

ASSUN

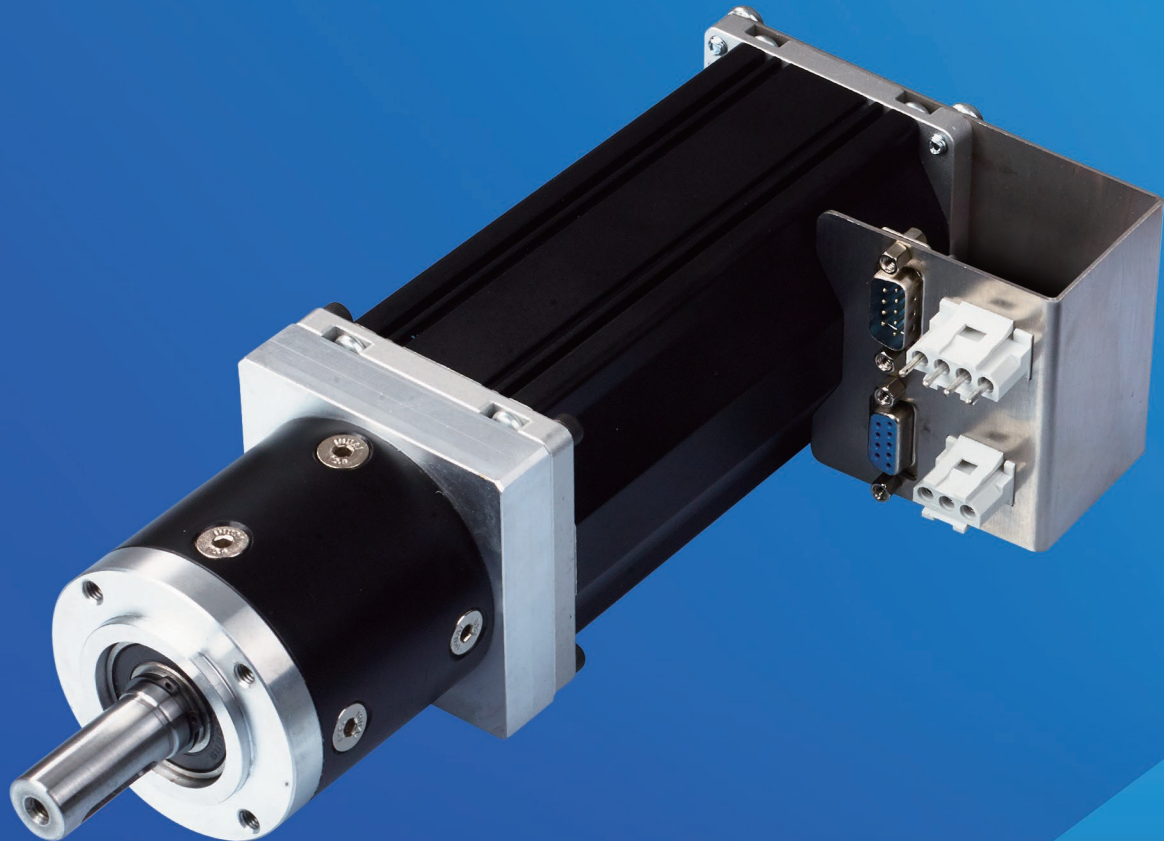
DRIVING THE FUTURE



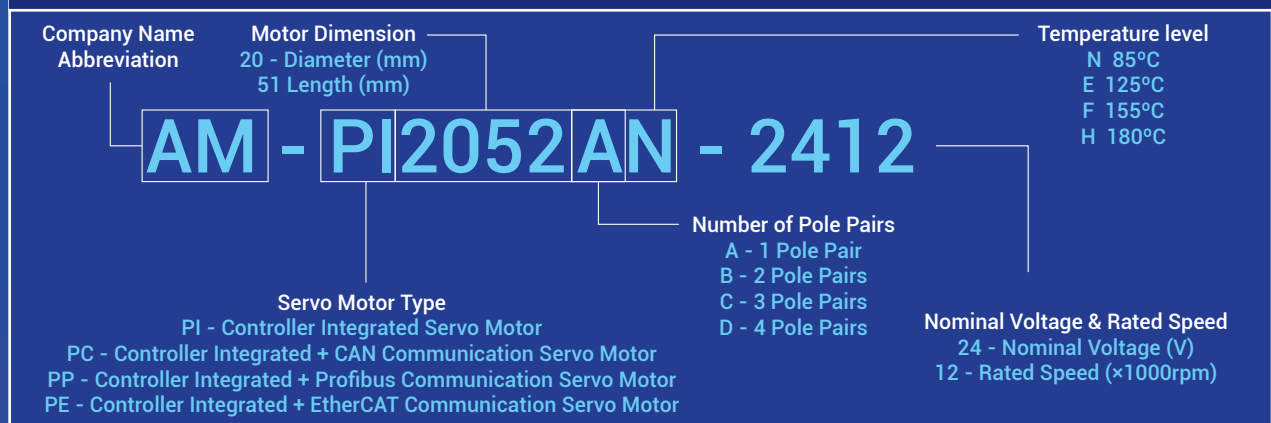
TOTAL SOLUTION for Precision
DC Drive System 2020

INTEGRATED SERVO MOTOR

Assun Servo Motors are built with servo controller integrated inside the Assun brushless motor. With diameter from 20mm to 65mm, Assun servo motors can be connected directly to the industrial PLC and are ideal for applications that need simple and precise position control.



AM-PI2051AN AM-PI2466AN AM-PI2858AN AM-PI3273AN
AM-PI3675AN AM-PI45115AN AM-PC65140DN

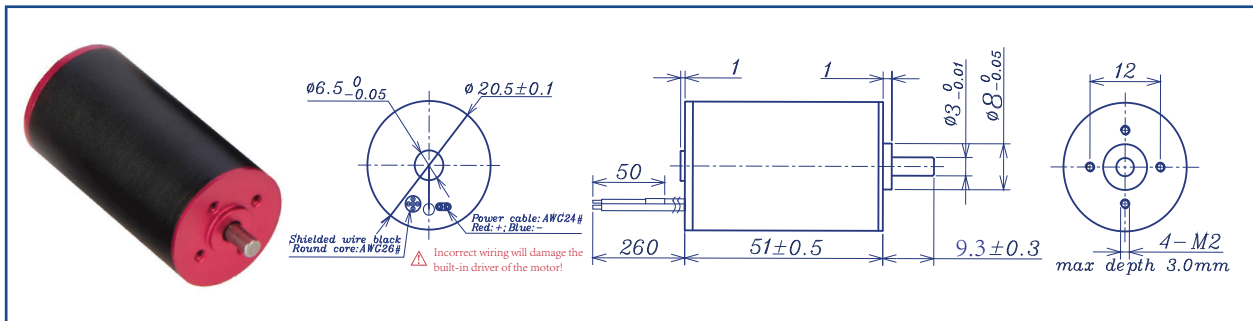


ASSUN SERVO MOTOR _____
PULSE & CAN BUS CONTROL

Assun Servo Motor are DC brushless motors with integrated position servo controller. It uses traditional analogue or digital signal input for position control. As feedback function integrated inside, no more encoders are needed and thus achieving compact overall sizes.



AM-PI2051AN SERIES (Built-In Position Control)



	Brushless Servo Motor		Ball Bearing	
Motor Model		2412	1210	
Nominal voltage	V	24	12	
Voltage range	V	21.5~26.5	10.5~13.5	
No-load holding current	mA	45	45	
Static holding torque	mN_m	10.0	10.0	
Static holding current	mA	150	330	
Rated torque	mN_m	10.0	10.0	
Rated speed	rpm	12000	10000	
Pulse number / circle	Pulse / circle	256	256	
Overload torque	mN.m	20.0	20.0	
Maximum overload time	second	3	3	
Moment of inertia	gcm ²	1.13	1.13	
Weight	g	78.5	78.5	

Additional Information

Note: Excessive shock loads and periodic oscillations can cause the motor to run unsteadily. Stabilize the system by improving the load.

