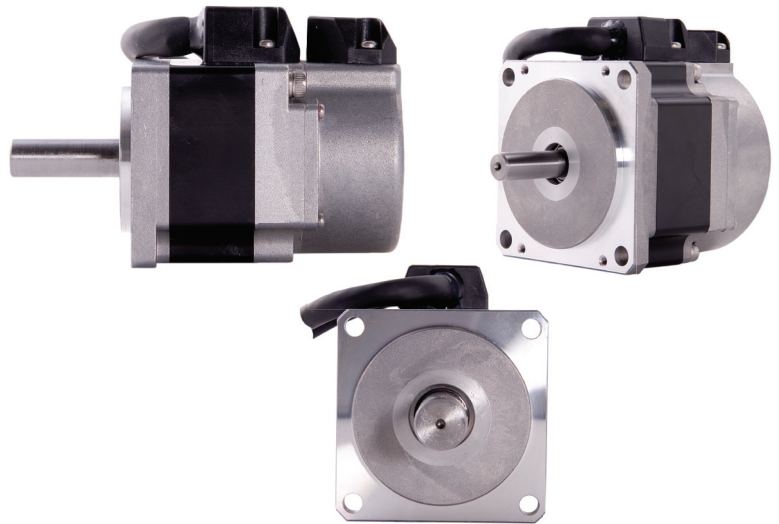


BSM R-series Brushless AC servo motors

ABB's BSM R-series motors enables applications to make use of the benefits of brushless technology - less maintenance, quieter operation, faster acceleration, higher torque and power output.

The BSM R-series motors offers compact size compared with conventional units in torque ratings from 0.318 to 2.39 Nm (2.81 - 21.12lb-in).



The BSM-R series is perfect for highly dynamic and precision motion applications with its high torque density and low inertia. A range of feedback options to match the application needs, resolver for rugged environments and absolute high-resolution encoders for greater performance..

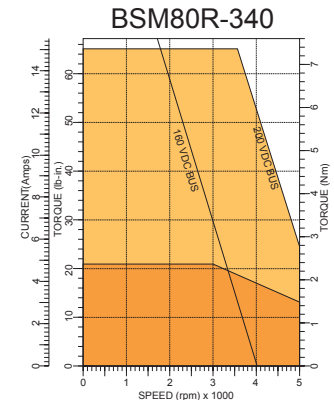
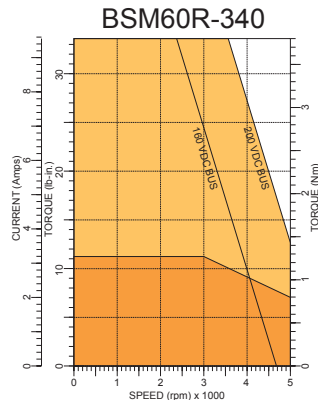
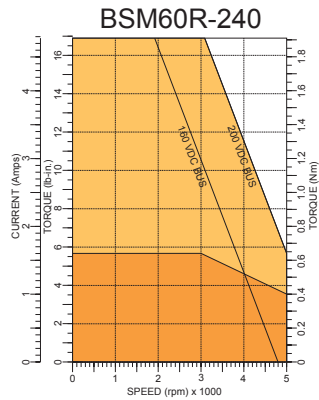
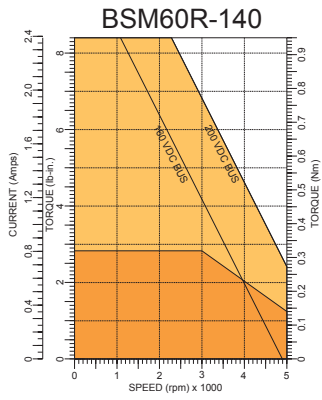
The BSM R-Series motors are rated at IP65. An optional oil shaft seal may be added to increase protection of the motor face to IP65 also. Flying leads provide easy connection of both motor power and feedback.

