


RES-5009

Changeover instructions RES-409 RES-5009



The new RESISTRON[®] temperature controller RES-5009 (production date starting from 02/2021) 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-5009 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

- The RES-5009 supports the CANopen^{®1} protocol (according to CiA^{®1} profile 301, version 4.2.0). It continues to support the ROPEX-CAN protocol. A DIP switch is used for protocol selection.
- A micro USB interface is available directly on the device. The RES-5009 can be connected directly to a PC to facilitate maintenance and startup using the ROPEX Visual[®] visualisation software, which can be downloaded free of charge. The CI-USB-1 can no longer be used for this purpose.
- The BOOSTER connection is provided as standard. The MOD-26 (BOOSTER connection) is no longer required.

A detailed description of the new functionalities is given in the operating instructions of the RES-5009. The [operating instructions](#) and the [visualisation software](#) ROPEX Visual[®] can be downloaded free of charge from the download area at <https://ropex.de/en>.

Device connection

1. Device selection

The power supply for the RES-5009 can be in the range from 110 VAC to 480 VAC. It is no longer necessary

1. CiA[®] and CANopen[®] are European Union trademarks of CiA e.V.

to distinguish between the power supplies 115 VAC, 230 VAC or 400 VAC.

Mains voltage	RES-409 Art. no.	RES-5009 Art. no.
115 VAC	740901	7500900
230 VAC	740902	
400 VAC	740903	

2. Supply

The RES-409 did not require any other voltage supply aside from the power supply. The RES-5009 on the other hand requires a 24 VDC supply, which must be connected to terminals 5 (+) and 7 (-).

As long as only this 24 VDC supply is switched on and the power supply is still missing, the RES-5009 remains in a standby status.

As soon as the power supply is switched on, the RES-5009 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-409 with Art. no.

740901
740902
740903



Power supply terminal for RES-5009 with Art. no.

