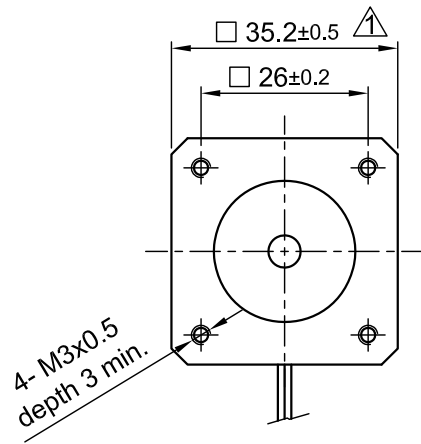
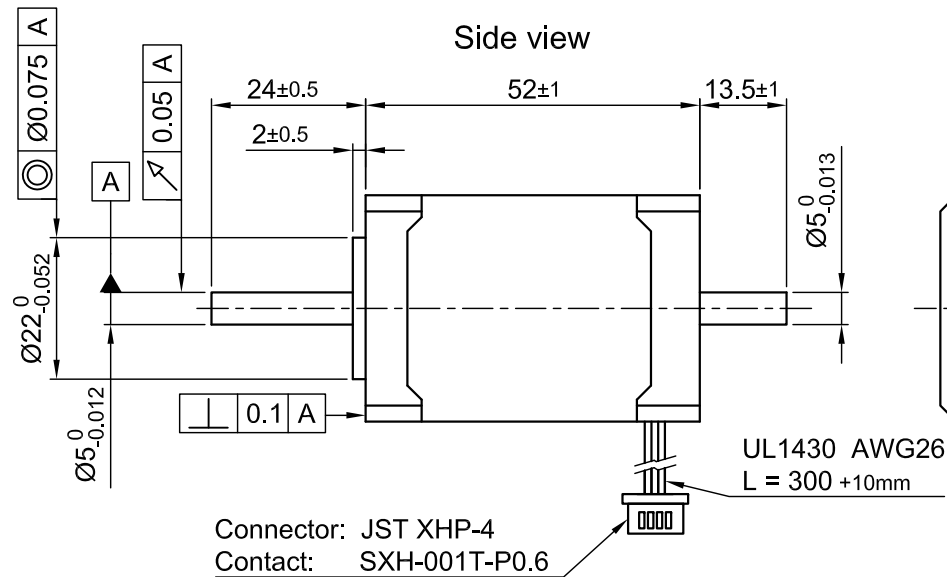


