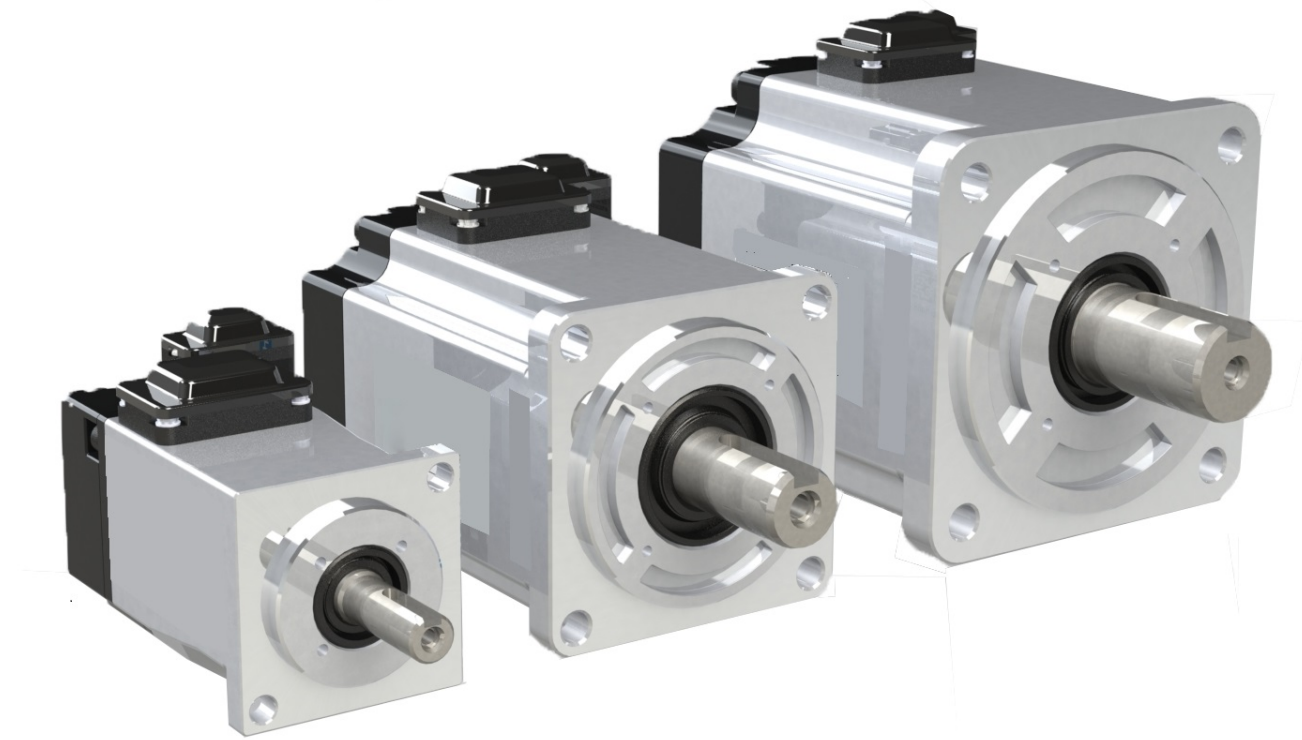
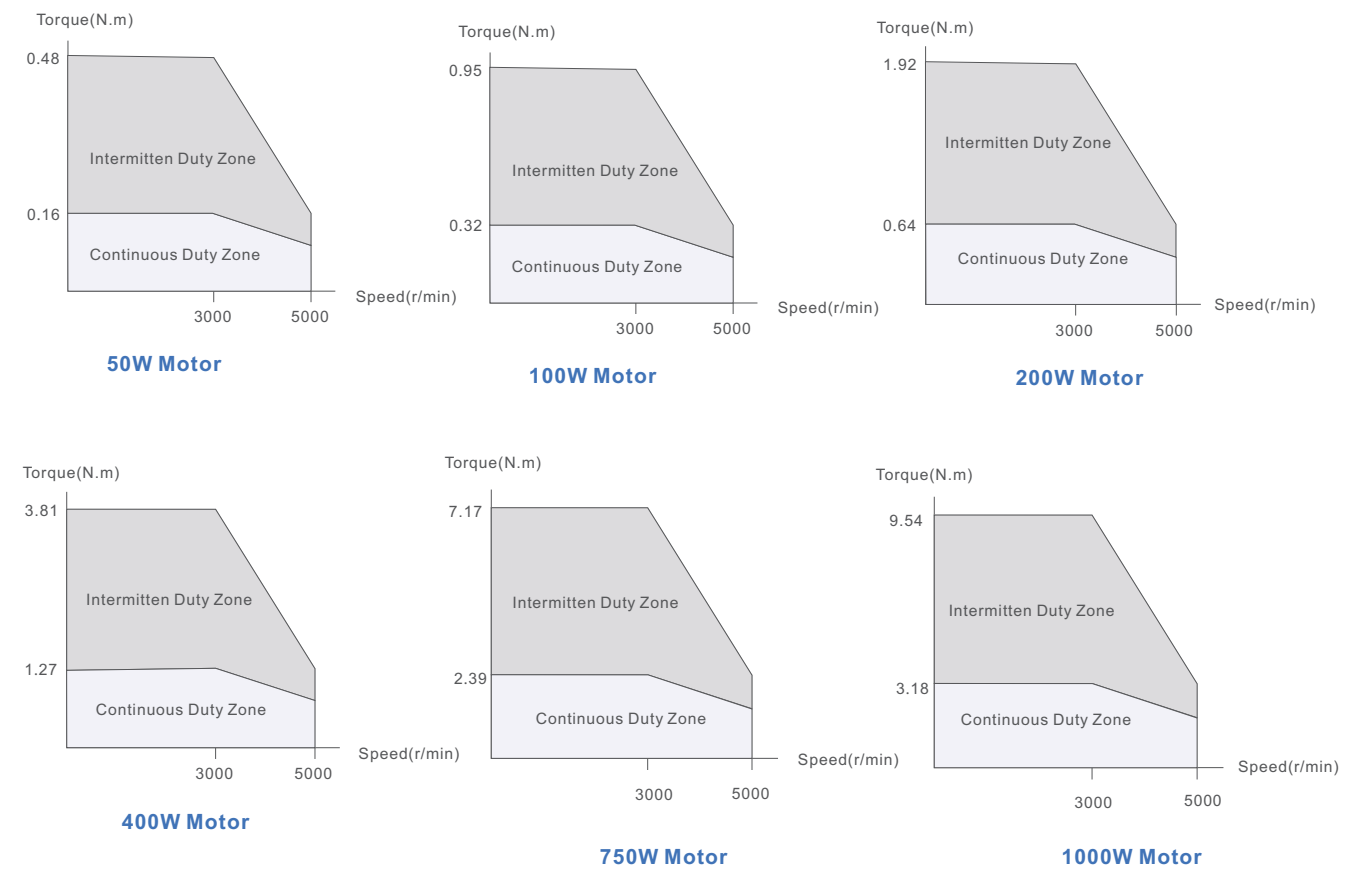


