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NEMA Stepper Motor Lineup — Technical Specifications & Catalogue

- Two-phase and four-phase hybrid stepper motors ranging from 61 oz-in to 1860 oz-in holding torque, covering NEMA 17 through NEMA 34 frame sizes.
- Shaft options include 5mm, 6.35mm (1/4"), 8mm, 9.525mm (3/8"), and 12.7mm (1/2") in single and dual-shaft configurations, depending on model.
- Many models support multiple winding connections (unipolar, bipolar series, bipolar parallel) — each connection style delivers a different torque, current, and voltage combination from the same motor.

Contents

NEMA 17 — M61, M83
NEMA 23 — M306, M417, M556
NEMA 34 — M625, M1208, M1860

NEMA 17 Stepper Motors

M61 | Manufacturer # 42BHH40W-080D-24

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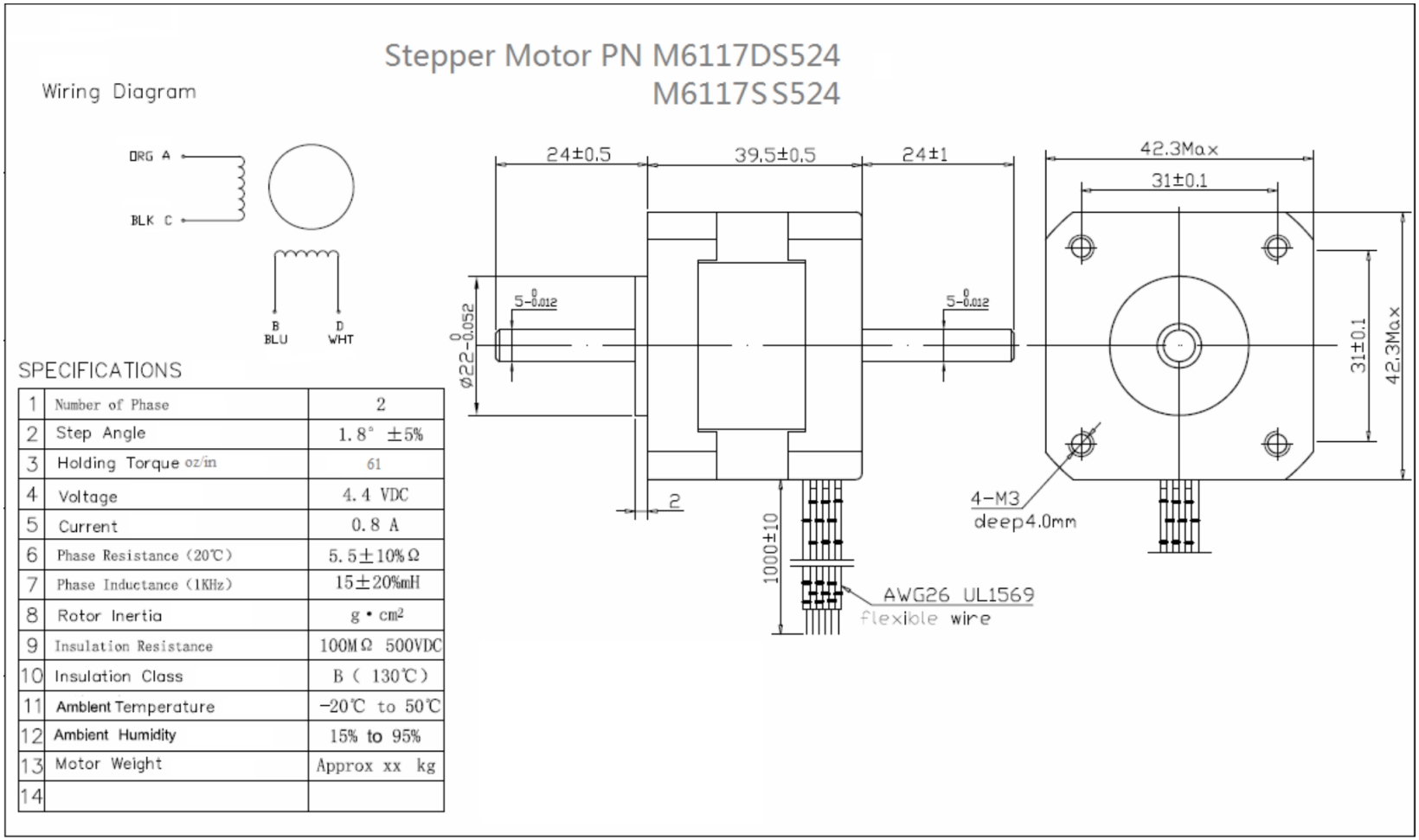
Stepper Motor Manufacturer # 42BHH40W-080D-24| Stock # M6117DS524 / M6117SS524