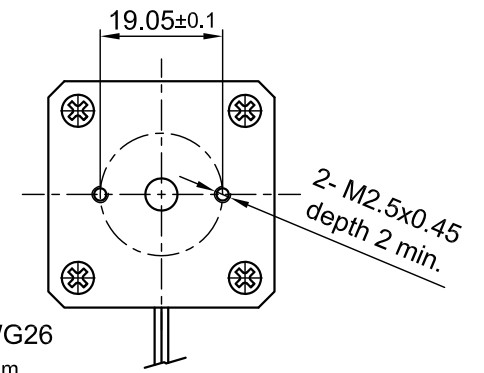
Front view and mounting



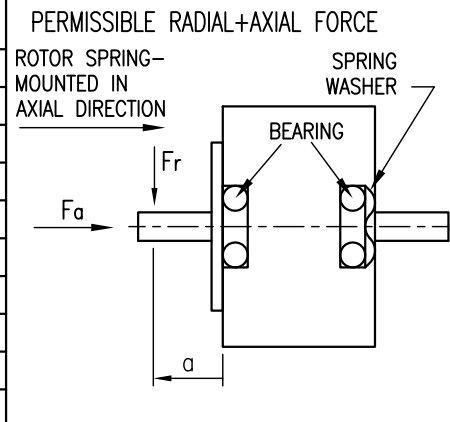
Side view



Rear view



SPECIFICATION	BIPOLAR
VOLTAGE (VDC)	4.08
AMPS/PHASE	1.2
RESISTANCE/PHASE (Ohms)@25°C	3.4±15%
INDUCTANCE/PHASE (mH) @1KHz	4.5±20%
HOLDING TORQUE (Nm) [lb-in]	0.23 [2.04]
DETENT TORQUE (Nm) [lb-in]	1.15x10 ⁻² [0.102]
STEP ANGLE (°)	1.8
STEP ACCURACY (NON-ACCUM)	±5%
ROTOR INERTIA (Kg-m ²) [lb-in ²]	4.3x10 ⁻⁶ [0.148]
WEIGHT (Kg) [lb]	0.3 [0.67]
TEMPERATURE RISE: MAX.80°C (MOTOR STANDSTILL; FOR 2 PHASE ENERGIZED)	
AMBIENT TEMPERATURE -10~ 50°C [14°F ~ 122°F]	
INSULATION RESISTANCE 100 MOhm (UNDER NORMAL TEMPERATURE AND HUMIDITY)	
INSULATION CLASS B 130° [266°F]	
DIELECTRIC STRENGTH 500VAC FOR 1 MIN. (BETWEEN THE MOTOR COILS AND THE MOTOR CASE)	
AMBIENT HUMIDITY MAX. 85% (NO CONDENSATION)	

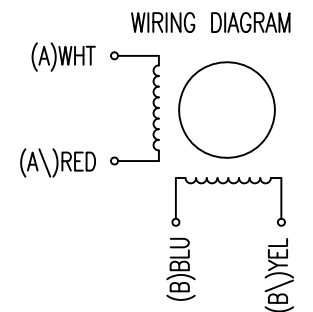


AXIAL-FORCE Fa (N)	Fa=10			
DISTANCE a (mm)	5	10	15	20
RADIAL-FORCE Fr (N)	58	36	26	20
	AXIAL	RADIAL		
SHAFT PLAY (mm)	0.08	0.02		
AT LOAD MAX: (N)	4.5	4.5		

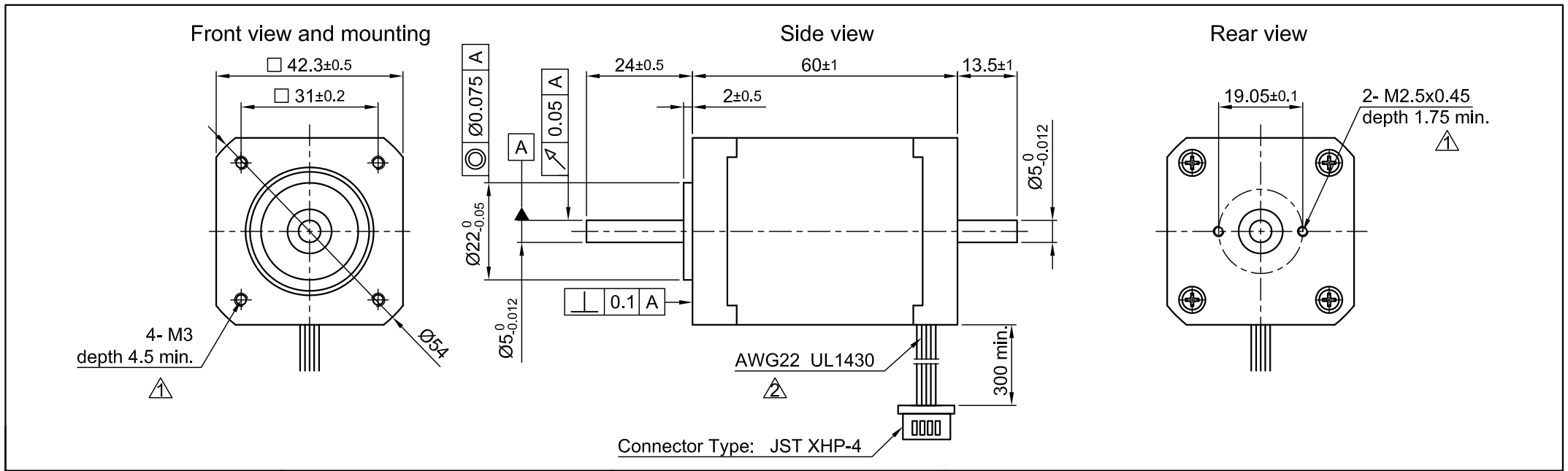
TYPE OF CONNECTION (EXTERN)	MOTOR			
	BIPOLAR	CONNECTOR PIN NO.	LEADS	WINDING
A —	1	WHT	A	
A\ —	2	RED	A\	
B —	3	BLU	B	
B\ —	4	YEL	B\	