## Servo motors with 220VAC (ELM1)

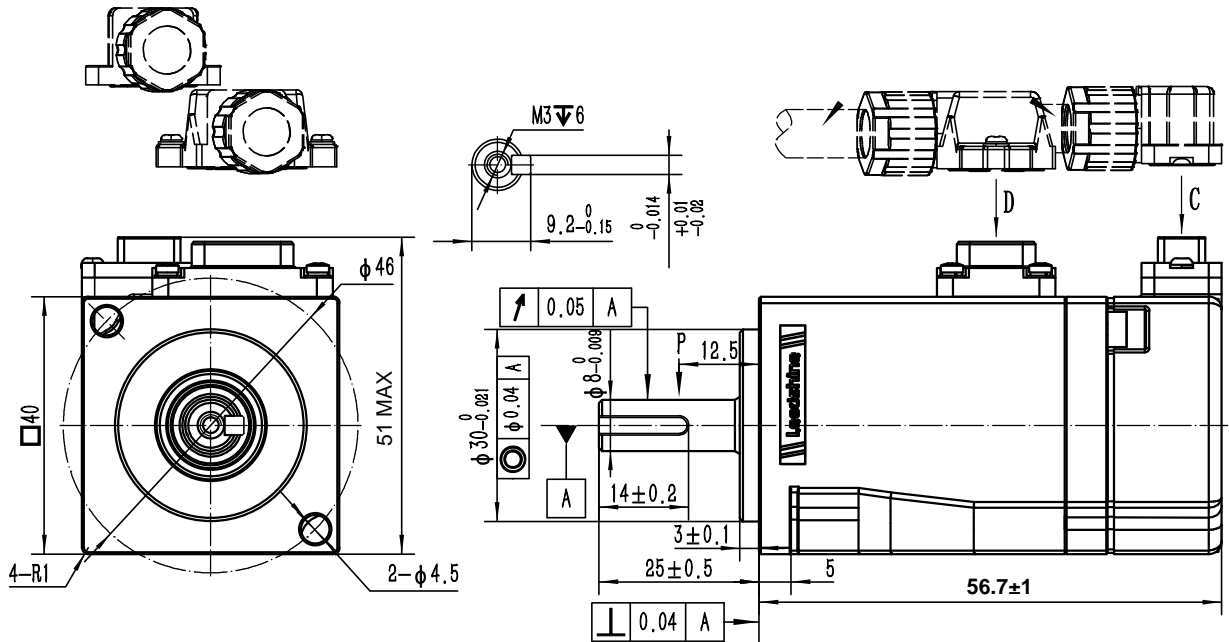
ELM1 Model	ELM1H-0050MA40E	ELM1H-0100MA40E	ELM1H-0200MA60E	ELM1H-0400MA60E	ELM1H-0750MA80E	ELM1H-1000MA80E	
	ELM1H-0050MA40F	ELM1H-0100MA40F	ELM1H-0200MA60F	ELM1H-0400MA60F	ELM1H-0750MA80F	ELM1H-1000MA80F	
Frame Size[mm]	40		60		80		
Rated Power[W]	50	100	200	400	750	1000	
Rated Voltage[VAC]	220						
Rated Torque[Nm]	0.16	0.32	0.64	1.27	2.39	3.18	
Peak Torque[Nm]	0.48	0.95	1.92	3.81	7.17	9.54	
Rated Current[A rms]	0.93	0.92	1.5	2.1	4.1	5.7	
Peak Current[A rms]	2.88	2.85	4.5	6.5	13.4	17.7	
Rated Speed[r/min]	3000	3000	3000	3000	3000	3000	
Peak Speed[r/min]	5000	5000	5000	5000	5000	5000	
Inertia [kgm <sup>2</sup> *10 <sup>-4</sup> ]	Without Brake	0.036	0.062	0.28	0.56	1.5	2.0
	With Brake	0.046	0.072	0.3	0.58	1.65	2.15
Weight (kg)	Without Brake	0.28	0.38	1.0	1.3	2.12	2.8
	With Brake	0.44	0.54	1.3	1.55	2.7	3.4
Permissible Load to Shaft (N)	Radial	78	78	245	245	392	392
	Axial	54	54	74	74	147	147
Encoder Type	23bit magnetic multi-turn						
Plug Type	Direct connector						
Matching Cable	Motor Cable	With brake: CABLE-RZSH*M*-114-TS		No brake: CABLE-RZH*M*-114-TS			
	Encoder Cable	Absolute: CABLE-BMAH*M*-124-TS		Incremental: CABLE-BMH*M*-114-TS			
Matching Drive	Priority	EL7-**400* EL8-**400*		EL7-**750* EL8-**750*	EL7-**1000* EL8-**1000*		
	Optional	EL6-**400*		EL6-**750*	EL6-**1000*		



### • Speed - Torque characteristics



Rated Voltage (Vac)	220
Rated Power (w)	50
Rated Torque (N.m)	0.16
Peak Torque (N.m)	0.48
Rated Speed (rpm)	3000
Peak Speed (rpm)	5000
Rated Current (Amp)	0.93
Peak Current (Amp)	2.88
Torque Const (N.m/Amp)	0.2
Back EMF Const (V/krpm)	12.35
Resistance ( $\Omega$ )	11.79
Inductance (mH)	10.25
Inertia ( $\text{kg}\cdot\text{m}^2\cdot 10^{-4}$ )	0.036
Poles	10
Encoder type	23bit magnetic
IP rating	IP67
Mass (Kg)	0.28

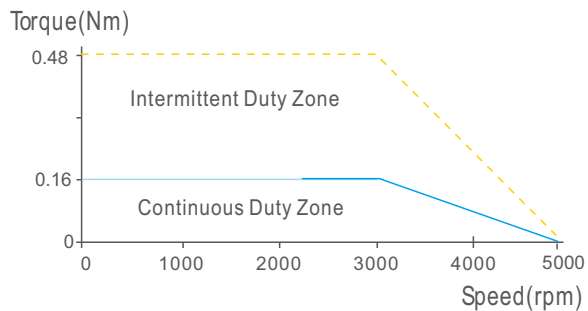


**D**

Wiring details of Power cable connector						
Pos	1	2	3	4	--	--
Signal	U	V	W	PE	--	--
Color	blue	black	red	Yel/Gre	--	--

**C**

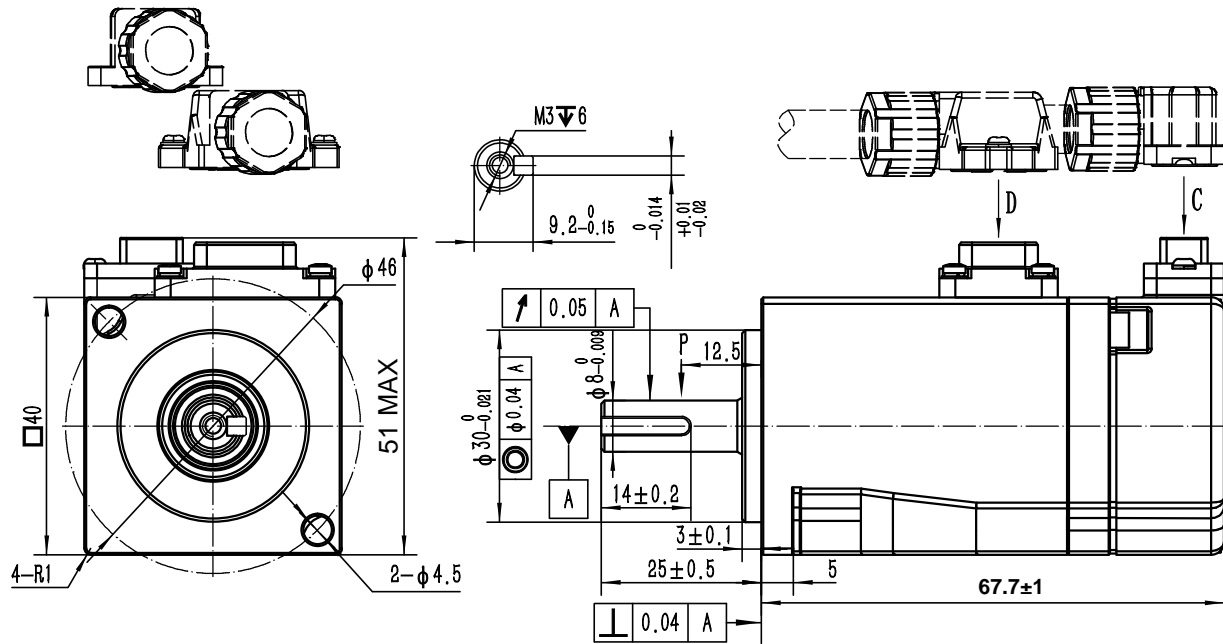
Wiring details of encoder cable connector							
Pos	1	2	3	4	5	6	7
Signal	PE	5V	0V	SD+	SD-	Bat+	Bat-
Color	shield	red	black	blue	yellow	brown	white



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**ELM1H-0050MA40F**  
40mm,high inertia,50w servo motor  
23bit magnetic encoder, no brake

