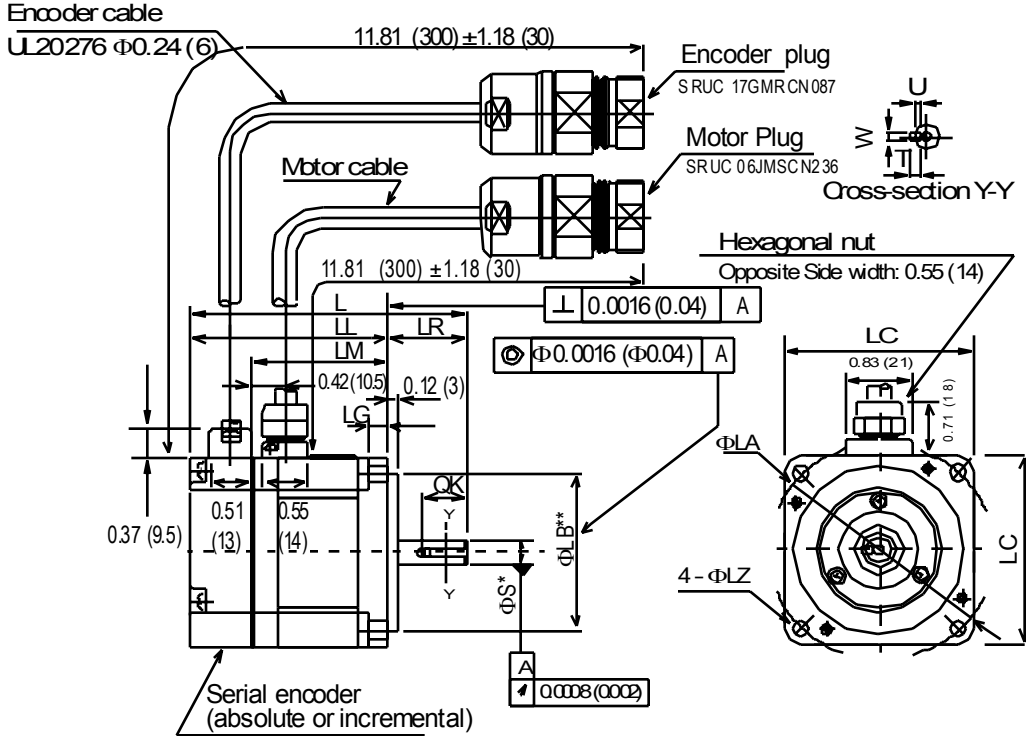


Dimensions in inches (mm)

(1) 13-Bit Incremental Encoder, w/o Brake

- Note:
1. The keyway complies with JIS B1301-1976 (precision). A straight key is supplied.
 2. Conforms to the IP67 enclosure, excluding the shaft (optional shaft seal available).
 3. The quoted allowable radial load is the value at a position 5 mm (0.2 in) from the shaft end.

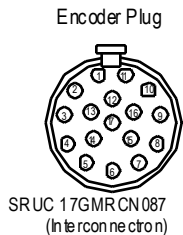
• 100W (0.13hp)



Type SGMPH-	L	LL	LM	LR	LG	LC	ΦLA	ΦLZ	ΦS*	ΦLB**	Key				Output W (hp)	Torque in-lb (N·m)	Time Rating	Rated Speed (rpm)	Approx Mass lb (kg)	Allowable Radial Load lb (N)	Allowable Thrust Load lb (N)
											QK	U	W	T							
01□□E41D	3.43	2.44	1.67	0.98	0.24	2.36	2.76	0.21	0.315	1.97	0.55	0.071	0.12	0.12	100	2.81	Continuous	3000	1.54	17.5	11.0
01□□E41D	(87)	(62)	(42.5)	(25)	(6)	(60)	(70)	(5.3)	(8)	(50)	(14)	(1.8)	(3)	(3)	(0.13)	(0.318)			(0.7)	(78)	(49)

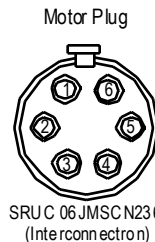
Note: The quoted allowable radial load is the value at a position 0.79in (20mm) from the mounting surface.

Specified Tolerances				
Dimension	*ΦS		**ΦLB	
Unit	Diameter	Tolerance	Diameter	Tolerance
in	0.3150	+0.0000-0.0004	1.9685	+0.0000-0.0010
mm	8.000	+0.000-0.009	50.000	+0.000-0.025



Incremental Terminal Specifications		
Pin No.	Description	Color
3	Data +	Blue
4	Data -	Blue/White
1, 2, 5 - 7, 10 - 17	Free	—
8	+5V (Power Supply)	Red
9	0V (Power Supply)	Black
Connector Case	FG (Frame Ground)	Shield wire

Mating Connector: SPNA17HFRON16900E3
(Interconnector)