FULL STEP 2 PHASE-Ex., WHEN FACING MOUNTING END (X)

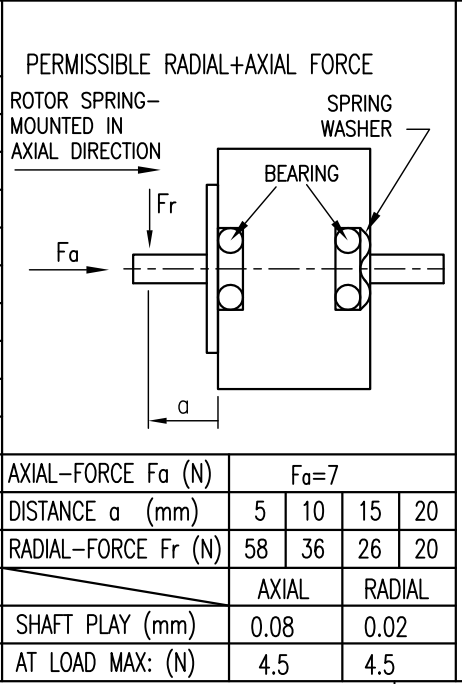
STEP	A	B	A\	B\	CCW	CW
1	+	+	-	-	↓	↑
2	-	+	+	-	↓	↑
3	-	-	+	+	↓	↑
4	+	-	-	+	↓	↑



				Nanotec PLUG & DRIVE			APVD	S.Ha.	07.10.09	STEPPING MOTOR
				Surface specification	General tolerances	Work piece edge	CHKD			
1	revise drawing	21.09.16	A.S.	DIN ISO 1302	DIN ISO 2768- cH	DIN ISO 13715	DRN	J.W.	07.10.09	DWG.NO
REV	DESCRIPTION	DATE	DRN				SIGNATURE		DATE	ST3518L1204-B



SPECIFICATION	BIPOLAR
VOLTAGE (VDC)	3.3
AMPS/PHASE	3.0
RESISTANCE/PHASE (Ohms)@25°C	1.1±15%
INDUCTANCE/PHASE (mH) @1KHz	2.7±20%
HOLDING TORQUE (Nm) [lb-in]	0.8 [7.08]
DETENT TORQUE (Nm) [lb-in]	2.8x10 ⁻² [0.25]
STEP ANGLE (°)	1.8
STEP ACCURACY (NON-ACCUM)	±5%
ROTOR INERTIA (Kg-m ²) [lb-in ²]	1.02x10 ⁻⁵ [3.48x10 ⁻²]
WEIGHT (Kg) [lb]	0.5 [1.1]
TEMPERATURE RISE: MAX.80°C (MOTOR STANDSTILL; FOR 2 PHASE ENERGIZED)	
AMBIENT TEMPERATURE -10°~ 50°C [14°F ~ 122°F]	
INSULATION RESISTANCE 100 MOhm (UNDER NORMAL TEMPERATURE AND HUMIDITY)	
INSULATION CLASS B 130° [266°F]	
DIELECTRIC STRENGTH 500VAC FOR 1 MIN. (BETWEEN THE MOTOR COILS AND THE MOTOR CASE)	
AMBIENT HUMIDITY MAX. 85% (NO CONDENSATION)	



