

Product Transition Guide

Replacement target

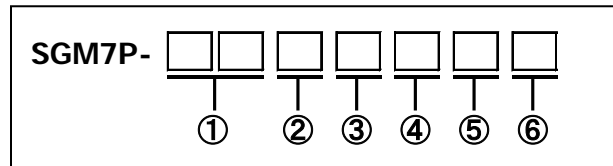
Motor: Σ -II (SGMPH)

This document will describe the differences between the Sigma-II SGMPH servo motor and its recommended replacement, the Sigma-7 SGM7P servo motor.

DMC

Drives Motors Controls

Part numbering comparison table of SGMPH and SGM7P



Series/model name		Σ-II	Σ-7	Supplement
		SGMPH-	SGM7P-	
Motor specification (by type)				
Capacity ①	100W	01	01	
	200W	02	02	
	400W	04	04	
	750W	08	08	
	1.5kW	15	15	
Power specification ②	AC200V	A	A	
Serial encoder ③	13bit incremental	A	—	
	16bit absolute	1	—	
	24bit incremental	—	F	
	24bit absolute	—	7	
Design revision order ④	IP55	A	—	
	IP67	E	J E	Use J for motor capacities 01, 02, and 04 Use E for motor capacities 08 and 15
Shaft end specification ⑤	Straight, without key	2	2	
	Straight, with key and tap	4	6	
Option ⑥	Without option	1D	1D	If there is no option, set as "1D". Do not leave it blank.
	With 24V brake	CD	CD	
	With oil seal and holding brake (DC24V)	ED	ED	
	With oil seal	SD	SD	

Motor characteristics comparison of SGMPH and SGM7P

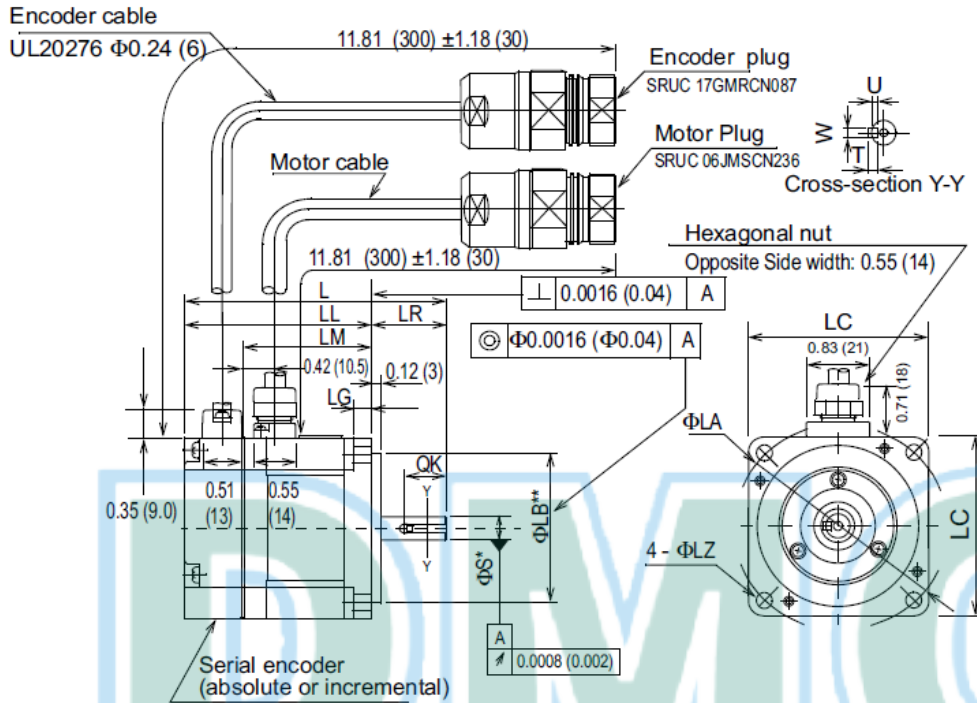
Motor capacity	Model	Motor characteristics					
		Rated torque (N·m)		Maximum momentary torque (N·m)		Moment of inertia of rotor (× 10 ⁻⁴ kg·m ²)	
		Σ-II	Σ-7	Σ-II	Σ-7	Σ-II	Σ-7
100W	01A	0.318		0.955		0.0491 (0.0781)	0.0592 (0.0892)
200W	02A	0.637		1.91		0.193 (0.302)	0.263 (0.415)
400W	04A	1.27		3.82		0.331 (0.440)	0.409 (0.561)
750W	08A	2.39		7.16		2.1 (2.98)	
1.5kW	15A	4.77		14.3		4.02 (4.9)	