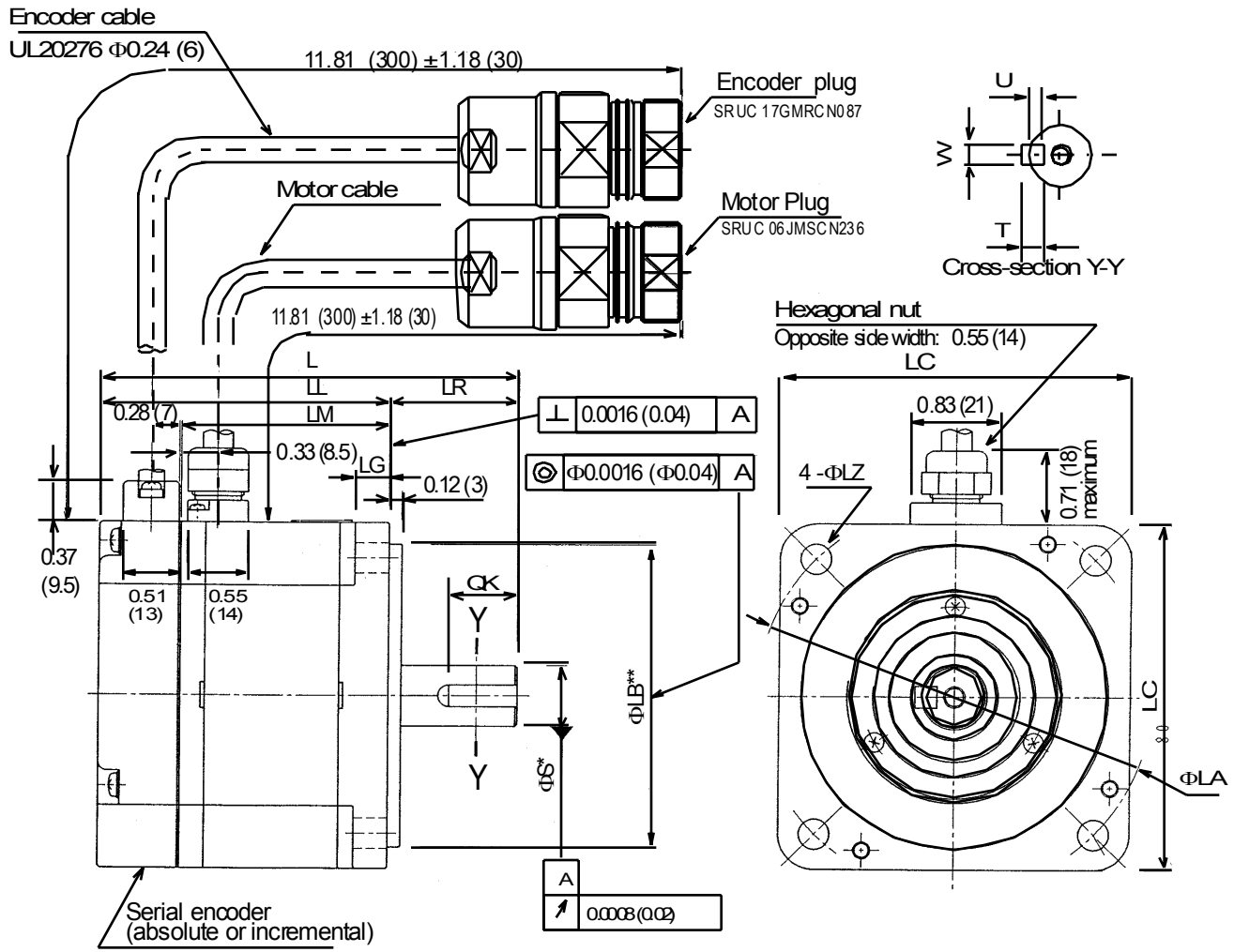


Motor Wiring Specifications		
Pin Number	Description	Color
1	Phase U	Red
2	Phase V	White
3	Phase W	Blue
6	FG (Frame Ground)	Green/Yellow

Mating Connector: SPNA06KFSDN169
(Interconnector)

LEGEND System Components

- 200W (0.27hp), 400W (0.53hp)



SGMPH Servomotors

Type SGMPH-	L	LL	LM	LR	LG	LC	ΦLA	ΦLZ	ΦS^*	ΦLB^{**}	Key				Voltage V	Output W (hp)	Torque in·lb (N·m)	Time Rating	Rated Speed (rpm)	Approx Mass lb (kg)	Allowable Radial Load lb (N)	Allowable Thrust Load lb (N)
											QK	U	W	T								
02□□E41 D	3.82 (97)	2.64 (67)	1.89 (48.1)	1.18 (30)	0.31 (8)	3.15 (80)	3.54 (90)	0.28 (7)	0.551 (14)	2.76 (70)	0.63 (16)	0.12 (3)	0.20 (5)	200	200 (0.27)	5.64 (0.637)	Continuous	3000	3.09 (1.4)	55.1 (245)	15.4 (68)	
04□□E41 D	4.61 (117)	3.46 (87)	2.68 (68.1)																			400 (0.53)