PIN NO	TYPE OF CONNECTION (EXTERN)		MOTOR	
	BIPOLAR	LEADS	WINDING	
1	A —	BRN	A	[Circuit diagram showing two coils]
2	A\ —	ORG	A\	
3	B —	RED	B	[Circuit diagram showing two coils]
4	B\ —	YEL	B\	

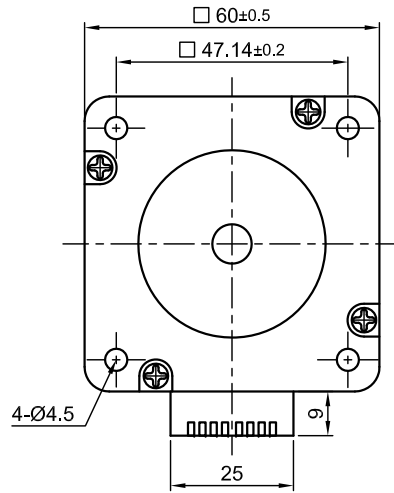
FULL STEP 2 PHASE-Ex., WHEN FACING MOUNTING END (X)

STEP	A	B	A\	B\	CCW	CW
1	+	+	-	-	↓	↑
2	-	+	+	-	↓	↑
3	-	-	+	+	↓	↑
4	+	-	-	+	↓	↑

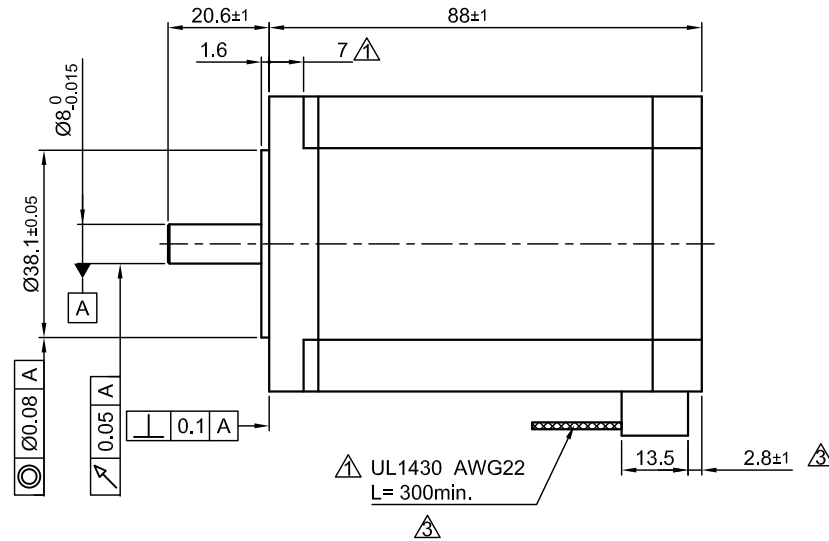
WIRING DIAGRAM

2	change AWG	23.06.16	A.S.				APVD	S.Ha.	17.03.10	STEPPING MOTOR DWG.NO ST4118D3004-B
1	rework draw/change depth M2.5/M3	10.02.16	A.S.				Surface specification	General tolerances	Work piece edge	
REV	DESCRIPTION	DATE	DRN	DIN ISO 1302	DIN ISO 2768- cH	DIN ISO 13715	DRN	J.W.	17.03.10	
							SIGNATURE	DATE		