The numerical value within parenthesis pertains to servo motor with holding brake.

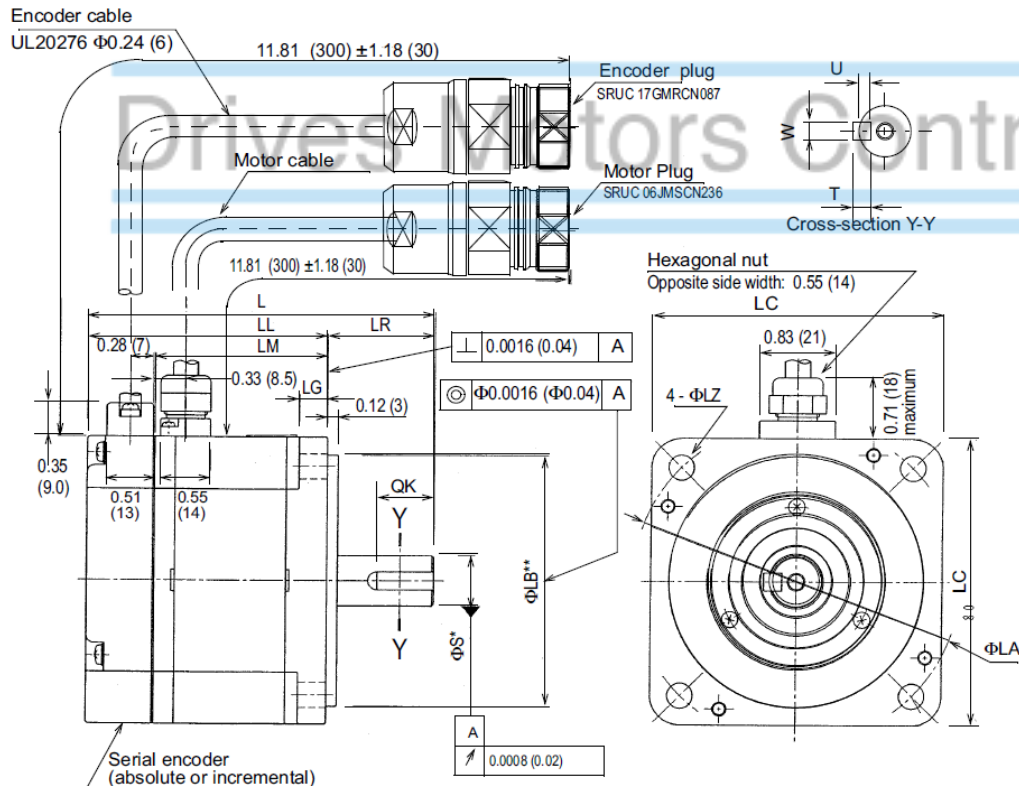
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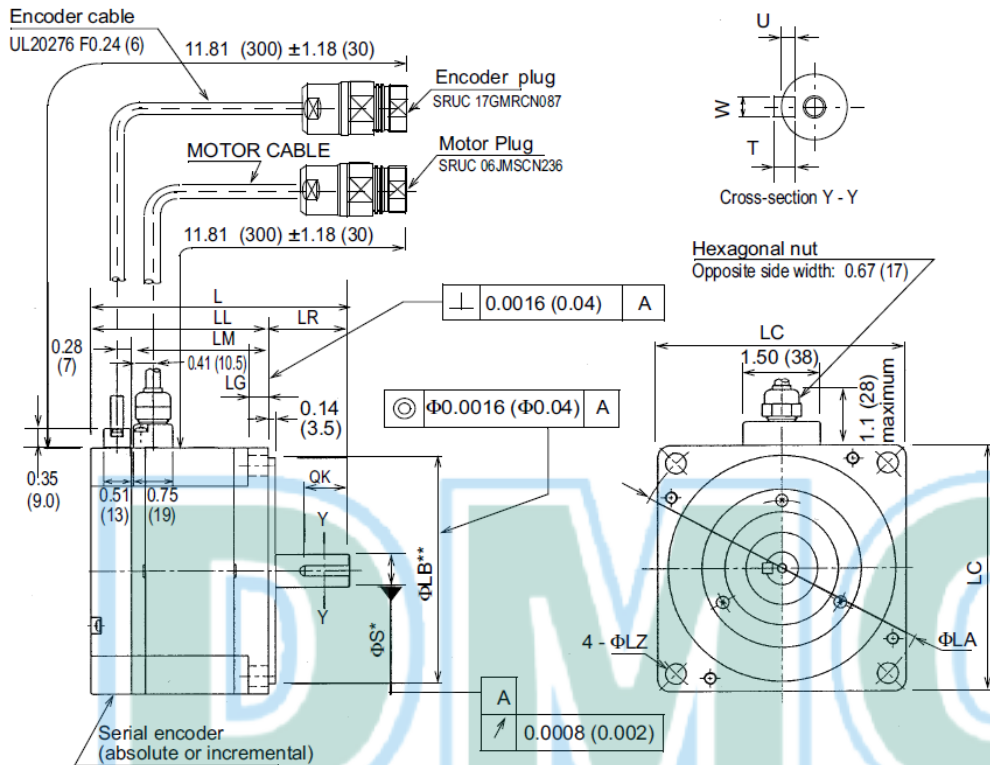
Sigma-II SGMPH 100W



