	Product non-conformity information	Date: April 13, 2018
		No : DB70244-0
		Nippon Pulse Motor Co., Ltd.
		Motion Control Division

1. Non-conformity product:
   Pulse control LSI : PCL6045BL, PCL6046
   (This non-conformity does not occur in PCL6045B, PCL6025B, PCL61x3, PCL61x4, G9103B or G9103C.)

2. Non-conformity phenomenon:
   If deceleration stop is performed due to the following factors 1) to 3) during linear interpolation or circular interpolation with acceleration/deceleration speed pattern, axes can immediately stop without deceleration or the status does not change to indicate "stop status" (RSTS.CND = "1111") even if all the interpolated axes have immediately stopped:
   1) ALM signal input
   2) Software limit
   3) Comparator 1 to 5

3. Countermeasures:
   When you operate linear or circular interpolations with acceleration/deceleration speed patterns, please be sure to set "immediate stop" as stop method if the factor of stop is either of 1) to 3) above. Even if the stop method is "deceleration stop", there is no problem when used at constant speed start.

4. Detailed description
   In the case of interpolation operations, when any of the interpolated axes make error stops, other interpolated axes are also stopped. Also, pulse signals generated by one acceleration/deceleration pulse train generation circuit are distributed to each interpolated axis. As a result, acceleration/deceleration is performed simultaneously on all interpolated axes. The axis on which an error stop factor has occurred will output a deceleration request signal to the pulse train generation circuit to start deceleration operation. Consequently, when the axis with the error stop factor detects a deceleration completion, the LSI will output immediate stop request signals to other interpolated axes. Then the axes that received the signal will make error stops (REST.ESIP = 1).

   The cause of this non-conformity is that an immediate stop request signal is output improperly for one cycle width of CLK at the output start timing of the deceleration request signal.

   The function of distributing a deceleration request signal and an immediate stop request signal to other axes in operation are only included in interpolation operations, so no issue will occur in operations other than interpolations.
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   Non-conformity occurrence conditions in a high speed start are as shown in the table below. No issues will occur when a constant speed start is selected:

Factor of stop	Deceleration stop setting	During interpolation	Other than interpolation	Immediate stop setting	During interpolation	Other than interpolation
CSTP	RENV1.STPM=1	OK	OK	RENV1.STPM=0	OK	OK
ALM	RENV1.ALMM=1	Failed	OK	RENV1.ALMM=0	OK	OK
+EL, -EL	RENV1.ELM=1	OK	OK	RENV1.ELM=0	OK	OK
SD	RENV1.SDM=1	OK	OK	N/A	-	-
Software Limit	RENV4.C1D="10" RENV4.C2D="10"	Failed	OK	RENV4.C1D="01" RENV4.C2D="01"	OK	OK
CPM1	RENV4.C1D="10"	Failed	OK	RENV4.C1D="01	OK	OK
CPM2	RENV4.C2D="10"	Failed	OK	RENV4.C2D="01"	OK	OK
CPM3	RENV4.C3D="10"	Failed	OK	RENV4.C3D="01"	OK	OK
CPM4	RENV4.C4D="10"	Failed	OK	RENV4.C4D="01"	OK	OK
CPM5	RENV5.C5D="10"	Failed	OK	RENV5.C5D="01"	OK	OK

If you have any questions, please feel free to contact us. Thank you.

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