Motor Catalogue

STEGIA

Innovative drive technology since 1993

Stegia has grown into a multinational group providing technically innovative motor solutions. We note with pleasure the appreciation of and the value placed on our investments by the market.

Our Head Office in Västerås, Sweden, has been supplemented by a production unit and motor development factory in Shanghai. Through strategic selection of areas, we continue to expand activities in manufacturing, development and cross border sales.

With 25 years' experience and creative engineers situated worldwide, we possess the resources required to handle large customers, large volumes, efficient design solutions and can make dynamic contributions to developing companies. With R&D in Sweden and production in China we have the best combination of cost, competence and efficiency.

Johan Stjernberg, Chief Executive Officer

Catalogue Content

Rotary PM

15S Series

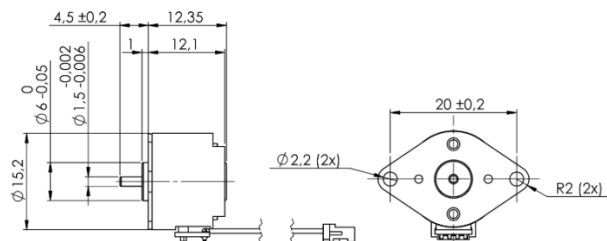## Key Features
- High torque
- Low noise
- Small size

General Specifications

Series	Step angle (°)	Voltage (V)	Current (A)	Resistance (Ω)	Inductance (mH)	Holding torque (mNm)	Detent torque (mNm)
15S20B1000	18	12	0,4	10	4,1	5,0	0,5
15S20B2000	18	12	0,4	20	6,7	7,8	0,6
15S40B1000	9	12	0,4	10	5,0	4,6	0,4
15S40B2000	9	12	0,4	20	6,5	6,0	0,5

Optional Features
- Integrated driver
- Gearbox
- Custom winding, wire harness
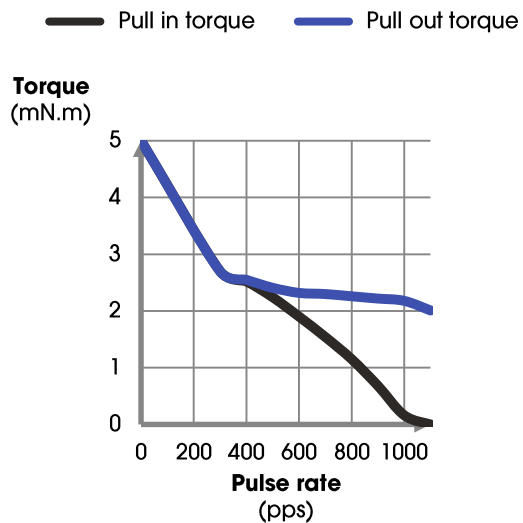- Custom pinion, leadscrew
- Custom shaft
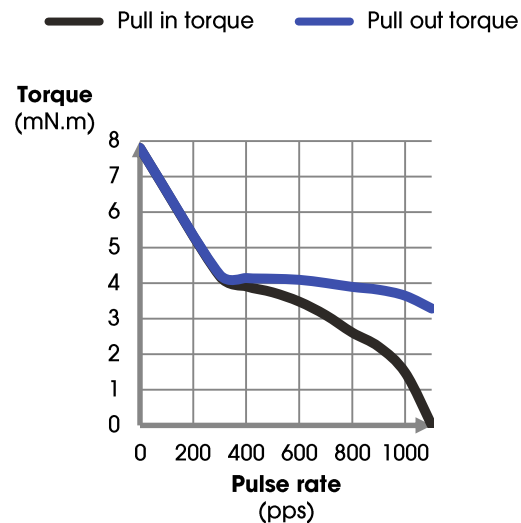- Other specifications

Mechanical Dimensions

Dynamic Torque Curves

15S20B1000

Conditions: Bi-polar Constant Current Driver
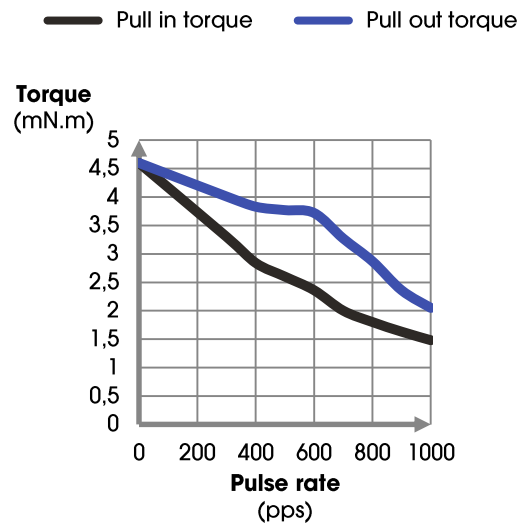Driver: AMIS 30522
Mode: Full Step

—— Pull in torque   —— Pull out torque

Torque (mN.m)

(Graph: Torque vs Pulse rate (pps), Pull in torque and Pull out torque curves)

Pulse rate (pps)

15S20B2000

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

—— Pull in torque   —— Pull out torque

Torque (mN.m)

(Graph: Torque vs Pulse rate (pps), Pull in torque and Pull out torque curves)

Pulse rate (pps)

15S40B1000

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

—— Pull in torque   —— Pull out torque

Torque (mN.m)

(Graph: Torque vs Pulse rate (pps), Pull in torque and Pull out torque curves)

Pulse rate (pps)

15S40B2000

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

—— Pull in torque   —— Pull out torque

Torque (mN.m)

(Graph: Torque vs Pulse rate (pps), Pull in torque and Pull out torque curves)