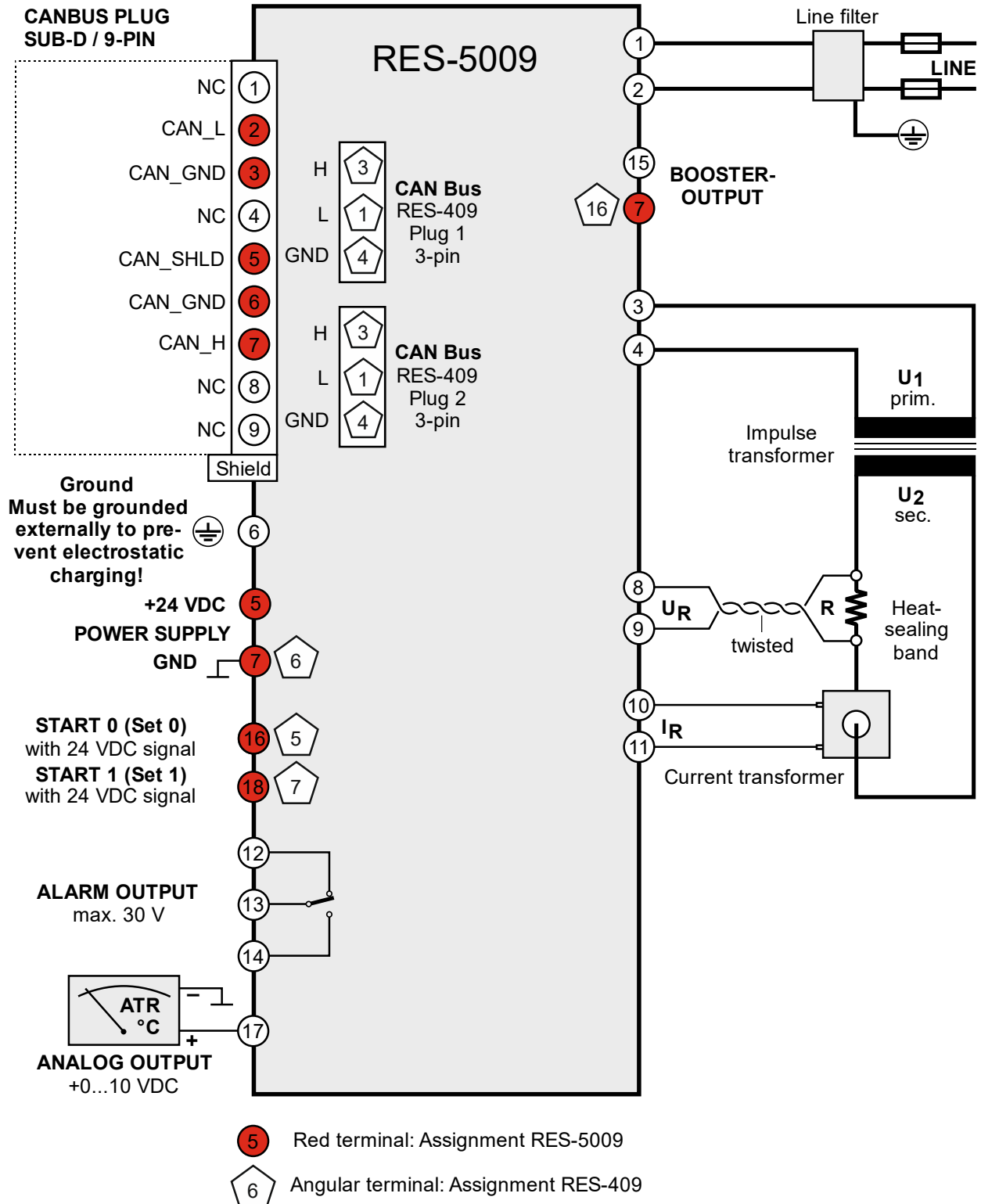
7500900

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-409	new assignment RES-5009
+24 VDC	-	5
START (HEAT)	5	16
PREHEAT (preheat)	7	18
GND	6	7
Reference ground (GND) for ANALOG and BOOSTER output	17 or 16	7

The connection to the CAN bus no longer uses 3-pin M8 circular plugs, but rather a 9-pin SUB-D plug. Additional devices can be connected to the CAN bus using Y adapter cables.

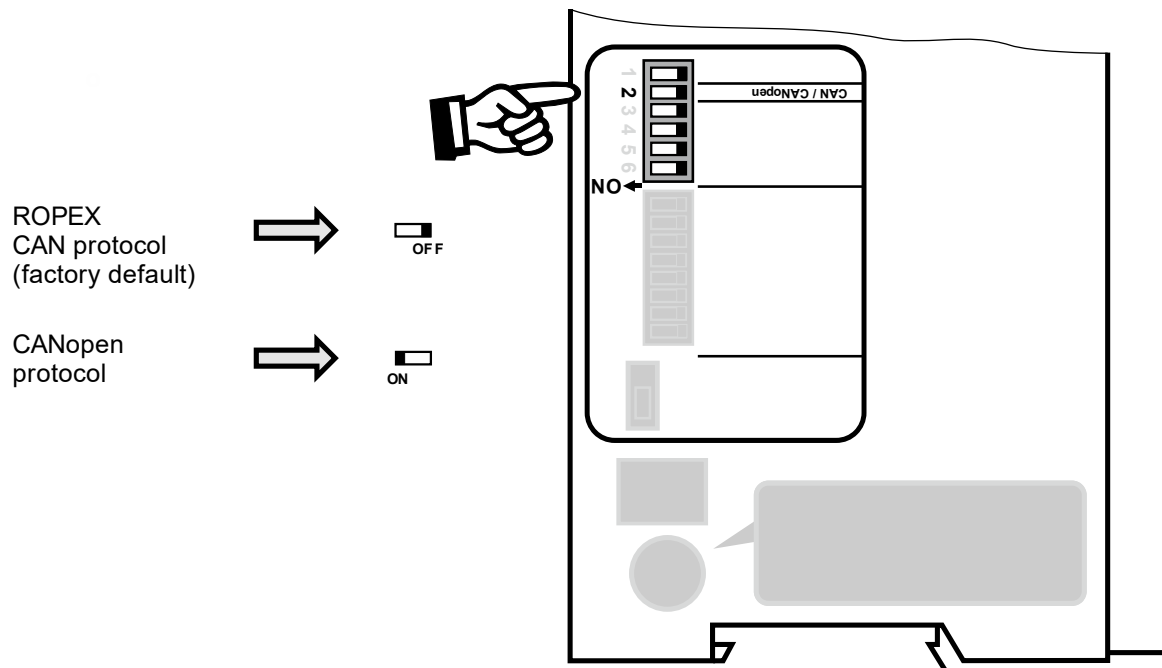
Signal	previous assignment RES-409 (3-pin circular plug)	new assignment RES-5009 (9-pin SUB-D plug)
CAN high	3	7
CAN low	1	2
CAN GND	4	3 or 6
CAN Shield	-	5