Rated Voltage (Vac)	<b>220</b>
Rated Power (w)	<b>100</b>
Rated Torque (N.m)	<b>0.32</b>
Peak Torque (N.m)	<b>0.95</b>
Rated Speed (rpm)	<b>3000</b>
Peak Speed (rpm)	<b>5000</b>
Rated Current (Amp)	<b>0.92</b>
Peak Current (Amp)	<b>2.85</b>
Torque Const (N.m/Amp)	<b>0.38</b>
Back EMF Const (V/krpm)	<b>23.13</b>
Resistance (Ω)	<b>17.71</b>
Inductance (mH)	<b>14.26</b>
Inertia (kg*m <sup>2</sup> *10 <sup>-4</sup> )	<b>0.062</b>
Poles	<b>10</b>
Encoder type	<b>23bit magnetic</b>
IP rating	<b>IP67</b>
Mass (Kg)	<b>0.38</b>

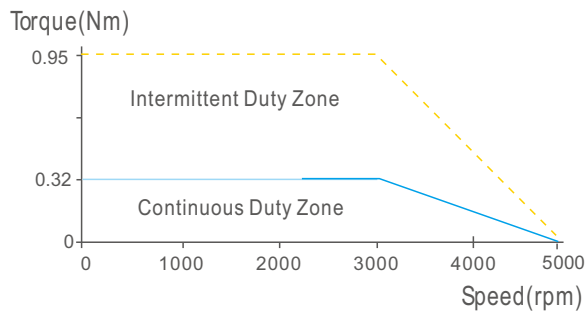


**D**

Wiring details of Power cable connector						
Pos	1	2	3	4	--	--
Signal	U	V	W	PE	--	--
Color	blue	black	red	Yel/Gre	--	--

**C**

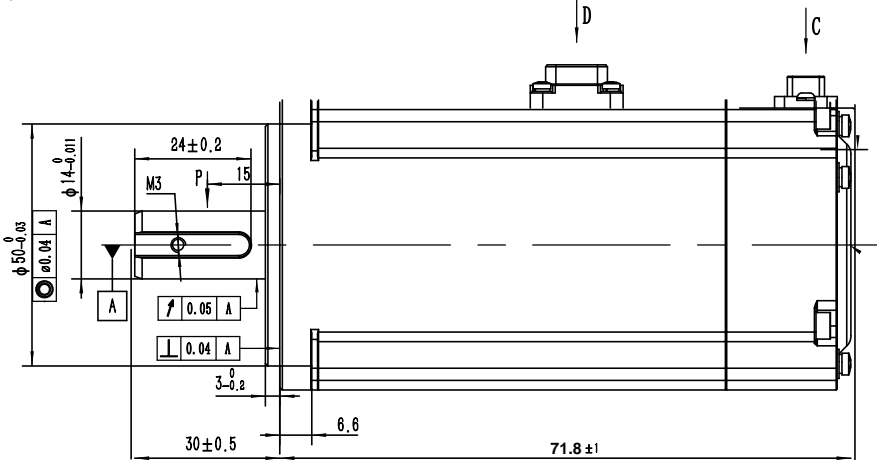
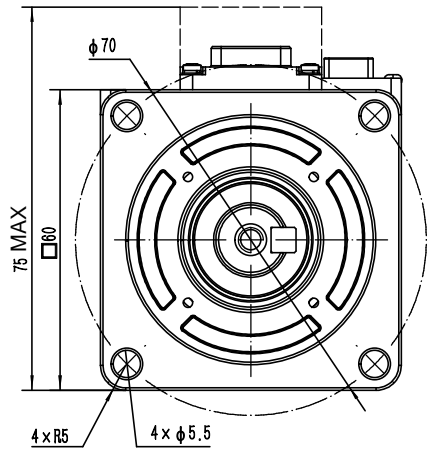
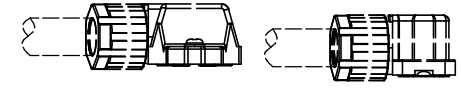
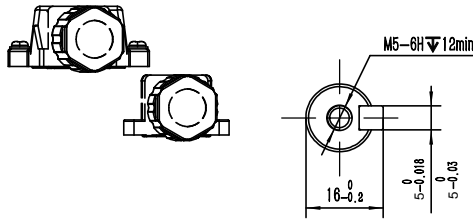
Wiring details of encoder cable connector							
Pos	1	2	3	4	5	6	7
Signal	PE	5V	0V	SD+	SD-	Bat+	Bat-
Color	shield	red	black	blue	yellow	brown	white



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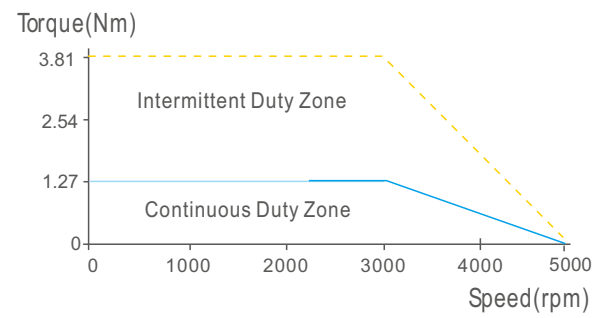
**ELM1H-0100MA40F**  
 40mm,high inertia,100w servo motor  
 23bit magnetic encoder, no brake

Rated Voltage (Vac)	220
Rated Power (w)	200
Rated Torque (N.m)	0.64
Peak Torque (N.m)	1.92
Rated Speed (rpm)	3000
Peak Speed (rpm)	5000
Rated Current (Amp)	1.5
Peak Current (Amp)	4.5
Torque Const (N.m/Amp)	0.4
Back EMF Const (V/krpm)	26.9
Resistance (Ω)	7.0
Inductance (mH)	12.7
Inertia (kg*m <sup>2</sup> *10 <sup>-4</sup> )	0.28
Poles	10
Encoder type	23bit magnetic
IP rating	IP65
Mass (Kg)	1.0



Wiring details of Power cable connector							
Pos	1	2	3	4	--	--	
Signal	U	V	W	PE	--	--	
Color	blue	black	red	Yel/Gre	--	--	

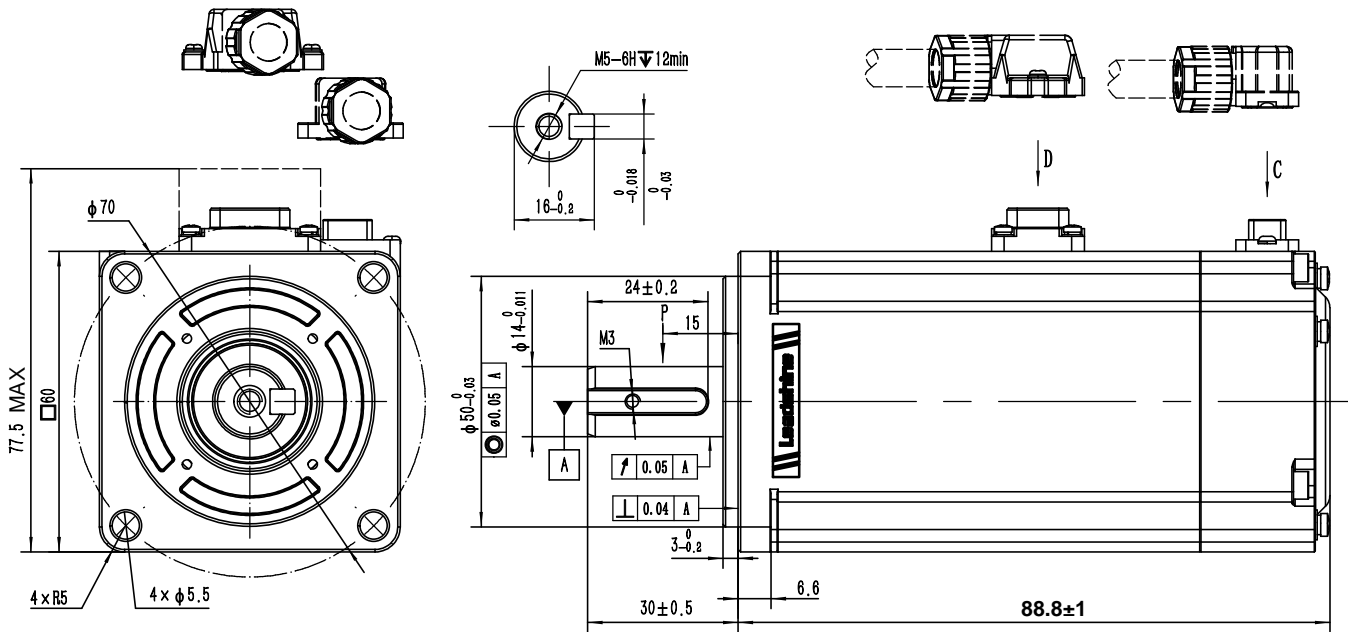
Wiring details of encoder cable connector							
Pos	1	2	3	4	5	6	7
Signal	PE	5V	0V	SD+	SD-	Bat+	Bat-
Color	shield	red	black	blue	yellow	brown	white



