

# TYPE APPROVAL CERTIFICATE

**This is to certify:**

**That the Peripheral Equipment**

with type designation(s)  
**JUMO AQUIS touch P (202580), JUMO DICON touch (703571)**

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

is found to comply with  
**DNV GL rules for classification – Ships, offshore units, and high speed and light craft**

**Application :**

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

**Location class:**

Type	Temperature	Humidity	Vibration	EMC	Enclosure
<b>JUMO AQUIS touch P (202580)</b>	<b>B</b>	<b>B</b>	<b>A</b>	<b>B</b>	<b>A, B(front, IP66)</b>
<b>JUMO DICON touch (703571)</b>	<b>B</b>	<b>B</b>	<b>A</b>	<b>B</b>	<b>A, B(front, IP66)</b>

Issued at **Hamburg** on **2018-12-05**

for **DNV GL**

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

Approval Engineer: **Jens Dietrich**

**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.



Job Id: **262.1-025494-2**  
Certificate No: **TAA000014K**  
Revision No: **1**

## 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 - 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 default settings  
9 Customer-specific configuration (specification in plain text)

#### (3) National language

01 German  
02 English  
03 French

#### (4) Analysis input 1, IN 7

0 Not used  
1 pH/redox/NH<sub>3</sub>  
2 CR conductive conductivity measurement (2 and 4-pole)  
3 Ci inductive conductivity measurement

#### (5) Analysis input 2, IN 8

0 Not used  
1 pH/redox/NH<sub>3</sub>  
2 CR conductive conductivity measurement (2 and 4-pole)  
3 Ci inductive conductivity measurement

#### (6) Input/output 1 IN 11, OUT 6/7

00 Not used  
10 Universal input  
11 Relay (changeover contact)  
12 2× 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 2×solid state relay PhotoMOS®

#### (7) Input/output 2 IN 12, OUT 8/9

00 Not used  
10 Universal input  
11 Relay (changeover contact)  
12 2× 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 2×solid state relay PhotoMOS®  
19 Power supply output DC±5V, 24V

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**(8) Input/output 3, IN 13/14/15, OUT 10/11**

- 00 Not used
- 11 Relay (changeover contact)
- 12 2× 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 2×solid state relay PhotoMOS®
- 18 3× digital inputs

**(9) Input/output 4, IN 16/17/18, OUT 12/13**

- 00 Not used
- 11 Relay (changeover contact)
- 12 2× 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 2×solid state relay PhotoMOS®
- 18 3× digital inputs

**(10) Voltage supply**

- 23 AC110 to240V +10/-15%; 48to63Hz
- 39 AC/DC 24V +30/-25%; 48 to63 Hz

**(11) COM2 interface COM 2**

- 00 Not used
- 08 Ethernet
- 54 RS422/485 Modbus RTU
- 63 PROFINET IO
- 64 PROFIBUS-DP

**(12) Extra codes**

- 000 None
- 213 Recording function
- 214 Math and logic module
- 962 JUMO digiLine protocol activated

Electrical connection	In back via screw terminals
Data backup	Flash memory
Screen touchscreen	Type TFT, size 3.5", resolution 320x240pixel, color depth 256 colors

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**JUMO DICON touch:** Two-Channel Process and Program Controller with Paperless Recorder and Touchscreen (Type 703571)

**Order code**

**703571 / x - x - x x - x x x x x - x - x / x, x, x**  
**(1) / (2) - (3) - (4) (5) - (6) (7) (8) (9) (10) - (11) - (12) / (13), (14), (15)**

**(1) Basic type**

703571 JUMO DICON touch - two-channel process and program controller with RS485 interface

**(2) Version**

8 Standard with default settings  
9 Customer-specific configuration (specifications in plain text)

**(3) National language of display texts**

01 German  
02 English  
03 French

**(4) Input, IN10**

00 Not used  
10 Analog input (universal)

**(5) Input, IN11**

00 Not used  
10 Analog input (universal)

**(6) Outputs, OUT3/4**

00 None  
11 One relay (changeover contact)  
12 Two relays (N/O contact)  
13 One solid-state relay 230 V, 1 A  
14 One logic output DC 0/22 V max. 30 mA  
15 Two logic outputs 0/12 V, 20 mA  
16 One analog output  
17 Two PhotoMOS® relays  
20 Two solid state relays 230 V, 1 A for motor actuator (double slot: OUT3/4 and OUT7/8)

