Nom. Moteurs LI / AE / COL. Ø1 - MOT Ø1 à Ø4
Nomenclature encodeurs LI / AE / COL. Ø1 - ENC. Ø1 à Ø4

Axmo Précision

Solenoïde

Ensemble X-Z

Fiche technique

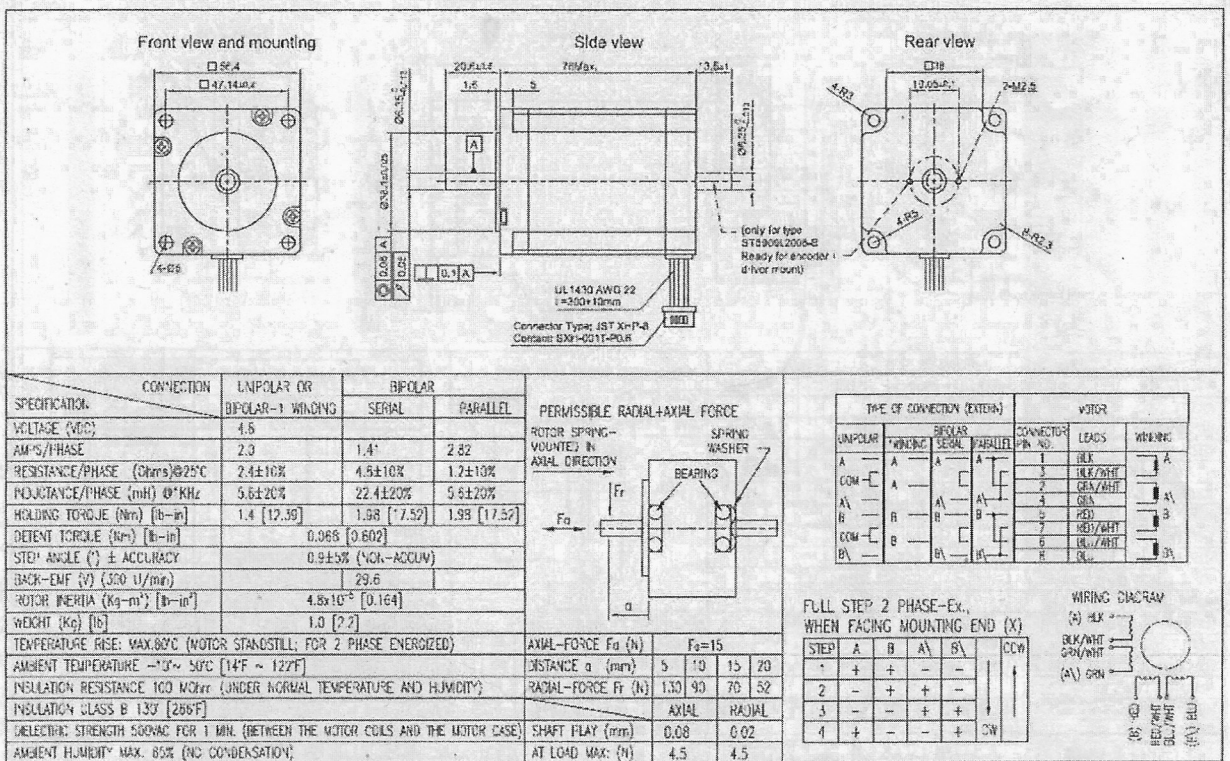
Axe X (horizontal)

COURSE	:	20 mm
PAS DE VIS	:	1 mm
MOTORISATION	:	Pas à Pas ST5909L2008 cablage parallèle 400 pas par tour
INCREMENT EN PAS ENTIER	:	2,5 µm (course = 21,62 mm)
FINS DE COURSE	:	Microrupteurs Normalement fermé
INTERFACE	:	Prises ITT Canon male 12 broches

2,8 A / phase
1,2 Ω / phase
5,6 mH / phase
200 paires de pôles

B <--- Phase moteur A1
C <--- Phase moteur A2
E <--- Phase moteur B1
F <--- Phase moteur B2

G → Sécurité (relié à M) (disable)
H --> Fin de course plus
J --> Fin de course moins
M --> 0 Volt fin de course



