



Rotary Motor

Technical Information

Rotary Motor

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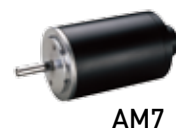
AM1



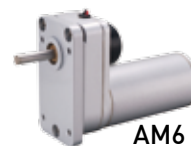
AM3



AM6



AM7



AM6



AM7



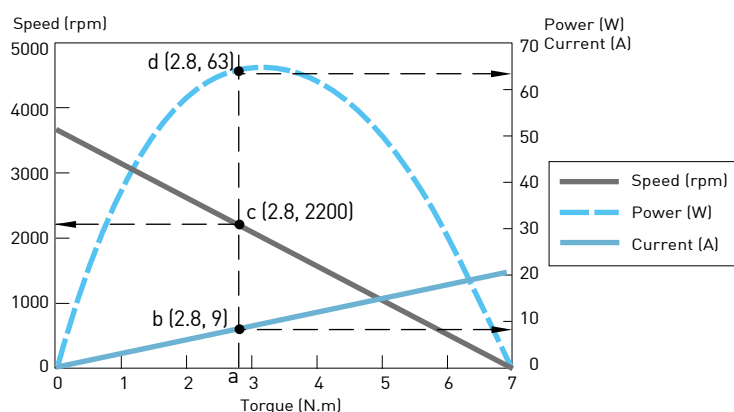
AM6

[The specifications in this catalogue are subject to change without notification.]

Ordering Information

Product	Model	Accessory	Type	Voltage	Serial number
Motor	01 : Brush DC Motor 02 : Stepping Motor	0 : only motor 1 : motor + gear 2 : motor + encoder 3 : motor + gear + encoder	01 : AM1 03 : AM3 06 : AM6 07 : AM7	012 : 12V 024 : 24V MAX : 100V	01~99

Illustration for Characteristic Curves of Motor



According to the customer use for meeting the main value of the motor load moment demand specifications, corresponds to the characteristic curve in the rotational speed (ns), the electric current (I), the power (P) and so on, can obtain the final operation range. Like the chart shows, when customers choose motor operation and the load moment is A, may obtain coordinates position B, C, D respectively be the rotational speed, electric current and power value.

For example:

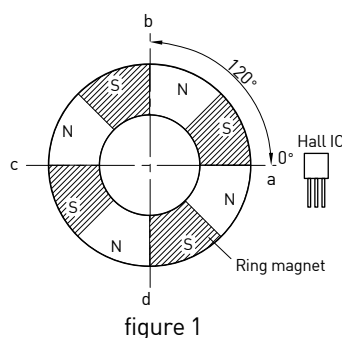
Torque position A requirement is : 2.8N.m

By position C to obtain speed is : 2200rpm

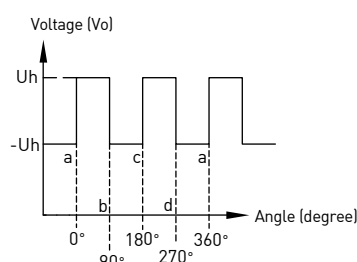
At this time corresponds to position B \ D respectively be the current and power value is 9A and 63W.

Illustration for Capability of Encoder

Inductive Principle
of the Hall Sensor (CW)



Output Voltage
of the Hall Sensor



※The principle of picking out the Hall IC

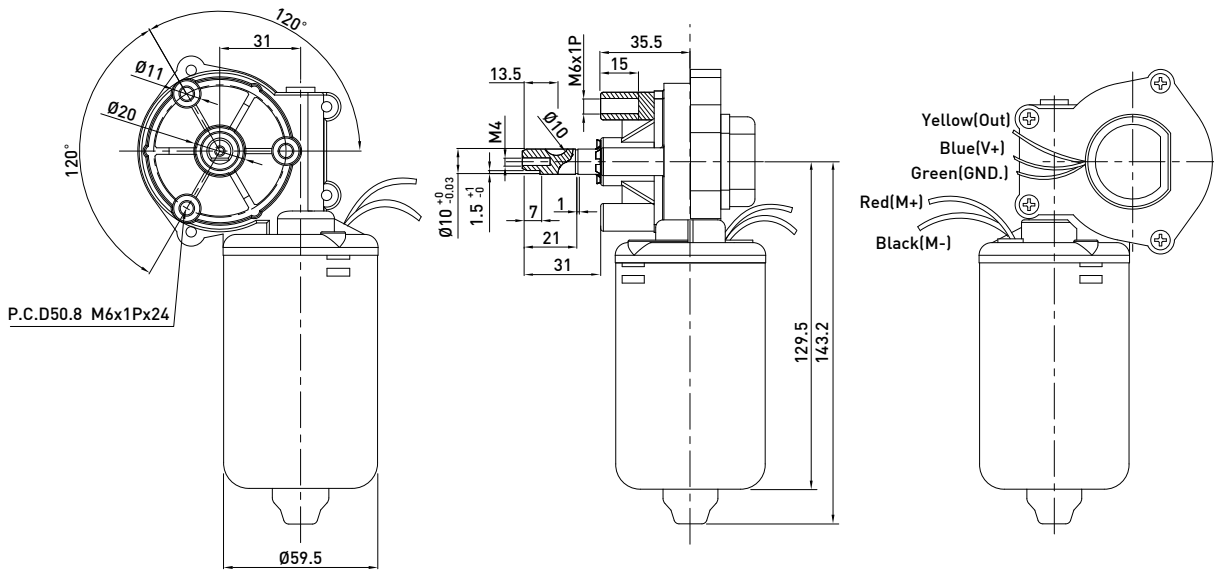
The voltage input range of Hall IC is about 2.4V~26V. The Hall IC will create the induced voltage signal (See Fig 1) through the NS magnetic field of circular magnet. (See Fig 2).The NS poles of circular magnet will decide the signal frequency which is interrelated to the numbers of magnet pole and the rotational speed of motor. As shows on Fig 1, there are 8 poles of circular magnet to induce on one piece Hall IC. When the magnet operates one cycle, the output will obtain the voltages between U_h--U_h from Hall IC. The 5 points (a, b, c, d, a) are located respectively in the measure positions from the circular magnet of Hall IC. The motor rotation circumference can be divided into 8 equal portions and obtains pulse signal precisely, as shows on Fig 2.