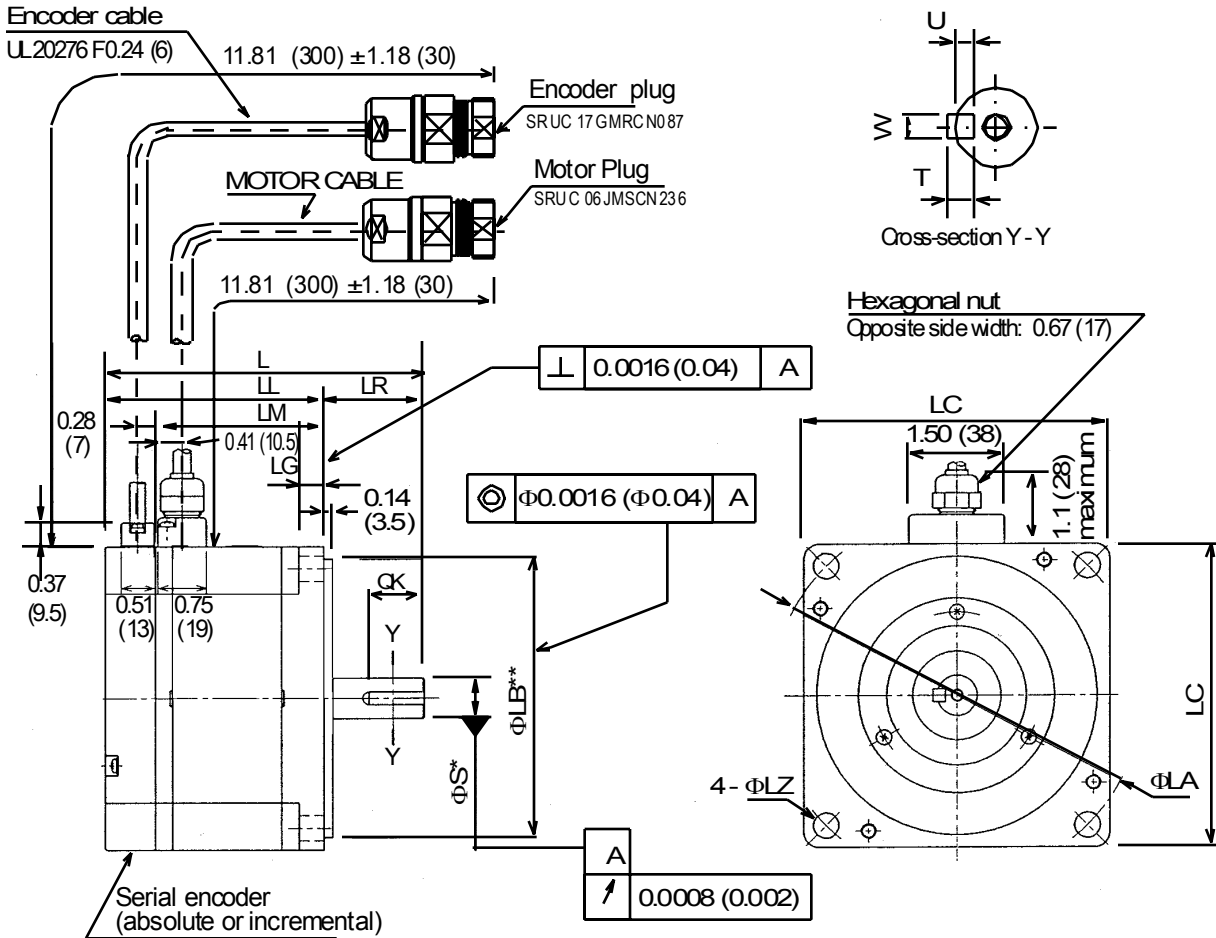
Note: The quoted allowable radial load is the value at a position 0.98in (25mm) from the mounting surface.

Specified Tolerances				
Dimension	* ΦS		** ΦLB	
Unit	Diameter	Tolerance	Diameter	Tolerance
in	0.5512	+0.0000-0.0004	2.7559	+0.0000-0.0012
mm	14.000	+0.000-0.011	70.000	+0.000-0.030

Interconnection Connector Specifications: See page 1

LEGEND System Components

• 750W (1.01hp)



Type SGMPH-	L	LL	LM	LR	LG	LC	Φ LA	Φ LZ	Φ S*	Φ LB**	Key				Voltage V	Output W (hp)	Torque in·lb (N·m)	Time Rating	Rated Speed (rpm)	Approx Mass lb (kg)	Allowable Radial Load lb (N)	Allowable Thrust Load lb (N)
											QK	U	W	T								
08□□E4 1D	4.98 (126.5)	3.41 (86.5)	2.63 (66.7)	1.57 (40)	0.39 (10)	4.72 (120)	5.71 (145)	0.39 (10)	0.63 (16)	4.33 (110)	0.87 (22)	0.12 (3)	0.20 (5)	0.20 (5)	200	750 (1.01)	21.1 (2.39)	Contin- uous	3000	9.26 (4.2)	88.1 (392)	330 (147)