Available in 5mm Single/dual shaft



SPECIFICATIONS

1	Number of Phase	2
2	Step Angle	1.8° ±5%
3	Holding Torque oz/in	61
4	Voltage	4.4 VDC
5	Current	0.8 A
6	Phase Resistance (20℃)	5.5±10% Ω
7	Phase Inductance (1KHz)	15±20%mH
8	Rotor Inertia	g • cm²
9	Insulation Resistance	100MΩ 500VDC
10	Insulation Class	B (130℃)
11	Ambient Temperature	-20℃ to 50℃
12	Ambient Humidity	15% to 95%
13	Motor Weight	Approx xx kg
14		

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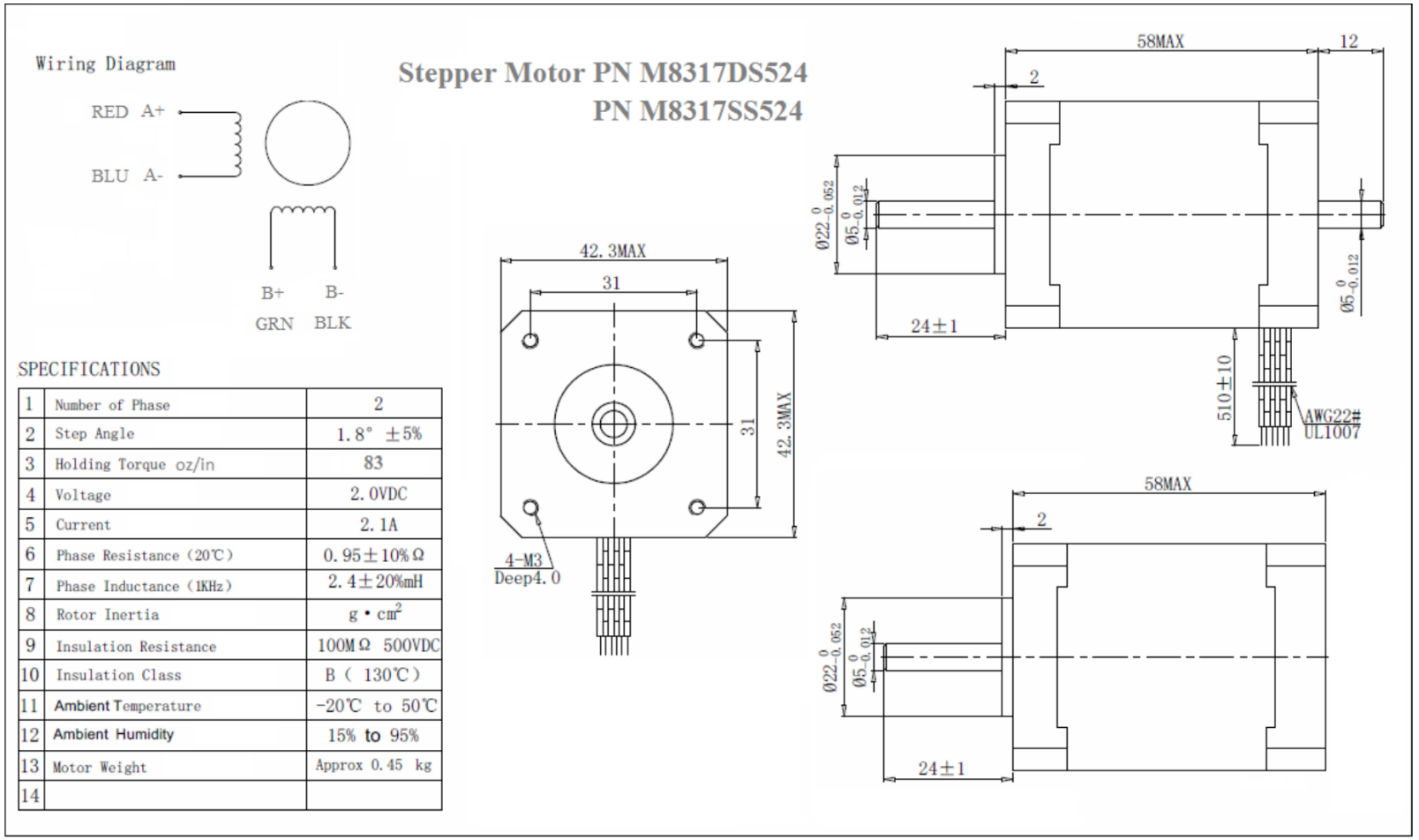
Stepper Motor Manufacturer # 42BHH40W-080D-24| Stock # M8317DS524 / M8317SS524