CONNECTION / SPECIFICATION	UNIPOLAR OR BIPOLAR-1 WINDING	BIPOLAR SERIAL	BIPOLAR PARALLEL
VOLTAGE (VDC)	4.6		
AMPS/PHASE	2.0	1.4	2.82
RESISTANCE/PHASE (Ohms)@25°C	2.4±10%	4.6±10%	1.2±10%
INDUCTANCE/PHASE (mH) @1KHz	5.6±20%	22.4±20%	5.6±20%
HOLDING TORQUE (Nm) [lb-in]	1.4 [12.39]	1.98 [17.52]	1.98 [17.52]
DETENT TORQUE (Nm) [lb-in]	0.068 [0.602]		
STEP ANGLE (°) ± ACCURACY	0.9±5% (NON-ACCUM)		
BACK-EMF (V) (300 U/min)		29.6	
ROTOR INERTIA (Kg-m²) [lb-in²]	4.8×10^{-5} [0.164]		
WEIGHT (Kg) [lb]	1.0 [2.2]		

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)	

AXIAL-FORCE Fa (N)	Fa=15			
DISTANCE a (mm)	5	10	15	20
RADIAL-FORCE Fr (N)	130	90	70	52

	AXIAL	RADIAL
SHAFT PLAY (mm)	0.08	0.02
AT LOAD MAX: (N)	4.5	4.5

TYPE OF CONNECTION (EXTERN)					MOTOR		
UNIPOLAR	WINDING	BIPOLAR SERIAL	PARALLEL		CONNECTOR PIN NO.	LEADS	WINDING
A	A	A	A		1	BLK	A
COM	A				3	BLK/WHT	
A\		A\	A\		2	GRN/WHT	A\
B	B	B	B		4	GRN	
COM	B				5	RED	B
					7	RED/WHT	
B\		B\	B\		6	BLU/WHT	B\
					8	BLU	

STEP	A	B	A\	B\	
1	+	+	−	−	CCW
2	−	+	+	−	
3	−	−	+	+	
4	+	−	−	+	CW

Axmo Précision

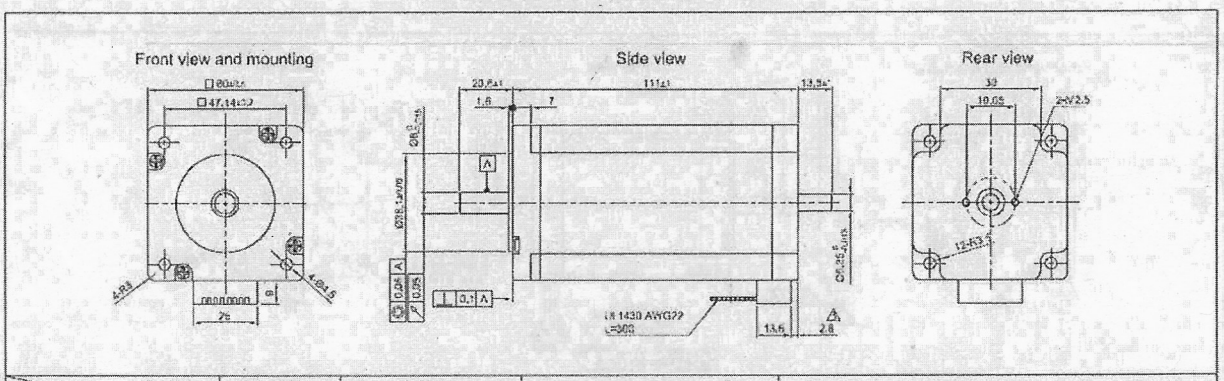
Axe Z (Vertical)

COURSE	:	20 mm
PAS DE VIS	:	1 mm (horizontal)
RAPPORT DU COIN	:	1/4 (vertical)
MOTORISATION	:	Pas à Pas ST6018D4508 cablage parallèle 200 pas par tour
INCREMENT EN PAS ENTIER	:	1,25 µm (course = 20,2 mm)
FINS DE COURSE	:	Microrupteurs Normalement fermé
INTERFACE	:	Prises ITT Canon male 12 broches

6 A / phase
0,37 Ω / phase
1,4 mH / phase
100 paires

B <--- Phase moteur A1
C <--- Phase moteur A2
E <--- Phase moteur B1
F <--- Phase moteur B2

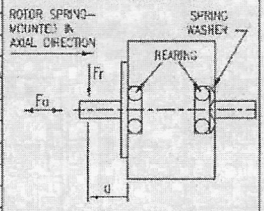
G → Sécurité (relié à M)
H --> Fin de course plus
J --> Fin de course moins
M --> O Volt fin de course



