DNV·GL

Certificate No:
TAA000014K

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**

for **DNV GL**

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.

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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_3
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_3
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

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

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

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