Motor thermal resistance:	14.6K/W	Motor thermal time constant:	680S
Axial (dynamic):	2.5 N	Radial (5mm from head face):	16.0 N
Press-fit force (static):	50 N	L: Max allowable screw depth info flange:	3.0 mm
Maximum radial runout (5mm from the thread surface):	≤0.02 mm	Axial play:	0 (<4.0N)
Maximum winding temperature	85°C	Ambient temperature range:	-30 to 65 °C

Part Information

Control function description			
Input level description	VIL max 0.8V ; VIH min (Vcc-2.0)V		
Pulse input (red)	Falling edge is valid		
Steering input (yellow)	High CW Low CCW		
Input GND (white)	Universal input port		
Total Length: LT=L1+L2+L3			
L1:24GP	L1:20GP	L2 :PI2052	L3
22.2	18.8	51.5	
27.4	23.6		
32.6	28.4		

Wiring Diagram

Recommended pulse control curve

AM-PI2051AN Combination Scheme

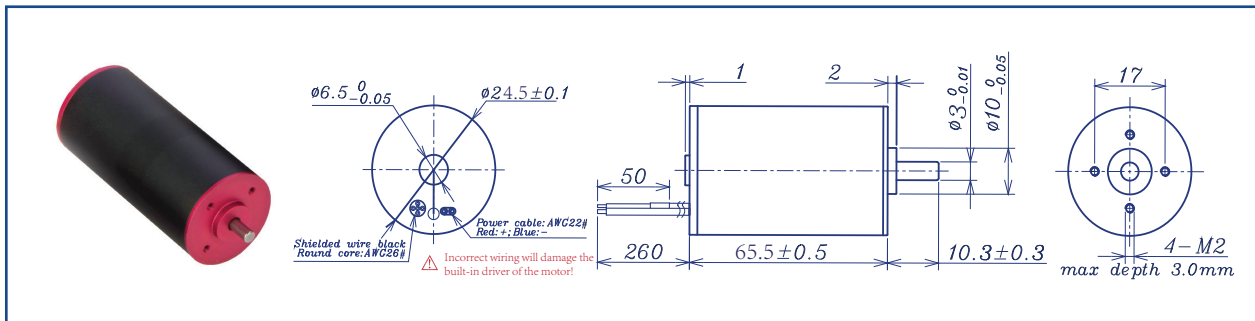
Recommended Gearbox:
AM-20GP
AM-24GP

For more combination specs, visit Assun Motor website.

Note: The customer can select the gearbox to match the motor. It is recommended to weld motor shaft gears, some of which are listed here for reference.

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AM-PI2466AN SERIES (Built-In Position Control)



	Brushless Servo Motor	Ball Bearing	
Motor Model		2410	1209
Nominal voltage	V	24	12
Voltage range	V	21.5~26.5	10.5~13.5
No-load holding current	mA	45	45
Static holding torque	mN_m	20.0	22.0
Static holding current	mA	250	490
Rated torque	mN_m	20.0	22.0
Rated speed	rpm	10000	9000
Pulse number / circle	Pulse / circle	256	256
Overload torque	mN.m	40.0	40.0
Maximum overload time	second	3	3
Moment of inertia	gcm ²	3.45	3.45
Weight	g	142	142

