

TECHNICAL BULLETIN

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[Title] Custom-ordered MELSEC iQ-R/Q/L series products with specialty coatings

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[Relevant Models] MELSEC-Q/L series, MELSEC iQ-R series

Thank you for your continued support of Mitsubishi programmable controllers, MELSEC-Q/L series and MELSEC iQ-R series.

This technical bulletin is to provide the information regarding MELSEC-Q/L series and MELSEC iQ-R series custom-order products with specialty coatings.

1. Custom-order products with specialty coatings

If a programmable controller is used in an environment with corrosive gas, it may cause failure due to aging corrosion. Accordingly, we offer custom-ordered products with specialty coatings highly resistant to a corrosive gas.

As a special coating, the print board and parts of technically-possible area are coated by a polyurethane moisture-proof coating. When using a programmable controller in the place where a corrosive gas tends to occur, such as a tire manufacturing plant and sewage treatment equipment, using the custom-ordered product is recommended.

Although the products ensure high resistance to a corrosive gas, operations under the above mentioned environment are not guaranteed.

2. Environmental regulation of corrosive gas

(1) Corrosive gas

In IEC 60721-3-3, 'Corrosive gas' indicates sea salts, sulphur dioxide, hydrogen sulphide, chlorine, hydrogen chloride, hydrofluoric acid, ammonia, ozone, and nitrogen oxides as shown in the following table.

(2) Corrosive gas environment

According to IEC 60721-3-3 class 3C2, the corrosive gas concentration is regulated as shown in the following table.

Environmental parameter	Unit	3C2	
		Mean value	Max. value
a) Sea salts	None	Salt mist	
b) Sulphur dioxide	cm ³ /m ³	0.11	0.37
c) Hydrogen sulphide	cm ³ /m ³	0.071	0.36
d) Chlorine	cm ³ /m ³	0.034	0.1
e) Hydrogen chloride	cm ³ /m ³	0.066	0.33
f) Hydrofluoric acid	cm ³ /m ³	0.012	0.036
g) Ammonia	cm ³ /m ³	1.4	4.2
h) Ozone	cm ³ /m ³	0.025	0.05
i) Nitrogen oxides	cm ³ /m ³	0.26	0.52

3. Inspection result of the custom-order products with specialty coatings

We have confirmed the proper operation of modules (for the period equivalent to ten years for MELSEC iQ-R/MELSEC-L series as well as eight years for MELSEC-Q series, respectively) as the result of the mixed gas accelerated test that simulates the environment of the corrosive state with representative products under the circumstance of 3C2 corrosive gas environment.

Note that, since the actual operating environment is not always necessarily with the 3C2 environment, the module is likely to fail earlier than anticipated depending on the operating environment.

4. Others

For details on the delivery schedule and how to order, please contact your local Mitsubishi representative.