Available in 5mm Single/dual shaft



SPECIFICATIONS

1	Number of Phase	2
2	Step Angle	1.8° ±5%
3	Holding Torque oz/in	83
4	Voltage	2.0VDC
5	Current	2.1A
6	Phase Resistance (20℃)	0.95±10%Ω
7	Phase Inductance (1KHz)	2.4±20%mH
8	Rotor Inertia	g • cm²
9	Insulation Resistance	100MΩ 500VDC
10	Insulation Class	B (130℃)
11	Ambient Temperature	-20℃ to 50℃
12	Ambient Humidity	15% to 95%
13	Motor Weight	Approx 0.45 kg
14		

NEMA 23 Stepper Motors

M306 | Manufacturer # 60BHH65-280E-25S

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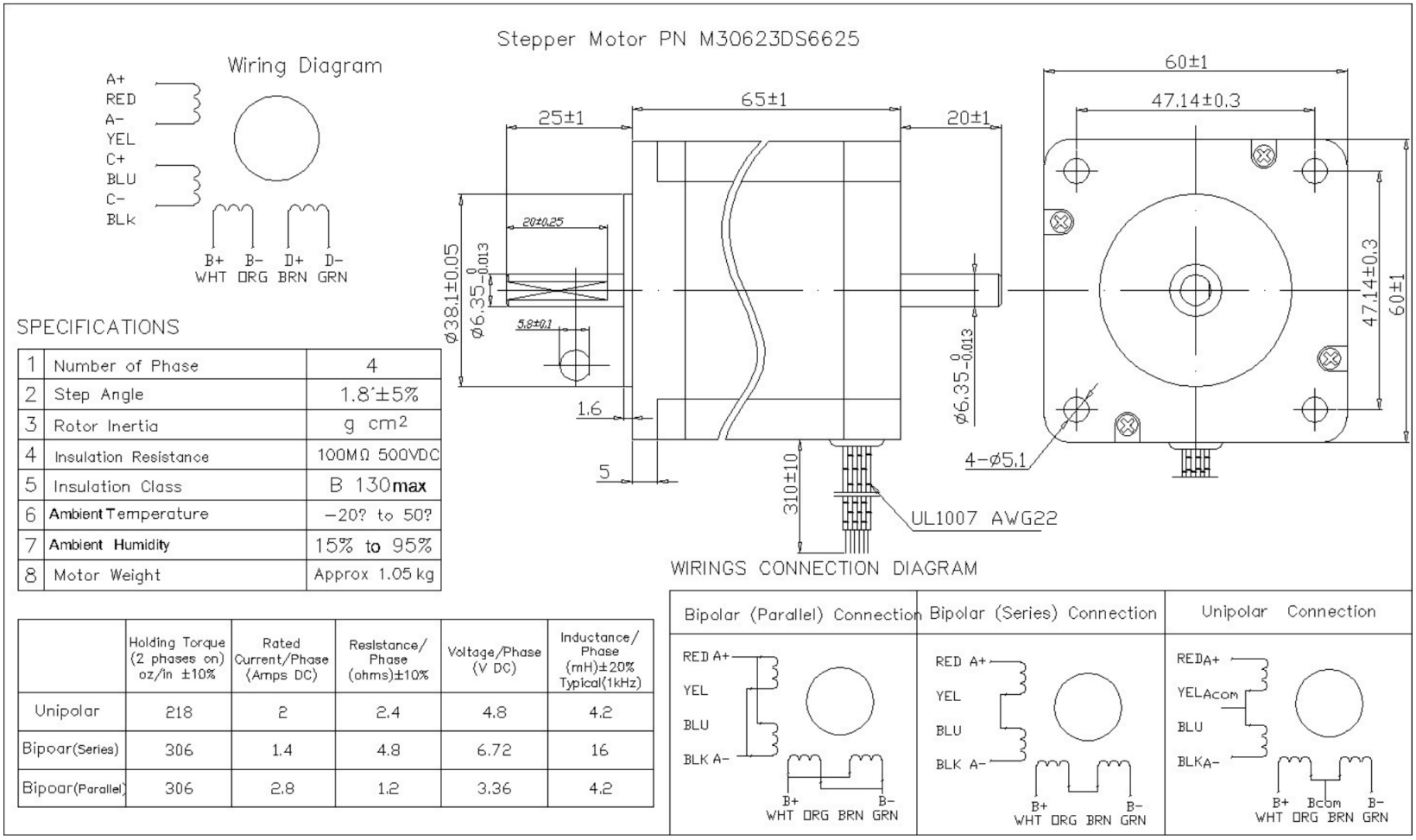
Stepper Motor Manufacturer # 60BHH65280E25S | Stock # M30623DS6625