Highlights

- Compact rugged brushless motors
- 100, 200, 400, 750 Watt output
- Torque sizes 0.318 to 2.39 Nm (2.81 - 21.12 lb-in)
- Resolver, Encoder and SmartAbs absolute encoder options
- Optional 24 V DC brake
- Optional oil seal for IP65 rating
- UL, cUL, CE

Applications

- Labelling machines
- Flying shears
- Robotics
- Material handling
- Packaging machines
- Winding machines
- Printing machines
- Semiconductor manufacturing



Catalog Number		BSM60R-140XX	BSM60R-240XX	BSM60R-340XX	BSM80R-340XX
General					
Continuous stall torque	Nm [lb-in]	0.318 [2.81]	0.64 [5.66]	1.27 [11.24]	2.39 [21.12]
Continuous current	Amps rms	0.8	1.6	3.2	5.0
Peak torque	Nm [lb-in]	0.95 [8.41]	1.9 [16.82]	3.8 [33.62]	7.16 [73]
Peak current	Amps rms	2.6	5.0	9.7	14.5
Mechanical time constant	ms	1.2	0.9	0.6	0.6
Electrical time constant	ms	2.5	3.2	3.8	6.0
Rated speed	rpm	3000	3000	3000	3000
Output power	Watts	100	200	400	750
Electrical					
Torque constant	Nm/amp [lb-in/amp]	0.38 [3.36]	0.39 [3.45]	0.4 [3.45]	0.50 [5.09]
Voltage constant	Vrms/krpm	23	23	24	30
Resistance	Ohms	13.4	5	2	1.3
Inductance	mH	33.4	16	7.4	7.8
Mechanical					
Inertia [with brake]	kg-cm ²	0.09 [0.18]	0.18 [0.28]	0.34 [0.44]	1.06 [0.935]
[without brake]	[lb-in-s ² x 10 ⁻³]	0.076 [0.16]	0.16 [0.25]	0.3 [0.39]	
Maximum speed	rpm	5000	5000	5000	5000
Number of motor poles		8	8	8	8
Max radial load	N (at 20mm) [lb _f]	78.4 [17.6]	196 [44.1]	196 [44.1]	343 [77]
Max thrust load	N [lb _f]	39.2 [8.8]	68.6 [15.4]	68.6 [15.4]	98 [22]
Weight [with brake]	kg [lb]	0.3 [0.7]	0.4 [0.6]	0.5 [0.7]	3.4 [7.48]
[without brake]		0.66 [1.54]	0.88 [1.32]	1.1 [1.54]	2.5 [5.5]
Brake data					
Rated voltage	VDC ±10%	24	24	24	24
Current	Amps	0.25	0.33	0.33	0.33
Input power	W	6	8	8	8
Static friction torque	Nm [lb-in] (min)	0.32 [2.8]	1.27 [11.2]	1.27 [11.2]	2.39 [24.4]
Armature release time	ms (max)	20	20	20	30
Armature pull-in time	ms (min)	40	50	50	60

BSM - 40 -

Frame

40
60
80

Motor Size (Stack Length)

1
2
3


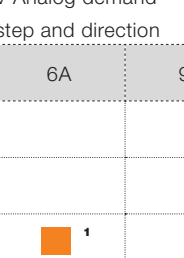
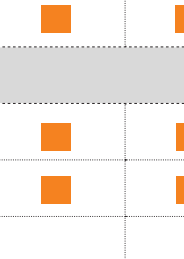
Motor Options

M - Flying Leads
N - Flying Leads & Brake
O - Flying Leads & Shaft Seal
P - Flying Leads & Shaft Seal & Brake

Flying leads 80cm (31.5inch)