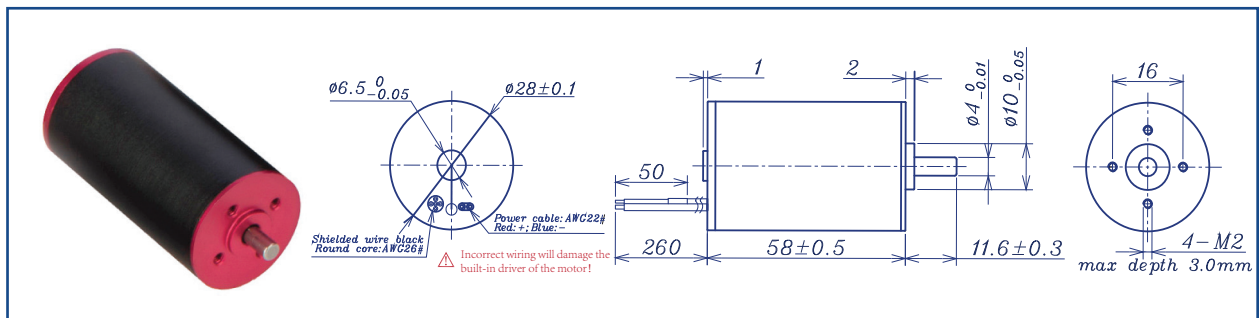
Additional Information			
Note: Excessive shock loads and periodic oscillations can cause the motor to run unsteadily. Stabilize the system by improving the load.			
Motor thermal resistance:	10.5 K/W	Motor thermal time constant:	768 S
Axial (dynamic):	2.5 N	Radial (5mm from head face):	16.0 N
Press-fit force (static):	50 N	L: Max allowable screw depth into flange:	3.0 mm
Maximum radial runout (5mm from the thread surface):	≤0.02 mm	Axial play:	0 (<4.0N)
Maximum winding temperature	85°C	Ambient temperature range:	-30 to 65 °C

Part Information					
Control function description		<p>Wiring diagram</p> <p>Recommended pulse control curve</p>			
Input level description	V _{IL} max 1.2V ; V _{IH} min (V _{cc} -2.0)V				
Pulse input (Red)	Falling edge is valid				
Steering input (White)	High CW Low CCW				
Enable input (Yellow)	Low Voltage Enable				
Feedback Pulse (Green)	32 pulses / rev				
Input GND (black)	Universal input port				
Total Length: LT=L1+L2+L3					
L1:24GP	L1:28GP	L2 :PI2052	L3		
22.2	25.9	65.5			
27.4	33.1				
32.6	40.3				
<p>AM-PI2466AN Combination Scheme</p> <p>Recommended Gearbox: AM-24GP AM-28GP</p> <p>For more combination specs, visit Assun Motor website.</p>					
<p>Note: The customer can select the gearbox to match the motor. It is recommended to weld motor shaft gears, some of which are listed here for reference.</p>					

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SERVO MOTOR

AM-PI2858AN SERIES (Built-In Position Control)



	Brushless Servo Motor	Ball Bearing
Motor Model	2410	
Nominal voltage	V 24	
Voltage range	V 21.5~26.5	
No-load holding current	mA 45	
Static holding torque	mN·m 29.0	
Static holding current	mA 250	
Rated torque	mN·m 29.0	
Rated speed	rpm 10000	
Pulse number / circle	Pulse / circle 256	
Overload torque	mN.m 50.0	
Maximum overload time	second 3	
Moment of inertia	gcm ² 6.19	
Weight	g 155	

Additional Information

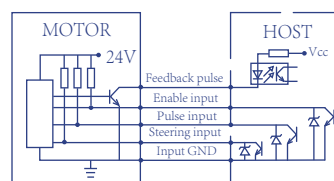
Note: Excessive shock loads and periodic oscillations can cause the motor to run unsteadily. Stabilize the system by improving the load.