Available in ¼" Single/dual shaft



SPECIFICATIONS

1	Number of Phase	4
2	Step Angle	1.8°±5%
3	Rotor Inertia	g cm²
4	Insulation Resistance	100MΩ 500VDC
5	Insulation Class	B 130max
6	Ambient Temperature	−20? to 50?
7	Ambient Humidity	15% to 95%
8	Motor Weight	Approx 1.05 kg

	Holding Torque (2 phases on) oz/in ±10%	Rated Current/Phase (Amps DC)	Resistance/ Phase (ohms)±10%	Voltage/Phase (V DC)	Inductance/ Phase (mH)±20% Typical(1kHz)
Unipolar	218	2	2.4	4.8	4.2
Bipoar(Series)	306	1.4	4.8	6.72	16
Bipoar(Parallel)	306	2.8	1.2	3.36	4.2

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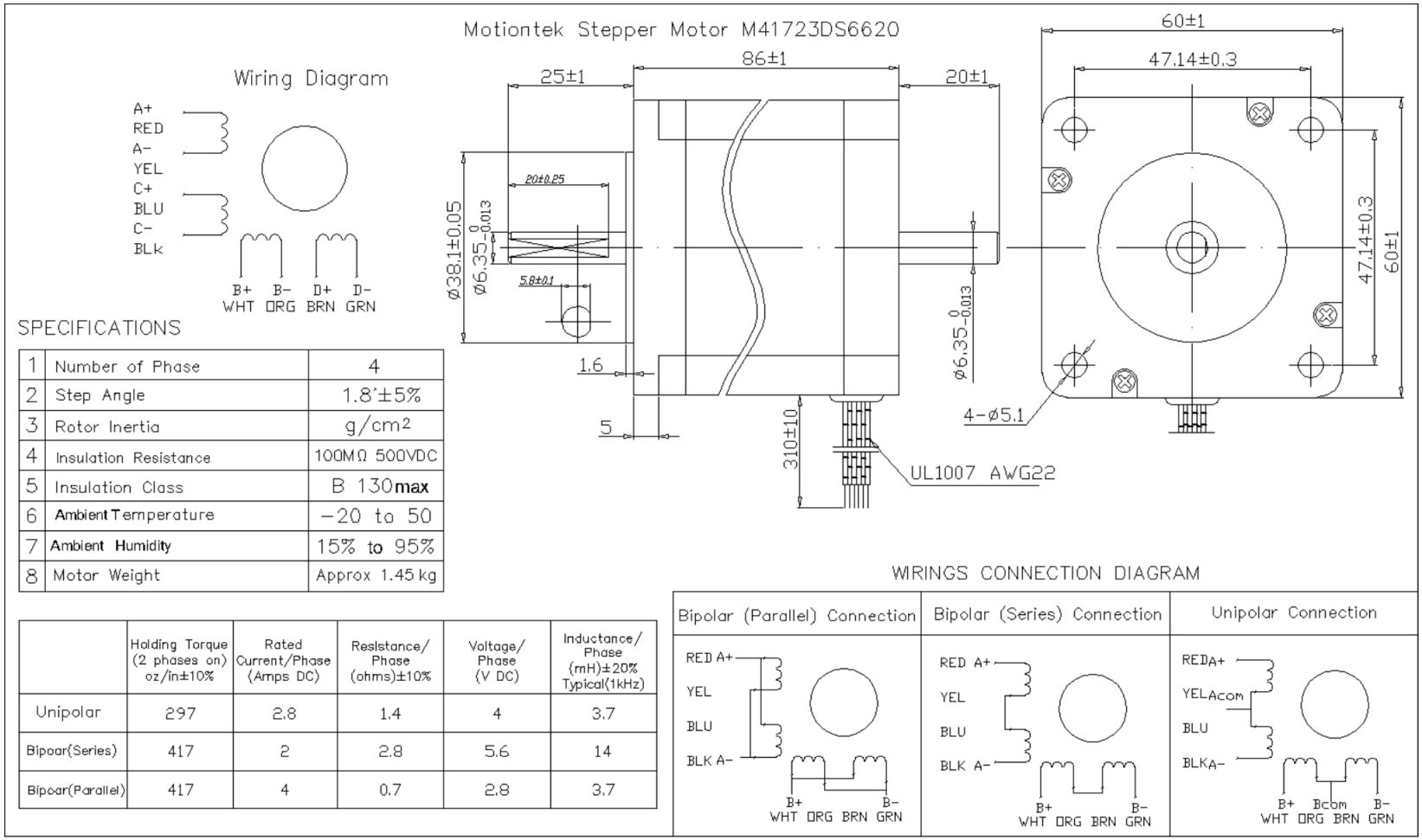
Stepper Motor Manufacturer # 60BHH86-400E-25S | Stock # M41723DS6625

