

## Regulation on transportation of primary lithium batteries and relevant guidelines in the United States

### ■Date of Issue

July 2017 (Ver.B: March 2018)

### ■Relevant Models

MELSEC-A/QnA/Q/L/QS series and MELSEC iQ-R series programmable controllers

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

Effective from December 29, 2004, the U.S. Department of Transportation (DOT) enacted a battery transport regulation that prohibits the domestic transport of primary lithium batteries aboard passenger aircraft (transport is allowed by cargo aircraft only). A procedure is therefore required to prevent the accidental transport of primary lithium batteries on passenger aircraft to or within the United States (The regulation applies to shipments which pass via the United States and also those from the United States to other final destinations).

This technical bulletin shows guidelines for transportation of primary lithium batteries by air under the DOT regulation (Department of Transportation 49 CFR Parts 171, 172, 173 and 175 Hazardous Materials; Prohibition on the Transportation of Primary Lithium Batteries and Cells Aboard Passenger Aircraft; Final Rule). When arranging the transportation of Primary Lithium Batteries, responsibility for the transportation as the owner of goods is required. Therefore, it is advisable to always confirm the DOT regulation.

Furthermore, please contact the relevant airline for details, as the regulation may be handled differently from one airline to another.

## 1 MODELS SUBJECT TO THE DOT REGULATION

The following table lists control item to the DOT regulation in MELSEC-A/QnA/Q/L/QS series and MELSEC iQ-R series. For the batteries of the programmable controllers used, refer to the manuals for each product.

Product name	Model	Product supply status
Q series battery	Q8BAT	Lithium battery (assembled battery)
	Q8BAT-SET	Lithium battery (assembled battery) + Q8BAT connection cable
Q/L series, MELSEC iQ-R series battery	Q7BAT	Lithium battery
	Q7BAT-SET	Lithium battery with holder
Q/L/QS series, MELSEC iQ-R series battery	Q6BAT	Lithium battery
MELSEC iQ-R series battery	FX3U-32BL	Lithium coin battery
A/QnA series battery	A8BAT	Lithium battery (assembled battery)
	A6BAT	Lithium battery
K series battery	K6BAT	Lithium battery
Q series memory card battery	Q2MEM-BAT, Q3MEM-BAT	Lithium coin battery
MELSEC iQ-R series C Controller module	R12CCPU-V	Containing lithium coin battery (BR2450A)

FA-A-0221-B

Product name	Model	Product supply status
Q series memory card	Q2MEM-1MBS, Q2MEM-2MBS	Packed with lithium coin battery (Q2MEM-BAT)
	Q3MEM-4MBS, Q3MEM-8MBS	Packed with lithium coin battery (Q3MEM-BAT)
	Q3MEM-4MBS-SET, Q3MEM-8MBS-SET	Packed with lithium coin battery (Q3MEM-BAT) + Memory card protective cover
QnA(S) series memory card	Q1MEM-128S, Q1MEM-128SE, Q1MEM-1MS, Q1MEM-1MSE, Q1MEM-256S, Q1MEM-256SE, Q1MEM-2MS, Q1MEM-512S, Q1MEM-512SE, Q1MEM-64S, Q1MEM-64SE	Packed with lithium coin battery (BR2325)

## 2 REGULATION IMPLEMENTATION SCHEDULE

Effective from December 29, 2004

## 3 TRANSPORT HANDLING PROCEDURE

The precautions indicated in the following should be observed when products subject to the DOT regulation are shipped to or within the United States aboard aircraft.

☞ Page 2 For Transport Aboard a Cargo Aircraft

☞ Page 3 For Hand-carried Transport Aboard Passenger Aircraft

(The regulation applies to shipments which pass via the United States and also those from the United States to other final destinations).

Please note that even if shipment by sea or land (rail) is specified, the transport company may change this to an air shipment. Therefore, be sure to contact the transport company in advance, and inform them that the shipment contains primary lithium batteries.

