



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. **A-13695**

This is to certify that the
Peripheral Equipment

with type designation(s)
ODW-710 series

Issued to
Westermo Teleindustri AB
STORA SUNDBY, Sweden

is found to comply with
Det Norske Veritas' Rules for Classification of Ships and High Speed and Light Craft
Det Norske Veritas' Offshore Standards

Application
Location classes:

Temperature	D
Humidity	B
Vibration	A
EMC	B
Enclosure	A / IP21

This Certificate is valid until **2018-06-30**.

Issued at **Høvik** on **2014-02-25**

DNV local station: **Stockholm**

Approval Engineer: **Ståle Sneen**

for **Det Norske Veritas AS**

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Odd Magne Nesvåg
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.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.

Product description

Westermo Industrial Converter – PROFIBUS DP to Fibre Optic Link (LC Duplex or LC Simplex), for DIN-rail mounting:

Model	Art. No.	Rated voltage	Rated current @10/24/48 VDC	Applications	Profibus ports	FX ports
ODW-710-F1	3651-0711	12-48 VDC	300/150/75 mA	Point to Point	1 x RS-485	1 x LC
ODW-710-F2	3651-0712	12-48 VDC	400/200/100 mA	Ring / Multidrop	1 x RS-485	2 x LC

ODW-710 has been tested and approved for direct connection to 12-48 VDC distribution boards (test voltage: 9.0–62.5 VDC).

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

Compass safe distance	Standard	Steering
ODW-710-F1	20 cm	10 cm
ODW-710-F2	20 cm	10 cm

Type Approval documentation

User Guide:	ODW-710-F1: 6651-2201 Rev. A, dated 2011-06
	ODW-710-F2: 6651-2211 Rev. A, dated 2011-06
Schematics:	5003-3120-C Rev. 2, 5003-4100-C Rev. 1
Test reports:	DELTA REC-E703543 Rev. A, dated 2014-02-24
	DELTA REC1- E703543, dated 2013-11-29
	INNVENTIA 273 900, dated 2013-11-22

Tests carried out

Applicable tests according to Standard for Certification No. 2.4, April 2006.

For the bridge mounted components the 'Compass safe distance' was measured according to section 11.2 of IEC 60945 4th edition (2002).

Marking of product

Manufacturer: Westermo

Model number as listed under Product description

Unique 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 at least every second year and at renewal of this certificate.

END OF CERTIFICATE