTPUT	5, 6 (relay output)	18 (semiconductor output switching to terminal 12)
U _R voltage measurement	7	8
AUTOCAL	8	5
START (HEAT)	12	6



Signal	Previous assignment RES-403	New assignment RES-5007
Ground (Protective conductor connection)	13	14
Reference ground (GND) for START and AUTOCAL signals		13
ANALOG OUTPUT	14	17
Internal ground	15, 16	13
SET POINT potentiometer	17	connect as voltage devider to 16, 13 and 15
START (contact)	18 (connect to 15)	6 (connect to 12)

4. Set point potentiometer connection

The connection of the set point potentiometer differs from RES-403 to RES-5007. The RES-403 needs a shielded two wire connection of the potentiometer while the RES-5007 needs a shielded three wire connection:



5. ALARM output

The ALARM output changed from RES-403 (relay contact) to RES-5007 (semiconductor output). The following schematic shows an example for connecting the Kb contactor:









Associated components

The correct functioning of the RES-5007 is only guaranteed in conjunction with the following components:

Component	Туре	Art. no.
Current transformer	PEX-W5 (with UL)	885107
	PEX-W4 (with UL, obsolete)	885106
	PEX-W3 (without UL, obsolete)	885105
Line filter	LF-06480 (6 A, 480 VAC with UL)	885500
	LF-10520 (10 A, 520 VAC with UL and CSA)	885504
	LF-20520 (20 A, 520 VAC with UL and CSA)	885510
	LF-30520 (30 A, 520 VAC with UL and CSA)	885511
	LF-50520 (50 A, 520 VAC with UL and CSA)	885509
	LF-35480 (35 A, 480 VAC without UL)	885506



The temperature controller RES-5007 may only be operated with the specified components in order to avoid malfunctions.