Available in ¼" Single/dual shaft, 8mm and 3/8" single shaft



SPECIFICATIONS

1	Number of Phase	4
2	Step Angle	1.8°±5%
3	Rotor Inertia	g/cm²
4	Insulation Resistance	100MΩ 500VDC
5	Insulation Class	B 130max
6	Ambient Temperature	−20 to 50
7	Ambient Humidity	15% to 95%
8	Motor Weight	Approx 1.45 kg

	Holding Torque (2 phases on) oz/in±10%	Rated Current/Phase (Amps DC)	Resistance/ Phase (ohms)±10%	Voltage/ Phase (V DC)	Inductance/ Phase (mH)±20% Typical(1kHz)
Unipolar	297	2.8	1.4	4	3.7
Bipoar(Series)	417	2	2.8	5.6	14
Bipoar(Parallel)	417	4	0.7	2.8	3.7

WIRINGS CONNECTION DIAGRAM

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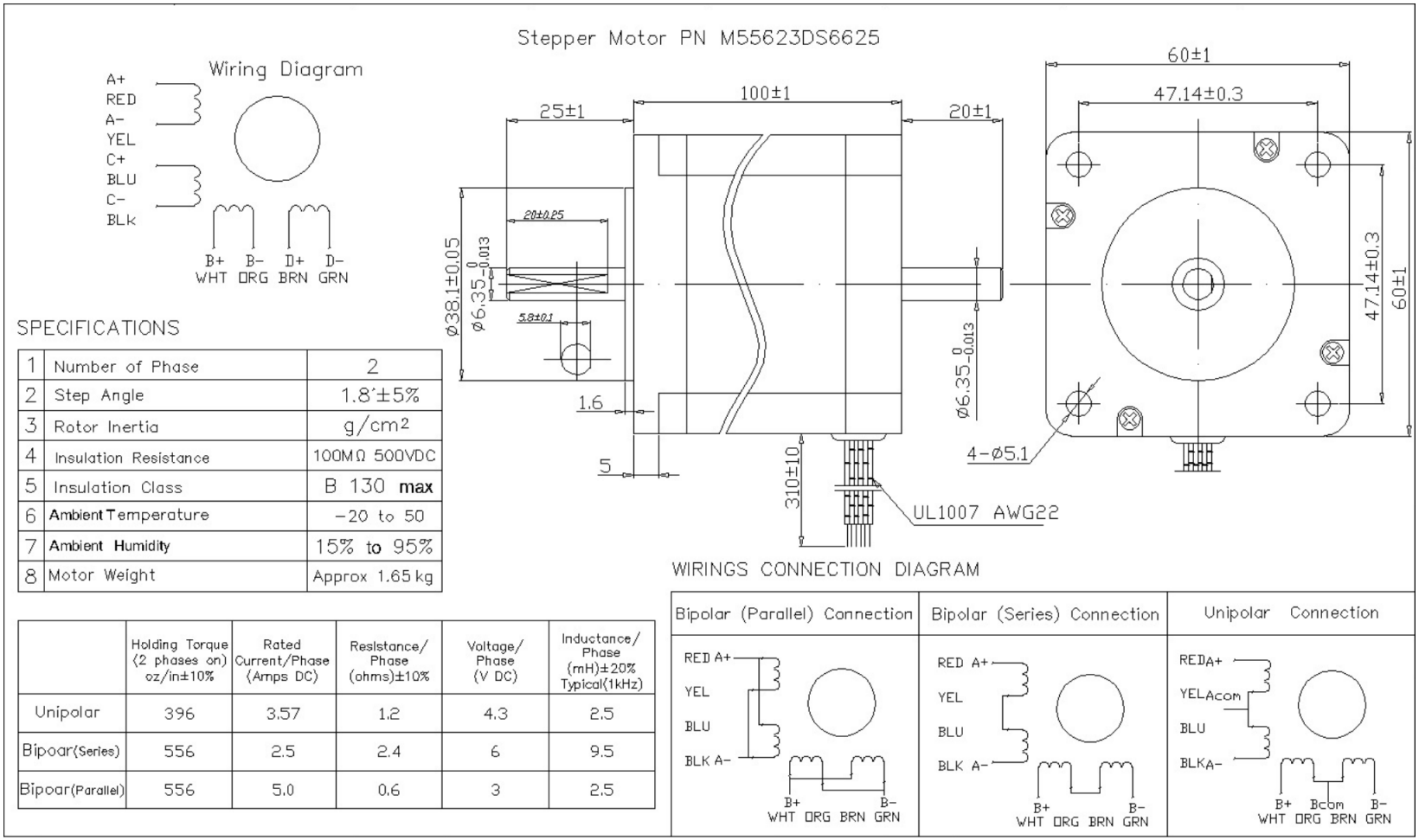
Stepper Motor Manufacturer # 60BHH100501E25S | Stock # M55623DS6625

