MITSUBISHI ELECTRIC

Mitsubishi Electric Corporation Industrial Robot

MELFA Technical News

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Subject: **Report about enabled faster command speed of the spline interpolation**

Applicable to: **MELFA FR series (CR800-D/CR800-R/CR800-Q series)**

Thank you for your continued support of Mitsubishi industrial robot "MELFA".
This Technical news describes that the spline interpolation function was improved and it became possible to specify the command speed faster than before.

1. Enabled faster command speed of the spline interpolation

In the spline interpolation, it is possible to specify a faster command speed than before.
To use this function, specify "1" for the parameter SPLHSPMD.

As shown in the table below, depending on the value of the parameter SPLHSPMD, the required distance between path points relative to the command speed changes. Setting the parameter SPLHSPMD to "1" makes it possible to specify a faster speed for the distance between the same path points.

Command speed [mm/s]	Required distance between path points	
	SPLHSPMD=0 (Factory setting)	SPLHSPMD=1
10	0.6mm or more	0.08mm or more
20	1.2mm or more	0.16mm or more
50	3.0mm or more	0.4mm or more
100	6.0mm or more	0.8mm or more
200	12.0mm or more	1.6mm or more
500	30.0mm or more	4.0mm or more

For example, when the distance between path points is 0.6mm, the speed that can be specified conventionally is up to 10mm/s, but by using this function the speed that can be specified is up to 75mm/s.

2. Corresponding software version

The software version corresponding to the above function is shown in the table below.

Software	Corresponding version
Robot controller software	Ver.A3a or later[*1]
Engineering software "RT ToolBox3"	Ver.1.31H or later[*2]

(*1) Ver.A3a is applied sequentially from the robot controller manufactured in October 2018.
(*2) It is possible to make robot programs and spline files that operate at faster command speed even in versions prior to Ver.1.31H.

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