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**ELM1H-0200MA60F**  
60mm,high inertia,200w servo motor  
23bit magnetic encoder, no brake

Rated Voltage (Vac)	<b>220</b>
Rated Power (w)	<b>400</b>
Rated Torque (N.m)	<b>1.27</b>
Peak Torque (N.m)	<b>3.81</b>
Rated Speed (rpm)	<b>3000</b>
Peak Speed (rpm)	<b>5000</b>
Rated Current (Amp)	<b>2.1</b>
Peak Current (Amp)	<b>6.5</b>
Torque Const (N.m/Amp)	<b>0.645</b>
Back EMF Const (V/krpm)	<b>39</b>
Resistance ( $\Omega$ )	<b>5.7</b>
Inductance (mH)	<b>12</b>
Inertia ( $\text{kg}\cdot\text{m}^2\cdot 10^{-4}$ )	<b>0.56</b>
Poles	<b>10</b>
Encoder type	<b>23bit magnetic</b>
IP rating	<b>IP67</b>
Mass (Kg)	<b>1.3</b>

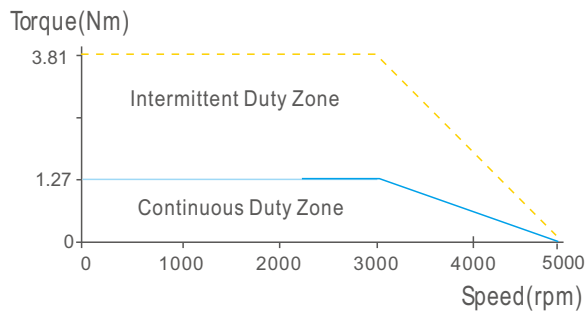


**D**

Wiring details of Power cable connector						
Pos	1	2	3	4	--	--
Signal	U	V	W	PE	--	--
Color	blue	black	red	Yel/Gre	--	--

**C**

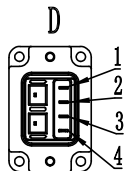
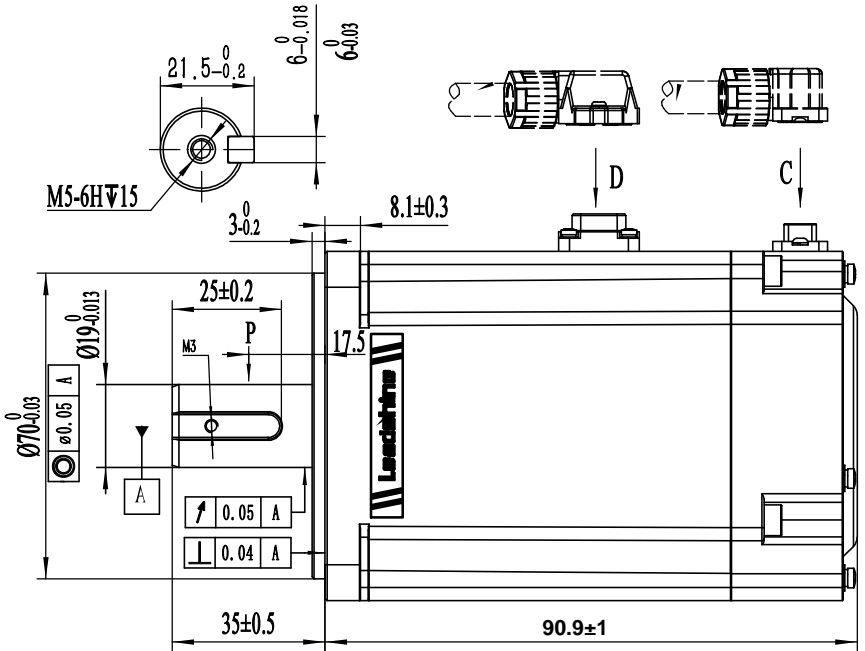
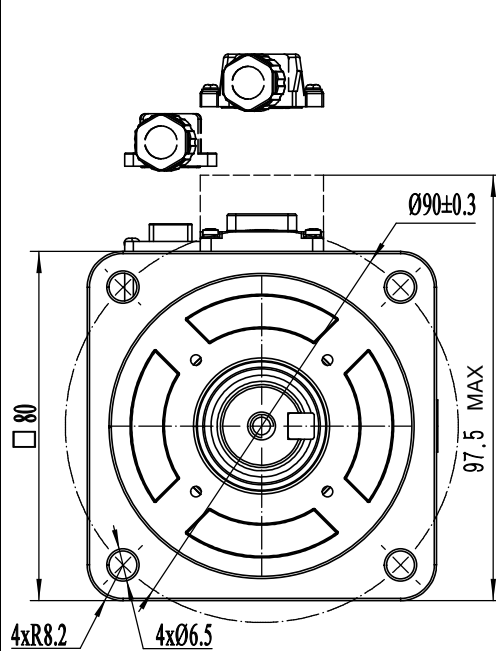
Wiring details of encoder cable connector							
Pos	1	2	3	4	5	6	7
Signal	PE	5V	0V	SD+	SD-	Bat+	Bat-
Color	shield	red	black	blue	yellow	brown	white



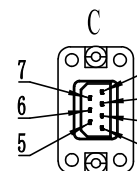
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**ELM1H-0400MA60F**  
60mm,high inertia,400w servo motor  
23bit magnetic encoder, no brake

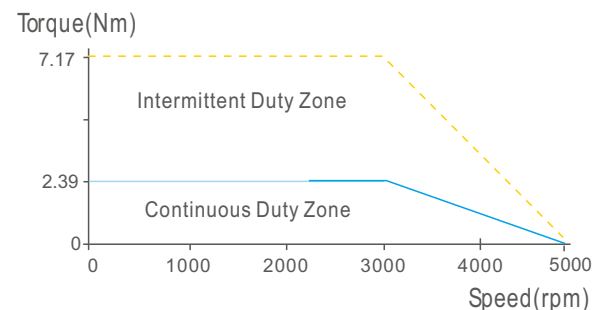
Rated Voltage (Vac)	220
Rated Power (w)	750
Rated Torque (N.m)	2.39
Peak Torque (N.m)	7.17
Rated Speed (rpm)	3000
Peak Speed (rpm)	5000
Rated Current (Amp)	4.1
Peak Current (Amp)	13.4
Torque Const (N.m/Amp)	0.645
Back EMF Const (V/krpm)	39
Resistance (Ω)	1.7
Inductance (mH)	8
Inertia (kg*m <sup>2</sup> *10 <sup>-4</sup> )	1.5
Poles	10
Encoder type	23bit magnetic
IP rating	IP67
Mass (Kg)	2.12



Wiring details of Power cable connector						
Pos	1	2	3	4	--	--
Signal	U	V	W	PE	--	--
Color	blue	black	red	Yel/Gre	--	--