Cautions

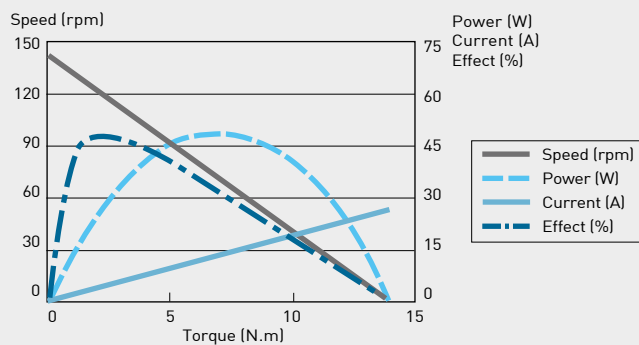
1. Please avoid any mechanical interference when motor operates. Otherwise it will break down the motor.
2. Please follow the voltage specification to input DC voltage. Then the DC voltage can be able to provide with the current under maximum loading which named "Duty maximum current" .
3. When switch the +/- power supply, the motor will operate reverse movement.
4. Please don't exceed the standardized motor maximum loading.
5. Please follow the waterproof specification use.

Motor Type

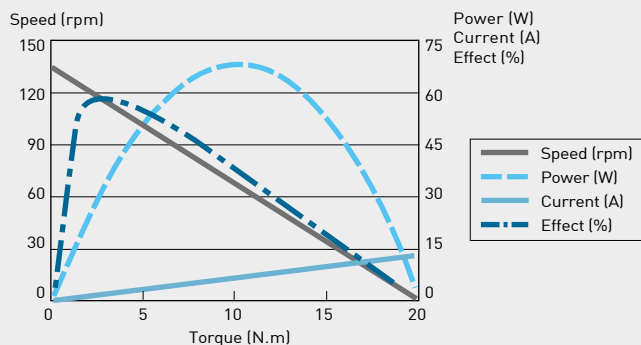
Dimensions for AM1 Type



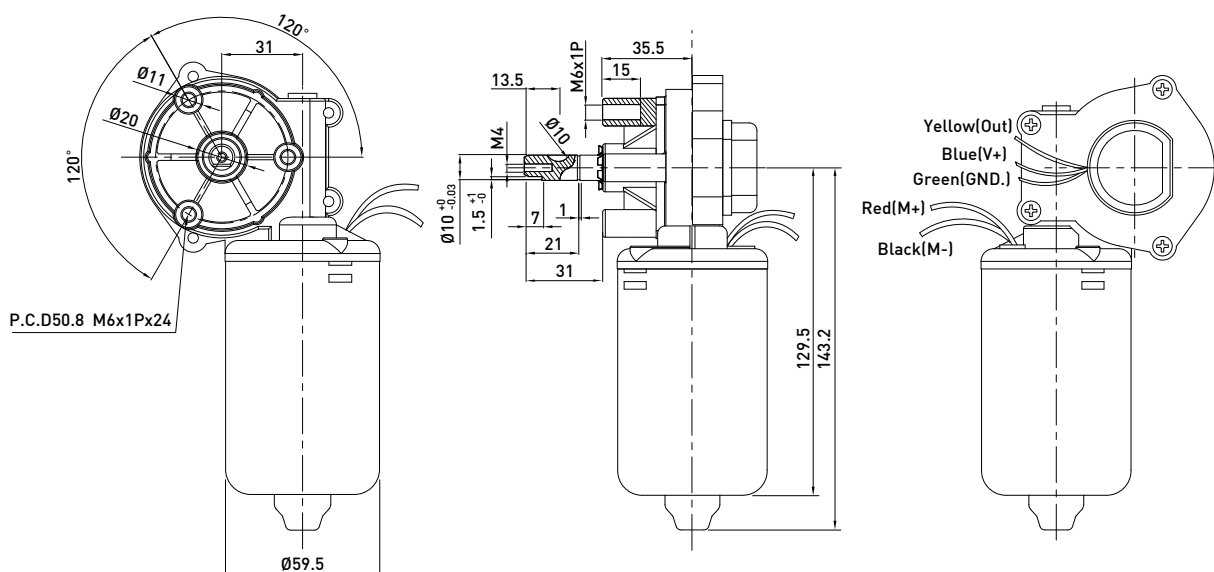
DC 12V	72W
No load current	1.5A (max.)
No load speed	140 rpm
Nominal torque	3.0 N.m
Nominal speed	110 rpm
Nominal current	6.0A (max.)
Maximum current	26A
Breaking torque	14 N.m
Reduction ratio	2 : 52
Resolution	15 pulse/rev
Rated duty	S1
Weight	1200 g
Number	FB0130101201