Pulse rate (pps)
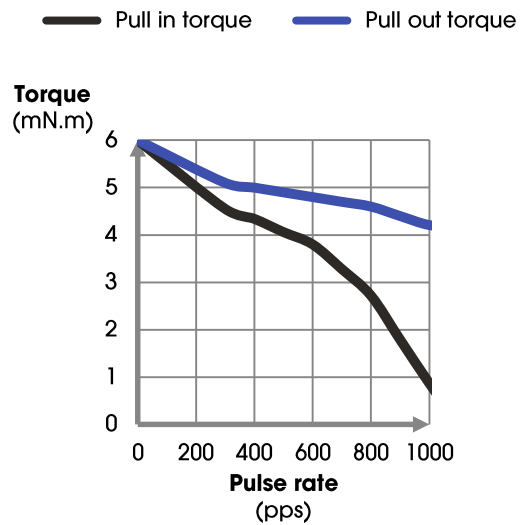
25T Series

## Key Features
- High torque
- Low noise
- Small size

General Specifications

Series	Step angle (°)	Voltage (V)	Current (A)	Resistance (Ω)	Inductance (mH)	Holding torque (mNm)	Detent torque (mNm)
25T24B1500	15°	24	0,4	15	5,6	12	2,2
25T24B2300	15°	24	0,4	23	6,3	13	2,2
24T48B1500	7,5°	24	0,4	15	8,0	21	2,7
25T48B2300	7,5°	24	0,4	23	8,8	22	2,7
25T96B1500	3,75°	24	0,4	15	10,7	17	1,8
25T96B2300	3,75°	24	0,4	23	10,3	20	1,8

Optional Features
- Integrated driver
- Gearbox
- Custom winding, wire harness
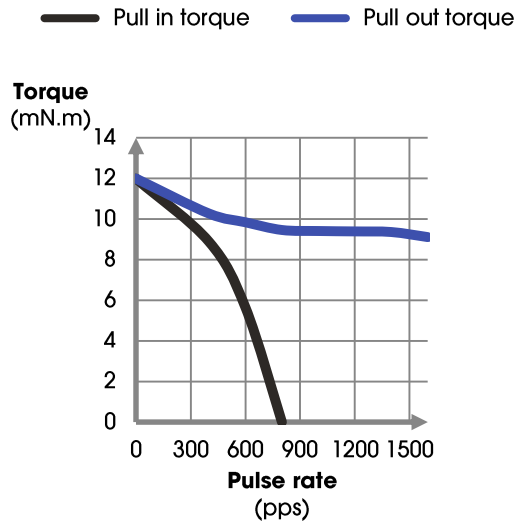- Custom pinion, leadscrew
- Custom shaft
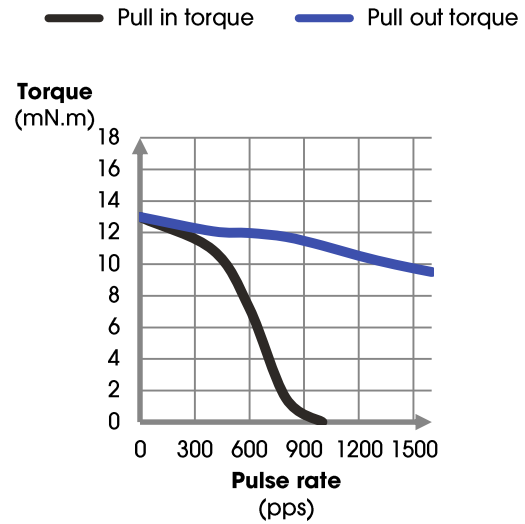- Other specifications

Mechanical Dimensions
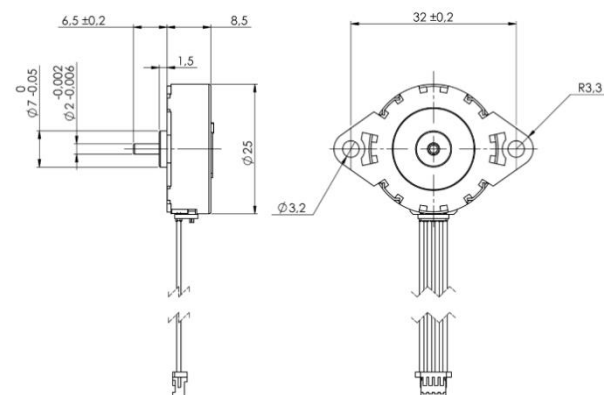
Dynamic Torque Curves

25T24B1500

Conditions: Bi-polar Constant Current Driver
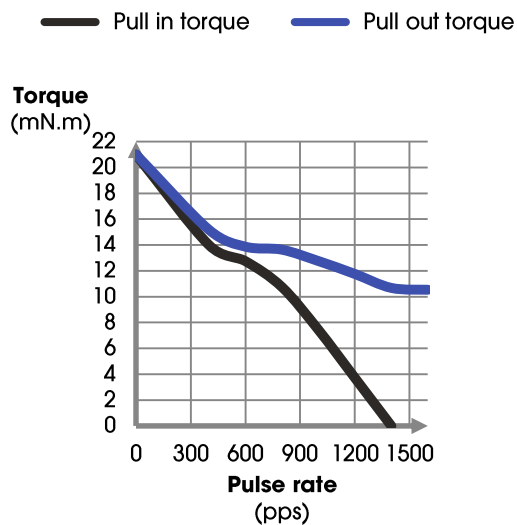Driver: AMIS 30522
Mode: Full Step

— Pull in torque — Pull out torque

Torque (mN.m)

Pulse rate (pps)

25T24B2300

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

— Pull in torque — Pull out torque

Torque (mN.m)

Pulse rate (pps)

25T48B1500

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

— Pull in torque — Pull out torque

Torque (mN.m)

Pulse rate (pps)

25T48B2300

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

— Pull in torque — Pull out torque

Torque (mN.m)