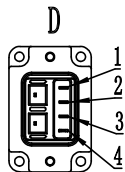
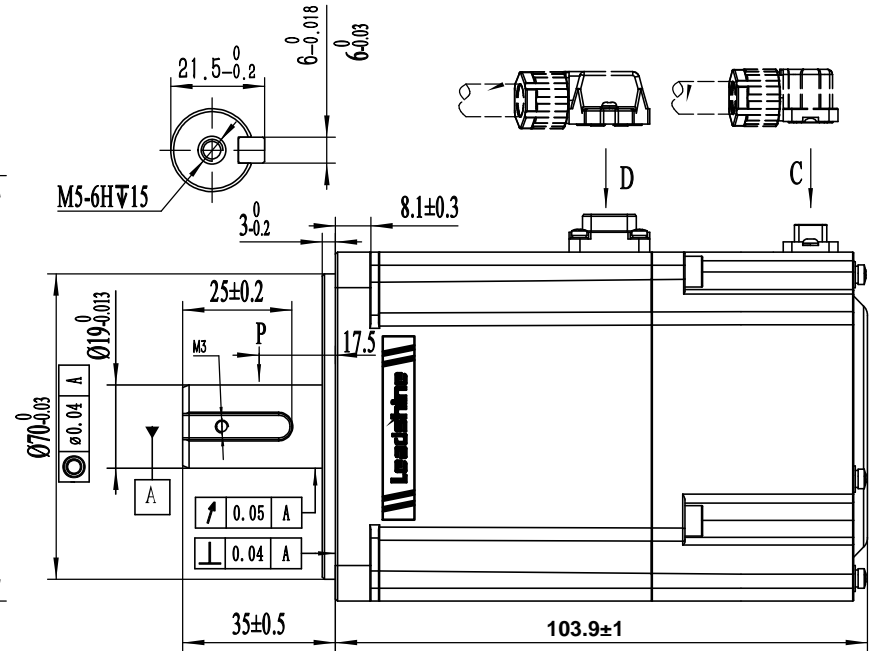
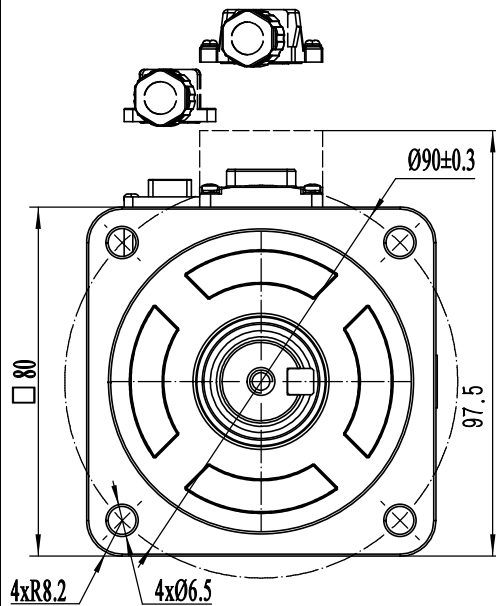
Wiring details of encoder cable connector							
Pos	1	2	3	4	5	6	7
Signal	PE	5V	0V	SD+	SD-	Bat+	Bat-
Color	shield	red	black	blue	yellow	brown	white



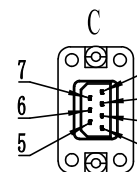
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**ELM1H-0750MA80F**  
80mm,high inertia,750w servo motor  
23bit magnetic encoder, no brake

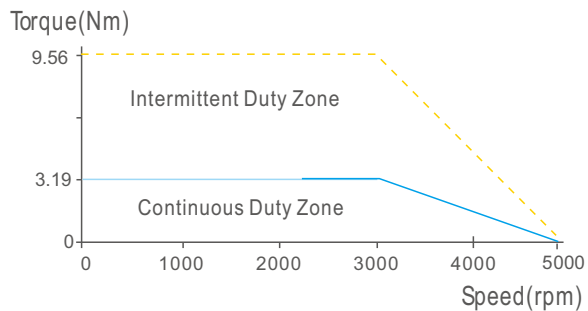
Rated Voltage (Vac)	220
Rated Power (w)	1000
Rated Torque (N.m)	3.19
Peak Torque (N.m)	9.56
Rated Speed (rpm)	3000
Peak Speed (rpm)	5000
Rated Current (Amp)	5.7
Peak Current (Amp)	17.7
Torque Const (N.m/Amp)	0.56
Back EMF Const (V/krpm)	38.3
Resistance (Ω)	1.08
Inductance (mH)	5.6
Inertia (kg*m <sup>2</sup> *10 <sup>-4</sup> )	2
Poles	10
Encoder type	23bit magnetic
IP rating	IP67
Mass (Kg)	2.8



Wiring details of Power cable connector						
Pos	1	2	3	4	--	--
Signal	U	V	W	PE	--	--
Color	blue	black	red	Yel/Gre	--	--



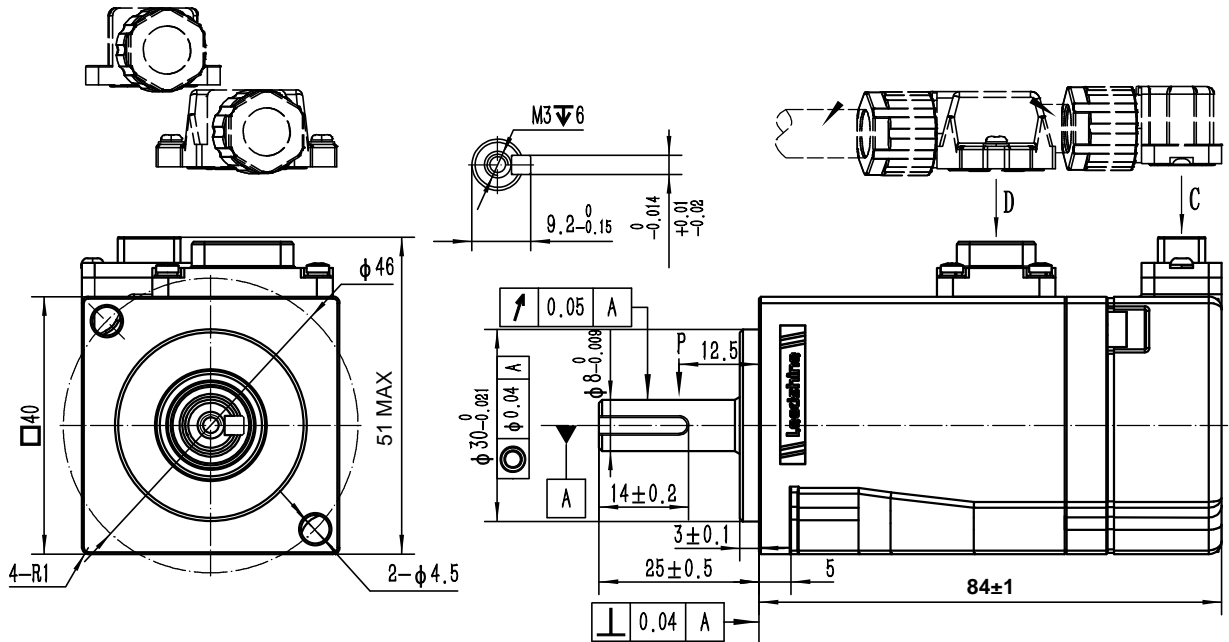
Wiring details of encoder cable connector							
Pos	1	2	3	4	5	6	7
Signal	PE	5V	0V	SD+	SD-	Bat+	Bat-
Color	shield	red	black	blue	yellow	brown	white



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**ELM1H-1000MA80F**  
80mm,high inertia,1000w servo motor  
23bit magnetic encoder, no brake

Rated Voltage (Vac)	220
Rated Power (w)	50
Rated Torque (N.m)	0.16
Peak Torque (N.m)	0.48
Rated Speed (rpm)	3000
Peak Speed (rpm)	5000
Rated Current (Amp)	0.93
Peak Current (Amp)	2.88
Torque Const (N.m/Amp)	0.2
Back EMF Const (V/krpm)	12.35
Resistance (Ω)	11.79
Inductance (mH)	10.25
Inertia (kg*m <sup>2</sup> *10 <sup>-4</sup> )	0.046
Poles	10
Encoder type	23bit magnetic
IP rating	IP67
Mass (Kg)	0.44

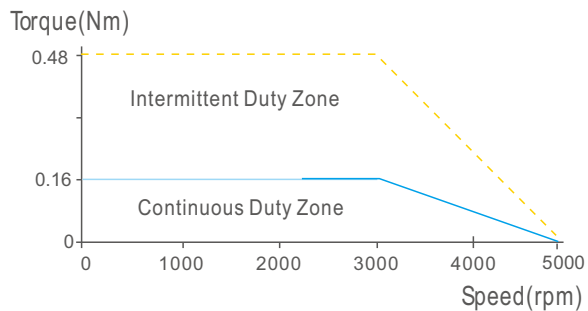


**Wiring details of Power cable connector**

Pos	1	2	3	4	A	B
Signal	U	V	W	PE	0V	24V
Color	blue	black	red	Yel/Gre	black	red

**Wiring details of encoder cable connector**

Pos	1	2	3	4	5	6	7
Signal	PE	5V	0V	SD+	SD-	Bat+	Bat-
Color	shield	red	black	blue	yellow	brown	white