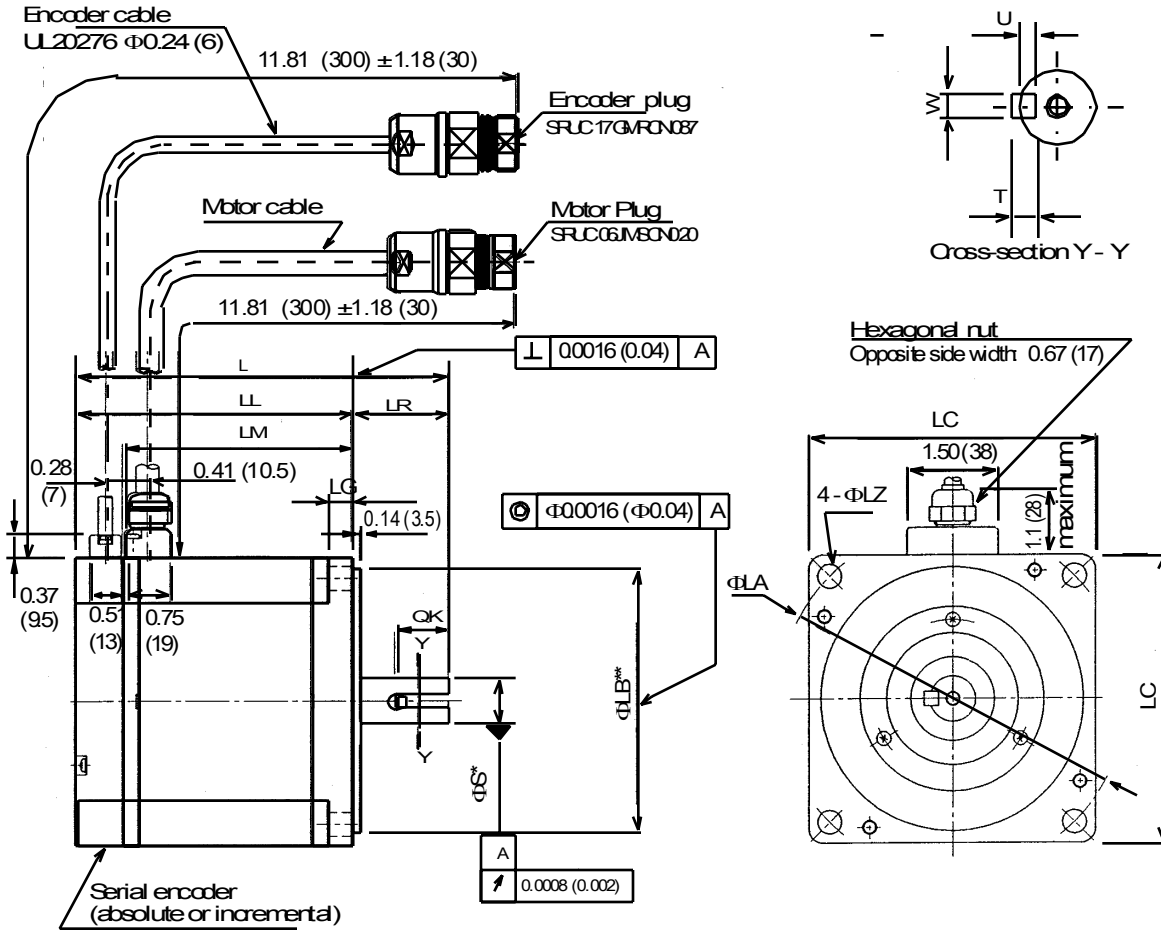
Note: The quoted allowable radial load is the value at a position 1.38in (35mm) from the motor mounting surface.

Specified Tolerances				
Dimension	* Φ S		** Φ LB	
Unit	Diameter	Tolerance	Diameter	Tolerance
in	0.6299	+0.0000-0.0004	4.3307	+0.0000-0.0014
mm	16.000	+0.000-0.011	110.000	+0.000-0.035

Interconnection Connector Specifications: See page 1

LEGEND System Components

- 1500W (2.0hp)



SGMPH Servomotors

Type SGMPH-	L	LL	LM	LR	LG	LC	ΦLA	ΦLZ	ΦS^*	ΦLB^{**}	Key				Voltage V	Output W (hp)	Torque in*lb (N*m)	Time Rating	Rated Speed (rpm)	Approx Mass lb (kg)	Allowable Radial Load lb (N)	Allowable Thrust Load lb (N)
											QK	U	W	T								
15□□E41D	6.08 (154.5)	4.51 (114.5)	3.73 (94.7)	1.57 (40)	0.39 (10)	4.72 (120)	5.71 (145)	0.39 (10)	0.75 (19)	4.33 (110)	0.87 (22)	0.14 (3.5)	0.24 (6)	0.24 (6)	200	1500 (2.0)	42.1 (4.77)	Continuous	3000	14.55 (6.6)	110 (490)	33.0 (147)

Note: The quoted allowable radial load is the value at a position 1.38in (35mm) from the motor mounting surface.