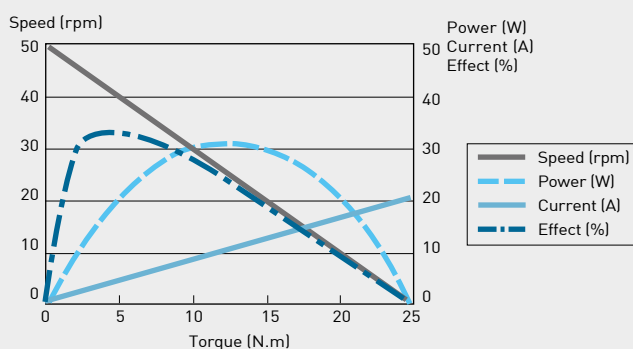
DC 24V	60W
No load current	0.8A (max.)
No load speed	135 rpm
Nominal torque	3.0 N.m
Nominal speed	115 rpm
Nominal current	2.5A (max.)
Maximum current	15A
Breaking torque	20 N.m
Reduction ratio	2 : 52
Resolution	15 pulse/rev
Rated duty	S1
Weight	1200 g
Number	FB0130102401



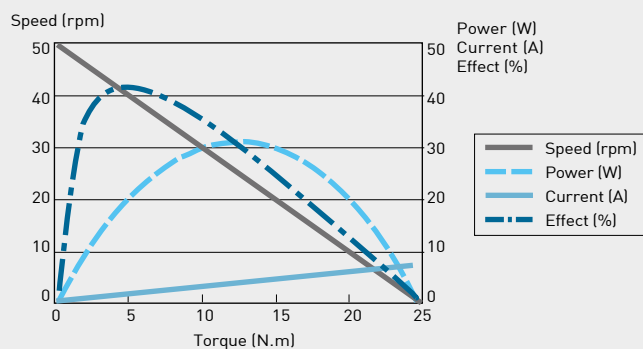
Dimensions for AM1 Type



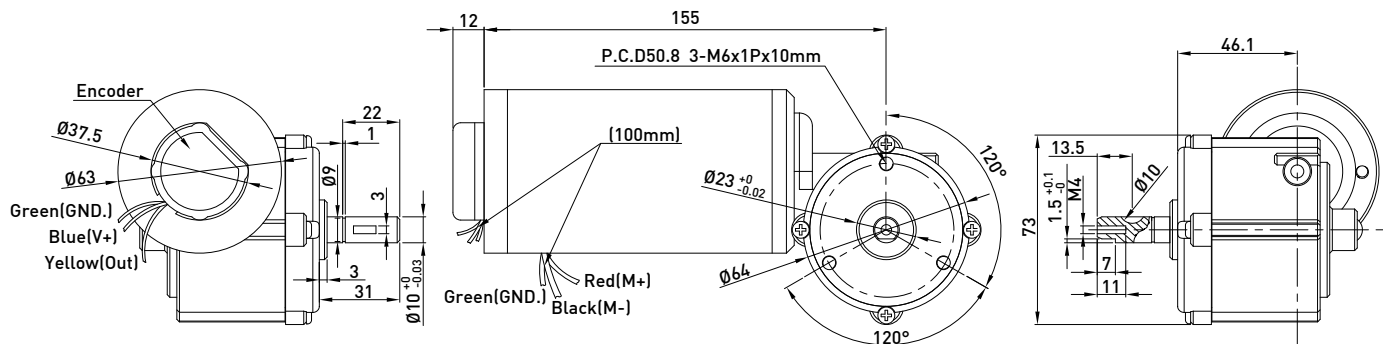
DC 12V	72W
No load current	1.5A (max.)
No load speed	50 rpm
Nominal torque	5.0 N.m
Nominal speed	40 rpm
Nominal current	6.0A (max.)
Maximum current	21A
Breaking torque	25 N.m
Reduction ratio	1 : 52
Resolution	15 pulse/rev
Rated duty	S1
Weight	1200 g
Number	FB0130101202