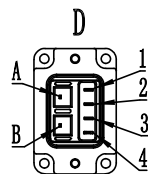
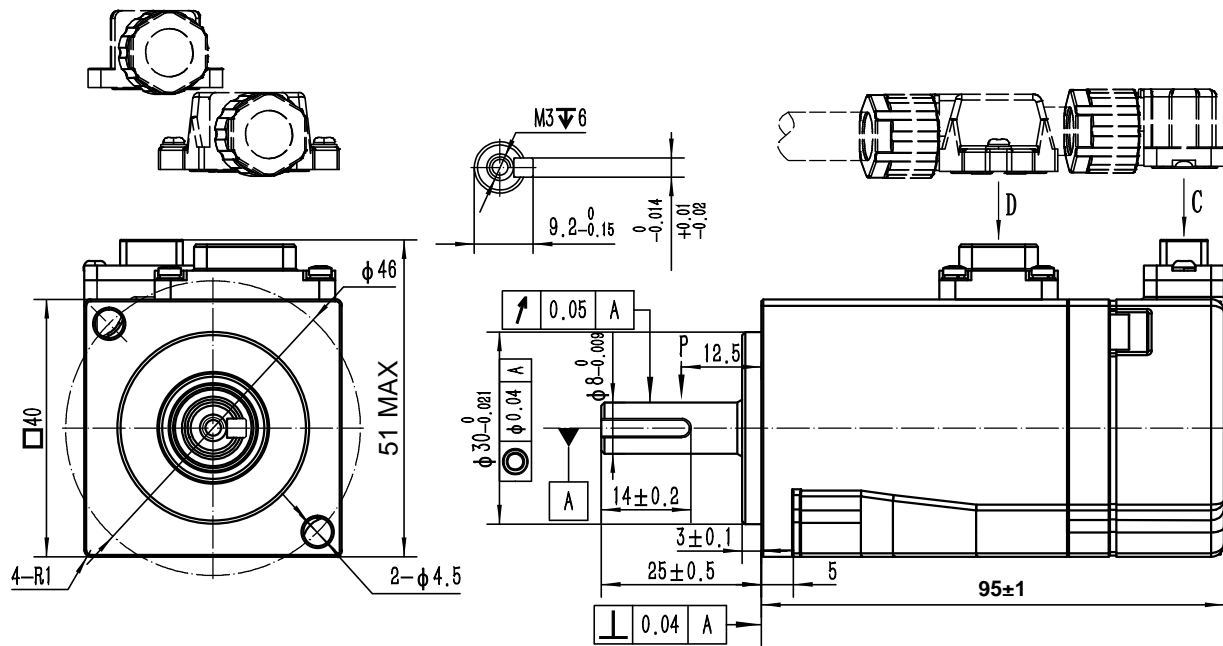


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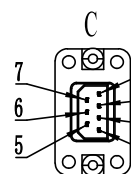
**ELM1H-0050MA40E**  
40mm,high inertia,50w servo motor  
23bit magnetic encoder, brake



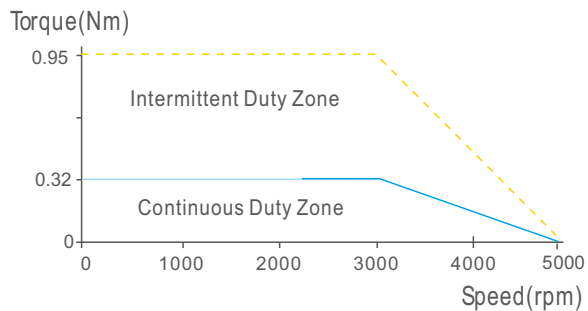
Rated Voltage (Vac)	<b>220</b>
Rated Power (w)	<b>100</b>
Rated Torque (N.m)	<b>0.32</b>
Peak Torque (N.m)	<b>0.95</b>
Rated Speed (rpm)	<b>3000</b>
Peak Speed (rpm)	<b>5000</b>
Rated Current (Amp)	<b>0.92</b>
Peak Current (Amp)	<b>2.85</b>
Torque Const (N.m/Amp)	<b>0.38</b>
Back EMF Const (V/krpm)	<b>23.13</b>
Resistance ( $\Omega$ )	<b>17.71</b>
Inductance (mH)	<b>14.26</b>
Inertia ( $\text{kg}\cdot\text{m}^2\cdot 10^{-4}$ )	<b>0.072</b>
Poles	<b>10</b>
Encoder type	<b>23bit magnetic</b>
IP rating	<b>IP67</b>
Mass (Kg)	<b>0.54</b>



Wiring details of Power cable connector						
Pos	1	2	3	4	A	B
Signal	U	V	W	PE	0V	24V
Color	blue	black	red	Yel/Gre	black	red



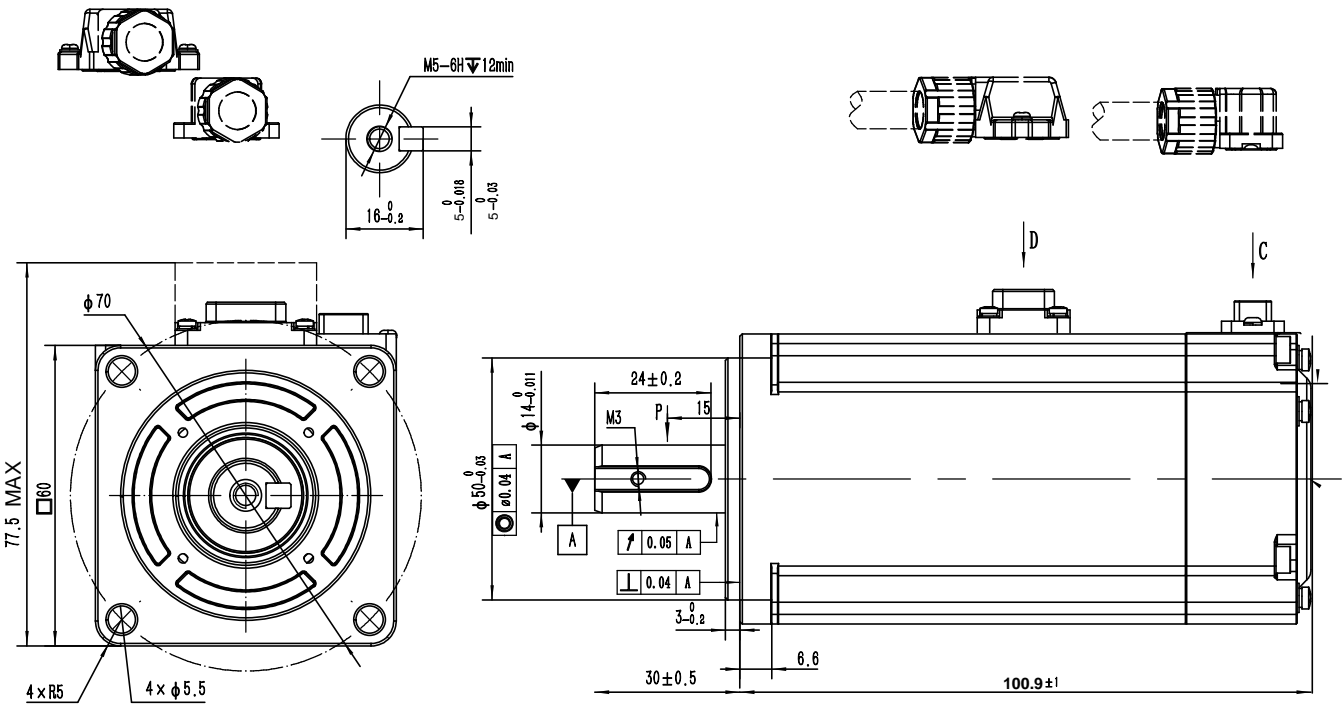
Wiring details of encoder cable connector							
Pos	1	2	3	4	5	6	7
Signal	PE	5V	0V	SD+	SD-	Bat+	Bat-
Color	shield	red	black	blue	yellow	brown	white