Motor thermal resistance:	10.2 K/W	Motor thermal time constant:	822 S
Axial (dynamic):	4.0 N	Radial (5mm from head face):	16.0 N
Press-fit force (static):	50 N	Max allowable screw depth info flange:	3.0 mm
Maximum radial runout (5mm from the thread surface):	≤0.02 mm	Axial play:	0 (<4.0N)
Maximum winding temperature	85°C	Ambient temperature range:	-30 to 65 °C

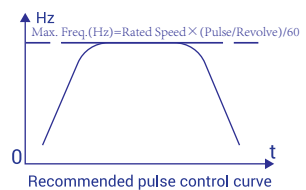
Part Information

Control function description

Input level description	VIL max 1.2V ; VIH min 22V
Pulse input (red)	Falling edge is valid
Direction control (white)	High CW Low CCW
Enable input (yellow)	VIL Enable
Feedback pulse (green)	32 pulse / rev
Input GND (black)	Universal input port



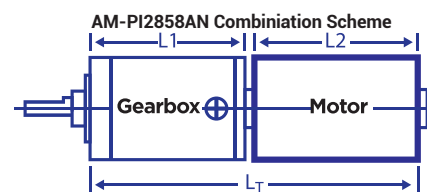
Wiring diagram



Total Length $L_T=L_1+L_2+L_3$

L1:28GP	L1:32GP	L2 :PI28	L3
25.9	27.4	58.0	
33.1	35.9		
40.3	44.4		

Note: The customer can select the gearbox to match the motor. It is recommended to weld motor shaft gears, some of which are listed here for reference.



Recommended Gearbox:

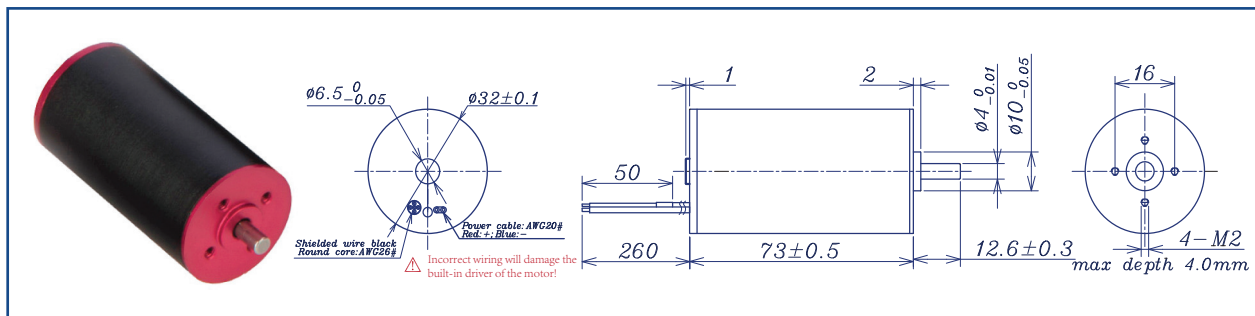
AM-28GP
AM-32GP

For more combination specs, visit Assun Motor website.

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AM-PI3273AN SERIES (Built-In Position Control)



	Brushless Servo Motor	Ball Bearing
Motor Model	2410	
Nominal voltage	V 24	
Voltage range	V 21.5~26.5	
No-load holding current	mA 45	
Static holding torque	mN·m 35.0	
Static holding current	mA 320	
Rated torque	mN·m 35.0	
Rated speed	rpm 10000	
Pulse number / circle	Pulse / circle 256	
Overload torque	mN.m 70.0	
Maximum overload time	second 3	
Moment of inertia	gcm ² 13.3	
Weight	g 270	

Additional Information			
Note: Excessive shock loads and periodic oscillations can cause the motor to run unsteadily. Stabilize the system by improving the load.			
Motor thermal resistance:	7.8 K/W	Motor thermal time constant:	1089 S
Axial (dynamic):	6.0 N	Radial (5mm from head face):	16.0 N
Press-fit force (static):	50 N	Max allowable screw depth into flange:	4.0 mm
Maximum radial runout (5mm from the thread surface):	≤0.02 mm	Axial play:	0 (<6.0N)
Maximum winding temperature	85°C	Ambient temperature range:	-30 to 65 °C

