

March 12, 2012

Notice of Changes in the Specifications in Accordance with the Discontinuance of the IC Used in 17-bit Absolute Encoders for MINAS A4 and A5 Series AC Servo Motors

The manufacturer of ASIC (custom LSI), which is used in 17-bit absolute encoders for our A4 and A5 Series motors, has made a business decision to demolish the ASIC production factory. Accordingly, ASIC production was discontinued. After the discontinuance, we have kept ASIC in stock and continued to manufacture motors (encoders) of the affected models. However, ASIC is expected to be out of stock in October 2012 due to the increase in production in response to the recent increase in the demand for FA servo motors. Therefore, we will adopt a new 17-bit absolute encoder as a substitute for the currently-used one. We greatly appreciate your understanding of these circumstances.

AC servo motors and encoders

- Target models: All models of MINAS A4 and A5 Series equipped with a 17-bit absolute (incremental selectable) encoder
80-mm sq. small flange motors of 750 W or below and large motors (exceeding 80-mm sq. and 750 W)
- A4 Series: MAMA***S◇◇, MSMD***S◇◇, MDMA***S◇◇,
MFMA***S◇◇, MGMA***S◇◇, MHMA***S◇◇,
MSMA***S◇◇
- A5 Series: MSMD***S◇◇, MSME***S◇◇, MDME***S◇◇,
MHMD***S◇◇, MHME***S◇◇, MGME***S◇◇,

Models with a motor part number with "S" as its 8th character, including geared motors, except for MQMA (flat type) motors

- Reason for the change: Production discontinuance of ASIC (custom LSI) used in encoders
- Details of the change: The electrical specifications and structure will be changed. There will be no changes in the basic performance or characteristics.

* For details, please see the comparison tables on page 2.

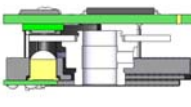
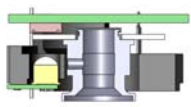
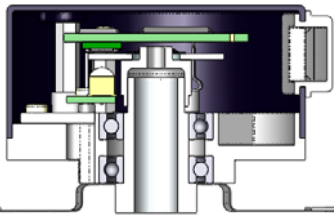
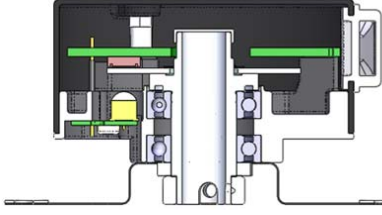
The backup capacitor for storing multi-turn data used in the A4 Series large type motors (with 100-mm sq. or larger flange) will be discontinued.

Please keep the encoder's main power on during replacement of the external battery.

- Schedule: This change will apply to products manufactured in May 2012 onwards.
- The motor part numbers will not be changed.
There will be no changes in the appearance and external dimensions of motors.
- About repair service
If a product manufactured before this change is returned to us for investigation or repair, we will apply this change to the product and then return it to the customer.

17-bit absolute encoder comparison

<Structure>

Series	Small/Large	New	Current
		17-bit absolute encoder	17-bit absolute encoder
A4 Series	Small, 750 W or below		
A5 Series	Small, 750 W or below		
A5 Series	Large		
A4 Series	Large		

<Electrical specifications>

			New	Current
			17-bit absolute encoder	17-bit absolute encoder
Resolution	Single turn		17 bit	←
	Multi-turn		16 bit	←
Single turn absolute generation method	Upper		9-bit M code	9-bit gray code
	Lower		8-bit sine wave interpolation	←
Main power supply voltage			5V±0.25V	←
Battery power supply voltage			3.6V	←
Built-in backup capacitor	Small		Not installed *1	←
	Large		Not installed *1	Installed
Battery power consumption for operation during power outages			35 μA Typ	60 μA Typ
Communication specifications *2	Communication rate		2.5 Mbps	←
	Synchronization system		Asynchronous communication method	←
	Communication code		Binary code	←
	Communication format		MINAS format	←
	Transmission method		RS485-compliant	←

*1: Please keep the encoder's main power on during replacement of the external battery. Otherwise, the multi-turn data will be lost.

*2: The A4 and A5 Series use the same communication method and format.