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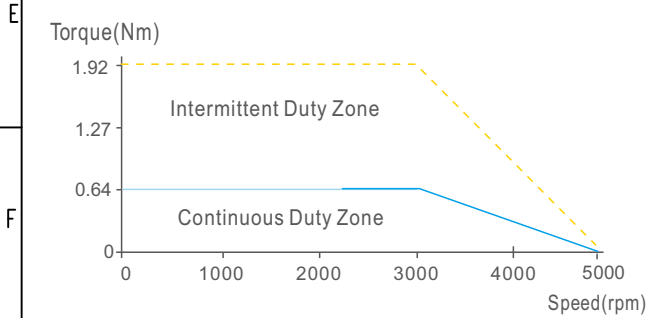
**ELM1H-0100MA40E**  
 40mm,high inertia,100w servo motor  
 23bit magnetic encoder, brake

Rated Voltage (Vac)	220
Rated Power (w)	200
Rated Torque (N.m)	0.64
Peak Torque (N.m)	1.92
Rated Speed (rpm)	3000
Peak Speed (rpm)	5000
Rated Current (Amp)	1.5
Peak Current (Amp)	4.5
Torque Const (N.m/Amp)	0.4
Back EMF Const (V/krpm)	26.9
Resistance (Ω)	7.0
Inductance (mH)	12.7
Inertia (kg*m <sup>2</sup> *10 <sup>-4</sup> )	0.3
Poles	10
Encoder type	23bit magnetic
IP rating	IP65
Mass (Kg)	1.3



Wiring details of Power cable connector						
Pos	1	2	3	4	A	B
Signal	U	V	W	PE	0V	24V
Color	blue	black	red	Yel/Gre	black	red

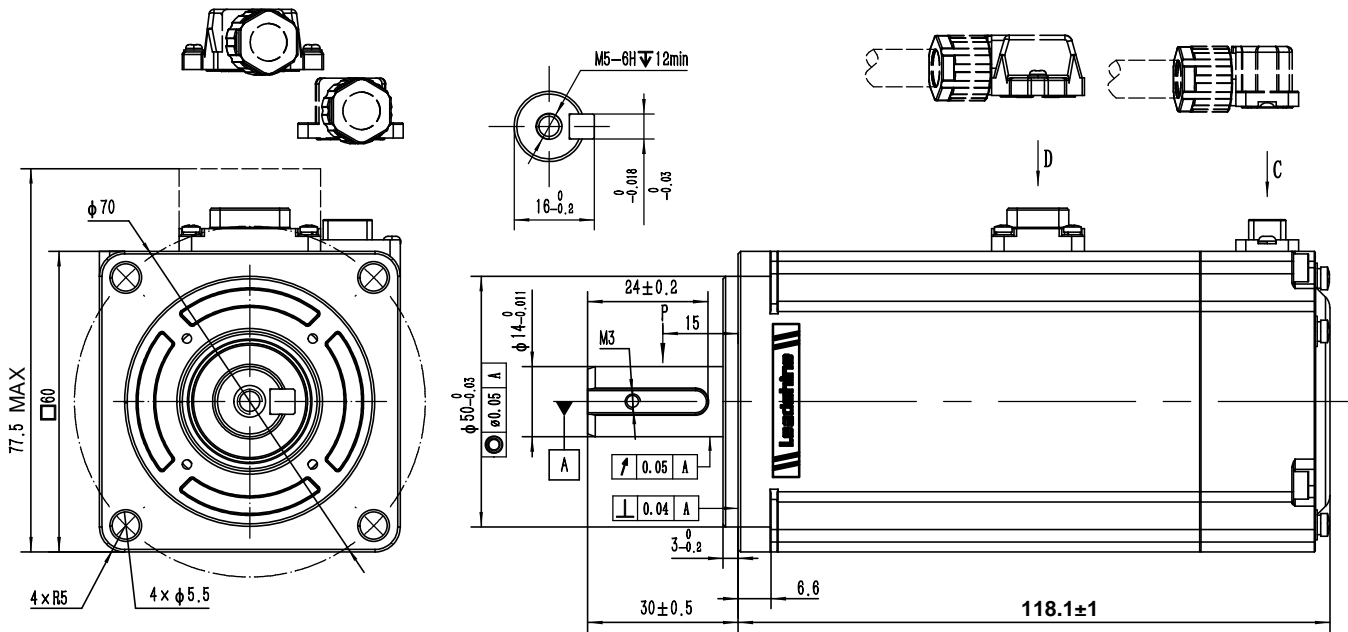
Wiring details of encoder cable connector							
Pos	1	2	3	4	5	6	7
Signal	PE	5V	0V	SD+	SD-	Bat+	Bat-
Color	shield	red	black	blue	yellow	brown	white



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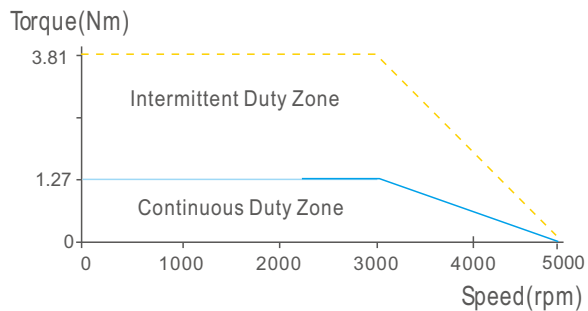
**ELM1H-0200MA60E**  
60mm,high inertia,200w servo motor  
23bit magnetic encoder, brake

Rated Voltage (Vac)	<b>220</b>
Rated Power (w)	<b>400</b>
Rated Torque (N.m)	<b>1.27</b>
Peak Torque (N.m)	<b>3.81</b>
Rated Speed (rpm)	<b>3000</b>
Peak Speed (rpm)	<b>5000</b>
Rated Current (Amp)	<b>2.1</b>
Peak Current (Amp)	<b>6.5</b>
Torque Const (N.m/Amp)	<b>0.645</b>
Back EMF Const (V/krpm)	<b>39</b>
Resistance (Ω)	<b>5.7</b>
Inductance (mH)	<b>12</b>
Inertia (kg*m <sup>2</sup> *10 <sup>-4</sup> )	<b>0.58</b>
Poles	<b>10</b>
Encoder type	<b>23bit magnetic</b>
IP rating	<b>IP67</b>
Mass (Kg)	<b>1.55</b>



Wiring details of Power cable connector						
Pos	1	2	3	4	A	B
Signal	U	V	W	PE	0V	24V
Color	blue	black	red	Yel/Gre	black	red

Wiring details of encoder cable connector							
Pos	1	2	3	4	5	6	7
Signal	PE	5V	0V	SD+	SD-	Bat+	Bat-
Color	shield	red	black	blue	yellow	brown	white

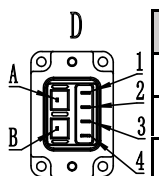
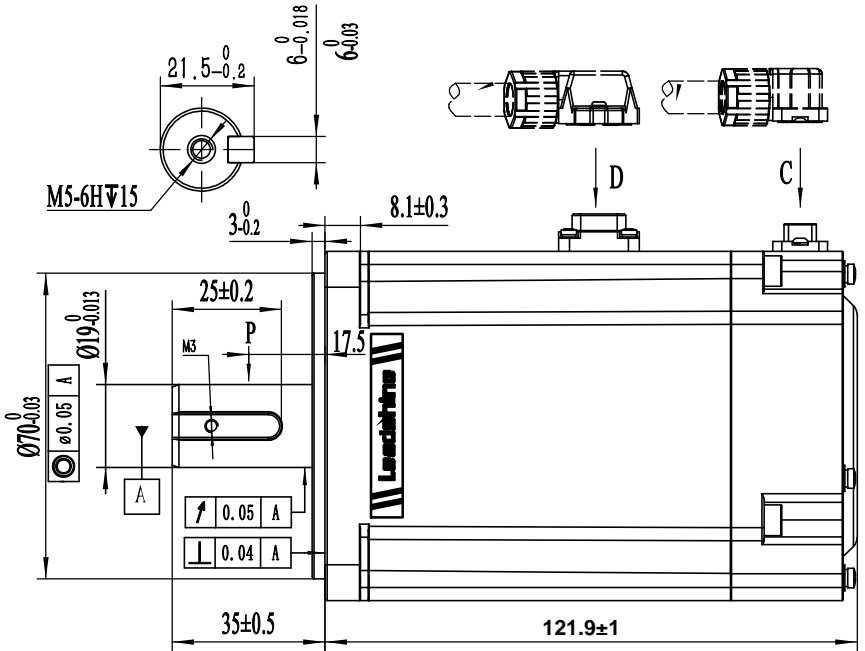
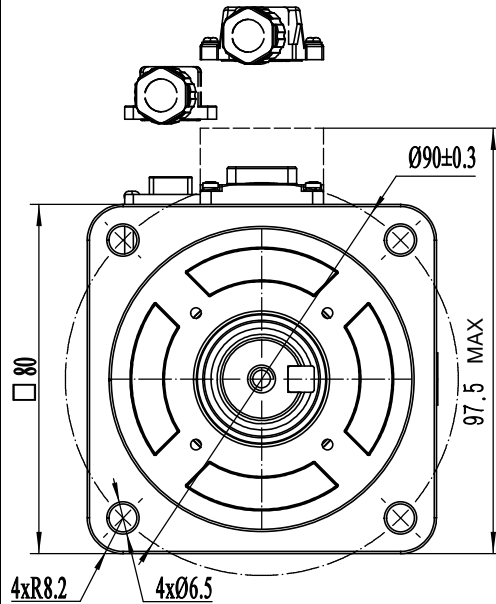