Pulse rate (pps)
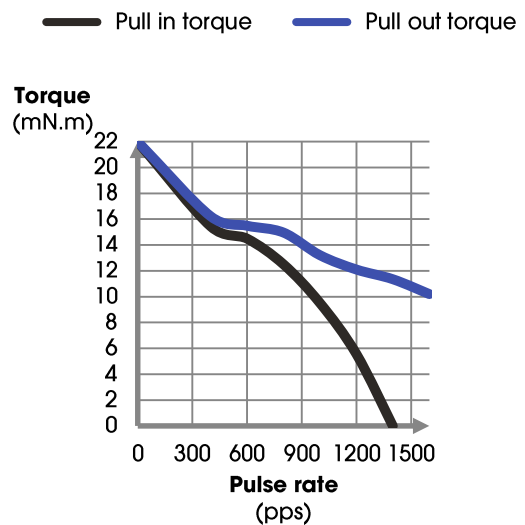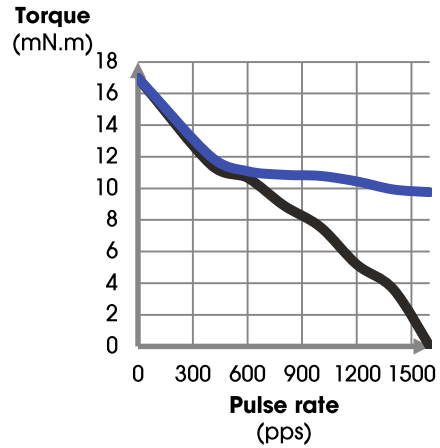
Dynamic Torque Curves

25T96B1500

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

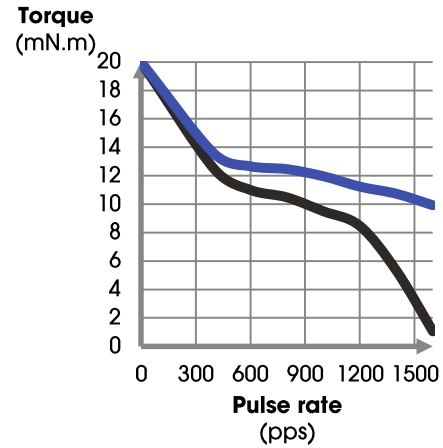— Pull in torque   — Pull out torque

Torque (mN.m)

25T96B2300

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

— Pull in torque   — Pull out torque

Torque (mN.m)

25L Series

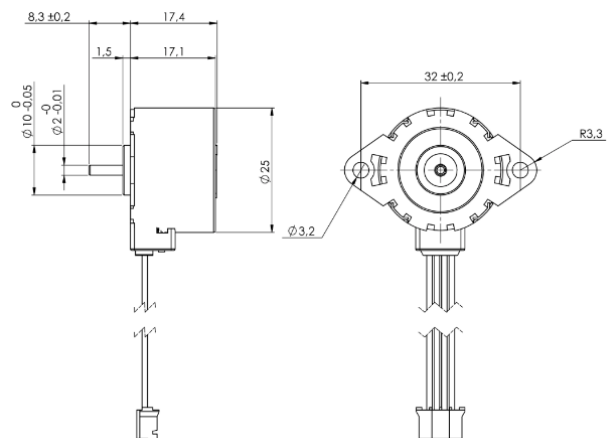## Key Features

- High torque
- Low noise
- Small size

General Specifications

Series	Step angle (°)	Voltage (V)	Current (A)	Resistance (Ω)	Inductance (mH)	Holding torque (mNm)	Detent torque (mNm)
25L24B0900	15°	24	0,5	9	6,7	35	4,8
25L24B2500	15°	24	0,5	25	17,6	45	4,8
24L48B0900	7,5°	24	0,5	9	8,7	43	5,0
25L48B2500	7,5°	24	0,5	25	21,3	45	5,0

Optional Features

- Gearbox
- Custom winding, wire harness
- Custom pinion, leadscrew
- Custom shaft
- Other specifications

Mechanical Dimensions

Dynamic Torque Curves

25L24B0900

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

25L24B2500

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

25L48B0900

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

25L48B2500

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step
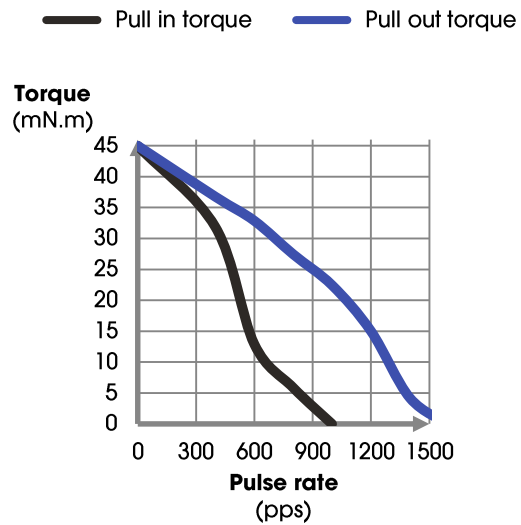
35S Series

Key Features

- High torque
- Low noise
- Small size

General Specifications

Series	Step angle (°)	Voltage (V)	Current (A)	Resistance (Ω)	Inductance (mH)	Holding torque (mNm)	Detent torque (mNm)
35S24B0700	15°	24	0,5	7,5	7,3	38	5,0
35S24B2500	15°	24	0,5	25	22,3	60	5,0
35S48B0700	7,5°	24	0,5	7,5	10	50	7,0
35S48B2500	7,5°	24	0,5	25	27,2	80	8,0
35S96B0700	3,75°	24	0,5	7,5	11,9	35	4,5
35S96B2500	3,75°	24	0,5	25	37	45	4,5

Optional Features

- Gearbox
- Custom winding, wire harness
- Custom pinion, leadscrew
- Custom shaft
- Other specifications