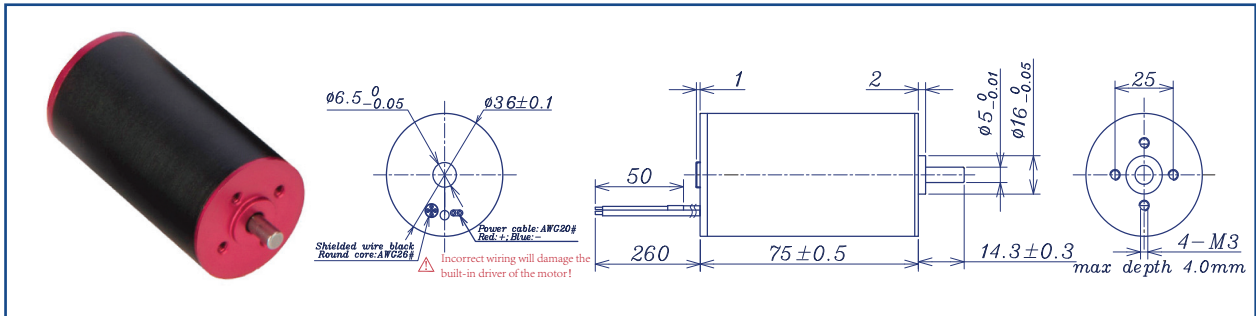
Part Information				
Control function description		<p>Wiring diagram</p>	<p>Recommended pulse control curve</p>	
Input level description	VIL max 1.2V ; VIH min 22V			
Pulse input (red)	Falling edge is valid			
Direction control (white)	High CW Low CCW			
Enable input (yellow)	VIL Enable			
Feedback pulse (green)	32 pulse / rev			
Input GND (black)	Universal input port			
Total Length LT=L1+L2+L3				
L1:32GP	L1:36GP	L2 :PI32	L3	
27.4	39.6	73.0		
35.9	48.6			
44.4	57.6			
<p>AM-PI3273AN Combination Scheme</p>				<p>Recommended Gearbox:</p> <p>AM-32GP AM-36GP</p> <p>For more combination specs, visit Assun Motor website.</p>
<p>Note: The customer can select the gearbox to match the motor. It is recommended to weld motor shaft gears, some of which are listed here for reference.</p>				

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SERVO MOTOR

AM-PI3675AN SERIES (Built-In Position Control)



Brushless Servo Motor		Ball Bearing	
Motor Model		2410	
Nominal voltage	V	24	
Voltage range	V	21.5~26.5	
No-load holding current	mA	45	
Static holding torque	mN·m	52.0	
Static holding current	mA	350	
Rated torque	mN·m	52.0	
Rated speed	rpm	10000	
Pulse number / circle	Pulse / circle	256	
Overload torque	mN.m	80.0	
Maximum overload time	second	3	
Moment of inertia	gcm ²	16.75	
Weight	g	345	

Additional Information

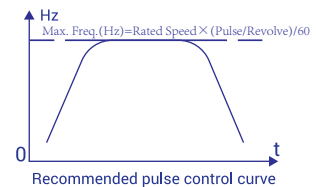
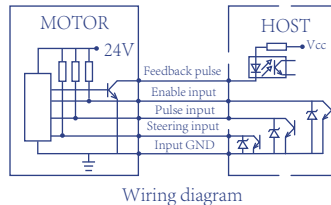
Note: Excessive shock loads and periodic oscillations can cause the motor to run unsteadily. Stabilize the system by improving the load.

Motor thermal resistance:	6.9 K/W	Motor thermal time constant:	1188 S
Axial (dynamic):	6.0 N	Radial (5mm from head face):	16.0 N
Press-fit force (static):	50 N	Max allowable screw depth into flange:	4.0 mm
Maximum radial runout (5mm from the thread surface):	≤0.02 mm	Axial play:	0 (<6.0N)
Maximum winding temperature	85°C	Ambient temperature range:	-30 to 65 °C