SPECIFICATION \ CONNECTION	UNIPOLAR OR BIPOLAR-1 WINDING	BIPOLAR SERIES	BIPOLAR PARALLEL
VOLTAGE (VDC)	3.38		
AMPS/PHASE	4.5	3.18	6.36
RESISTANCE/PHASE (Ohms)@25°C	0.75±15%	1.5±15%	0.375±15%
INDUCTANCE/PHASE (mH) @1KHz	1.4±20%	5.6±20%	1.4±20%
HOLDING TORQUE (Nm) [lb-in]	2.83 [25.05]	4.0 [35.36]	4.0 [35.36]
DETENT TORQUE (Nm) [lb-in]	0.085 [0.752]		
STEP ANGLE (°)	1.8		
STEP ACCURACY (NON-ACCUM)	±5%		
ROTOR INERTIA (Kg-m²) [lb-in²]	1.1×10^{-4} [0.376]		
WEIGHT (Kg) [lb]	1.9 [2.2]		

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



AXIAL-FORCE Fa (N)	Fa=14			
DISTANCE a (mm)	5	10	15	20
RADIAL-FORCE Fr (N)	163	112	85	53

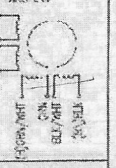
	AXIAL	RADIAL
SHAFT PLAY (mm)	0.075	0.025
AT LOAD MAX (N)	10	5.0

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

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

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

WIRING DIAGRAM



REV	DESCRIPTION	DATE	APVD
3	CHANGE DIMENSION	17.01.13	A.S.
2	NEW VALUE OF INDUCTANCE	02.11.12	J.W.
1	NEW VALUE OF RESISTANCE	21.10.10	J.W.

Nanotec® PLUG & DRIVE
ST6018D4508-B

SCALE FREE		APVD	S.H.	04.05.10
X	±0.5	CHKD		
1PL	±0.2	DRN	J.W.	04.05.10
2PL	±0.1	SIGNATURE		DATE
ANGLE	±30'			

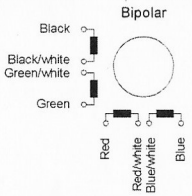
STEPPING MOTOR
DWG.NO ST6018D4508-B

Type ST5909 - size X, S, M, L - 0.9° - Nema 23

Axe X

Option

Pin configuration



Order identifier

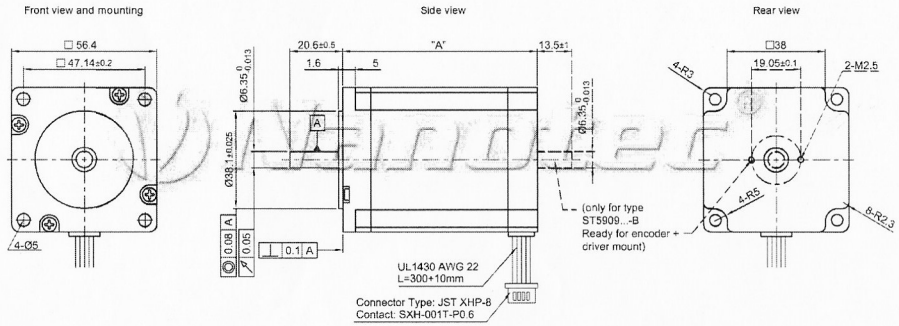
ST 5909M2008 - (A)

A = one shaft end

B = two shaft ends for encoder or brake

Dimension image (in mm)

ST5909



Available versions (others on request)

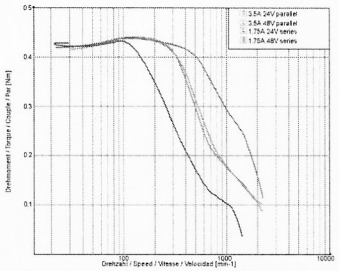
Type	Current per winding A/winding	Holding torque Ncm	Resistance per winding ohm/winding	Inductance per winding mH/winding	Rotor inertia torque g cm²	Weight kg	Length "A" mm
ST5909X2508	2,5	43	0,85	1,6	120	0,45	41
ST5909S1008	1,0	72	6,60	13	275	0,65	51
ST5909M1008	1,0	74	6,90	14	300	0,65	51
ST5909M2008	2,0	74	1,80	4,5	300	0,70	56
ST5909L1008	1,0	140	8,60	23,0	480	1,00	76
ST5909L2008	2,0	140	2,40	6,7	480	1,00	76
ST5909L3008	3,0	140	1,00	2,6	480	1,00	76

2 140 2,4 6,7

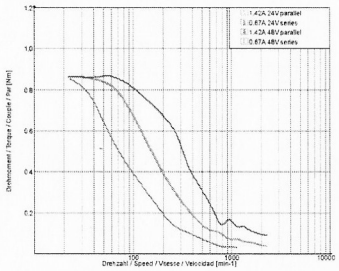
All data refer to unipolar!