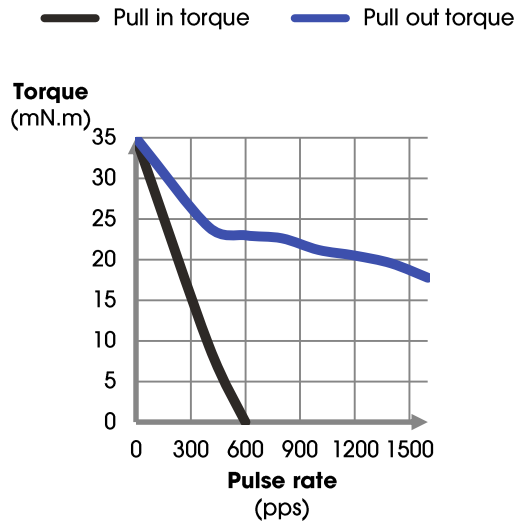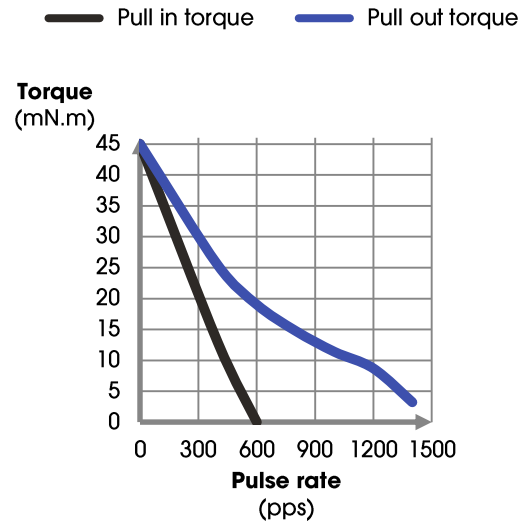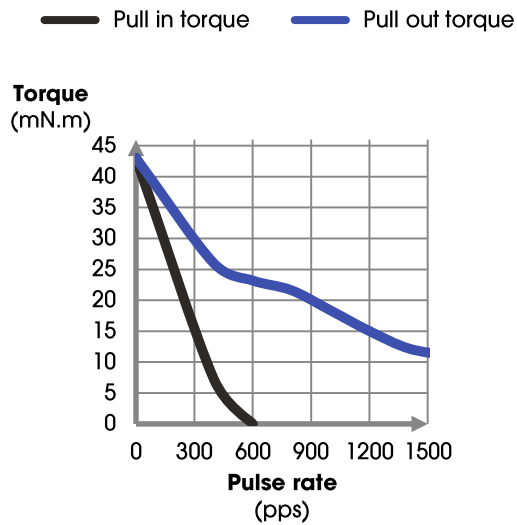### Mechanical Dimensions
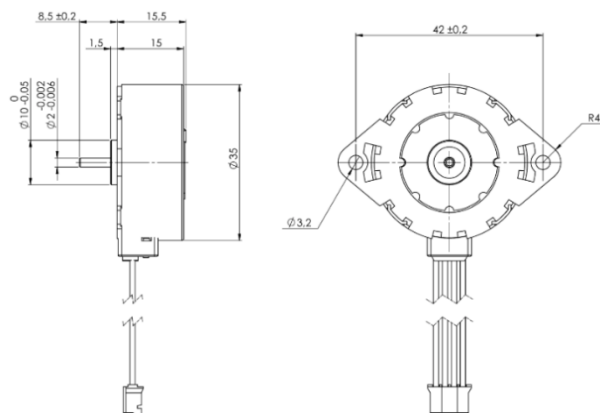
Dynamic Torque Curves

35S24B0700

Conditions:	Bi-polar Constant Current Driver
Driver:	AMIS 30522
Mode:	Full Step

35S24B2500

Conditions:	Bi-polar Constant Current Driver
Driver:	AMIS 30522
Mode:	Full Step

35S48B0700

Conditions:	Bi-polar Constant Current Driver
Driver:	AMIS 30522
Mode:	Full Step

35S48B2500

Conditions:	Bi-polar Constant Current Driver
Driver:	AMIS 30522
Mode:	Full Step

Dynamic Torque Curves

35S96B0700

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

35S96B2500

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step
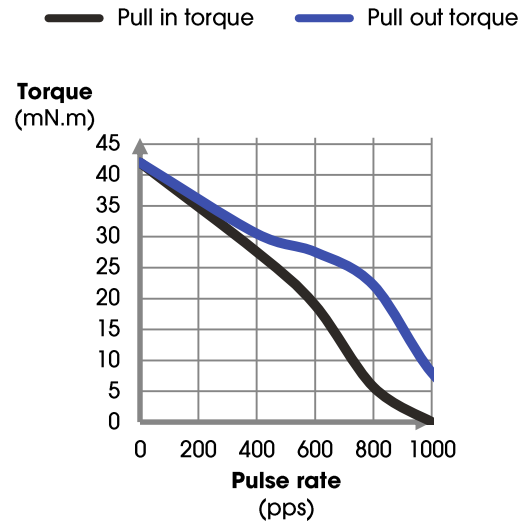
Rotary PM with Gearbox

