

TECHNICAL BULLETIN

[Issue No.] T99-0036

[Title] ABS Certificate Approval and Relevant Requirements

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[Date of Issue] Feb., '04

[Relevant Models] MELSEC-Q series Models*

*: Please go to MELFANSweb homepage (<http://www.nagoya.melco.co.jp/english>) for a list of relevant models.

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 Certificate of Design Assessment on programmable logic controller from ABS (American Bureau of Shipping), 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 emissions of 24dB or less (@3m) in a frequency range from 156 to 165MHz is only permitted. However, the international organization, ABS (American Bureau of Shipping) has approved that the MELSEC-Q series conforms to these requirements.



1. ABS certification

The following explains the acquired ABS certification.

Acquired certification

Item	Description
Accreditation organization	American Bureau of Shipping
Certificate No.	03-Y0372323-PDA
Category	Programmable logic controller
Rules	4-9-6 and 4-9-7 of the Steel Vessel Rules 2003 (International Association of Classification Societies' United Requirements (IACS UR) E10 Ver.3)
Term of validity	Until October 23, 2008

Certification details

Item	Description	Remarks
Temperature	5 to 55°C	-
Humidity	Less than 95%	-
Vibration	0.7G (13.2 to 100Hz)	Refer to section 2. Requirements, item (1).
EMC	Any given place on vessel (including bridge and deck)	Refer to section 2. Requirements, item (2).
Others	The tests in the presence of the Surveyor from ABS are required where it is used for control, monitoring and safety system of propulsion machinery, propulsion boilers vital auxiliary pumps and electrical generating plants. The performance tests are to be carried out at the assembled plant before installation onboard or after installation.	

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2. Requirements

When using the MELSEC-Q series in an application requiring ABS 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, Q52B, Q55B, Q63B	Q6DIN3

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 10cm 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.



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