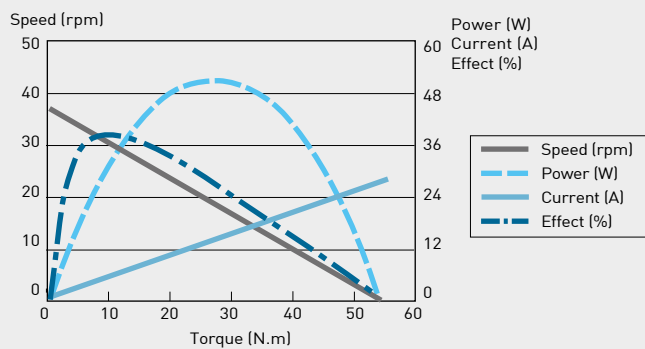
DC 24V	60W
No load current	0.8A (max.)
No load speed	50 rpm
Nominal torque	5.0 N.m
Nominal speed	40 rpm
Nominal current	2.5A (max.)
Maximum current	8A
Breaking torque	25 N.m
Reduction ratio	1 : 52
Resolution	15 pulse/rev
Rated duty	S1
Weight	1200 g
Number	FB0130102402



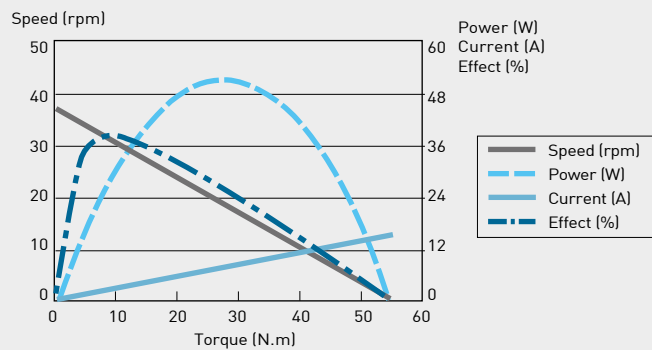
Dimensions for AM3 Type



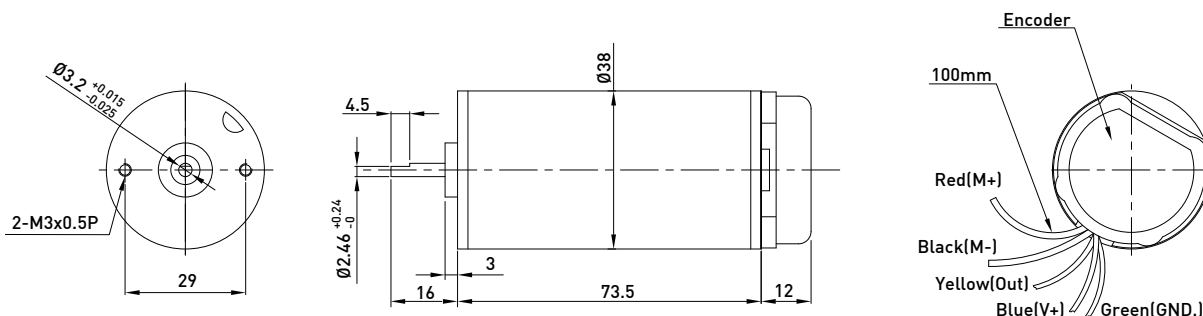
DC 12V	66W
No load current	2.0A (max.)
No load speed	37 rpm
Nominal torque	5.0 N.m
Nominal speed	33 rpm
Nominal current	5.5A (max.)
Maximum current	30A
Breaking torque	55 N.m
Reduction ratio	1 : 65.33
Resolution	980 pulse/rev
Rated duty	S1
Weight	1950 g
Number	FB0130301201



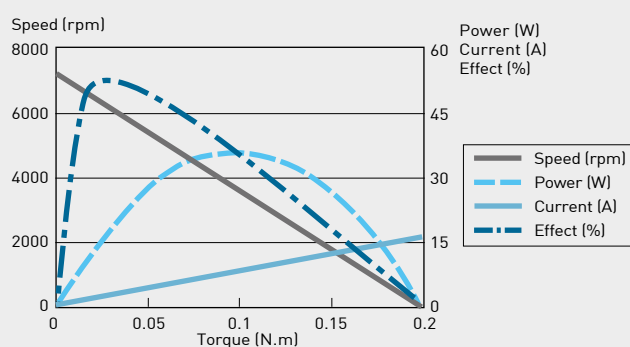
DC 24V	60W
No load current	1.5A (max.)
No load speed	37 rpm
Nominal torque	5.0 N.m
Nominal speed	33 rpm
Nominal current	2.5A (max.)
Maximum current	15A
Breaking torque	55 N.m
Reduction ratio	1 : 65.33
Resolution	980 pulse/rev
Rated duty	S1
Weight	1950 g
Number	FB0130302401