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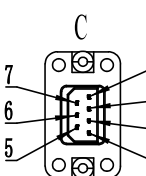
**ELM1H-0400MA60E**

60mm,high inertia,400w servo motor  
23bit magnetic encoder, brake

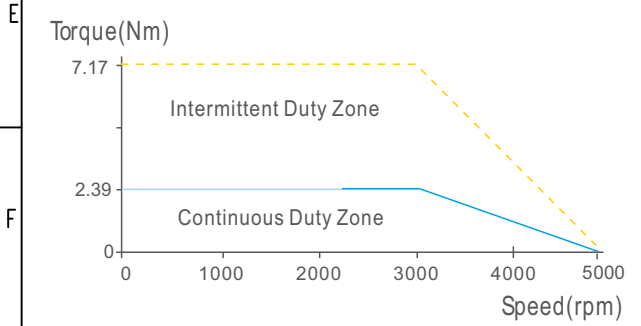
Rated Voltage (Vac)	220
Rated Power (w)	750
Rated Torque (N.m)	2.39
Peak Torque (N.m)	7.17
Rated Speed (rpm)	3000
Peak Speed (rpm)	5000
Rated Current (Amp)	4.1
Peak Current (Amp)	13.4
Torque Const (N.m/Amp)	0.645
Back EMF Const (V/krpm)	39
Resistance (Ω)	1.7
Inductance (mH)	8
Inertia (kg*m <sup>2</sup> *10 <sup>-4</sup> )	1.65
Poles	10
Encoder type	23bit magnetic
IP rating	IP67
Mass (Kg)	2.7



Wiring details of Power cable connector						
Pos	1	2	3	4	A	B
Signal	U	V	W	PE	0V	24V
Color	blue	black	red	Yel/Gre	black	red



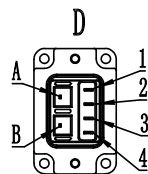
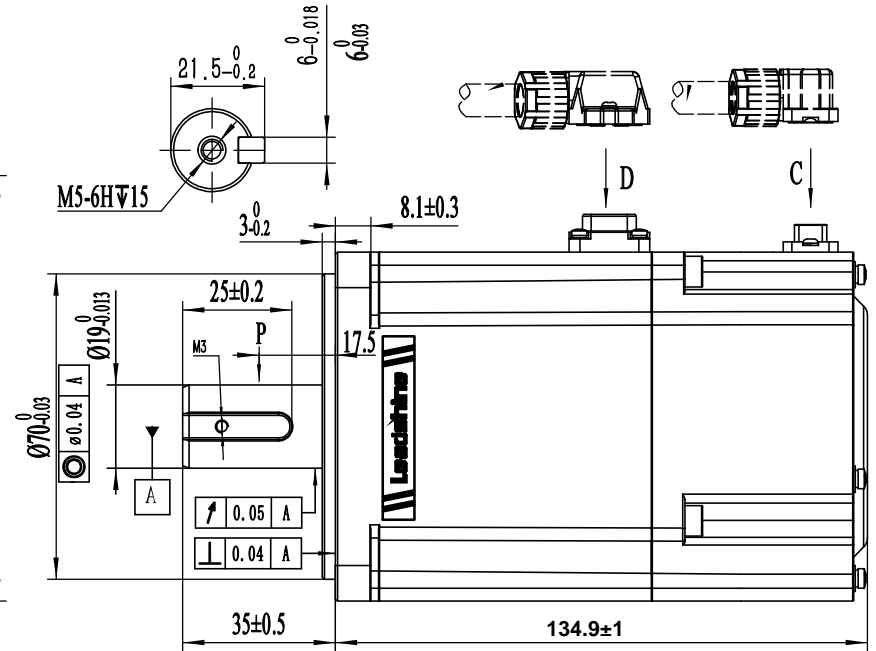
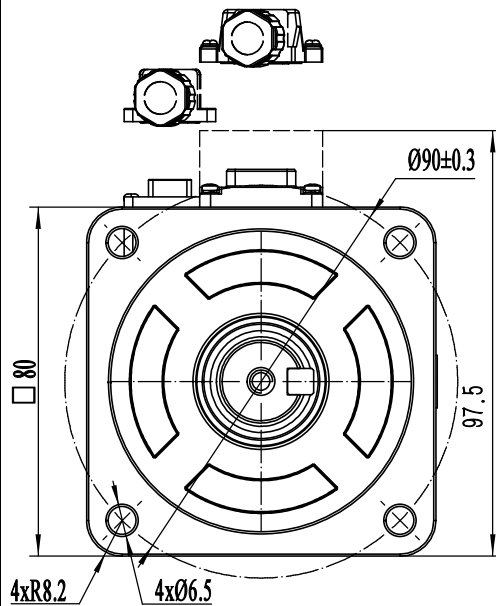
Wiring details of encoder cable connector							
Pos	1	2	3	4	5	6	7
Signal	PE	5V	0V	SD+	SD-	Bat+	Bat-
Color	shield	red	black	blue	yellow	brown	white



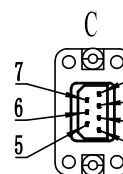
Leadshine Technology Co.,Ltd

**ELM1H-0750MA80E**  
80mm,high inertia,750w servo motor  
23bit magnetic encoder, brake

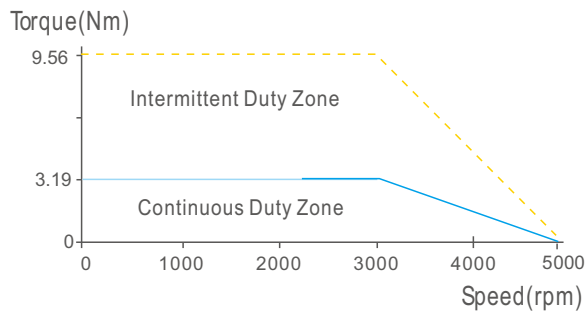
Rated Voltage (Vac)	<b>220</b>
Rated Power (w)	<b>1000</b>
Rated Torque (N.m)	<b>3.19</b>
Peak Torque (N.m)	<b>9.56</b>
Rated Speed (rpm)	<b>3000</b>
Peak Speed (rpm)	<b>5000</b>
Rated Current (Amp)	<b>5.7</b>
Peak Current (Amp)	<b>17.7</b>
Torque Const (N.m/Amp)	<b>0.56</b>
Back EMF Const (V/krpm)	<b>38.3</b>
Resistance (Ω)	<b>1.08</b>
Inductance (mH)	<b>5.6</b>
Inertia (kg*m <sup>2</sup> *10 <sup>-4</sup> )	<b>2.15</b>
Poles	<b>10</b>
Encoder type	<b>23bit magnetic</b>
IP rating	<b>IP67</b>
Mass (Kg)	<b>3.4</b>



Wiring details of Power cable connector						
Pos	1	2	3	4	A	B
Signal	U	V	W	PE	0V	24V
Color	blue	black	red	Yel/Gre	black	red



Wiring details of encoder cable connector							
Pos	1	2	3	4	5	6	7
Signal	PE	5V	0V	SD+	SD-	Bat+	Bat-
Color	shield	red	black	blue	yellow	brown	white



Leadshine Technology Co.,Ltd

**ELM1H-1000MA80E**

80mm,high inertia,1000w servo motor  
23bit magnetic encoder, brake