



TYPE APPROVAL CERTIFICATE

Certificate No:
TAA000014K
Revision No:
3

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 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.

Location class:

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

Issued at **Hamburg** on **2022-05-02**

for **DNV**

This Certificate is valid until **2027-04-19**.

DNV local station: **Augsburg**

Approval Engineer: **Jens Dietrich**

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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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



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 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/NH₃
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/NH₃
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

(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

JUMO DICON touch: Two/Four-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
- 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 DNV GL approval

(15) Extra code

000 Without extra code
 209 Controller 3 and 4
 213 Recording function
 214 Math and logic module 1 to 8
 215 Math and logic module 9 to 16
 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

Application/Limitation

The Type Approval covers hardware listed under Product description.
 When the hardware is used in applications to be classed by DNV, 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 RU SHIP Pt.4 Ch.9 Sec.1.

Type Approval documentation

Test Reports:
 Overview document "Prüfprotokolle DNVGL DICON Touch_Aquis Touch P", Vers.10, dated 2020-05-18.

Product documents:

AQUIS touch P:
 Operating Manual 20258000T90Z001K000 (V10.00/EN/00607974, 2021-08-09),
 Data Sheet 20258000T10Z001K00 (V7.00/EN/00601344/2021-07-13),
 Drawing AQUIS touch P 20258000A00Z000K000, vers.12, dated 2020-01-07;
 Diagram composition AQUIS Touch P, 20258000C40Z000K000, vers.18, dated 2020-04-07.

DICON touch:

Operating Manual 70357100T90Z004K000 (V2.00/EN00603327/2020-03-10),
 Data Sheet 703571 (V2.00/EN/00578870/2020-01-14),
 Drawing DICON touch 70357100A00Z000K000, vers.12, dated 2020-01-07;
 Diagram composition DICON Touch, 70357100C40Z000K000, vers.31, dated 2021-07-13.

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.
 DNVGL-Einflussanalyse JUMI DICON T ProfiNet 2, KE70.3053, vers.1.00, dated 2019-01-09.
 Einflussanalyse JUMO 70357100C84Z023K000, vers.00, dated 2020-01-10;

TA Assessment Report, issued by DNV Augsburg, dated 2022-03-30.

Tests carried out

Applicable tests according to Class Guideline DNV-CG-0339, Edition August 2021.

Marking of product



Job Id: **262.1-025494-4**
Certificate No: **TAA000014K**
Revision No: **3**

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