

CERTIFICATE

KEMA No.: 2088433.01



Issued to:

Applicant:

INVENSYS

Appliance Control Europe

Immeuble Europe 1

74160, ARCHAMPS, France

Manufacturer/Licensee:

INVENSYS APPLIANCE CONTROLS S.A.

Approvals Department

320 Avenue des Sorbiers

74311, CLUSES CEDEX, France

Product : thermostats
Trade name : INVENSYS, RANCO
Type : SERIES K

The product and any acceptable variation thereto is specified in the Annex to this certificate and the documents therein referred to.

KEMA hereby declares that the above-mentioned product has been certified on the basis of:

- a type test according to the standard EN 60730-1:2000;EN 60730-2-9:2002;
- an inspection of the production location according to CENELEC Operational Document CIG 021
- a certification agreement with the number 2001789

KEMA hereby grants the right to use the ENEC KEMA-KEUR certification mark.

The ENEC KEMA-KEUR certification mark may be applied to the product as specified in this certificate for the duration of the ENEC KEMA-KEUR certification agreement and under the conditions of the ENEC KEMA-KEUR certification agreement.

This certificate is issued on: 25 February 2010 and expires upon withdrawal of one of the above mentioned standards.

KEMA Quality B.V.

drs. G.J. Zoetbrood
Managing Director

H.R.M. Barends
Certification Manager

ACCREDITED BY
THE DUTCH COUNCIL
FOR ACCREDITATION



© Integral publication of this certificate is allowed

SPECIFICATION OF THE CERTIFIED PRODUCT

Product data

Product	:	thermostats
trade names	:	INVENSYS, RANCO
type	:	Series K
basic types	:	Types K12, K14, K22, K50, K54, K55, K56, K57, K58, K59, K60 and K61
basic types, followed by: code band and contact system letter	:	K12: 0500 to 1499 - L K12: 1500 to 4999 - P K14: 0100 to 0999 - A K22: 1000 to 1999 - F or O K22: 2000 to 2999 - I or S K22: 3000 to 3999 - E or M K22: 4000 to 4999 - H or Q K50: 1000 to 7499 - A K52: 1000 to 1499 - A K52: 1500 to 1999 - B K52: 2000 to 2499 - A K52: 2500 to 2999 - B K52: 3000 to 3499 - A K52: 3500 to 3999 - B K52: 4000 to 4999 - A K54: 1000 to 2999 - C K54: 3000 to 5999 - D K54: 6000 to 6999 - C K54: 7000 to 7499 - D K54: 7500 to 7749 - C K54: 7750 to 7999 - D K55: 1000 to 4999 - L K55: 5000 to 5999 - G or P K55: 6000 to 7499 - L K56: 1000 to 2999 - C and T K56: 3000 to 5999 - D and T K56: 6000 to 6999 - C and T K56: 7000 to 7499 - D and T K57: 1000 to 6999 - B K58: 1000 to 1999 - C K58: 2000 to 2999 - D K59: 1000 to 3999 - B K59: 4000 to 8999 - A K60: 1000 to 2499 - A K60: 5000 to 5999 - A K61: 1000 to 1999 - B and U K61: 2000 to 3499 - A and U K61: 3500 to 3999 - B and U

rated voltage	:	250 Vac
rated currents	:	0.2(0.2)A, 6(6)A, 16(16)A and 0.1A
contact system letter and its rated current	:	A: SPST-NO/6(6)A B: SPST-NO+AUX/6(6)A C: SPST-NO/6(6)A+ALARM-NO/0.1A D: SPST-NO/6(6)A+ALARM-NC/0.1A E: SPST-NC/6(6)A F: SPDT/6(6)A G: SPST-NO/16(16)A H: SPST-NC/16(16)A I: SPDT/16(16)A L: SPST-NO/6(6)A M: SPST-NC/6(6)A O: SPDT/6(6)A P: SPST-NO/16(16)A Q: SPST-NC/16(16)A S: SPDT/16(16)A T: SWITCH/6(6)A U: SWITCH/0.2(0.2)A
number of operations	:	automatic main contact: 100.000 automatic auxiliary contact: 6.000 manual contact : 300
kind of control	:	incorporated
type of action	:	action 1
type of disconnection	:	B: manual action C: automatic action
switch head temperature	:	-25T65
kind of terminals	:	tabs for internal wiring up to 6A: 2.8, 4.8 and 6.3 mm up to 16A: 4.8 and 6.3 mm
terminal material	:	no. 3/4/8: not plated brass no. 6: Ni or Ag plated brass
max. terminal temperature	:	140 °C
heat and fire resistance	:	category D
protection degree	:	IP00
class	:	for use in class I appliances
proof tracking index	:	PTI 250
marking	:	tradename: RANCO or INVENSYS, Unique Type Reference with manufacturer location identification code and date code. Electrical ratings ENEC and optional KEMA-KEUR mark on the smallest packing and its documentation sheet.