15SG Series

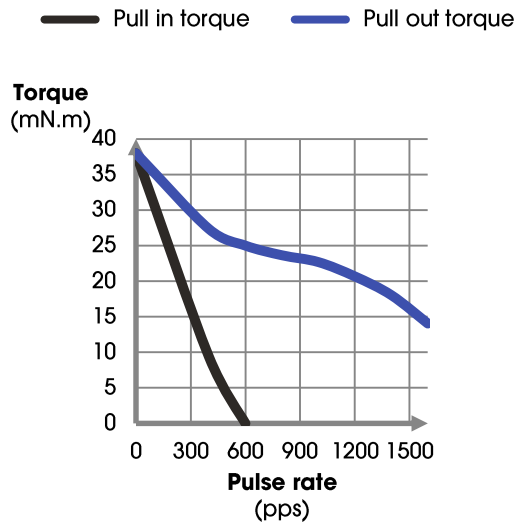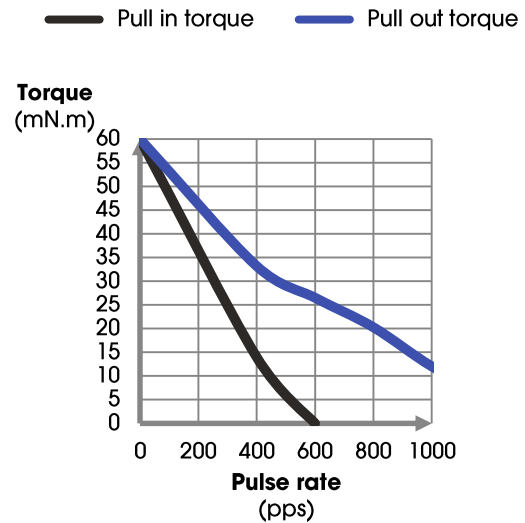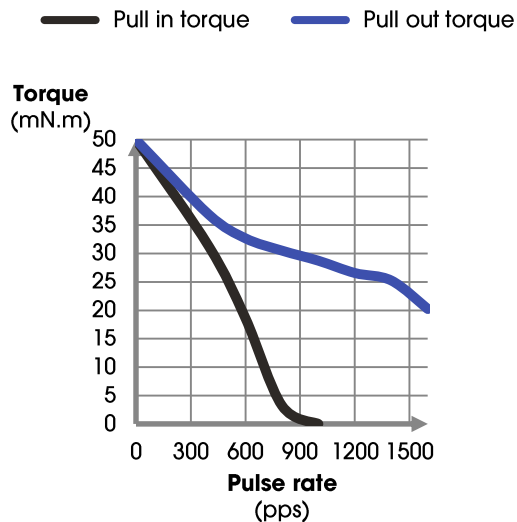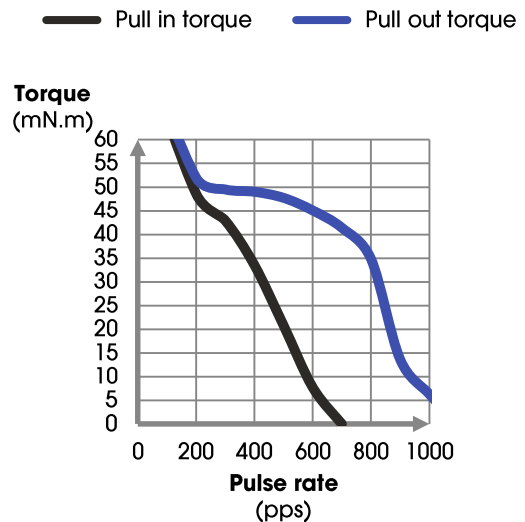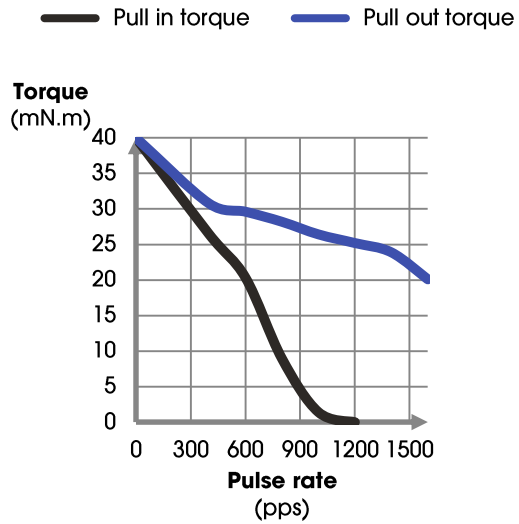## Key Features

- High torque
- Low noise
- Small size
- Motor step angle 9° & 18°

General Specifications

Series	Reduction (:1)	Step angle (°)	Voltage (V)	Current (A)	Resistance (ohm)	Inductance (mH)	Holding torque (mNm)
15SG20B10R034-00	34	0,529°	12	0,4	10	4,1	170
15SG20B10R053-00	53	0,340°	12	0,4	10	4,1	260
15SG20B10R097-00	97	0,186°	12	0,4	10	4,1	400
15SG20B10R150-00	150	0,120°	12	0,4	10	4,1	400
15SG20B10R420-00	420	0,043°	12	0,4	10	4,1	400
15SG20B20R034-00	34	0,529°	12	0,4	20	6,7	260
15SG20B20R053-00	53	0,340°	12	0,4	20	6,7	400
15SG20B20R097-00	97	0,186°	12	0,4	20	6,7	400
15SG20B20R150-00	150	0,120°	12	0,4	20	6,7	400
15SG20B20R420-00	420	0,043°	12	0,4	20	6,7	400
15SG40B10R034-00	34	0,265°	12	0,4	10	5	150
15SG40B10R053-00	53	0,170°	12	0,4	10	5	240
15SG40B10R097-00	97	0,093°	12	0,4	10	5	400

15SG40B10R150-00	150	0,060°	12	0,4	10	5	400
15SG40B10R420-00	420	0,021°	12	0,4	10	5	400
15SG40B20R034-00	34	0,265°	12	0,4	20	6,5	200
15SG40B20R053-00	53	0,170°	12	0,4	20	6,5	310
15SG40B20R097-00	97	0,093°	12	0,4	20	6,5	400
15SG40B20R150-00	150	0,060°	12	0,4	20	6,5	400
15SG40B20R420-00	420	0,021°	12	0,4	20	6,5	400

Optional Features

- Integrated driver
- Custom winding, wire harness
- Custom pinion, leadscrew
- Custom shaft