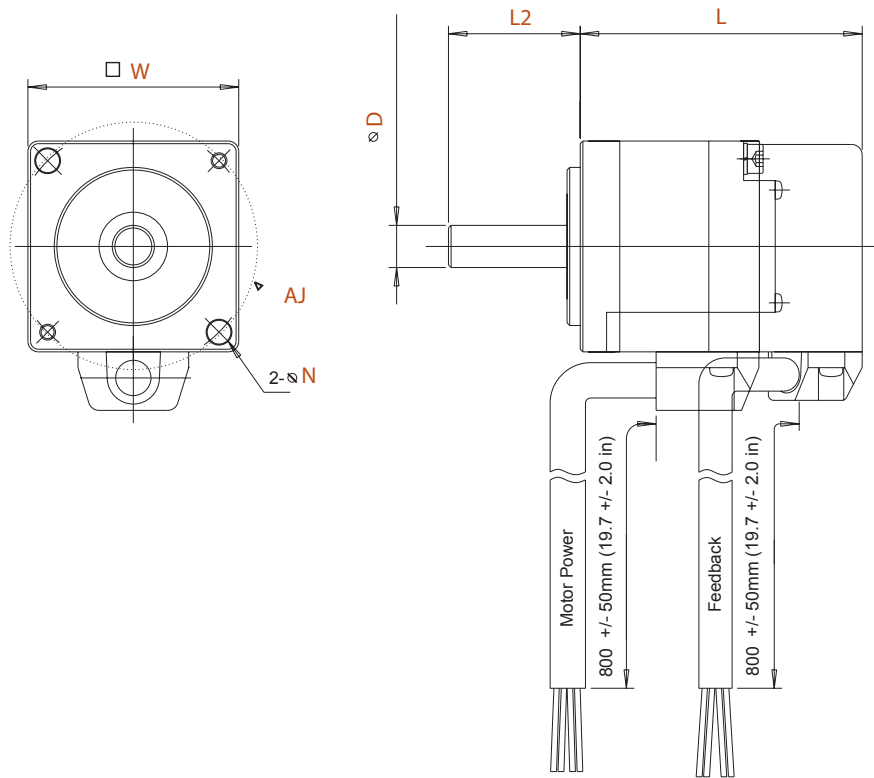
Feedback Options

A - Resolver
G - 2000 ppr encoder
T - Single turn SmartAbs - 17bit 131072 counts/rev
T2 - Multi turn SmartAbs - 17bit 131072 counts/rev 65536 revolutions

	MicroFlex analog			MicroFlex e100			Microflex e150		
									
	±10V Analog demand 5V step and direction			Ethernet POWERLINK, Modbus TCP			EtherCAT, Ethernet/IP and Modbus TCP		
BSM Type	3A	6A	9A	3A	6A	9A	3A	6A	9A
BSM60R-140XX	■			■			■		
BSM60R-240XX	■			■			■		
BSM60R-340XX	■	■ ¹		■	■ ¹		■	■ ¹	
BSM80R-340XX		■	■ ¹		■	■ ¹		■	■ ¹
Feedback devices									
Resolver	■	■	■						
2000 ppr encoder	■	■	■	■	■	■	■	■	■
SmartAbs single turn				■	■	■	■	■	■
SmartAbs multi turn				■	■	■	■	■	■

¹ Choose this drive option for full peak torque of the motor, when highest torque possible is required from the motor.

Dimensions



Catalog Number	W mm [in]	Length (L) mm [in]		L2 mm [in]	D mm [in]	N mm	AJ mm [in]
		W/0 brake	W. Brake				
BSM60R-140xx	60 [2.36]	59 [2.35]	83 [3.3]	30 [1.18]	14.0 [0.55]	4 x 5.5	70 (2.76)
BSM60R-240xx	60 [2.36]	76 [3.0]	111 [4.36]	30 [1.18]	14.0 [0.55]	4 x 5.5	70 (2.76)
BSM60R-340xx	60 [2.36]	98 [3.86]	132 [5.20]	30 [1.18]	14.0 [0.55]	4 x 5.5	70 (2.76)
BSM80R-340xx	80 [3.15]	108 [4.25]	145 [5.7]	35 [1.38]	19.0 [0.75]	4 x 6.6	105 (4.13)

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