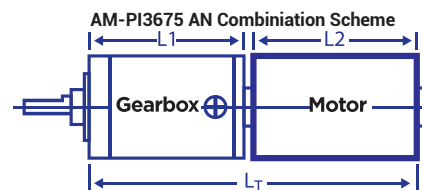
Part Information

Control function description

Input level description	VIL max 1.2V ; VIH min 22V
Pulse input (red)	Falling edge is valid
Direction control (white)	High CW Low CCW
Enable input (yellow)	VIL Enable
Feedback pulse (green)	32 pulse / rev
Input GND (black)	Universal input port



Total Length LT=L1+L2+L3				
L1:36GP	L1:40GP		L2 :PI36	L3
39.6	46.8		75.0	
48.6	58.3			
57.6	69.8			



Recommended Gearbox:

AM-36GP
AM-40GP

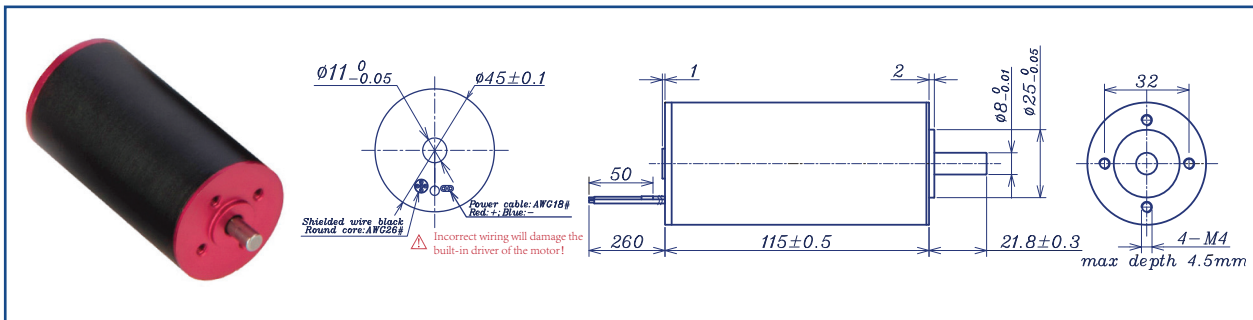
For more combination specs, visit Assun Motor website.

Note: The customer can select the gearbox to match the motor. It is recommended to weld motor shaft gears, some of which are listed here for reference.

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AM-PI45115AN SERIES (Built-In Position Control)



	Brushless Servo Motor	Ball Bearing
Motor Model	2408	
Nominal voltage	V 24	
Voltage Range	V 21.5~26.5	
No-load holding current	mA 55	
Static holding torque	mN·m 65.0	
Static holding current	mA 550	
Rated torque	mN·m 65.0	
Rated speed	rpm 8000	
Pulse number / circle	Pulse / circle 256	
Overload torque	mN.m 120.0	
Maximum overload time	second 3	
Moment of inertia	gcm ² 109.8	
Weight	g 880	

Additional Information

Note: Excessive shock loads and periodic oscillations can cause the motor to run unsteadily. Stabilize the system by improving the load.

Motor thermal resistance:	3.6 K/W	Motor thermal time constant:	1286 S
Axial (dynamic):	8.0 N	Radial (5mm from head face):	180.0 N
Press-fit force (static):	100 N	Max allowable screw depth info flange:	4.5 mm
Maximum radial runout (5mm from the thread surface):	≤0.02 mm	Axial play:	0 (<6.0N)
Maximum winding temperature	85°C	Ambient temperature range:	-30 to 65 °C

