DNV·GL

Certificate No:
TAA00000KC

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Control levers

with type designation(s)
CoPilot 4 ELAS, CoPilot 4 Mechanical

Issued to
Kwant Controls B.V.
Sneek, Netherlands

is found to comply with
DNV GL rules for classification – Ships
DNV GL rules for classification – High speed and light craft

Application :

Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.

Location classes:

Type	Temperature	Humidity	Vibration	EMC	Enclosure
CoPilot 4 ELAS	**D**	**B**	**A**	**B**	**C**
CoPilot 4 Mechanical	**D**	**B**	**A**	**B**	**C**

This Certificate is valid until **2021-11-10**.

Issued at **Høvik** on **2016-11-11**

for **DNV GL**

DNV GL local station: **Rotterdam**

Approval Engineer: **Jabber Abbas**

Odd Magne Nesvåg
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

© DNV GL 2014. DNV GL and the Horizon Graphic are trademarks of DNV GL AS.

Job Id:
Certificate No: **TAA00000KC**

Product description

The CoPilot 4 series are console mounted units, designed for steerable thrusters on board of ships. The units are designed for both speed (RPM or pitch) and azimuth steering. All units are powered by two 24 VDC power supplies and connected by means of two CAN-buses. All communication is done via the CAN-open protocol.

The CoPilot 4 series consists of motorized levers of type CoPilot 4 ELAS (electric shaft) and non-motorized levers of type CoPilot 4 Mechanical. The series is available with wheel diameters of 128mm and 188mm, also there is a variant available without a wheel. The CoPilot 4 can be equipped with speed and azimuth illumination. See table below for all possible types:

Drawing No.	Rev.	Title	Type	Schottel Id.Nr.
A0131369	0	CoPilot 4 FP / wheel D=188	Mechanical	1203204
A0131161	0	CoPilot 4 FP / wheel D=128	Mechanical	1203205
A0131383	0	CoPilot 4 FP / without wheel	Mechanical	1202374
A0131370	0	CoPilot 4 CP / wheel D=188	Mechanical	1203209
A0131368	0	CoPilot 4 CP / wheel D=128	Mechanical	1203210
A0131386	0	CoPilot 4 CP / without wheel	Mechanical	1203211
A0132008	0	CoPilot 4 Slip / wheel D=188	Mechanical	1203215
A0132009	0	CoPilot 4 Slip / wheel D=128	Mechanical	1203216
A0132010	0	CoPilot 4 Slip / without wheel	Mechanical	1203217
A0132011	0	CoPilot 4 FP / wheel D=188 / speed ill.	Mechanical	1203221
A0132012	0	CoPilot 4 FP / wheel D=128 / speed ill.	Mechanical	1203222
A0132013	0	CoPilot 4 FP / without wheel / speed ill.	Mechanical	1203223
A0132014	0	CoPilot 4 CP / wheel D=188 / speed ill.	Mechanical	1203227
A0132015	0	CoPilot 4 CP / wheel D=128 / speed ill.	Mechanical	1203228
A0132016	0	CoPilot 4 CP / without wheel / speed ill.	Mechanical	1203229
A0132017	0	CoPilot 4 Slip / wheel D=188 / speed ill.	Mechanical	1203233
A0132018	0	CoPilot 4 Slip / wheel D=128 / speed ill.	Mechanical	1203234
A0132019	0	CoPilot 4 Slip / without wheel / speed ill.	Mechanical	1203235
A0131989	0	CoPilot 4 FP / wheel D=188	ELAS	1203206
A0131990	0	CoPilot 4 FP / wheel D=128	ELAS	1203207
A0131991	0	CoPilot 4 FP / without wheel	ELAS	1203208
A0131992	0	CoPilot 4 CP / wheel D=188	ELAS	1203212
A0131993	0	CoPilot 4 CP / wheel D=128	ELAS	1203213
A0131994	0	CoPilot 4 CP / without wheel	ELAS	1203214
A0131995	0	CoPilot 4 Slip / wheel D=188	ELAS	1203218
A0131996	0	CoPilot 4 Slip / wheel D=128	ELAS	1203219
A0131997	0	CoPilot 4 Slip / without wheel	ELAS	1203220
A0131998	0	CoPilot 4 FP / wheel D=188 / speed ill.	ELAS	1203224
A0131999	0	CoPilot 4 FP / wheel D=128 / speed ill.	ELAS	1203225
A0132000	0	CoPilot 4 FP / without wheel / speed ill.	ELAS	1203226
A0132001	0	CoPilot 4 CP / wheel D=188 / speed ill.	ELAS	1203230
A0132002	0	CoPilot 4 CP / wheel D=128 / speed ill.	ELAS	1203231
A0132003	0	CoPilot 4 CP / without wheel / speed ill.	ELAS	1203232
A0132004	0	CoPilot 4 Slip / wheel D=188 / speed ill.	ELAS	1203236
A0132005	0	CoPilot 4 Slip / wheel D=128 / speed ill.	ELAS	1203237
A0132006	0	CoPilot 4 Slip / without wheel / speed ill.	ELAS	1203238

Application/Limitation

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV GL rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

Job Id:
Certificate No: **TAA00000KC**

Type Approval documentation

Tests carried out
Applicable tests according to class guideline DNVGL-CG-0339, November 2015.

Marking of product
The products to be marked with:
- Schottel
- model name
- serial number

Periodical assessment
The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:
- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed at least every second year and at renewal of this certificate.

END OF CERTIFICATE