Device settings

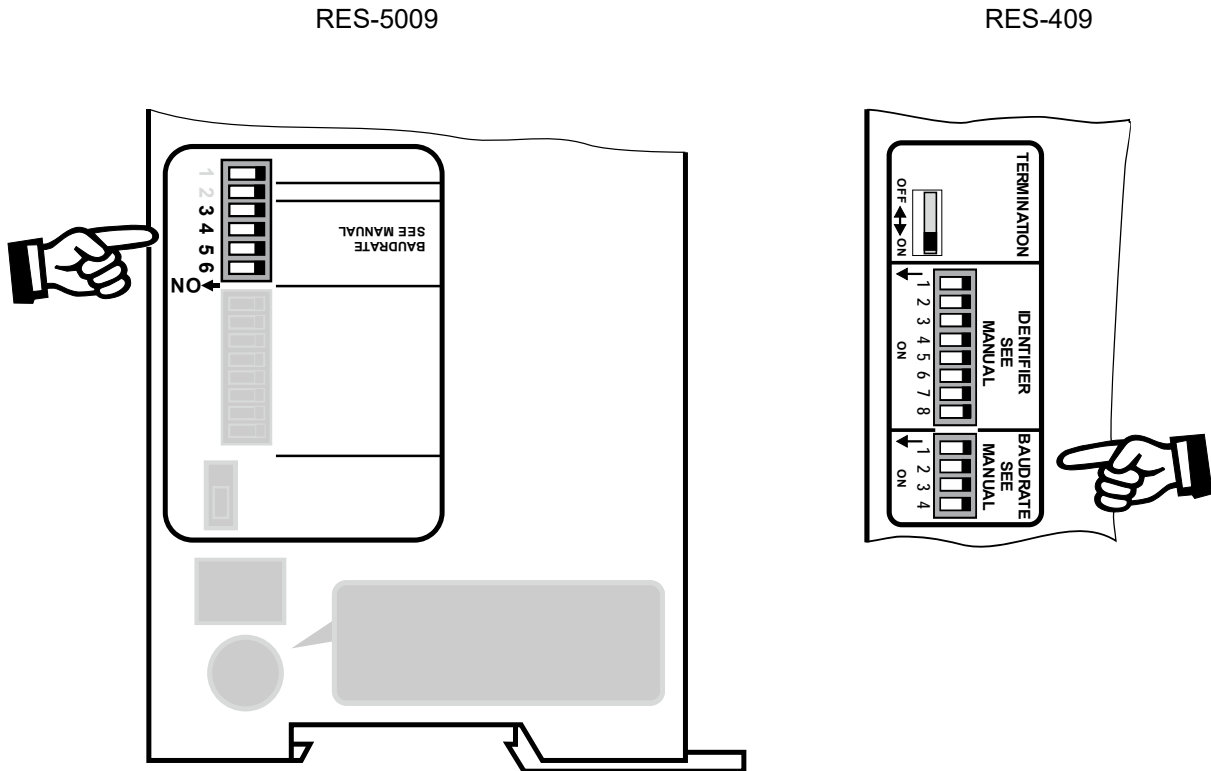
Selection of CAN protocol

The RESISTRON[®] temperature controller RES-5009 supports two different CAN protocols. The DIP switch “CAN / CANopen” is used for selection.



Setting the baud rate

The name of the DIP switches for setting the CAN baud rate has changed in the RES-5009. Moreover, it is possible to set a new baud rate. Four DIP switches called “BAUDRATE” can be used to set the baud rate



Baud rate	RES-5009				RES-409			
	DIP 3	DIP 4	DIP 5	DIP 6	DIP-1	DIP-2	DIP-3	DIP-4
1 MBaud	ON	-	-	-	ON	-	-	-
800 kBaud	-	ON	-	-	-	ON	-	-
500 kBaud	ON	ON	-	-	ON	ON	-	-
250 kBaud	-	-	ON	-	-	-	ON	-
205 kBaud	ON	-	ON	-	ON	-	ON	-
125 kBaud	-	ON	ON	-	-	ON	ON	-
100 kBaud	ON	ON	ON	-	ON	ON	ON	-
50 kBaud	-	-	-	ON	-	-	-	ON
20 kBaud	ON	-	-	ON	ON	-	-	ON
10 kBaud	-	ON	-	ON	not supported			
AutoBaud	-	-	-	-	-	-	-	-

Switch position ‘-’ means Off.

In all switch combinations not mentioned here, automatic baud rate detection is active in the RES-5009.

Setting of CAN Identifier - ROPEX CAN

The CAN Identifier can be set using the 8-pin DIP switch called "IDENTIFIER / NODE ID". The configuration is identical to that of the RES-409 from production date February 2007.

Associated components

The correct functioning of the RES-5009 is only guaranteed in conjunction with the following components:

- PEX-W3: Current transformer without UL
Article number: 885105 (no longer available)
- PEX-W4: Current transformer with UL
Article number: 885106 (no longer available)
- PEX-W5: Current transformer with UL
Article number: 885107
- LF-06480: Line filter 6 A, 480 VAC with UL
Article number: 885500
- LF-10520: Line filter 10 A, 520 VAC with UL and CSA
Article number: 885504
- LF-35480: Line filter 35 A, 480 VAC without UL
Article number: 885506
- LF-50520: Line filter 50 A, 520 VAC with UL and CSA
Article number: 885509



The temperature controller RES-5009 may only be operated with the specified components in order to avoid malfunctions.