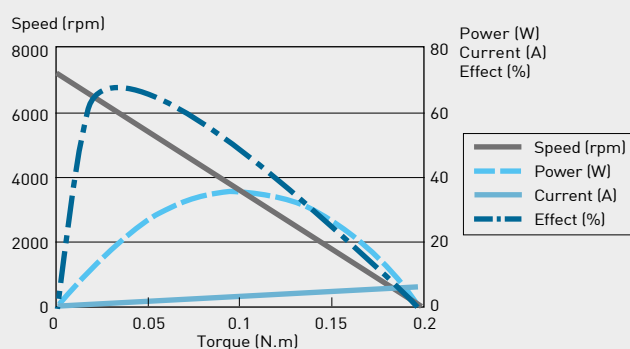
Dimensions for AM6 Type



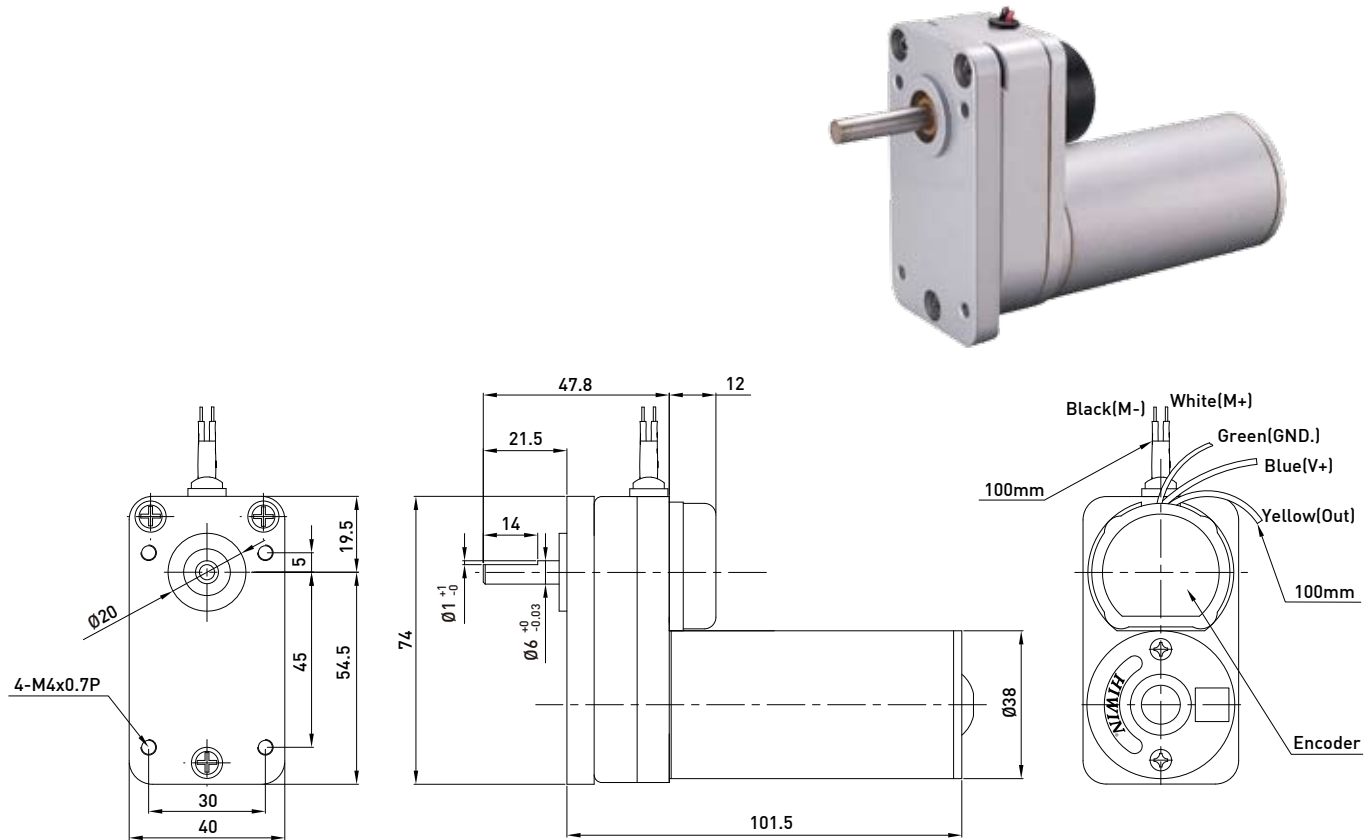
DC 12V	36W
No load current	0.8A (max.)
No load speed	7000 rpm
Nominal torque	0.025 N.m
Nominal speed	6000 rpm
Nominal current	3.0A (max.)
Maximum current	17A
Breaking torque	0.2 N.m
Reduction ratio	-----
Resolution	15 pulse/rev
Rated duty	S1
Weight	340 g
Number	FB0120601201



DC 24V	36W
No load current	0.4A (max.)
No load speed	7000 rpm
Nominal torque	0.025 N.m
Nominal speed	6000 rpm
Nominal current	1.5A (max.)
Maximum current	7.5A
Breaking torque	0.20 N.m
Reduction ratio	-----
Resolution	15 pulse/rev
Rated duty	S1
Weight	340 g
Number	FB0120602401



