March 2025

Dear customers

Harmonic Drive Systems Inc.

Notice on the change of the encoder electronic components

Taking this opportunity, we thank you very much for your usual patronage of our products.
In conjunction with the discontinuation of the FPGA PROM used in the encoder of the SHA/ HMA/ PMA/ MMA/ YMA series, we will be replacing all electronic components and revising the encoder board.
We hereby inform you of the following. We hope that you will kindly understand the situation.

Yours sincerely,

DESCRIPTION

1. Applicable products

- AC servo actuator: SHA25-65 A/ P/ M/ Y series
- AC servo motor: HMA /PMA/ MMA/ YMA 09-21 series
- Special products: All products using MAB and supported encoder formats

2. Details of and reason for the change

There are three things to change.

(1) Replacement of PROMs for FPGAs with substitute products due to discontinuation
(2) Specification change to non-installation due to discontinuation of backup capacitors
(3) Addition of ordering codes due to non-installation

The details of each change are explained below.

2-1. Replacement of PROMs for FPGAs with substitute products due to discontinuation

The manufacturer of the PROM for FPGA used in the encoder of the applicable products notified us of its discontinuation. Accordingly, we decided to change the FPGA to be used to give top priority to a continued supply of the applicable products. In addition, we will make a full revision of the electronic components used in terms of future availability.
We have completed the design change due to the change of the FPGA. We are currently conducting confirmation testing due to the change for each supported encoder format. In the evaluation test with a mass-produced, we confirmed that there was no problem in terms of functionality and quality compared with before the change. There will be no change in product performance, quality, or appearance as a result of this change.
For the timing of the change, refer to Table 1.

Table 1 Timing of the change

Series	Encoder format		Period of the change*
	Symbol	Method	
SHA/HMA/MAB	10	HDS standard format	Full switchover by the end of February 2026
SHA/PMA/MAB	14	Panasonic format	
SHA/MMA/MAB	16	Mitsubishi Format	
SHA/YMA/MAB	17	Yaskawa format	

* The timing of the change may vary depending on the availability of the current encoder.

2-2. Functional changes due to discontinuation of the backup capacitor

We have been notified of the discontinuation of the backup capacitor for temporarily retaining the current position during replacement of the encoder cables and batteries (internal backup function). We will remove the backup capacitor simultaneously with the design change.
However, note that the internal backup function will no longer be available as a result of the removal of the backup capacitor, which will be performed simultaneously. For the battery replacement methods, refer to Table 2. If you have any questions, please contact our sales representatives.

Table 2 Battery replacement methods

Power supply	Replacement method	Action after battery replacement
If the battery can be hot swapped	Remove the battery, and install a new one. No restart of the power is required.	None unless any alarm is issued.
If the battery cannot be hot swapped	Move it to the proximity of the zero point or the position where the multi-turn data is zero, turn off the power, and then replace the battery.	Clear the multi-turn data and reset to the zero point as required.

2-3. Addition of ordering codes

As the internal backup function will no longer be available as a result of the removal of the backup capacitor, we will change the actuator product ordering codes (encoder types) due to the functional change.
Please refer to the following examples of ordering codes.

<Examples of ordering codes>
- AC servo actuator: SHA series
  SHA45A101SG-D16A200-**10**S17bA-C

- AC servo motor: HMA series
  HMAB09A200-**10**S17bA-C

The underlined part is a code representing the encoder format, but it will be changed to a code representing the encoder type in consideration of future expansion. The code representing the encoder type includes the specification of whether the backup capacitor is included or not. For details, refer to Table 3.

Table 3 Encoder types

Encoder type code	Encoder format	Backup capacitor	Details of the change
10	HDS standard format	Included (With the built-in backup function)	Currently used product
14	Panasonic format		
16	Mitsubishi Format		
17	Yaskawa format		
30	HDS standard format	Not included (Without the built-in backup function)	Product after change
34	Panasonic format		
36	Mitsubishi Format		
37	Yaskawa format		

3. Identifications before and after the change

- There are no changes in appearance due to the change.
- We will change the delivery specification drawing as a result of the model change.
- With respect to traceability before and after the change, changes are recorded by our company based on the product model number.