**(7) Outputs, OUT5/6**

00 None  
11 One relay (changeover contact)  
12 Two relays (N/O contact)  
13 One solid-state relay 230 V, 1 A  
14 One logic output 0/22 V, max. 30 mA  
15 Two logic outputs 0/12 V, 20 mA  
16 One analog output  
17 Two PhotoMOS® relays  
20 Two solid state relays 230 V, 1 A for motor actuator (double slot: OUT5/6 and OUT9/10)

**(8) Outputs, OUT7/8 (not available for assignment with module 20 on OUT3/4)**

00 None  
11 One relay (changeover contact)  
12 Two relays (N/O contact)  
13 One solid-state relay 230 V, 1 A  
14 One logic output 0/22 V, max. 30 mA  
15 Two logic outputs 0/12 V, 20 mA

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16 One analog output  
17 Two PhotoMOS® relays

**(9) Outputs, OUT9/10 (not available for assignment with module 20 on OUT5/6)**

00 None  
11 One relay (changeover contact)  
12 Two relays (N/O contact)  
13 One solid-state relay 230 V, 1 A  
14 One logic output 0/22 V, max. 30 mA  
15 Two logic outputs 0/12 V, 20 mA  
16 One analog output  
17 Two PhotoMOS® relays

**(10) Outputs, OUT11/12**

00 None  
11 One relay (changeover contact)  
12 Two relays (N/O contact)  
13 One solid-state relay 230 V, 1 A  
14 One logic output 0/22 V, max. 30 mA  
15 Two logic outputs 0/12 V, 20 mA  
16 One analog output  
17 Two PhotoMOS® relays

**(11) Voltage supply**

23 AC 110 to 240V +10/-15 %, 48 to 63 Hz  
39 AC/DC 24V +30/-25 %, 48 to 63 Hz

**(12) COM2 interface**

00 Not used  
08 Ethernet  
54 RS422/485 Modbus RTU  
63 PROFINET  
64 PROFIBUS-DP

**(13) DIN-tested**

000 Without approval  
056 With DIN approval

**(14) GL-tested**

000 Without approval  
062 With GL approval

**(15) Extra code**

000 Without extra code  
213 Recording function  
214 Math and logic module  
223 Program controller  
879 AMS2750/CQI-9

Electrical connection	In back via screw terminals
Screen touchscreen	Type TFT, size 3.5", resolution 320x240pixel, color depth 256 colors

**Place of manufacture**

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

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## 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:

Overview document "Prüfprotokolle DNVGL DICON Touch\_Aquis Touch P", Vers.08, dated 2018-11-26

Product documents:

AQUIS touch P:

Operating Manual 20258000T90Z001K000 (V6.00/EN/00607974),

Data Sheet 202580 (V5.01/EN/00601344),

Drawing AQUIS touch P 20258000A00Z000K000, dated 2018-01-22;

Diagram composition AQUIS Touch P, 20258000C40Z000K000, dated 2018-08-29.

DICON touch:

Operating Manual 70357100T90Z004K000 (V1.01/EN/00603327),

Data Sheet 703571 (V1.00/EN/00578870),

Drawing DICON touch 70357100A00Z000K000, dated 2018-01-22;

Diagram composition DICON Touch, 70357100C40Z000K000, dated 2018-08-29.

Impact analysis CPU 2\_70357100C50Z024 (Version 1.00/28.04.2016)

Impact analysis Display 2\_70357100C50Z026 (Version 1.00/29.04.2016)

DNVGL-Einflussanalyse JUMO AQUIS touch P, V1.00, dated 2017-03-24.

## Tests carried out

Applicable tests according to Class Guideline DNVGL-CG-0339, Edition November 2016.

## Marking of product

The products to be marked with:

- manufacturer name
- serial number
- type 202580 or 703571.

## 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 after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of this certificate.

END OF CERTIFICATE