Speed/torque curves

ST5909X2508



ST5909S1008



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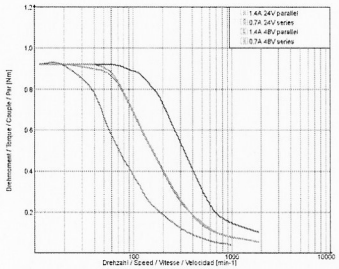
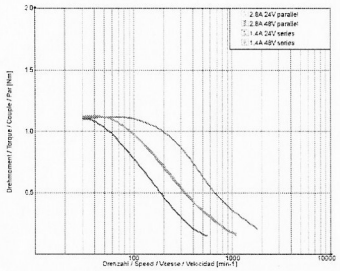
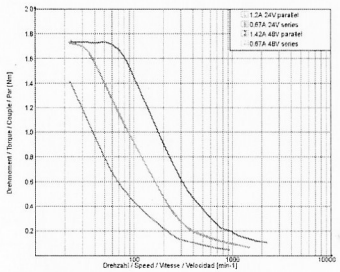


ST5909M2008



ST5909L1008



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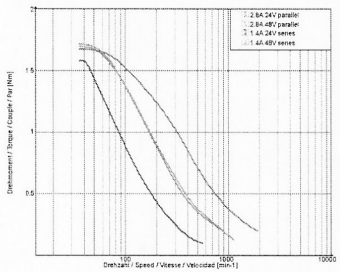
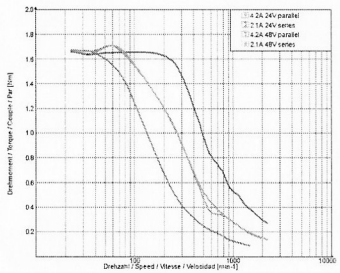
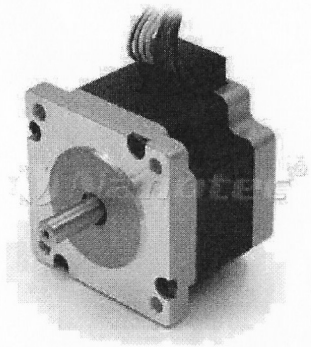


ST5909L3008



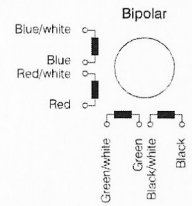
Type ST6018 - size X, M, K, L, D - 1.8°

Axe Z



Option

Pin configuration



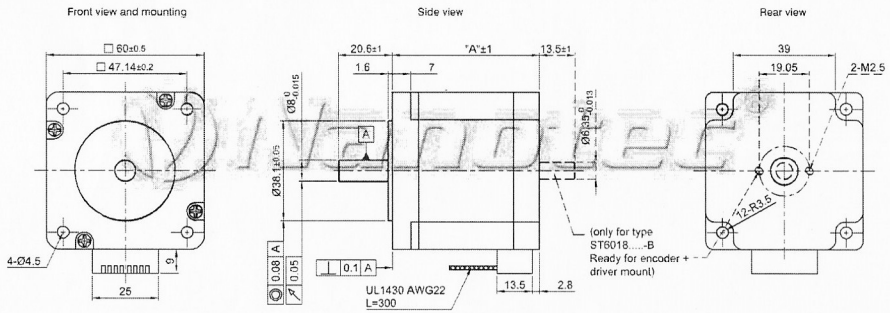
Order identifier

ST 6018 X 2008 - (A)

A = one shaft end
B = two shaft ends for encoder or brake

Dimension image (in mm)

