

## Type Approval Certificate Extension

*This is to certify* that Certificate No. 03/20037 for the undernoted products is extended and renumbered as shown.

This certificate is issued to:

PRODUCER	Krohne S.A.S. Usine des Ors-BP98 26103 Romans Cedex France
PLACE OF PRODUCTION	Am Hohenstein 113 77761 Schiltach Germany
DESCRIPTION	Level switch
TYPES	OPTISWITCH 5100C and 5150C aM b c d e f  OPTISWITCH 5200C and 5250C aM b c d e  a = X (without Ex approval) C with approval ATEX II 1G, 1/2G, 2G EEx ia IIC T6 D with approval ATEX II 1/2 G, 2G EEx d ia IIC T6 * conformity with further EX approvals may be additionally provided by the manufacturer  b = Process connection  flanges/ threads according to standards 1 to 3 letters A- Z  c = Adapter / process temperature X, T, G, D

Certificate No.	03/20037 (E1)
Issue Date	02 May 2007
Expiry Date	02 December 2007
Sheet	1 of 3



Thorsten Wolff  
Hamburg Design Support Centre  
Lloyd's Register EMEA

*Lloyd's Register EMEA*  
71 Fenchurch Street, London EC3M 4BS

## TYPES continuation

d = Housing / Protection/ Cable entry

P	plastic housing / IP66 / IP67 / M20 x 1,5
N	plastic housing / IP66 / IP67 / 1/2 NPT
M	Aluminium housing single chamber / IP67 / M20 x 1,5
U	Aluminium housing single chamber / IP67/ 1/2 NPT
V	Stst housing / IP66 / IP67 / M20 x 1,5
A	Stst housing / IP66 / IP67/ 1/2 NPT
E	plastic housing / IP 65 with Amp. plug connection
F	Aluminium housing / IP 65 with Amp. plug connection
G	plastic housing / IP 65 with Hirschmann plug connection
H	Aluminium housing / IP 65 with Hirschmann plug connection
I	plastic housing / IP 65 with Harting plug connection
J	Aluminium housing / IP 65 with Harting plug connection
L	plastic housing / IP 65 with Harting plug connection (bent)
Q	Aluminium housing / IP 65 with Hirschmann plug connection (bent)
T	plastic housing / IP 66 / IP 67 / M12 x 1
1	Stst / IP66 / IP 68 (1bar) according to ZG2799 for 95% - point (in connection with electronics Z or N)
2	Stst / IP 66 / IP 68 (1bar) according to ZG2799 for 98% - point (in connection with electronics Z or N)
3	Aluminium housing / IP 66 / IP 68 (1 bar)

e = Electronics

C	Contactless 20...250VAC/DC
R	Relais 20...72VDC/20...250VAC
T	Transistor 10...55 VDC
Z	Two-wire 12...36 VDC
N	Namur signal according to IEC 60947-6(DIN 19234)

Certificate No.	03/20037 (E1)
Issue Date	02 May 2007
Expiry Date	02 December 2007
Sheet	2 of 3



Thorsten Wolff  
Hamburg Design Support Centre  
Lloyd's Register EMEA

Lloyd's Register EMEA  
71 Fenchurch Street, London EC3M 4BS

<b>TYPES continuation</b>	f = Switching Point  X Standard L as LS300 /3000
<b>APPLICATION</b>	Marine, offshore and industrial applications for use in environmental categories ENV1, ENV2, ENV3 and ENV4 (OPTISWITCH 5100C and 5150C only) and ENV5 as defined in Lloyd's Register's Type Approval System, Test Specification Number 1 - 1996.
<b>ADDITIONAL TESTS</b>	Enclosure test IP 65, 66, 67, 68 (1 bar) as indicated under TYPES
<b>DESIGN CODE</b>	Manufacturer's specification
<b>OTHER CONDITIONS</b>	Optiswitch 5200 and 5250: sensors with insertion length > 700mm are to be supported at 700mm and then every following 1500mm

*"This Certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid certificate."*

*The attached Design Appraisal Document No. ETS 17234-07 and its supplementary Type Approval Terms and Conditions form part of this Certificate.*

All other details remain as the previous Certificate No. 03/20037 to which this extension should be attached.

<b>Certificate No.</b>	03/20037 (E1)
<b>Issue Date</b>	02 May 2007
<b>Expiry Date</b>	02 December 2007
<b>Sheet</b>	3 of 3



Thorsten Wolff  
Hamburg Design Support Centre  
Lloyd's Register EMEA

Lloyd's Register EMEA  
71 Fenchurch Street, London EC3M 4BS



# Marine Design Appraisal Document

Lloyd's Register EMEA  
Hamburg Design Support Centre  
Mönckebergstr. 27  
D-20095 Hamburg  
Telephone +49 40 32 81 07 - 0 Fax +49 40 32 81 07 - 480  
Email: hamburg-design-support@lr.org

Date  
02 May 2007  
Quote this reference on all future communications  
HPC 0720161/17234-07/TW/WR

**THE LLOYD'S REGISTER'S TYPE APPROVAL SYSTEM, 2002  
ISSUED TO: KROHNE S.A.S., FRANCE  
FOR: LEVEL SWITCH OPTISWITCH  
TYPE APPROVAL CERTIFICATE NO. 03/20037 (E1)**

The additional undernoted documents have been reviewed for compliance with the requirements of the Lloyd's Register's Type Approval System, 2002 and this Design Appraisal Document forms part of the Certificate.

## APPROVAL DOCUMENTATION

Form LR6606	Approval services request for quotation	18.04.2007
Unnumbered	Letter of Consent	20.04.2007
30431-EN-060831	Operating instructions	undated
30428-EN-060831	Operating instructions	undated

### Supplementary Type Approval Terms and Conditions

*Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval for any other use, nor approval of any product(s) designed or manufactured otherwise than in strict conformity with the said representative sample.*

*Type Approval is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.*

*Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.*

*Lloyd's Register EMEA reserves the right to cancel or withdraw this Type Approval Certificate in accordance with the LR Type Approval System Procedure.*

Thorsten Wolff (Ext. -445)  
Senior Surveyor  
Electrotechnical Systems  
Hamburg Design Support Centre  
Lloyd's Register EMEA  
thorsten.wolff@lr.org

FINAL ACCEPTANCE OF ACTUAL ITEM(S) DEPEND(S) ON SATISFACTORY SURVEY AND TESTING

Lloyd's Register EMEA  
is a member of the Lloyd's Register Group

Lloyd's Register, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as the 'Lloyd's Register Group'. The Lloyd's Register Group assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register Group entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.