Specified Tolerances				
Dimension	* ΦS		** ΦLB	
Unit	Diameter	Tolerance	Diameter	Tolerance
in	0.7480	+0.0000-0.0005	4.3307	+0.0000-0.0014
mm	19.000	+0.000-0.013	110.000	+0.000-0.035

Interconnection Connector Specifications



Incremental Terminal Specifications		
Pin Number	Description	Color
3	Data +	Blue
4	Data -	Blue/White
1, 2, 5-7, 10-17	Free	—
8	+5V (Power Supply)	Red
9	0V (Power Supply)	Black
Connector Case	FG (Frame Ground)	Shield wire

Mating Connector: SPNA17HFRON16900E3
(Interconnector)

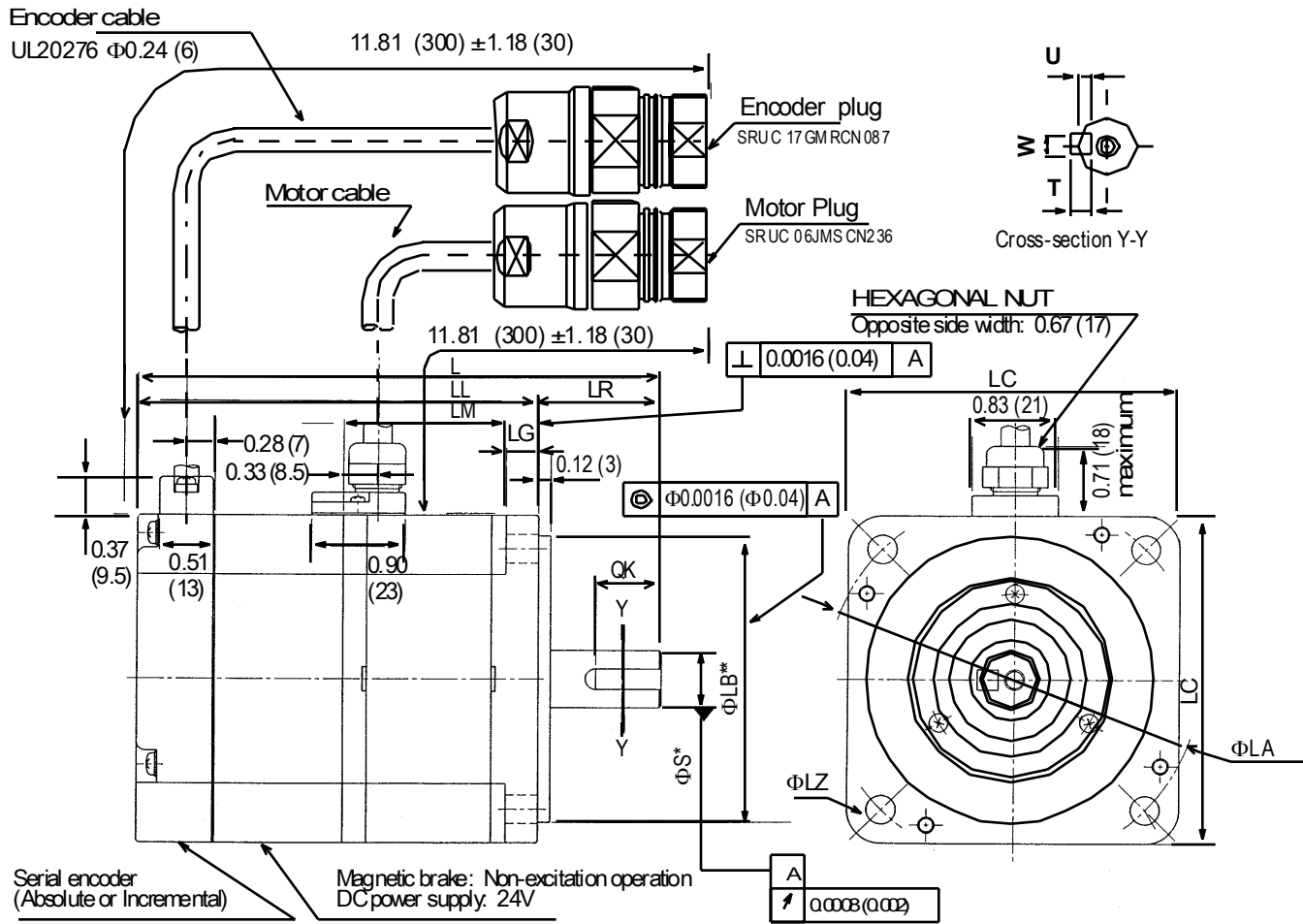


Motor Wiring Specifications		
Pin No.	Description	Color
1	Phase U	Red
2	Phase V	White
3	Phase W	Blue
6	FG (Frame Ground)	Green/Yellow

