

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Peripheral Equipment**

with type designation(s)
JUMO AQUIS touch P (type: 202580)

Issued to
JUMO GmbH & Co. KG
Fulda Hessen, Germany

is found to comply with
DNV GL rules for classification – Ships

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Location class:

Temperature	B
Humidity	B
Vibration	A
EMC	B
Enclosure	A (rear) / B (on the front)

Issued at **Hamburg** on **2017-04-21**

This Certificate is valid until **2022-04-20**.
DNV GL local station: **Magdeburg**

Approval Engineer: **Klaus-Peter Schröder**



Digitally Signed By: Rinkel, Marco
for **DNV GL**
Signing Date: 2017-05-02
Location: Hamburg - On behalf of

Joannis Papanuskas
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.



Product description

JUMO AQUIS touch P: Modular Multichannel Measuring Device for Liquid Analysis with Integrated Controller and Paperless Recorder (Type 202580)

Order code

202580 / x - xx - x - x - xx - xx - xx - xx - xx - xx / xxx
(1) / (2) - (3) - (4) - (5) - (6) - (7) - (8) - (9) - (10) - (11) / (12)

(1) Basic type

202580 = JUMO AQUIS touch P

(2) Version

8 = Standard with factory settings

9 = Customer-specific configuration (specification in plain text)

(3) Language

01 = German

02 = English

03 = French

(4) Analysis input 1

0 = Not used

1 = pH/redox/NH

2 = CR resistive conductivity measurement (2 and 4-pole)

3 = Ci inductive conductivity measurement

(5) Analysis input 2

0 = Not used

1 = pH/redox/ NH

2 = CR resistive conductivity measurement (2 and 4-pole)

3 = Ci inductive conductivity measurement

(6) Input/output 1

00 = Not used

10 = Universal input

11 = Relay (changeover contact)

12 = 2x relays (normally open contact)

13 = Solid state relay triac 230V, 1A

14 = Logic output 0/22V

15 = 2 logic outputs 0/12V

16 = Analog output

17 = 2x solid state relay PhotoMOS®

(7) Input/output 2

00 = Not used

10 = Universal input

11 = Relay (changeover contact)

12 = 2x relays (normally open contact)

13 = Solid state relay triac 230V, 1A

14 = Logic output 0/22V

15 = 2 logic outputs 0/12V

16 = Analog output

17 = 2x solid state relay PhotoMOS®

19 = Power supply output DC $\pm 5V$, 24V

(8) Input/output 3

00 = Not used

11 = Relay (changeover contact)

12 = 2x relays (normally open contact)

13 = Solid state relay triac 230V, 1A

14 = Logic output 0/22V

15 = 2 logic outputs 0/12V

16 = Analog output

17 = 2x solid state relay PhotoMOS®

18 = 3x binary inputs

(9) Input/output 4

- 00 = Not used
- 11 = Relay (changeover contact)
- 12 = 2x relays (normally open contact)
- 13 = Solid state relay triac 230V, 1A
- 14 = Logic output 0/22V
- 15 = 2 logic outputs 0/12V
- 16 = Analog output
- 17 = 2x solid state relay PhotoMOS®
- 18 = 3x binary inputs

(10) Voltage supply

- 23 = AC 110 to 240V, 48 to 63Hz
- 39 = AC/24V, 48 to 63Hz

(11) Interface Com2

- 00 = Not used
- 08 = Ethernet
- 54 = RS422/485 Modbus RTU
- 64 = Profibus-DP

(12) Extra code

- 000 = Without extra code
- 213 = Recording function
- 214 = Math and logic module

Electrical connection	In back via screw terminals
Data backup	Flash memory
Screen touchscreen	Type TFT, size 3.5", resolution 320x240pixel, color depth 256 colors
Case type	Plastic front frame with metal case barrel (for indoor use only): - Front plastic frame UL 94 V0 - Housing barrel made of galvanized sheet material

Software-Version: 304.xx.xx

Place of manufacture

JUMO GmbH & Co. KG
Moritz-Juchheim-Straße 1
36039 Fulda, Germany

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 RU SHIP Pt.4 Ch.9 Sec. 1.

Type Approval documentation

- Test reports acc. to "Prüfprotokolle für GL DICON Touch und Aquis Touch P" (Version 07/11.04.2017)
- Operating Manual 20258000T90Z001K000 (V4.00/EN/00607974)
- Data Sheet 202580 (V2.01/EN/00601344)
- Drawing summary Aquis Touch P Typ 202580/... (DNVGL version 01/23.11.2016)
- Impact analysis CPU 2_70357100C50Z024 (Version 1.00/28.04.2016)
- Impact analysis Display 2_70357100C50Z026 (Version 1.00/29.04.2016)
- Software questionnaire requirement class 3 (28.02.2014)

Tests carried out

Applicable tests according to Class Guideline DNVGL-CG-0339, Edition November 2015.

Job Id: **262.1-025494-1**
Certificate No: **TAA000014K**

Marking of product

The products to be marked with:

- manufacturer name
- serial number
- type 202580.

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