Mechanical Dimensions

Length

- 28,5mm for 34:1 & 53:1
- 30,0mm for 97:1 & 150:1
- 31,6mm for 420:1
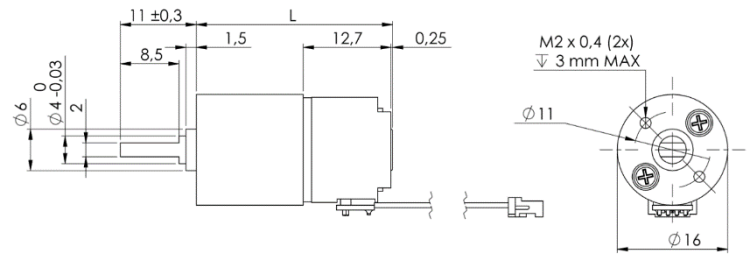
Dynamic Torque Curves

15SG20B10

Conditions:	Bi-polar Constant Current Driver
Driver:	AMIS 30522
Mode:	Full Step
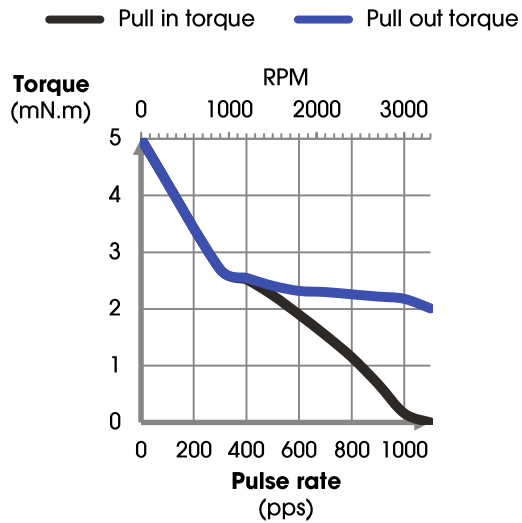
15SG20B20

Conditions:	Bi-polar Constant Current Driver
Driver:	AMIS 30522
Mode:	Full Step
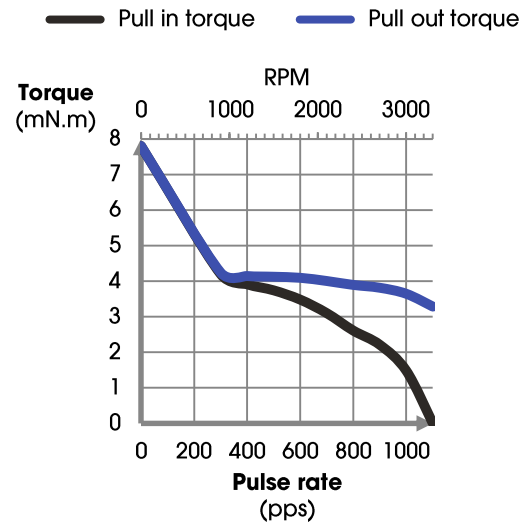
15SG40B10

Conditions:	Bi-polar Constant Current Driver
Driver:	AMIS 30522
Mode:	Full Step
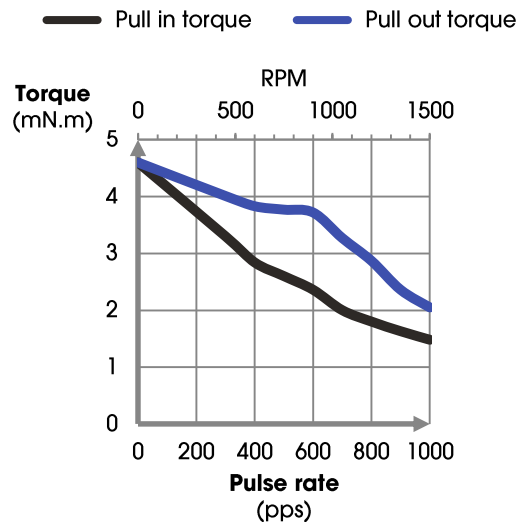
15SG40B20

Conditions:	Bi-polar Constant Current Driver
Driver:	AMIS 30522
Mode:	Full Step
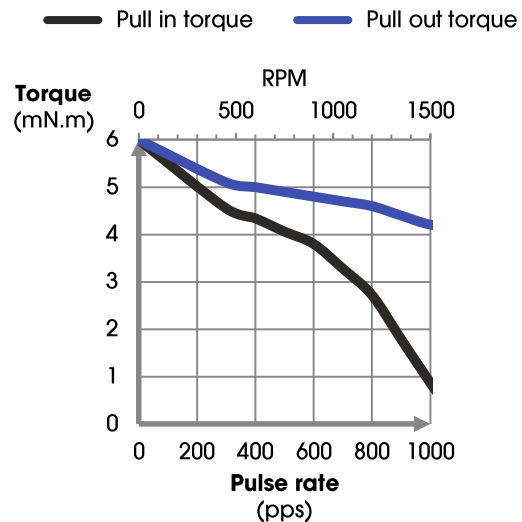
25TSG Series

Key Features

- High torque
- Low noise
- Small size
- Motor step angle 3,75°& 7,5° & 15°
-

General Specifications

Series	Reduction (:1)	Step angle (°)	Voltage (V)	Current (A)	Resistance (ohm)	Inductance (mH)	Holding torque (mNm)
25TSG24B06R010-00	10	1,5°	24	0,4	6	2,3	80
25TSG24B06R021-00	21	0,714°	24	0,4	6	2,3	168
25TSG24B06R043-00	43	0,349°	24	0,4	6	2,3	344
25TSG24B06R090-00	90	0,167°	24	0,4	6	2,3	400
25TSG24B06R188-00	188	0,080°	24	0,4	6	2,3	400
25TSG24B06R392-00	392	0,038°	24	0,4	6	2,3	400
25TSG24B23R010-00	10	1,5°	24	0,4	23	6,3	130
25TSG24B23R021-00	21	0,714°	24	0,4	23	6,3	273
25TSG24B23R043-00	43	0,349°	24	0,4	23	6,3	400
25TSG24B23R090-00	90	0,167°	24	0,4	23	6,3	400
25TSG24B23R188-00	188	0,080°	24	0,4	23	6,3	400
25TSG24B23R392-00	392	0,038°	24	0,4	23	6,3	400
25TSG48B06R010-00	10	0,75°	24	0,4	6	2,8	140
25TSG48B06R021-00	21	0,357°	24	0,4	6	2,8	294