Mating Connector: SPNA06KFSDN169
(Interconnector)

LEGEND System Components

- 200W (0.27hp), 400W (0.53hp)



SGMPH Servomotors

Type SGMPH-	L	LL	LM	LR	LG	LC	ΦLA	ΦLZ	ΦS*	ΦLB**	Key				Voltage V	Output W(hp)	Torque in·lb (Nm)	Time Rating	Rated Speed (rpm)	Approx Mass lb(kg)	Allowable Radial Load lb (N)	Allowable Thrust Load lb (N)
											QK	U	W	T								
02□□E4 CD	5.06 (128.1)	3.88 (98.5)	1.89 (48.1)	1.18 (30)	0.31 (8)	3.15 (80)	3.54 (90)	0.28 (7)	0.551 (14)	2.756 (70)	0.63 (16)	0.12 (3)	0.20 (5)	0.20 (5)	200	200 (0.27)	5.64 (0.637)	Contin- uous	3000	4.2 (1.9)	55.1 (245)	15.4 (68)
04□□E4 CD	5.85 (148.5)	4.67 (118.5)	2.68 (68.1)																			

Note: The quoted allowable radial load is the value at a position 0.98in (25mm) from the motor mounting surface.

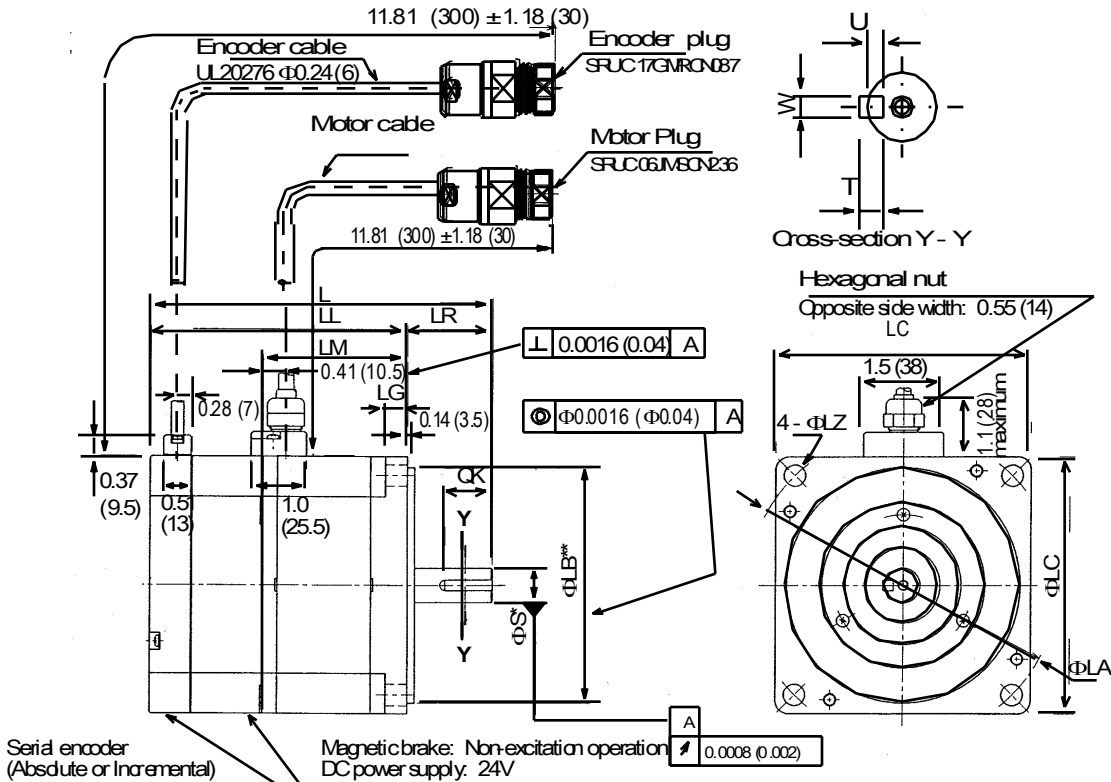
Specified Tolerances				
Dimension	*ΦS		**ΦLB	
Unit	Diameter	Tolerance	Diameter	Tolerance
in	0.5512	+0.0000-0.0004	2.7559	+0.0000 -0.0012
mm	14.000	+0.000 -0.011	70.000	+0.000 -0.030

Interconnection Connector Specifications: See page 5.