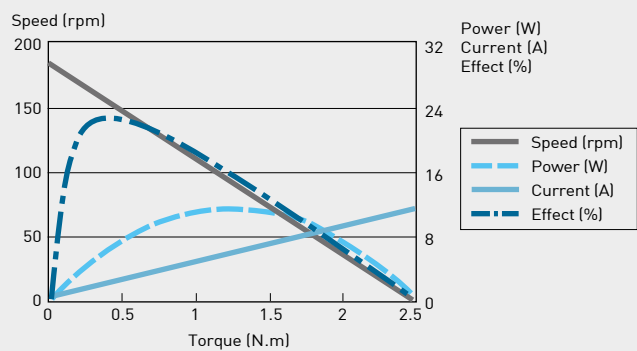
Dimensions for AM6 Type



DC 12V

No load current	1.0A (max.)
No load speed	185 rpm
Nominal torque	0.5 N.m
Nominal speed	145 rpm
Nominal current	3.0A (max.)
Maximum current	12A
Breaking torque	2.5 N.m
Reduction ratio	1 : 21.6
Resolution	15 pulse/rev
Rated duty	S1
Weight	600 g
Number	FB0130601201

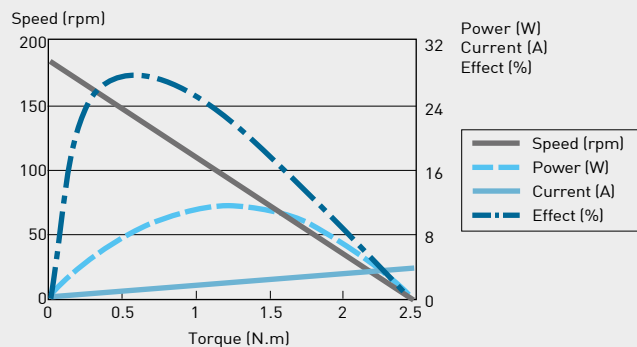
36W



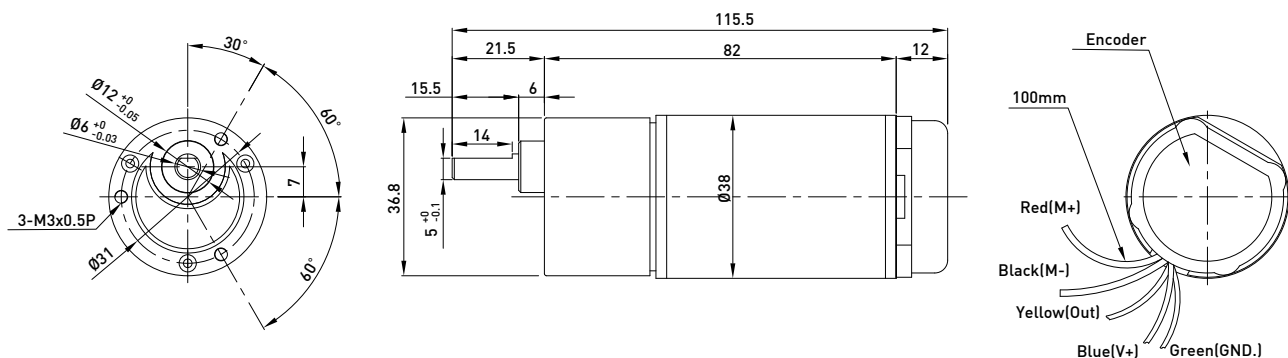
DC 24V

No load current	0.5A (max.)
No load speed	185 rpm
Nominal torque	0.5 N.m
Nominal speed	145 rpm (min.)
Nominal current	1.5A (max.)
Maximum current	4A
Breaking torque	2.5 N.m
Reduction ratio	1 : 21.6
Resolution	15 pulse/rev
Rated duty	S1
Weight	600 g
Number	FB0130602401