### 3.1 For Transport Aboard a Cargo Aircraft

The label shown below must be affixed on the packing case if the lithium content of one battery (1 cell) exceeds 5g, and if multiple batteries (the total amount of lithium) exceed 25g. The fabrication and affixing of these labels is the responsibility of the customer.

The customer is also responsible for notifying the transport company that transport aboard a passenger aircraft is prohibited. For the lithium content of our products, refer to the following.

☞ Page 3 LITHIUM CONTENT AND WEIGHTS OF THE PRODUCTS

#### Label content

The following label should be affixed. The lettering style is not prescribed.

PRIMARY LITHIUM BATTERIES - FORBIDDEN FOR TRANSPORT ABOARD PASSENGER AIRCRAFT

#### Lettering size

The label's lettering size should be as follows:

For packing case with total weight of 30kg or more: Lettering height of 12mm or more

For packing case with total weight of less than 30kg: Lettering height of 6mm or more

#### Lettering color

The lettering color should be in stark contrast to the packing case color.

## 3.2 For Hand-carried Transport Aboard Passenger Aircraft

### Primary lithium batteries only

Primary lithium batteries may be hand-carried aboard a passenger aircraft only if the lithium content of one battery (1 cell) does not exceed 5g, and if multiple batteries (the total amount of lithium) do not exceed 25g.

For the lithium content of our products, refer to the following.

☞ Page 3 LITHIUM CONTENT AND WEIGHTS OF THE PRODUCTS

### Lithium batteries contained in or packed with equipment

Lithium batteries which are contained in or packed with equipment may be hand-carried aboard a passenger aircraft only if the lithium content of one battery (1 cell) does not exceed 5g, and if multiple batteries (the total amount of lithium) do not exceed 25g. Moreover, the total weight of the primary lithium batteries including equipment, which contains or is packed with the battery, and packing materials must not exceed 5kg.\*1

For the lithium content and weights of our products, refer to the following.

☞ Page 3 LITHIUM CONTENT AND WEIGHTS OF THE PRODUCTS

\*1 When any change regarding the regulation range or its contents occurs, we will inform you as needed.

## 4 LITHIUM CONTENT AND WEIGHTS OF THE PRODUCTS

The lithium content and weights of MELSEC-A/QnA/Q/L/QS series and MELSEC iQ-R series programmable controller related products are shown below for reference purposes.

Part or product name	Model	Lithium content	Weight
Q series battery	Q8BAT	5.7g <sup>*1</sup>	387g
	Q8BAT-SET	5.7g <sup>*1</sup>	429g
Q/L series, MELSEC iQ-R series battery	Q7BAT	1.55g	47g
	Q7BAT-SET	1.55g	57g
Q/L/QS series, MELSEC iQ-R series battery	Q6BAT	0.57g <sup>*2</sup>	22g
MELSEC iQ-R series battery	FX3U-32BL	0.15g	30g <sup>*3</sup>
A/QnA series battery	A8BAT	4.32g	335g
	A6BAT	0.48g	14g
K series battery	K6BAT	0.65g	17.5g
Q series memory card battery	Q2MEM-BAT	0.014g	0.8g
	Q3MEM-BAT	0.15g	6.7g
Lithium coin battery contained in the MELSEC iQ-R series C Controller module	BR2450A	0.16g	5.0g
Lithium coin battery packed with memory card for the QnA (S) series	BR2325	0.05g	3.2g

\*1 The lithium content of batteries manufactured in November 2017 or earlier differs from this list. For details, refer to the following.

☞ Changes in battery parts (FA-A-0242)

\*2 The lithium content of batteries manufactured in July 2017 or earlier differs from this list. For details, refer to the following.

☞ Changes in battery parts (FA-A-0242)

\*3 This weight is measured after the battery is packed.

### REVISIONS

Version	Date of issue	Revision
-	July 2017	First edition
A	November 2017	Addition of FX3U-32BL
B	March 2018	Available for e-Manual Viewer