LEGEND System Components

- 750W (1.01hp)

SGMPH Servomotors

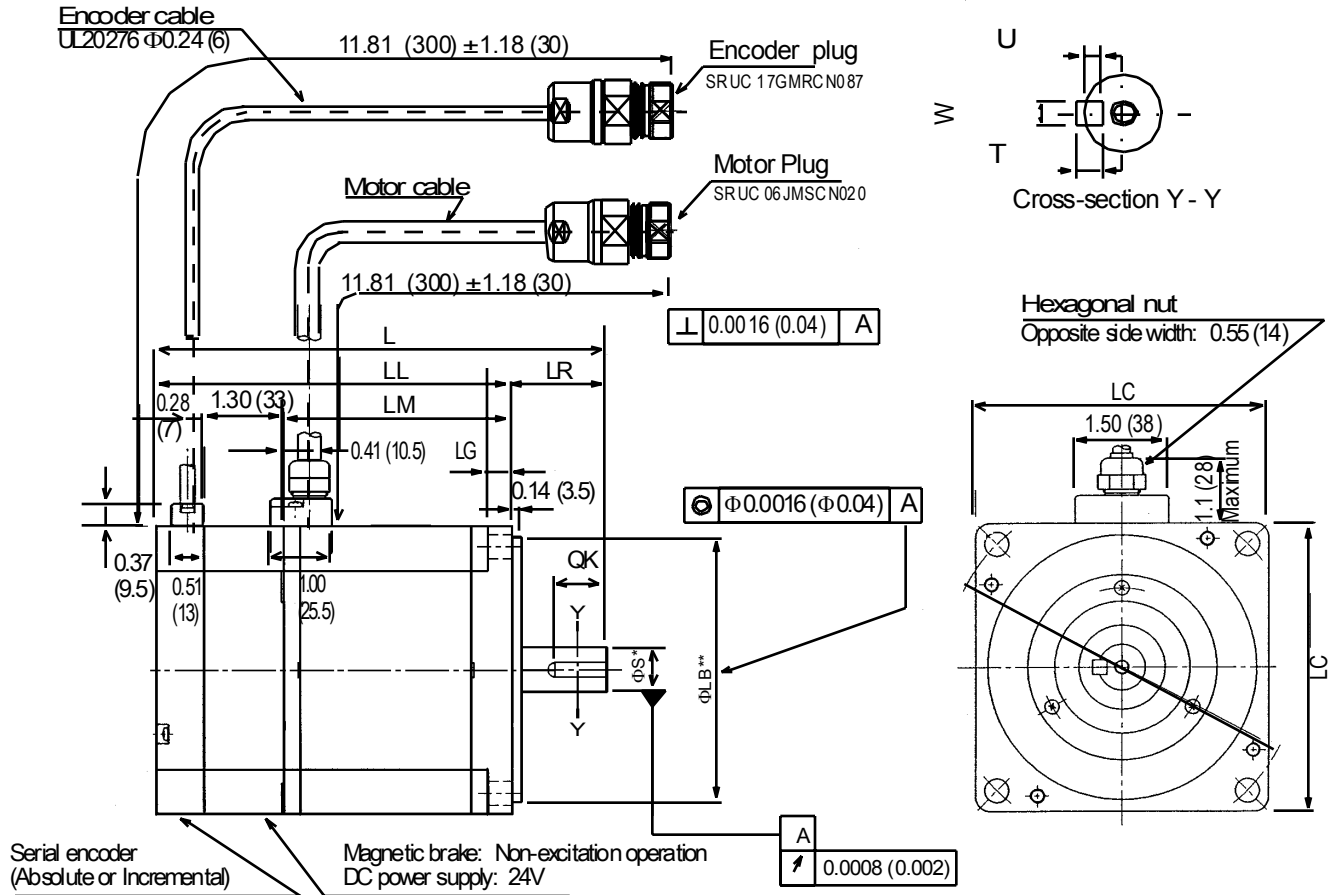


Specified Tolerances				
Dimension	*ΦS		**ΦLB	
Unit	Diameter	Tolerance	Diameter	Tolerance
in	0.6299	+0.0000-0.0004	4.3307	+0.0000-0.0014
mm	16.000	+0.000-0.011	110.000	+0.000-0.035

Interconnection Connector Specifications: See page 5

LEGEND System Components

- 1500W (2.0hp)



Type SGMPH-	L	LL	LM	LR	LG	LC	ΦLA	ΦLZ	ΦS*	ΦLB**	Key				Voltage V	Output W (hp)	Torque in lb (N·m)	Time Rating	Rated Speed (rpm)	Approx Mass lb (kg)	Allowable Radial Load lb (N)	Allowable Thrust Load lb (N)
											QK	U	W	T								
15□□E4CD	7.40 (188)	5.83 (148)	3.73 (94.7)	1.57 (40)	0.39 (10)	4.72 (120)	5.71 (145)	0.39 (10)	0.75 (19)	4.33 (110)	0.87 (22)	0.14 (3.5)	0.24 (6)	0.24 (6)	200	1500 (2.02)	42.1 (4.77)	Continuous	3000	1.79 (8.1)	110 (490)	33.0 (147)

Note: The quoted allowable radial load is the value at a position 1.38in (35mm) from the motor mounting surface.