Available in ¼" Single/dual shaft, 8mm and 3/8" single shaft



SPECIFICATIONS

1	Number of Phase	2
2	Step Angle	1.8°±5%
3	Rotor Inertia	g/cm²
4	Insulation Resistance	100MΩ 500VDC
5	Insulation Class	B 130 max
6	Ambient Temperature	−20 to 50
7	Ambient Humidity	15% to 95%
8	Motor Weight	Approx 1.65 kg

	Holding Torque (2 phases on) oz/in±10%	Rated Current/Phase (Amps DC)	Resistance/ Phase (ohms)±10%	Voltage/ Phase (V DC)	Inductance/ Phase (mH)±20% Typical(1kHz)
Unipolar	396	3.57	1.2	4.3	2.5
Bipoar(Series)	556	2.5	2.4	6	9.5
Bipoar(Parallel)	556	5.0	0.6	3	2.5

NEMA 34 Stepper Motors

M625 | Manufacturer # 86BHH80-550E-32B

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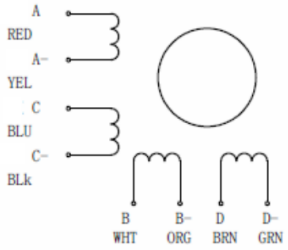
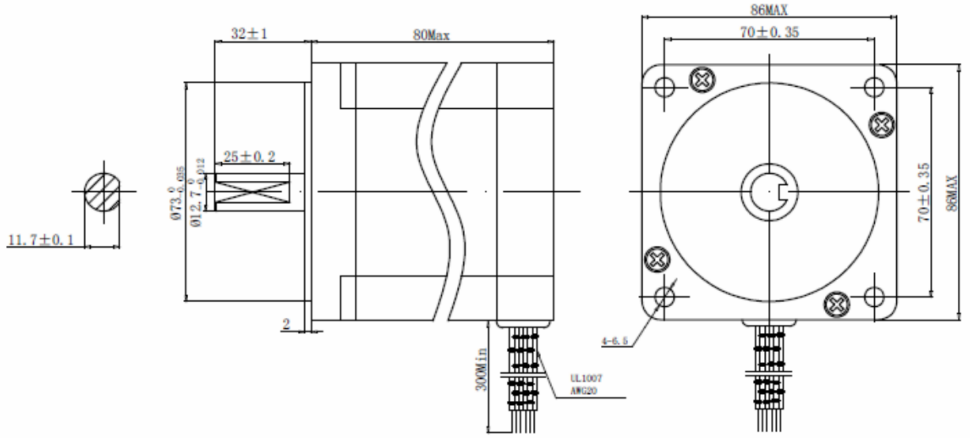
Stepper Motor Manufacturer # 86BHH80-550E-32B | Stock # M62534SS1232
Available in ½" Single/dual shaft, 3/8" single shaft

Wiring Diagram



Stepper Motor PN M62534SS1232



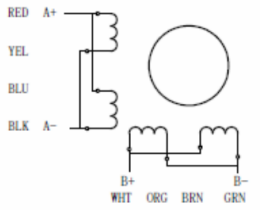
SPECIFICATIONS

1	Number of Phase	2
2	Step Angle	1.8° ±5%
3	Rotor Inertia	g • cm²
4	Insulation Resistanc	100MΩ 500VDC
5	Insulation Class	B (130℃)
6	Ambient Temperature	-20℃ to 50℃
7	Ambient Humidity	15% to 95%
8	Motor Weight	Approx xx kg

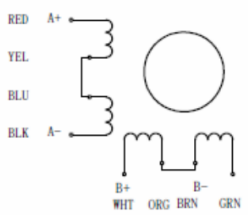
	Holding Tourque (2 phases on) oz/in ±10%	Rated Current/Phase (Amps DC)	Reslstance/Phase (ohms) ±10%	Voltage/Phase (V DC)	Inductance/Phase (mH) ±20% Typical (1kHz)
Unipolar	446	3.9	0.9	3.5	4
Bipoar(Series)	625	2.75	1.8	5	15.2
Bipoar(Parallel)	625	5.5	0.45	2.5	4