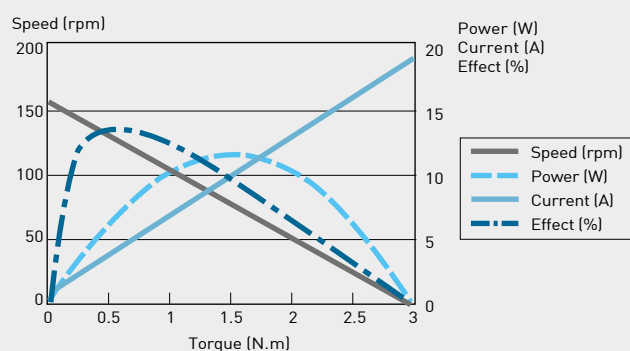
36W



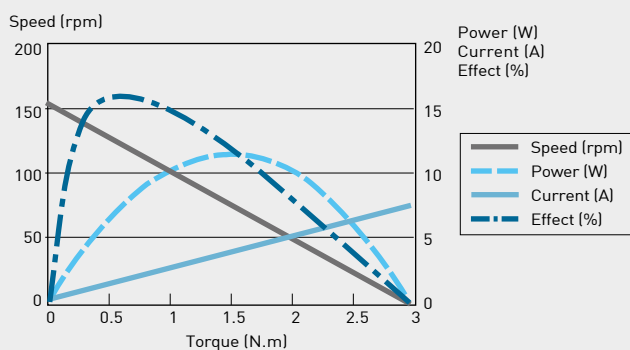
Dimensions for AM6 Type



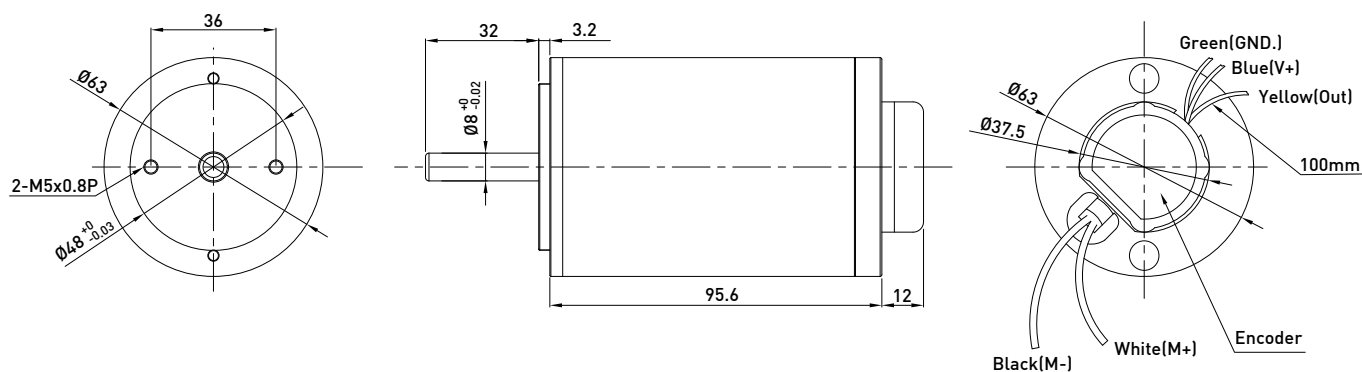
DC 12V	48W
No load current	1.0A (max.)
No load speed	155 rpm
Nominal torque	0.5 N.m
Nominal speed	130 rpm
Nominal current	4.0A (max.)
Maximum current	19A
Breaking torque	3 N.m
Reduction ratio	1 : 50
Resolution	750 pulse/rev
Rated duty	S1
Weight	440 g
Number	FB0130601202



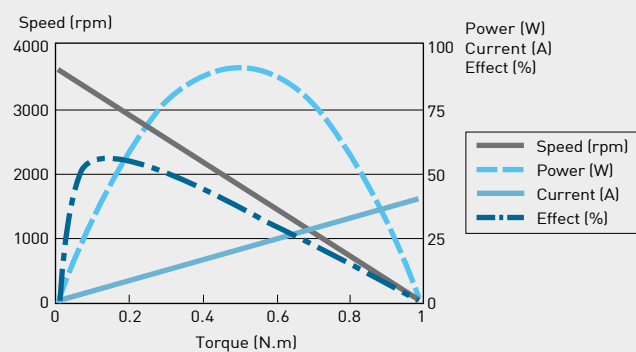
DC 24V	48W
No load current	0.5A (max.)
No load speed	155 rpm
Nominal torque	0.5 N.m
Nominal speed	130 rpm
Nominal current	2.0A (max.)
Maximum current	7A
Breaking torque	3 N.m
Reduction ratio	1 : 50
Resolution	750 pulse/rev
Rated duty	S1
Weight	440 g
Number	FB0130602402



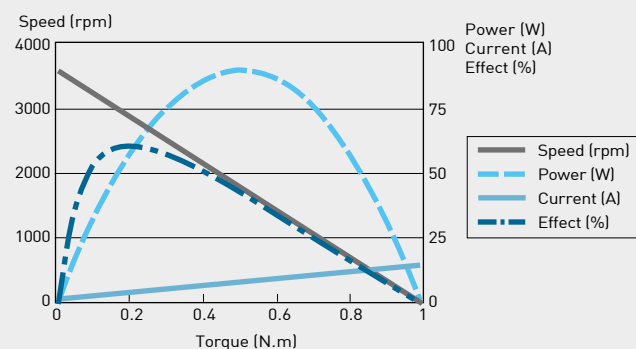
Dimensions for AM7 Type



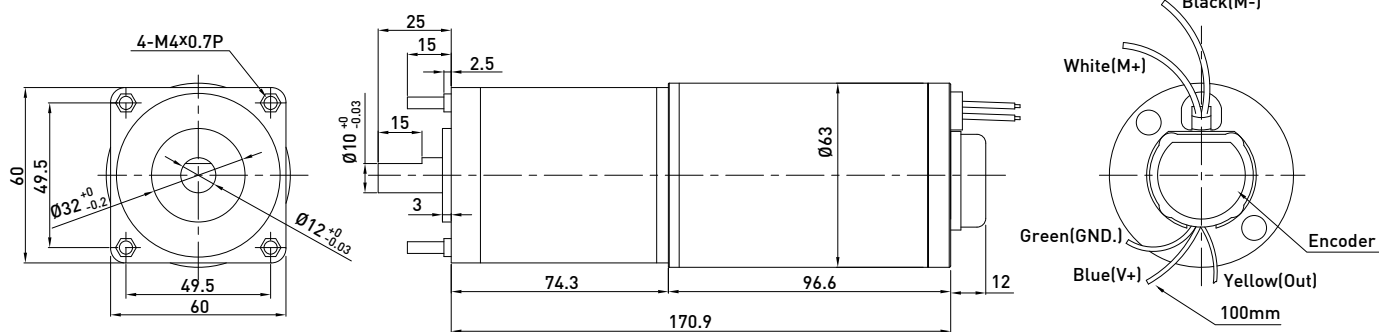
DC 12V	60W
No load current	1.5A (max.)
No load speed	3600 rpm
Nominal torque	0.1 N.m
Nominal speed	3200 rpm
Nominal current	5.0A (max.)
Maximum current	41A
Breaking torque	1.0 N.m
Reduction ratio	-----
Resolution	15 pulse/rev
Rated duty	S1
Weight	1100 g
Number	FB0120701201



