

TECHNICAL BULLETIN

[Issue No.] T99-0022-B

[Page] 1/2

[Title] DNV Certificate Approval and Relevant Requirements

[Date of Issue] Jan., '07

[Relevant Models] MELSEC-Q Series Models*

*: The information of the DNV-certified models is obtained from MELFANSweb homepage (<http://www.nagoya.melco.co.jp/english/>)

Thank you for your continued support of Mitsubishi programmable logic controllers, MELSEC-Q Series.

We are pleased to inform that the MELSEC-Q Series has acquired the Type Approval Certificate on programmable electronic system from DNV (Det Norske Veritas), based on new rules set forth in 2001 (IACS UR E10 Ver. 3/2001).

In the IACS UR E10 Ver. 3, some stringent restrictions have been added, such as emission of 24 dB or less (@3 m) in a frequency range from 156 to 165 MHz is only permitted. However, the international recognized organization, DNV (Det Norske Veritas) has approved that the MELSEC-Q Series satisfy the requirements.



1. DNV certification

The following explains the acquired DNV certification:

Acquired certification

Item	Description
Accreditation organization	Det Norske Veritas
Certificate No.	A-10114
Category	Programmable Electronic System
Rules	Environmental test specific for instrument and automation equipment standard for certification No. 2.4 April 2001 (International Association of Classification Societies' Unified Requirements (IACS UR) E10 Ver.3)
Term of validity	Through December, 2008

Certification details

Item	Class	Description	Remarks
Temperature	A	5 to 55 °C	-
Humidity	B	Less than 100 %	-
Vibration	A	0.7 G (13.2 to 100 Hz)	Refer to section 2. Restrictions, item (1).
EMC	B	Any given place on vessel (including bridge and deck)	-
Enclosure	-	-	Refer to section 2. Restrictions, item (2).

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[Page] 2/2

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2. Requirements

When using the MELSEC-Q Series in an application requiring DNV approval, make sure to observe the following requirements relevant for that application.

(1) Base unit installation

For Q3□SB, Q3□B, Q5□B, Q6□B, Q00JCPU:

Attach the DIN rail to the base unit, and attach it onto the control panel from the four corners with screws.

The DIN rail adapter must be acquired separately.

Base unit				DIN rail adapter
Q38B,	Q312B,	Q68B,	Q612B	Q6DIN1
Q35B,	Q65B,	Q00JCPU		Q6DIN2
Q32SB,	Q33SB,	Q35SB,	Q33B,	Q6DIN3
Q52B,	Q55B,	Q63B		

The DIN rail adapter is not required for the QA1S6□B and QA65B base units as they can be attached onto the control panel directly.

(2) Control panel

(a) The control panel must be conductive.

(b) When fixing a top or bottom plate of the control panel with bolts, remove the protective coating from both the plate and bolt surfaces so that they will come into contact.

(c) When using an inner plate, ensure electric conductivity with the control panel. Remove the coating of the fixing bolt area of both the inner plate and control panel to ensure conductivity in the largest area as possible.

(d) Ground the control panel with a thick grounding cable (Cross-sectional area: 2 mm² or more).

(e) The diameter of cable holes in the control panel must be 10 cm or less.

In order to reduce the chance of radio waves leaking out, ensure that the space between the control panel and its door is small as possible.

Attach some EMI gaskets to fill up the space and suppress the leakage of radio waves.