

[1] EC-TYPE EXAMINATION CERTIFICATE

**[2] Equipment or Protected System Intended for use
in Potentially explosive atmospheres
Directive 94/9/EC**

[3] EC-Type Examination Certificate Number: Nemko 04ATEX 1030 Issue 1

[4] Equipment or Protective System: Switchbox
[5] Applicant/ Manufacturer: Rotork Sweden AB
[6] Address: Kontrollvägen 15
SE-791 45 Falun
SWEDEN

[7] This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] Nemko AS, notified body number 0470 in accordance with Article 9 of Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report no. 145596

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

CENELEC EN 50014: 1997 + A1: 1999 + A2: 1999 , CENELEC EN 50020 :2002 and CENELEC EN 50281-1-1 :1998

[10] If the sign “X” is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

**[11] This EC-TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 94/9/EC.
Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.**

[12] The marking of the equipment or protective system shall include the following:

 **II 2 GD T80/100°C EEx ib IIC T5/T6**

Oslo, 2010-04-06



Rolf Hoel
Certification Manager, Ex-products

[13] Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE No Nemko 04ATEX1030** | **Issue 1**

[15] **Description of Equipment or Protective System**

The equipment consists of switch boxes supplied with micro switches, inductive sensors and transmitter. Cable entries and plugs have to be appropriately certified and rated with regard to the temperature and ingress protection IP. The certified equipment must be connected to certified intrinsically safe circuits according to the table below.

Type Designation

E4LN2...-, E4LGC2 and 1990 series

Technical Data

Maximum values:

Description	Type	Ui [V]	Ii [mA]	Pi [mW]	Ci [nF]	Li [µH]
Kinax transmitter	3W2 kode:708-xxx	30	160	1000	10	0
Inductive sensor	NJ5-18GK-SN	16	25	64	120	200
Inductive sensor	NCB2-V3-N0	16	25	64	100	100
Inductive sensor	SJ3,5-SN	16	25	64	30	100
Inductive sensor	NJ2-11-SN-G	16	25	64	50	150
Micro switch	V5J012BB1C	30	100	750	0	0
Inhead transmitter	IPAQ-HX	Ui / Uo: 30	Ii 100 / Io 25	Pi 900 / Po 188	Ci 0 / Co 66	Li 0 / Lo 50
Inductive sensor	NJ 2-V3-N	16	25	64	40	50
Inductive sensor	NS5002	15	50	120	80	110
Inductive sensor	NS5009	15	50	120	80	110
Micro switch	E4LGC2	30	100	750		

Maximum values shall be set in conformity with technical data and shall be specified in wiring diagram inside the switch box.

Temperature class, maximum surface temperature (T) and maximum range of ambient temperature (Ta):

T5 / T100°C : -55°C ≤ Ta ≤ 80°C

T6 / T80°C : -55°C ≤ Ta ≤ 65°C

The temperature class, T and Ta range shall be set in conformity with temperature properties of components listed in descriptive documents. Minimum Ta for E4LN2...-..E4LGC2: -40°C

Ingress Protection Code

IP 66 / IP 67

[16]

Report No. 145596

Descriptive Documents

Name/Title	Drawing No.	Rev.	Date	Sheets
1990 Marking sign EEx ib IIC	006600	B	2009-04-22	1
General drawing Label for RC E4 EEx ib	004419	E	2010-03-15	1

1990 Switchbox Base General drawing for ATEX certificate	004474	D	2010-03-23	1
RC E4/1990 EEx ib Technical data	000093	C	2010-03-24	1
Drive Shaft bush 1990-Box	001333-B	B	2005-05-19	1
1990 Switchbox Lid Machining	003316-C	C	2004-11-23	1
Shaft for 1990-box General drawing for Atex Certificate	004084-B	B	2004-03-16	1
1990 EEx ib IIC T6 ATEX Switch box IP66/67 General drawing for components	006602-A	A	2004-11-29	1
Base plate RC E4 all	005616-B	B	2005-05-30	1
Shaft E4 General drawing for Atex certificate	005726-A	A	2005-08-18	1
Electric circuit for RC E4 / RC E4L and 1990 with gold plated mechanical switches General drawing	005754-A	A	2005-09-01	1
Electric circuit for a RC E4 / E4L / 1990 with proximity switches General drawing	005763-A	A	2005-09-07	1
E4LN2 Switch box Inductive switch	004734-C	C	2006-08-25	1
E4L GC Switch box Gold plated micro switch	004757-C	C	2006-08-25	1
E4/E4L Cover Huv Cover Generell ritning	005773-A	A	2005-09-08	1

Routine Test

None

Certificate History and Associated Nemko Reports

Issue	Date	Report	Description
0	2004-07-14	12588	Prime Certificate released
Suppl. 1	2006-09-15	72199	New type of switchbox. 1990 series
1	2010-03-16	145596	Appendix to test report, Nemko Order No. 12588

[17] Special Conditions for Safe Use

None

[18] Essential Health and Safety Requirements

See item 9