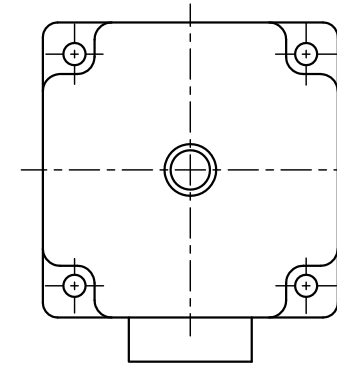
Front view and mounting



Side view



Rear view



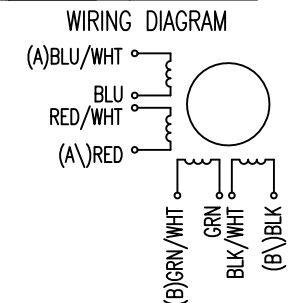
SPECIFICATION	CONNECTION	UNIPOLAR OR BIPOLAR-1 WINDING	BIPOLAR	
			SERIAL	PARALLEL
VOLTAGE (VDC)		3.9		
AMPS/PHASE		3.0	2.12	4.24
RESISTANCE/PHASE (Ohms)@25°C		1.3±15%	2.6±15%	0.65±15%
INDUCTANCE/PHASE (mH) @1KHz		3.2±20%	12.8±20%	3.2±20%
HOLDING TORQUE (Nm) [lb-in]		2.5 [22.13]	3.54 [31.29]	3.54 [31.29]
DETENT TORQUE (Nm) [lb-in]		0.075 [0.664]		
STEP ANGLE (°)		1.8		
STEP ACCURACY (NON-ACCUM)		±5%		
ROTOR INERTIA (Kg-m ²) [lb-in ²]		8.4x10 ⁻⁵ [0.287]		
WEIGHT (Kg) [lb]		1.45 [3.2]		
TEMPERATURE RISE: MAX.80°C (MOTOR STANDSTILL; FOR 2 PHASE ENERGIZED)				
AMBIENT TEMPERATURE -10~ 50°C [14°F ~ 122°F]				
INSULATION RESISTANCE 100 MOhm (UNDER NORMAL TEMPERATURE AND HUMIDITY)				
INSULATION CLASS B 130° [266°F]				
DIELECTRIC STRENGTH 500VAC FOR 1 MIN. (BETWEEN THE MOTOR COILS AND THE MOTOR CASE)				
AMBIENT HUMIDITY MAX. 85% (NO CONDENSATION)				

PERMISSIBLE RADIAL+AXIAL FORCE				
ROTOR SPRING-MOUNTED IN AXIAL DIRECTION				
AXIAL-FORCE Fa (N)	Fa=14			
DISTANCE a (mm)	5	10	15	20
RADIAL-FORCE Fr (N)	163	112	85	63
	AXIAL		RADIAL	
SHAFT PLAY (mm)	0.075		0.025	
AT LOAD MAX: (N)	10		5.0	

TYPE OF CONNECTION (EXTERN)				MOTOR	
UNIPOLAR	BIPOLAR			LEADS	WINDING
	1WINDING	SERIAL	PARALLEL		
A —	A —	A —	A —	BLU/WHT	A
COM —				BLU	
A\ —	A\ —	A\ —	A\ —	RED/WHT	A\
B —	B —	B —	B —	RED	
COM —				GRN/WHT	B
B\ —	B\ —	B\ —	B\ —	GRN	
				BLK/WHT	B\
				BLK	

FULL STEP 2 PHASE-Ex.,
WHEN FACING MOUNTING END (X)

STEP	A	B	A\	B\	CCW
1	+	+	-	-	
2	-	+	+	-	
3	-	-	+	+	
4	+	-	-	+	



3	change tol. cable/rework draw	09.03.16	A.S.				APVD	S.Ha.	16.01.07	STEPPING MOTOR	
2	CHANGE WEIGHT	02.06.14	J.D.				CHKD				
1	LENGTH+UL NO.	04.08.09	J.W.	Surface specification DIN ISO 1302	General tolerances DIN ISO 2768- cH	Work piece edge DIN ISO 13715	DRN	J.W.	13.07.06	DWG.NO	ST6018L3008-A
REV	DESCRIPTION	DATE	DRN				SIGNATURE		DATE		