25TSG48B06R043-00	43	0,174°	24	0,4	6	2,8	400
25TSG48B06R090-00	90	0,083°	24	0,4	6	2,8	400
25TSG48B06R188-00	188	0,040°	24	0,4	6	2,8	400
25TSG48B06R392-00	392	0,019°	24	0,4	6	2,8	400
25TSG48B23R010-00	10	0,75°	24	0,4	23	8,8	220
25TSG48B23R021-00	21	0,357°	24	0,4	23	8,8	400
25TSG48B23R043-00	43	0,174°	24	0,4	23	8,8	400
25TSG48B23R090-00	90	0,083°	24	0,4	23	8,8	400
25TSG48B23R188-00	188	0,040°	24	0,4	23	8,8	400
25TSG48B23R392-00	392	0,019°	24	0,4	23	8,8	400
25TSG96B06R010-00	10	0,375°	24	0,4	6	3,8	150
25TSG96B06R021-00	21	0,179°	24	0,4	6	3,8	315
25TSG96B06R043-00	43	0,087°	24	0,4	6	3,8	400
25TSG96B06R090-00	90	0,042°	24	0,4	6	3,8	400
25TSG96B06R188-00	188	0,020°	24	0,4	6	3,8	400
25TSG96B06R392-00	392	0,010°	24	0,4	6	3,8	400
25TSG96B23R010-00	10	0,375°	24	0,4	6	3,8	200
25TSG96B23R021-00	21	0,179°	24	0,4	6	3,8	400
25TSG96B23R043-00	43	0,087°	24	0,4	6	3,8	400
25TSG96B23R090-00	90	0,042°	24	0,4	6	3,8	400

25TSG96B23R188-00	188	0,020°	24	0,4	6	3,8	400
25TSG96B23R392-00	392	0,010°	24	0,4	6	3,8	400

Optional Features

- Integrated driver
- Custom winding, wire harness
- Custom pinion, leadscrew
- Custom shaft

Length

- 26,5mm for 10:1 & 21:1
- 31,5mm for 43:1 & 90:1
- 36,5mm for 188:1 & 392:1

Mechanical Dimensions
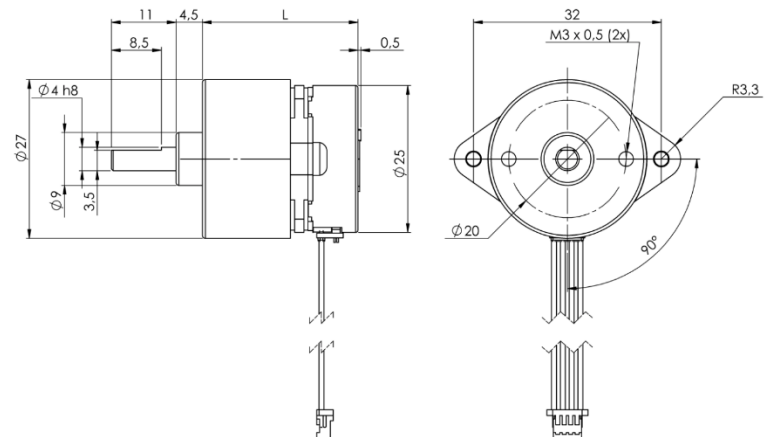
Dynamic Torque Curves

25TSG24B06

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step
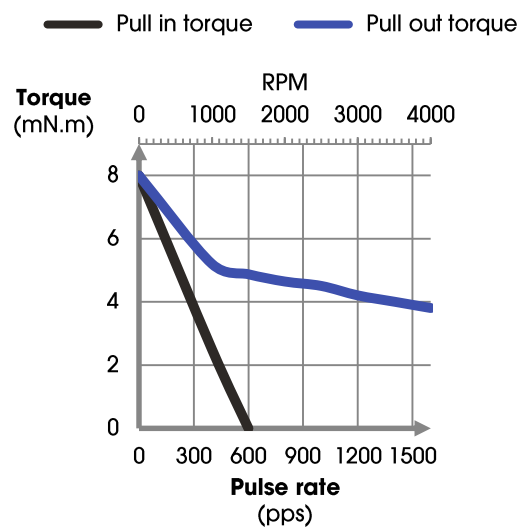
25TSG24B23

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step
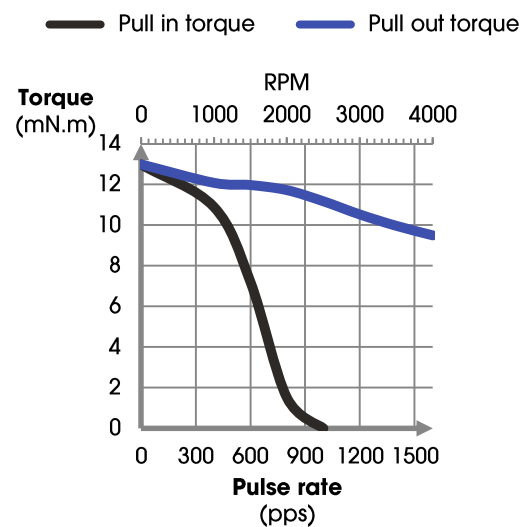
Dynamic Torque Curves

25TSG48B06

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

—— Pull in torque   —— Pull out torque
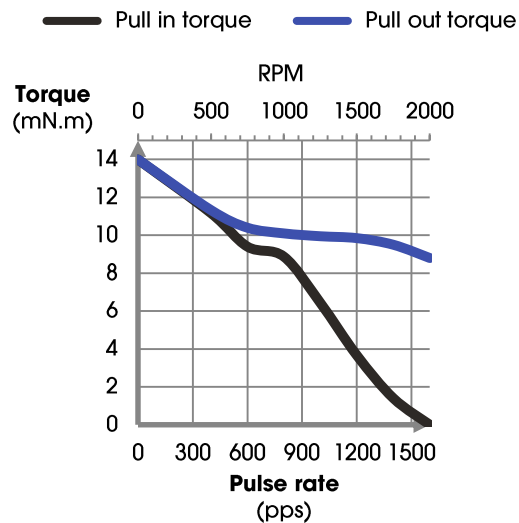
25TSG48B23

