



Germanischer Lloyd

Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested in accordance with the relevant requirements of the GL Type Approval System.

Certificate No. **26 188 - 05 HH**

Company **Bosch Rexroth AG
Geschäftsbereich Pneumatics
Ulmer Straße 4
D-30880 Laatzen**

Product Description **Remote Control System**

Type **Marex OS II**

Environmental Category **C, F(Pos.2,3); EMC1**

Technical Data /
Range of Application **Remote Control System for Main Engines with reverse gear units:
1.Control Unit MPC (24 VDC, 3A, IP20 (modular,MAN), IP54(cabinet,plus))
a)Type No. 346 069 0000 Control Unit modular
b)Type No. 346 069 0010 Control Unit MAN
c)Type No. 346 069 0020 Control Unit cabinet
d)Type No. 346 069 0030 Control Unit plus
SW-Version: O2WG V4.2x(modular,cabinet); O2WG V4.1x (MAN,plus)
2.Operating Unit
a)Type 231(24 V DC, max. 0,8A ; IP 66(panel mounted); SW-Version: V0.0)
Type No. 362 231 xxx 0 Operating Module
Type No. 362 231 50x 0 Indication Module
b)Type 242 (CAN-Bus, IP 66(panel mounted);SW-Version: O2BE V2.10)
Type No. R419000243 (horizontal,yellow,yellow,yellow,yellow)
Type No. R419000304 (vertical,yellow,yellow,yellow,yellow)
Type No. R419000506 (horizontal,green,red,yellow,yellow)
Type No. R419000507 (vertical,green,red,yellow,yellow)**

Test Standard **Guidelines for the Performance of Type Approvals Part 2, Edition 2003
Regulation for Use of Computer and Computer Systems**

Documents **Marex OS II, List of Parameter OsWG V4.21; R419300239/06.06; R419300237/06.06;
R419300233/09.06; R419300235/04.06; Description of device; Software-Questionnaire
according to Requirement Class 3;
Code review OSKG V1.12, OSWG V4.21**

Remarks **none**

Valid until **2011-06-14**

Page **1 of 3**

Type Approval Symbol



File No. **I.B.01**

Hamburg, 2006-06-15

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Jürgen Wittburg

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3. Control Head

a) Control Lever Type 230 (24 V DC, max. 2,5A , IP 66(panel mounted);SW-Version: OSKG V2.2x)

- For Reversing Gear: Type No.362 230 00x 0 (single lever, without lever follow-up)
- Type No.362 230 10x 0 (double lever, without lever follow-up)
- Type No.362 230 05x 0 (single lever, with lever follow-up)
- Type No.362 230 15x 0 (double lever, with lever follow-up)
- For speed only: Type No.362 230 40x 0 (single lever, without lever follow-up)
- Type No.362 230 50x 0 (double lever, without lever follow-up)
- Type No.362 230 45x 0 (single lever, with lever follow-up)
- Type No.362 230 55x 0 (double lever, with lever follow-up)
- For special application: Type No.362 230 20x 0 (single lever, without lever follow-up)
- Type No.362 230 30x 0 (double lever, without lever follow-up)
- Type No.362 230 25x 0 (single lever, with lever follow-up)
- Type No.362 230 35x 0 (double lever, with lever follow-up)

b) Control Lever Type 240 (CAN-Bus, IP 66(panel mounted);SW-Version: O2KG V1.1x)

- For Reversing Gear: Type No. 362 240 031 0 (short double lever scale)
- Type No. 362 240 032 0 (double lever scale)
- Type No. 362 240 060 0 (double lever)
- Type No. 362 240 160 0 (single lever)
- Type No. R417000009 (double lever OEM)
- Type No. R417000010 (short double lever OEM)
- Type No. R417000095 (double lever scale for astern stations)
- Type No. R417000610 (short double lever)
- Type No. R417000670 (short double lever OEM)
- Type No. R417000828 short single lever)
- For special application: Type No. R417000366 (single lever, only ahead)
- Type No. R417000368 (single lever)
- Type No. R417000370 (double lever)
- Type No. R417000372 (double lever)
- Type No. R417000374 (double lever, only ahead)
- Type No. R417000376 (double lever, red handles)

c) Control Lever Type 251 (CAN-Bus, IP 66(panel mounted);SW-Version: O2KG V1.1x)

- Type No. R417000327 (double lever)

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Page 2 of 3

Type Approval Symbol



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- d) Control Lever Type 241 (CAN-Bus, IP 66(panel mounted);SW-Version: O2KG V1.1x)
 - For Reversing Gear Type No. R417000356 (double lever);Type No. R417000357 (single lever);
Type No. R417000358 (double lever, for astern station)
 - For Special application: Type No. R417000367 (single lever, only ahead); Type No. R417000369 (single lever)
Type No. R417000371 (double lever); Type No. R417000373 (double lever);
Type No. R417000375 (double lever; only ahead);
Type No. R417000377 (double lever, red handle);
 - 4. External Power Supply Unit EPU (12V-24VDC, max. 2,5A,IP 20)
Type No.346 069 151 0
 - 5. I/O Module (24 VDC, max 0,6A; IP 54; SW-Version OSIS V2.1x)
 - a) Basis system Type No. 346 067 001 0
 - b) I/O-Extension boards Type No. 346 067 716 2 (Analogue Module); Type No. 346 067 717 2 (Relay Module I)
Type No. 346 067 718 2 (Relay Module II)
 - 6. Mechanical Actuator
 - a) External controlled (12VDC, max. 4A, IP 54)
 - Type No. 323 698 000 0 (70mm stroke, plug); Type No. 323 698 010 0 (120mm stroke);
 - Type No. 323 698 020 0 (70mm stroke)
 - b) Internal controlled (24VDC, max. 4A, IP 54)
 - Type No. 323 698 100 0 (70mm stroke, plug); Type No. 323 698 110 0 (120mm stroke, plug)
 - 7. Data Cable
 - a) CAN-Bus Type M12 Type No. 894 605 4xx 2; Type No. R419800155;Type No. R419800177-182
 - b) CAN-Bus Type Sub-D Type No. 894 605 xxx 2
 - c) I²C-Bus Type Sub-D Type No. 894 605 xxx 2
 - d) Type M23 Type No. 894 620 2xx2; Type No. R417000523
 - 8 Accessories
 - Type No. 894 105 42x 4 (Terminating Restior M12); Type No. 894 605 489 2 (Adapter M12/Sub-D);
 - Type No. 346 067 36x2 (Terminating Resistor Sub-D)
- Test reports :
- Meßtechnik Nord GmbH - 04391.034.02 (2002-05-29); 04883.200.04 (2004-11-18); 05074.106.05 (2005-08-08); 04831.108.04 (2004 06-29); 04198.098.00 (2000-12-12); 04883.191.04 (2004-11-15); 03948.082.98(1998-08-24); 04883.199.04 (2004-11-18); 04876.154.04 (2004-09-14); 04732.164-1.03 (2003-12-18); 03948.080.98 (1998-08-25);
Phoenix Testlab GmbH - U51284b (2006-02-24); U50356a (2005-06-27); MPA Hannover-848.0874(1998-11-26);
Kriwan Testzentrum-002006-01-A (2002-01-31); 002006-02-A (2002-02-05); 002006-02-B (2002-02-08);
Bosch Rexroth AG - Software-Validierung Marex OS II (2006-04-05 and 2006-02-28); M-K, Pretzel (1998-10-13)

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Page 3 of 3

File No. I.B.01

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