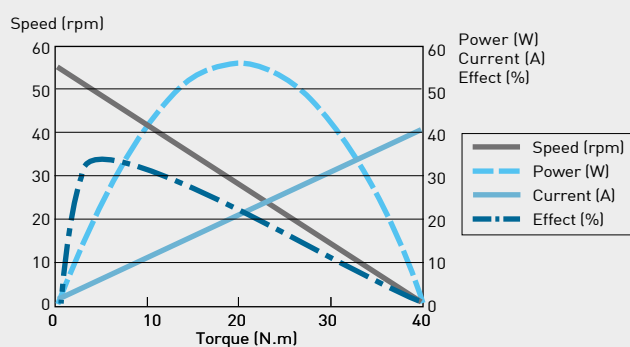
DC 24V	60W
No load current	1.0A (max.)
No load speed	3600 rpm
Nominal torque	0.1 N.m
Nominal speed	3200 rpm
Nominal current	2.5A (max.)
Maximum current	18A
Breaking torque	1.0 N.m
Reduction ratio	-----
Resolution	15 pulse/rev
Rated duty	S1
Weight	1100 g
Number	FB0120702401



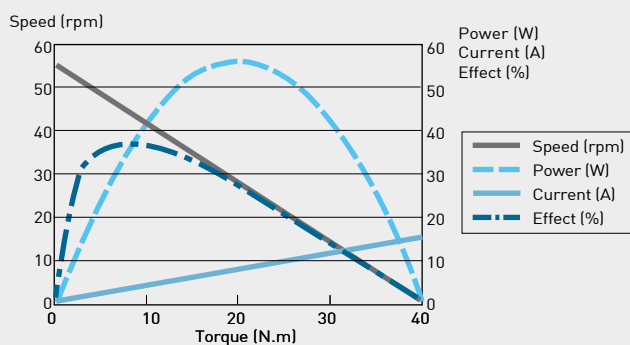
Dimensions for AM7 Type



DC 12V	60W
No load current	1.5A (max.)
No load speed	55rpm
Nominal torque	4 N.m
Nominal speed	50 rpm
Nominal current	5.0A (max.)
Maximum current	40A
Breaking torque	40 N.m
Reduction ratio	1 : 66
Resolution	980pules/rev
Rated duty	S1
Weight	2100 g
Number	FB0130701201



DC 24V	60W
No load current	1.0A (max.)
No load speed	55 rpm
Nominal torque	4 N.m
Nominal speed	50 rpm
Nominal current	2.5A (max.)
Maximum current	20A
Breaking torque	40 N.m
Reduction ratio	1 : 66
Resolution	980pules/rev
Rated duty	S1
Weight	2100 g
Number	FB0130702401



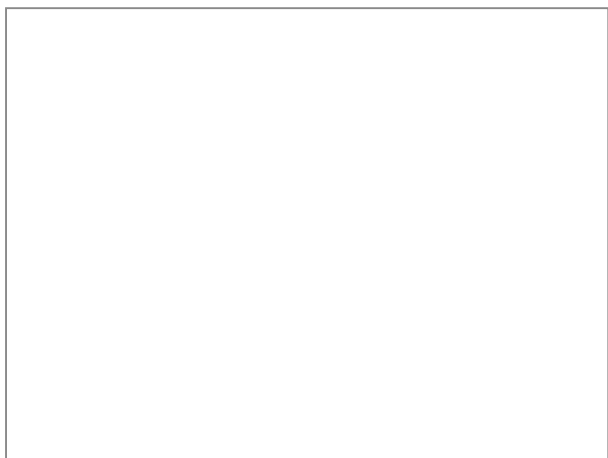
HIWIN Customer Requirements (Rotary Motor)

Customer :		Date :
Email :		Contact person :
TEL :		Appointment :
FAX :		
Voltage (V)	☐ 12VDC ☐ 24VDC ☐ other _____	Notes :
No load current (A)		
No load speed (rpm)		
Nominal current (A)		
Nominal speed (rpm)		
Nominal torque (N.m)		
Breaking torque (N.m)		
Operation temperature (° C)		
Purpose		
Operation environment		
Special requirement		
Expected price		
Quantity		
Position feedback	☐ Yes ☐ No	
Resolution (pulse/rev)		
The information below is to be filled out by HIWIN or authorized agents. Recommended specification :		

Manager :

Engineer :

Salesperson :



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