DNV·GL

Certificate No:
TAA000024Y

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Measurement Converter

with type designation(s)
LCIS Family

Issued to
Friedrich Lütze GmbH
Weinstadt, 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.

Temperature	**B**
Humidity	**B**
Vibration	**A**
EMC	**A/B* see page 3**
Enclosure	**A**

Issued at **Hamburg** on **2018-12-20**
This Certificate is valid until **2023-12-19**.
DNV GL local station: **Augsburg**

Approval Engineer: **Jens Dietrich**

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

LCIS Relay types:

76BCDE.FGGH
B (Connection): 0:Screw, 1:Push-In;
C (Brand): 0:Lütze, 1:Siemens, 2:RS-Components; 3: Cabur;
D (Coil): 1:12V, 2:24V, 3:48V, 4:60V, 5:120V, 6:240V;
E (Voltage/type): 0: DC, Out; 1: AC/DC, Out; 2: AC, Out; 3: DC Input; 4: AC/DC, Input; 5: AC, Input
F (Housing): 0: 6,2mm, closed; 1: 6,2mm, pluggable; 2: 17,5mm, closed; 3: 17,5mm, pluggable
GG (Variant):
00: 1U, standard contact
01: 1U, contacts gold plated
02: 2U, standard contact
03: 2U, contacts gold plated
04: 1U, standard contact, rail
05: 1U, contacts gold plated, rail
06: 2U, standard contact, rail
07: 2U, contacts gold plated, rail
H Reserved

LCIS Solid State Relay types

76BCDE.FGGH
B (Connection): 3:Screw, 4:Push-In;
C (Brand): 0:Lütze, 1:Siemens, 2:RS-Components; 3: Cabur;
D (Coil): 1:12V, 2:24V, 3:48V, 4:60V, 5:120V, 6:240V; 7:120-240V; 8: 77-250V
E (Voltage/type): 0: DC, Out; 1: AC/DC, Out; 2: AC, Out; 3: DC Input; 4: AC/DC, Input; 5: AC, Input
F (Housing): 0: 6,2mm, closed; 1: 6,2mm, pluggable; 2: 17,5mm, closed; 3: 17,5mm, pluggable
GG (Variant):
00=2conductor, DC30V; DC 100mA
01=2conductor, DC30V; DC 500mA
02=2conductor, DC30V; DC 2000mA
03=2conductor, DC30V; DC 5000mA
04=2conductor, DC30V; DC 10000mA
05=2conductor, DC30V; DC 3000mA
09=2conductor, DC48V; DC 500mA, 20KHz
10=2conductor, DC60V; DC 100mA
11=2conductor, DC60V; DC 500mA
12=2conductor, DC60V; DC 2000mA
13=2conductor, DC60V; DC 5000mA
14=2conductor, DC60V; DC 10000mA
20=2conductor, AC240V; DC 100mA
21=2conductor, AC240V; DC 750mA
22=2conductor, AC240V; DC 2000mA
23=2conductor, AC240V; DC 2000mA; H-0-A switch

Short-circuit proof:
30=3conductor, DC30V; DC 100mA
31=3conductor, DC30V; DC 500mA
32=3conductor, DC30V; DC 2000mA
33=3conductor, DC30V; DC 5000mA
34=3conductor, DC30V; DC 10000mA

35=3conductor, DC30V; DC 3000mA
36=3conductor, DC30V; DC 5000mA, H-0-A switch
40=3conductor, DC60V; DC 100mA
41=3conductor, DC60V; DC 500mA
42=3conductor, DC60V; DC 2000mA
43=3conductor, DC60V; DC 5000mA
44=3conductor, DC60V; DC 10000mA
45=3conductor, DC60V, DC 3000mA
H Reserved

LCIS Signal/Temperature transducer (*EMC location class A)

75BCDE.FGGH
B (Connection): 0:Screw, 1:Push-In; 5: Screw, Siemens; 7:Push-In, Siemens.
C (Type): 5,9: Analogue, 8: Temperature
D Consecutive variant type
E Consecutive variant type
F: 0, reserved
GG: 00, reserved
H: (Brand): 0:Lütze, 1:n/a, 2:RS-Components; 3: Cabur; 4: Ditel

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 Ships Pt.4 Ch.9 Control and Monitoring Systems.

Tests carried out
Applicable tests according to class guideline DNV GL CG-0339, November 2016.

Marking of product
Manufacturer, type designation, electrical characteristics, 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 after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of this certificate.

END OF CERTIFICATE