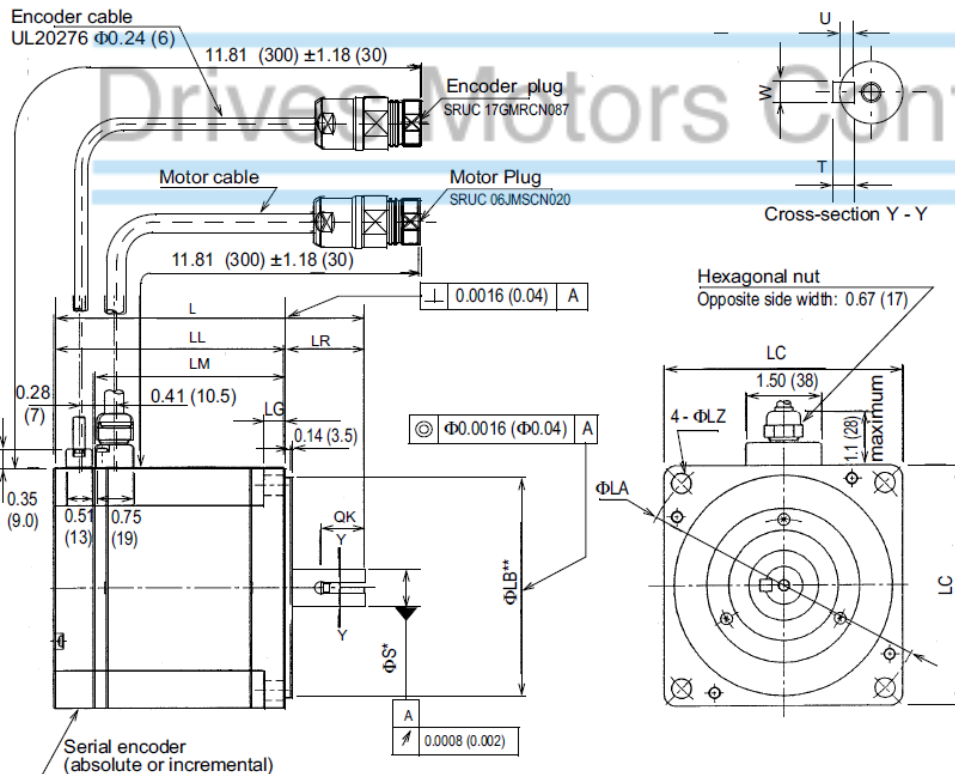
Sigma-II SGMPH 200W, 400W



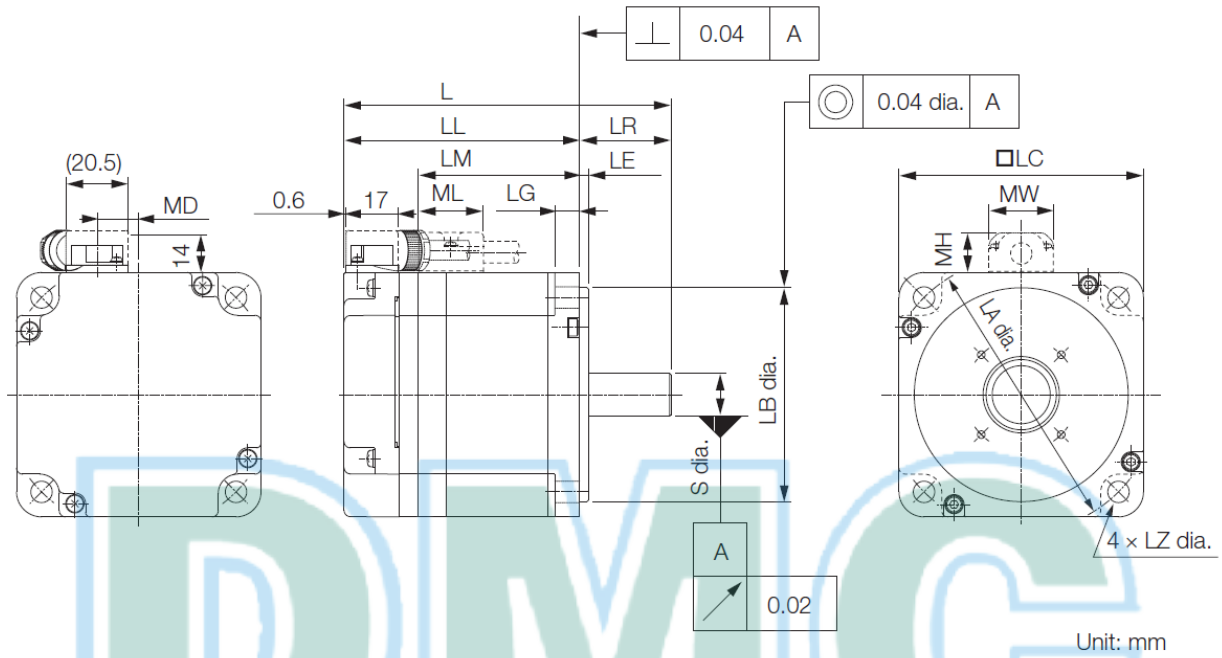
Sigma-II SGMPH 750W



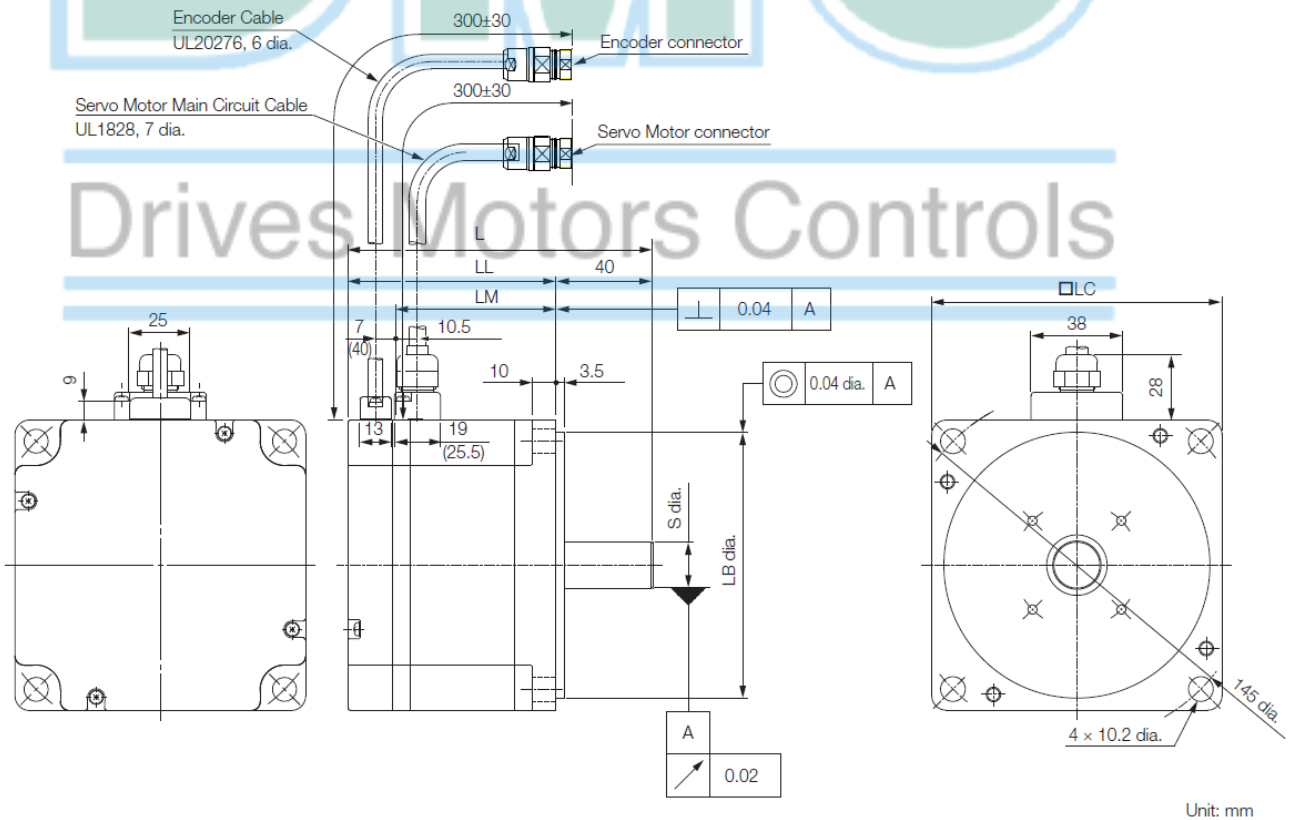
Sigma-II SGMPH 1.5kW



Sigma-7 SGM7P 100W, 200W, 400W



Sigma-7 SGM7P 750W, 1.5kW



Dimensional differences (SGMPH vs SGM7P)

Motor capacity	Model Σ-II: SGMPH- Σ-7: SGM7P-		L	LL	LM	Flange dimensions						S	
						LR	LE	LG	LC	LA	LB		LZ
100W	01A	Σ-II	87 (116)	62 (91)	42.5	25	3	6	60	70	50	5.5	8
		Σ-7	85 (115)	60 (90)	36								
200W	02A	Σ-II	97 (128.5)	67 (98.5)	48.1	30	3	8	80	90	70	7	14
		Σ-7	85 (115)	60 (90)	43								
400W	04A	Σ-II	117 (148.5)	87 (118.5)	68.1	30	3	8	80	90	70	7	14
		Σ-7	107 (138.5)	77 (108.5)	53								
750W	08A	Σ-II	126.5 (163)	86.5 (123)	66.7	40	3	10	120	145	110	10	16
		Σ-7	126.5 (160)	86.5 (120)	67.6								19
1.5kW	15A	Σ-II	154.5 (188)	114.5 (148)	94.7	40	3	10	120	145	110	10	19
		Σ-7	154.5 (187.5)	114.5 (147.5)	95.6								

〈Note〉 The value within parenthesis pertains to servo motor with holding brake.

Amplifiers, cables, and accessories

Amplifiers, cables, and accessories for SGM7P motors are outlined in the Sigma-7 Technical Supplement (document number YAI-KAEPS80000123).