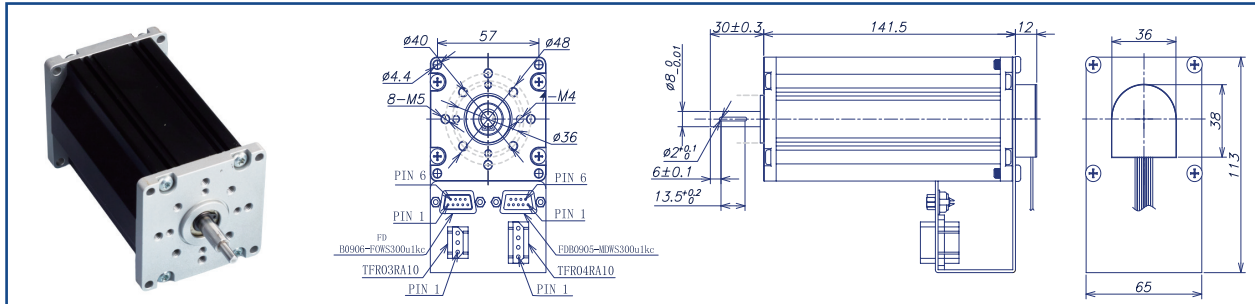
Part Information

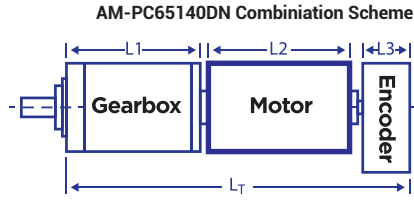
Control function description				
Input level description	VIL max 1.2V ; VIH min 22V			
Pulse input (red)	Falling edge is valid			
Direction control (white)	High CW Low CCW			
Enable input (yellow)	VIL Enable			
Feedback pulse (green)	32 pulse / rev			
Input GND (black)	Universal input port			
Total Length LT=L1+L2+L3				
L1:45GP	L1:52GP		L2 :PI45	L3
62.8	81.0		115.0	
74.8				
<p>Note: The customer can select the gearbox to match the motor. It is recommended to weld motor shaft gears, some of which are listed here for reference.</p>				
<p>AM-PI45115AN Combination Scheme</p> <p>Recommended Gearbox: AM-45GP AM-52GP For more combination specs, visit Assun Motor website.</p>				

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AM-PC65140DN SERIES (Built-In Position Control, with Encoder)



Brushless Servo Motor			Ball Bearing		
Motor Model	2403				
Nominal voltage	V	24			
Gearbox Ratio	X:1	1 (No Gear)			
No Load Current	Max 150%	mA	420		
No Load Speed		rpm	3000		
Rated Torque		mN·m	305		
Rated Current		A	5.4		
Rated Speed		rpm	3000		
Encoder Information					
Type	Incremental	Optical Encoder			
Channels	2 Channels				
Resolution	PPR	1000			
Max. Working Frequency	KHz	55			
Additional Information					
Pin No.	Connector	Signal Description	Pin No.	Connector	Signal Description
Connection Port: TFR03RA10			Connection Port: TFR04RA10		
Pin 1	192900-0452	+24V Sensor Supply (From Motor)	Pin 1	192900-0446	+24V Motor Supply (From System)
Pin 2	192900-0452	Original Sensor Signal (To Motor)	Pin 2	192900-0446	0V GND (Motor Supply)
Pin 3	192900-0452	0V GND (Sensor Supply)	Pin 3	192900-0446	+24V DC Logic Supply (From System)
Connection Port: FDB0905-MDWS300u1kc			Pin 4	192900-0446	0V GND (Logic Supply)
Pin 1		Digital Signal Input (Customizable)	Connection Port: FDB0906-FOWS300u1kc		
Pin 2		CAN_L	Pin 1		B
Pin 3		CAN_GND	Pin 2		CAN_L
Pin 4		Left Limit Input (Customizable)	Pin 3		B-
Pin 5		Right Limit Input (Customizable)	Pin 4		A-
Pin 6		Digital Signal Input (Customizable)	Pin 5		A
Pin 7		CAN-H	Pin 6		CAN_GND
Pin 8		Digital Signal Output (Customizable)	Pin 7		CAN_H
Total Length $L_T=L_1+L_2+L_3$					
L1:60GP		L2 :PC65		L3: EN36	
73.5		141.5		12	
					
Note: The customer can select the gearbox to match the motor. It is recommended to weld motor shaft gears, some of which are listed here for reference.			Recommended Gearbox: AM-60GP Recommended Encoder: Optical Encoder: AM-EN3612T***		

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