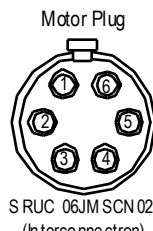
Specified Tolerances				
Dimension	*ΦS		**ΦLB	
Unit	Diameter	Tolerance	Diameter	Tolerance
in	0.7480	+0.0000-0.0005	2.7559	+0.0000-0.0014
mm	19.000	+0.000-0.013	70.000	+0.000-0.035

Interconnection Connector Specifications



Incremental Terminal Specifications			
Pin Number	Description	Color	
3	Data +	Blue	
4	Data -	Blue/White	
1, 2, 5 - 7, 10 - 17	Free	—	
8	+5V (Power Supply)	Red	
9	0V (Power Supply)	Black	
Connector Case	FG (Frame Ground)	Shield wire	

Mating Connector: SPNA17HFRON16900E3 (Interconnector)

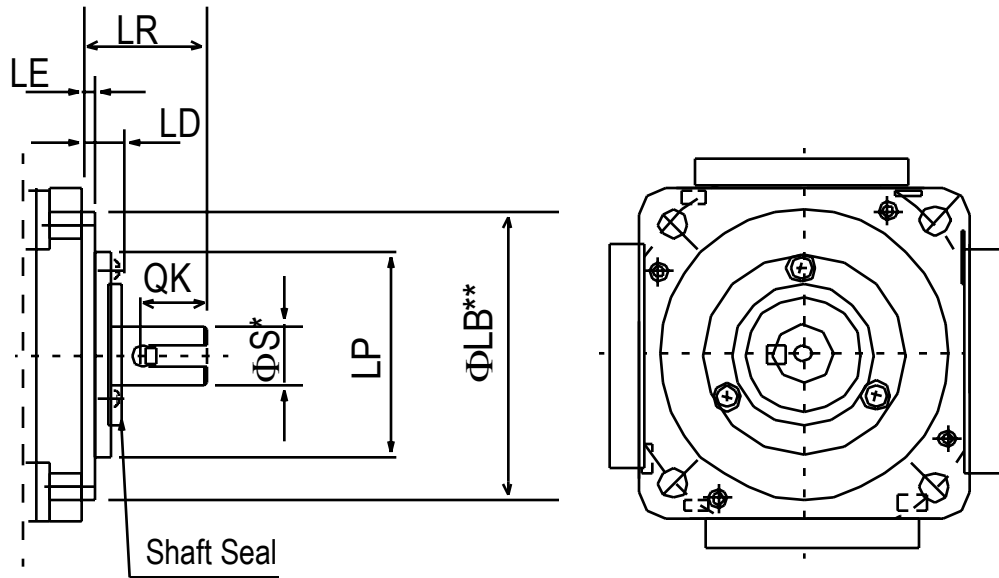


Motor Wiring Specifications		
Pin No.	Description	Color
1	Phase U	Red
2	Phase V	White
3	Phase W	Blue
4	Holdng Brake	Black
5	Holdng Brake	Black
6	FG (Frame Ground)	Green/Yellow

Mating Connector: SPNA06KFSDN169 (Interconnector)

SGMPH Servomotors

Dimension Modifications for Motors with Optional Shaft Seal



Type SGMPH-	QK	ΦLB*	ΦS*	LE	LR	LD	ΦLP
01	0.55 (14)	1.97 (50)	0.31 (8)	0.12 (3)	0.98 (25)	0.28 (7)	1.54 (39)
02 04	0.64 (16)	2.76 (70)	0.55 (14)		1.18 (30)	0.39 (10)	1.93 (49)
08 15	0.87 (22)	4.33 (110)	0.63 (16) 0.75 (19)	0.14 (3.5)	1.57 (40)	0.41 (10.5)	3.03 (77)

*Refer to the following table for tolerances for diameters LB and S.

Specified Tolerances				
Dimension	*ΦS		**ΦLB	
Unit	Diameter	Tolerance	Diameter	Tolerance
in	0.3150	+0.0000-0.0004	1.9685	+0.0000-0.0010
	0.5512	+0.0000-0.0004	2.7559	+0.0000-0.0014
	0.6299	+0.0000-0.0004	4.3307	+0.0000-0.0014
	0.7480	+0.0000-0.0005		
mm	8.000	+0.000 -0.009	50.000	+0.000 -0.025
	14.000	+0.000 -0.011	70.000	+0.000 -0.035
	16.000	+0.000 -0.011	110.000	+0.000 -0.035
	19.000	+0.000 -0.013		

Torque Reduction Factor for SGMPH motors equipped with a shaft seal:

Servomotor Model	01	02	04	08	15
Torque Reduction Factor	90%	90%	95%	95%	95%

For Example: The SGMPH-01 continuous and peak torque rating should be reduced to 90% of the listed catalog specification.

To specify a motor with a shaft seal, refer to the motor part number explanation on the following page.