WIRINGS CONNECTION DIAGRAM

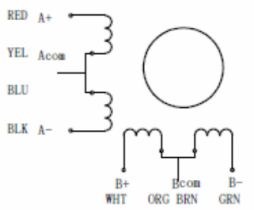
Bipolar (Parallel) Connection



Bipolar (Series) Connection



Unipolar Connection



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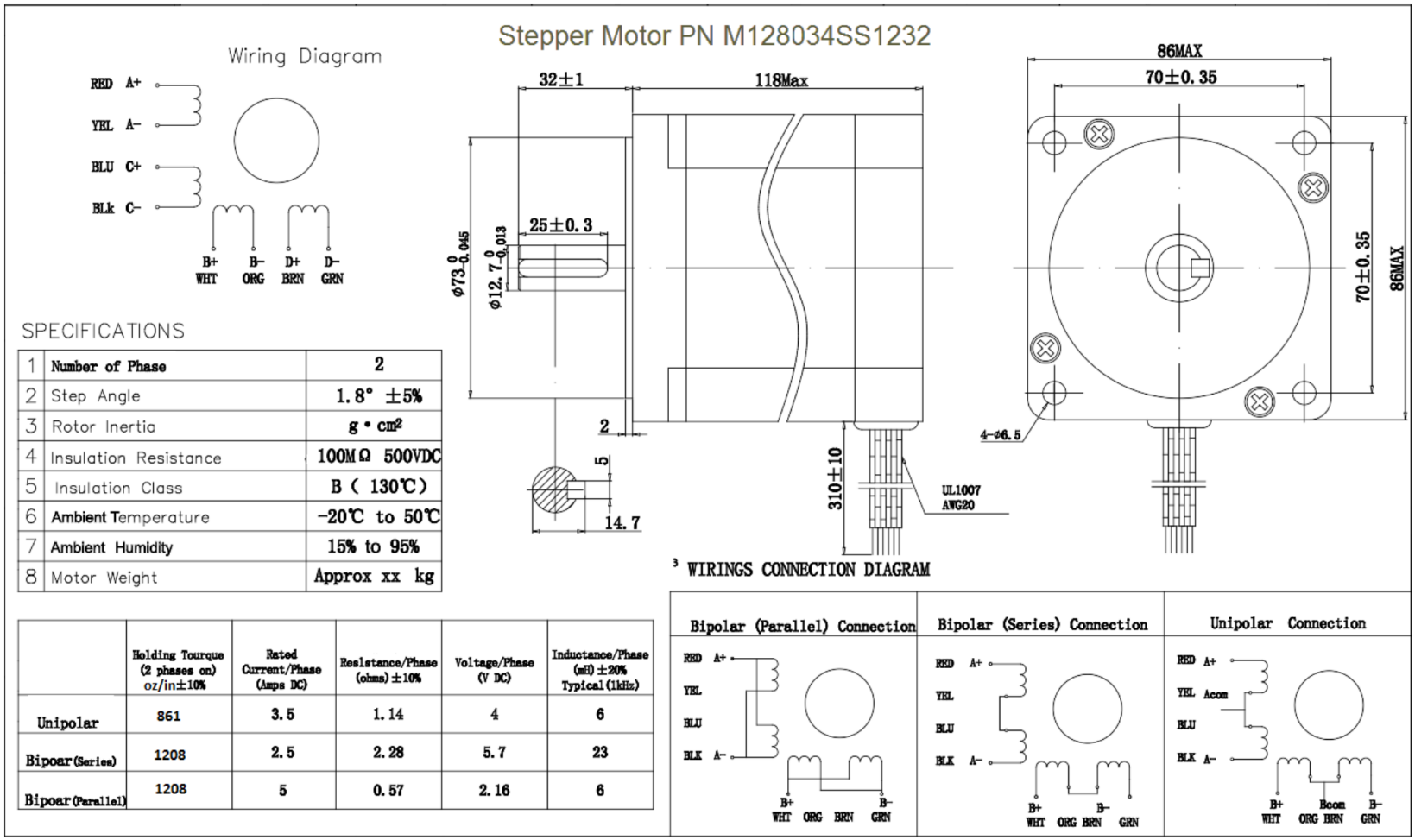
Stepper Motor Manufacturer # 86BHH118-500A| Stock # M120834SS1232

Available in ½" Single Shaft



	Holding Tourque (2 phases on) oz/in±10%	Rated Current/Phase (Amps DC)	Reslstance/Phase (ohms) ±10%	Voltage/Phase (V DC)	Inductance/Phase (mH) ±20% Typical (1kHz)
Unipolar	861	3.5	1.14	4	6
Bipoar (Series)	1208	2.5	2.28	5.7	23
Bipoar (Parallel)	1208	5	0.57	2.16	6