ST6018



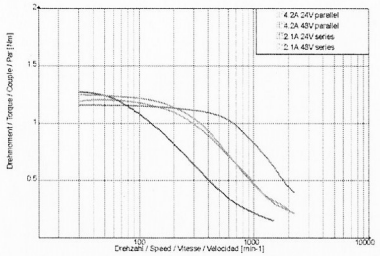
Available versions (others on request)

Type	Current per winding A/winding	Holding torque Ncm	Resistance per winding ohm/winding	Inductance per winding mH/winding	Rotor inertia torque g cm²	Weight kg	Length "A" mm
ST6018X2008	2,0	75	1,46	1,80	275	0,60	47
ST6018X3008	3,0	78	0,68	0,80	275	0,60	47
ST6018M2008	2,0	138	2,00	5,60	450	0,77	56
ST6018M3008	3,0	117	0,80	1,38	450	0,77	56
ST6018K2008	2,0	150	2,40	4,60	570	1,20	67
ST6018L3008	3,0	250	1,30	3,20	840	1,40	88
ST6018D4508	4,5 4,5	283	0,75 0,75	1,40 1,40	1100	1,90	111

All data refer to unipolar!

Speed/torque curves

ST6018X2008



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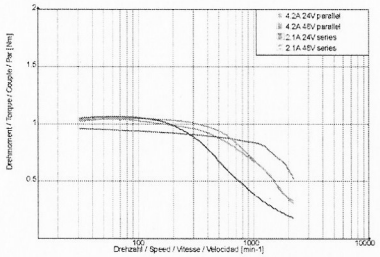
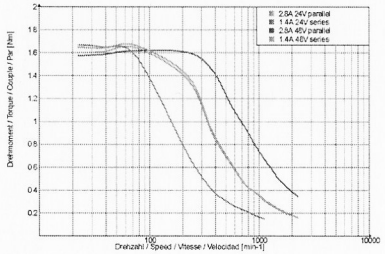


ST6018M2008



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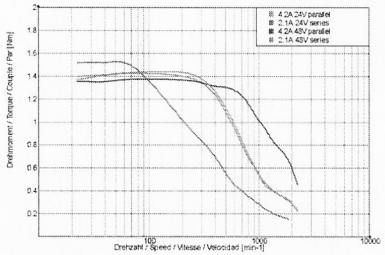
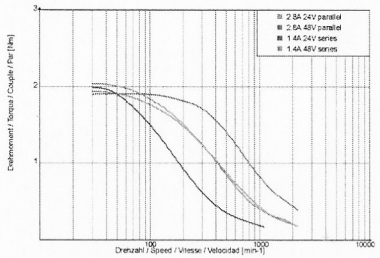
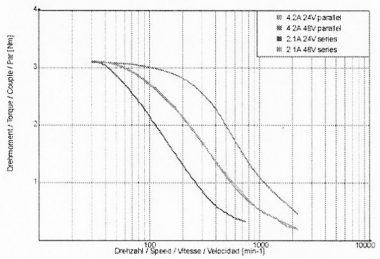


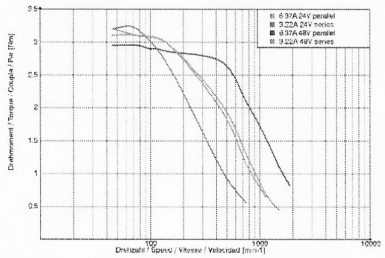
ST6018K2008



ST6018L3008



ST6018D4508



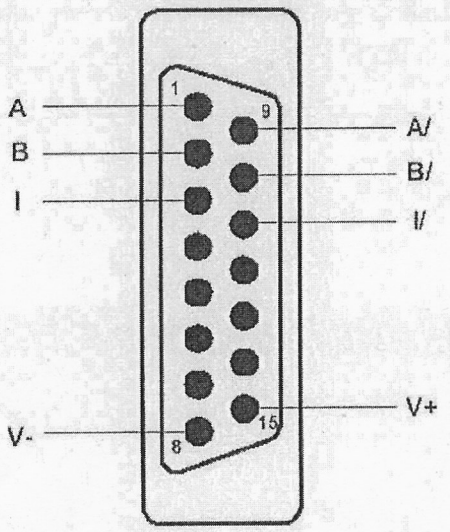
Axmo Précision

Pour les deux axes

Codeur 500 traits (2000 points / tour)

Résolution codeur axe X : 0,25 µ

Résolution codeur axe Z : 0,125 µ

INTERFACE : Prises Sub-D male 15 broches

Encoder connectors (one per channel)