

# TYPE APPROVAL CERTIFICATE

**This is to certify:****That the Data transmission cables and systems**

with type designation(s)

**CP Cable, Cat. 6A, 4P, 500MHz, plug Cat. 6A RJ45/s - modules Cat. 6A RJ45/s**

Issued to

**Reichle & De-Massari AG**  
**Wetzikon ZH, ZH, Switzerland**

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.**Issued at **Hamburg** on **2020-09-30**This Certificate is valid until **2025-09-29**.for **DNV GL**DNV GL local station: **Augsburg**Approval Engineer: **Carsten Hunsalz**

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**Arne Schaarmann**  
**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 GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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

Connection System RJ45 Cat. 6A, consisting of Connection Modules Cat. 6A RJ45/s, Plug Cat. 6A RJ45/s and Patch Cord Cat. 7

Types: Connection Modul Cat. 6A RJ45/s ISO  
Connection Modul Cat. 6A RJ45/s EL

### Mechanical data:

Pole count: 8  
Operating temperature: -10° C to 60° C  
Humidity: 95 % (non condensing)  
Housing material: Polycarbonate (UL-94-V0)  
Admissible wire: 0,4 mm (AWG26) - 0,65 mm (AWG22)  
Admissible insulation: 0,8 mm - 1,6 mm

### Electrical data:

Contact resistance: < 20 mΩ  
Transfer impedance:  
1 MHz < 100 mΩ  
10 MHz < 200 mΩ  
30 MHz < 600 mΩ  
80 MHz < 1600 mΩ  
100 MHz < 2000 mΩ

Types: Plug Cat. 6A RJ45/s

### Mechanical data:

Pole count: 8  
Operating temperature: -20° C to 60° C  
Housing material: Polycarbonate (UL-94-V0)  
Admissible wire: (AWG26)

Electrical data: Compliant to IEC 60603-7

Patch Cord Cat. 7: The patch cord is used for connecting the network equipment to patch panels and telecommunications outlets, and cross connection between various applications and end users. It is suitable for transmission frequencies of up to 650 MHz.

Types: R&M S/FTP Cat7 650 LSZH 4P Dca  
S/FTP Cat.7 650MHz 4PxAWG26

Lengths: 0,5 m to 20 m

Patch Cord Characteristics: S/FTP

Conductor: Bare solid copper wire AWG26 ( $\geq \varnothing 0.4$  mm)  
Number of pairs: 4  
Insulation: Foamed polyethylene  
Screen 1 pair: Alu / polyester tape  
Outer screen: Cu-braid + Alu / polyester foil  
Jacket: Ethylene vinylacetate copolymer LSZH  
Overall diameter: 5,8 mm  
Bend Radius:  $\geq 35$  mm

## Application/Limitation

To be installed in accordance with the manufacturer's instructions and DNV GL rules.

## Type Approval documentation

Test report : TL020.341, dated 25.02.2010  
TL020.392, dated 30.07.2015  
QTR RJ45 Plug TL+MOD, dated 26.08.2019  
3P NO. 1200902, dated 2020.08.19

## Tests carried out

| Standard          | Release | General description                                                                                                                                                                                         | Limitation        |
|-------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| IEC 61156-6       | 2020-4  | Multicore and symmetrical pair/quad cables for digital communications – Part 6: Symmetrical pair/quad cables with transmission characteristics up to 1 000 MHz – Work area wiring – Sectional specification | Patch Cord Cat. 7 |
| IEC 60332-1-2     | 2016-09 | Tests on electric cables under fire conditions.<br>Test for vertical flame propagation for a single insulated wire or cable.                                                                                | Patch Cord Cat. 7 |
| IEC 60754-2       | 2011-11 | Test on gases evolved during combustion of materials from cables - Part 2: Determination of acidity (by pH measurement) and conductivity                                                                    | Patch Cord Cat. 7 |
| IEC 61034-1/2     | 2013-06 | Measurement of smoke density of cables burning under defined conditions – Test apparatus, procedure and requirements                                                                                        | Patch Cord Cat. 7 |
| IEC 60603-7       | 2019-01 | Connectors for electronic equipment - Part 7: Detail specification for 8-way, unshielded, free and fixed connectors                                                                                         |                   |
| IEC 60603-7-1     | 2011-04 | Connectors for electronic equipment - Part 7-1: Detail specification for 8-way, shielded, free and fixed connectors                                                                                         |                   |
| IEC 60603-7-41/51 | 2010-03 | Connectors for electronic equipment - Part 7-41/51: Detail specification for 8-way, unshielded/ shielded, free and fixed connectors, for data transmissions with frequencies up to 500 MHz                  |                   |
| IEC 60352-4       | 2020-06 | Solderless connections - Part 4: Non-accessible insulation displacement (ID) connections - General requirements, test methods and practical guidance                                                        |                   |
| IEC 60352-5       | 2020-07 | Solderless connections - Part 5: Press-in connections - General requirements, test methods and practical guidance                                                                                           |                   |
| ISO/IEC 11801-1   | 2017-11 | Information technology-<br>Generic cabling for customer premises                                                                                                                                            |                   |

## Marking of product

Manufacturer – Type designation

Job Id: **262.1-031554-1**  
Certificate No: **TAE000042S**

## Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and 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 the certificate.

END OF CERTIFICATE