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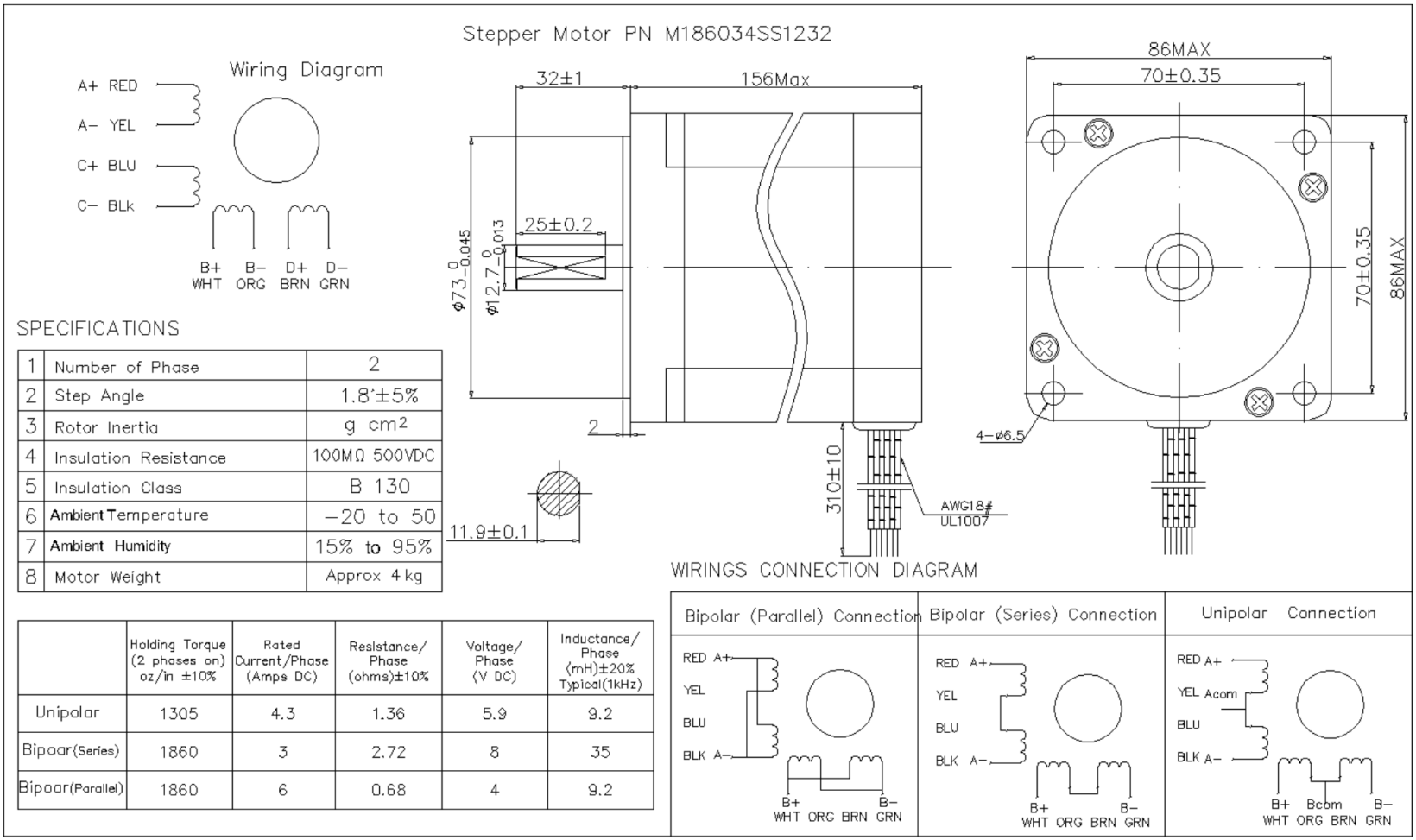
Stepper Motor Manufacturer # 86BHH156-600H| Stock # M186034SS1232

Available in ½" Single shaft



SPECIFICATIONS

1	Number of Phase	2
2	Step Angle	1.8°±5%
3	Rotor Inertia	g cm²
4	Insulation Resistance	100MΩ 500VDC
5	Insulation Class	B 130
6	Ambient Temperature	−20 to 50
7	Ambient Humidity	15% to 95%
8	Motor Weight	Approx 4 kg

	Holding Torque (2 phases on) oz/in ±10%	Rated Current/Phase (Amps DC)	Resistance/ Phase (ohms)±10%	Voltage/ Phase (V DC)	Inductance/ Phase (mH)±20% Typical(1kHz)
Unipolar	1305	4.3	1.36	5.9	9.2
Bipoar(Series)	1860	3	2.72	8	35
Bipoar(Parallel)	1860	6	0.68	4	9.2