Additional information

Unique Type Reference System:

K AA B CCCC DDD

- K Basic Series Type
AA Series 12, 14, 22, 50, 54, 55, 56, 57, 58, 59, 60 and 61
B Plant original Design:
L = Lomazzo
H = Speyer
S = Sternberk
Q = Qingdao
P = Plymouth
CCCC Unique Type Reference (see Product data)
DDD Additional variant reference
optional marking on control, this variant reference is showed on label of packed carton
(normally used for packed unassembled items)
Variant: heating resistor (82kohms or greater) may be used for K50, K52, k57 and K59

EE - FF - GG - H

- EE Last two digits of Year of Manufacturing
FF Week of Manufacturing
GG Code issue
H Place of manufacturer code
L = Lomazzo
S = Sternberk
Q = Qingdao

Type of contacts:

- 1 Contact 3,5 dia. AgCdO on Cu, Riveted
This is the standard contact used on the K...Controls.
Can be used either on fixed or movable contact.
Layer of AgCdO on Copper.
- 2 Contact 3,5 dia. AgCdO (massive AgCdO)
Second Head Shaped by Riveting on Movable Contact, in case it is used to carry current
on SPDT Switches it has to be 2,0 mm dia. minimum.
- 3 Contact 3,5 dia. AgCdO (massive AgCdO)
Second Head Shaped by Riveting on Movable Contact, in case it is used to carry current
on SPDT Switches it has to be 2.4 mm dia. minimum.
- 4 Used for Auxiliary contact, Riveted
Fixed contact: Flat shape with 3,0 mm dia. AgCdO on Cu
Movable contact: Radius shape with 3,5 mm dia. AgCdO on Cu
- 5 Used for the Alarm contact, Riveted
Fixed Contact: Flat shape with 3,0 mm dia. Cu Silverplated
- 6 Used for Auxiliary contact
with 2.0 mm dia. AgNi (Silver Nickel) Electrically Soldered
- 7 Used for Auxiliary contact
with 2.5 mm dia. AgNi (Silver Nickel) Electrically Soldered
- 8 Used for Auxiliary contact
with 2.5 mm dia. AgNi (Silver Nickel) Riveted

Insulating materials thermoplastic parts:

	Manufacturer	Tradename	Type	Color
1	GE	Noryl	PPO (SE1 GFN1)	Light Grey
2	BASF	Ultramid	PA66 (A3 X1G7)	Reddish Brown
3	BASF	Ultramid	PA66 (A3 X3G7)	Reddish Brown
4	BASF	Ultramid	PA66 (A3 X2G7 SW100)	Reddish Brown
5	QINGZHONDA -		PA66 (303-G30)	Reddish Brown
6	DUPONT	Zytel	PA66 (E101L)	Grey or Black
7	BASF	Ultramid	PA (KR 4205)	White
8	BASF	Ultramid	PA (C3U)	White
9	DUPONT	Zytel	FR70G25V0	White

For Contact Housing; 1, 2, 3, 4 and 5.

For Bellow Lever Insulator; 1, 2, 3, 4 and 5.

For Switch Cover; 6, 7, 8, and 9.

All other parts are made of metal with or without plating, which can withstand corrosion.

TESTS

Test requirements

EN 60730-1:2000	and amendments	A12:2003 A13:2004 A1:2004 A14:2005 A16:2007 A2:2008
EN 60730-2-9:2002	and amendments	A11:2003 A1:2003 A12:2004 A2:2005

Test result

The test results are laid down in KEMA test file 2088433.01.

Remarks

First Issue dated October 18, 2006.

This report is issued to cover the following items;

- Addition of new Switch Insulating material, Manufacturer: DUPONT, type: Zytel FR70G25V0
- For auxiliary contact only:

- Addition of new material and fixing means;
- Silver Nickel Electrically Soldered 2.0mm dia.
- Silver Nickel Electrically Soldered 2.5mm dia.
- Silver Nickel Riveted 2.5mm dia.

There are no tests performed on the main contacts.

As a result all thermostats are certified under the relevant standards stated in report 2026699.01, dated April 14, 2003, and mentioned under test requirements in this report.

Second issue:

This certificate replaces ENEC certificate 2088433.01, dated October 18, 2006.

- Updated to the latest standards and factory location.
- Carried out under KEMA project no. 2127361.00.

Conclusion

The examination proved that all test requirements were met.

Tested by : R.A.Th. Fooy

Checked by : C.H.J. Addink

Factory-Locations

Invensys Appliance Controls s.r.o.,
Dlouha 4, 785 01, STERNBERK, Czech Republic

Invensys Qingdao Controls Co. Ltd.,
No. 16-7 Xianshan East Road, 266101, Qingdao City, China