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

—— Pull in torque   —— Pull out torque
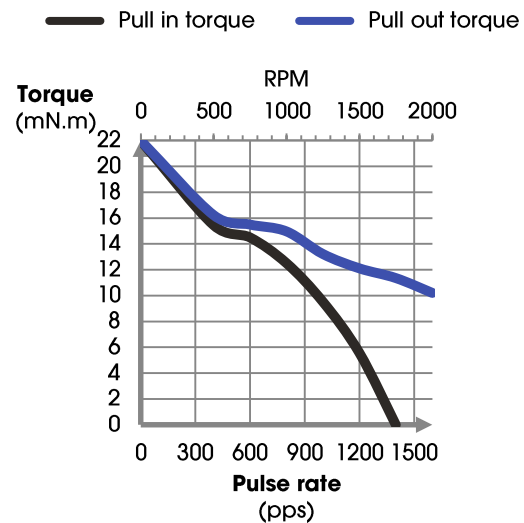
25TSG96B06

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

—— Pull in torque   —— Pull out torque
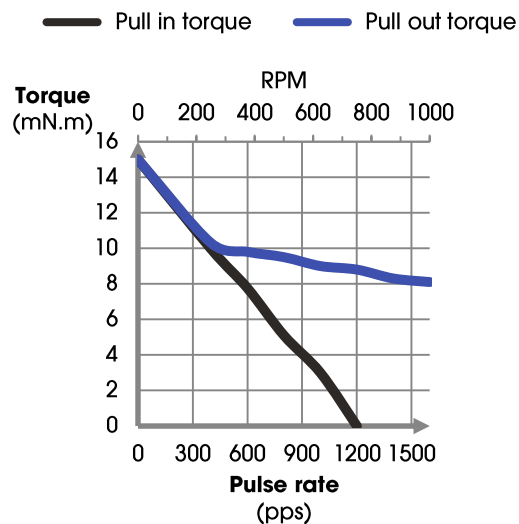
25TSG96B23

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

—— Pull in torque   —— Pull out torque
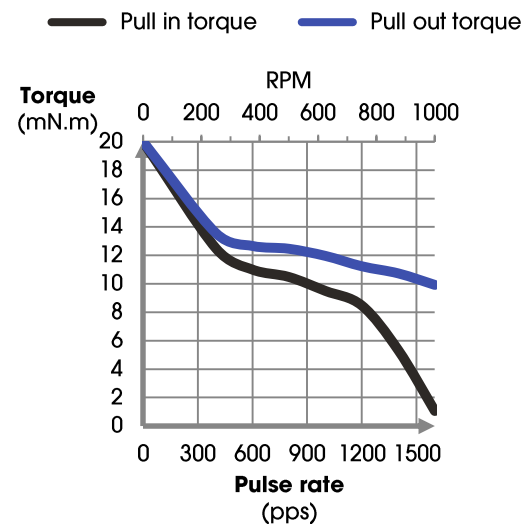
Key Features

- High torque
- Low noise
- Small size
- Motor step angle 7,5° & 15°

General Specifications

Series	Reduction (:1)	Step angle (°)	Voltage (V)	Current (A)	Resistance (ohm)	Inductance (mH)	Holding torque (mNm)
25LSG24B09R010-00	10	1,500°	24	0,5	9	6,7	350
25LSG24B09R021-00	21	0,714°	24	0,5	9	6,7	400
25LSG24B09R043-00	43	0,349°	24	0,5	9	6,7	400
25LSG24B09R090-00	90	0,167°	24	0,5	9	6,7	400
25LSG24B09R188-00	188	0,080°	24	0,5	9	6,7	400
25LSG24B09R392-00	392	0,038°	24	0,5	9	6,7	400
25LSG24B25R010-00	10	1,500°	24	0,5	25	17,6	400
25LSG24B25R021-00	21	0,714°	24	0,5	25	17,6	400
25LSG24B25R043-00	43	0,349°	24	0,5	25	17,6	400
25LSG24B25R090-00	90	0,167°	24	0,5	25	17,6	400
25LSG24B25R188-00	188	0,080°	24	0,5	25	17,6	400
25LSG24B25R392-00	392	0,038°	24	0,5	25	17,6	400

25LSG48B09R010-00	10	0,750°	24	0,5	9	8,7	400
25LSG48B09R021-00	21	0,357°	24	0,5	9	8,7	400
25LSG48B09R043-00	43	0,174°	24	0,5	9	8,7	400
25LSG48B09R090-00	90	0,083°	24	0,5	9	8,7	400
25LSG48B09R188-00	188	0,040°	24	0,5	9	8,7	400
25LSG48B09R392-00	392	0,019°	24	0,5	9	8,7	400
25LSG48B25R010-00	10	0,750°	24	0,5	25	21,3	400
25LSG48B25R021-00	21	0,357°	24	0,5	25	21,3	400
25LSG48B25R043-00	43	0,174°	24	0,5	25	21,3	400
25LSG48B25R090-00	90	0,083°	24	0,5	25	21,3	400
25LSG48B25R188-00	188	0,040°	24	0,5	25	21,3	400
25LSG48B25R392-00	392	0,019°	24	0,5	25	21,3	400

Optional Features

- Custom winding, wire harness
- Custom pinion, leadscrew
- Custom shaft

Length

- 35,1mm for 10:1 & 21:1
- 40,1mm for 43:1 & 90:1
- 45,1mm for 188:1 & 392:1

Mechanical Dimensions
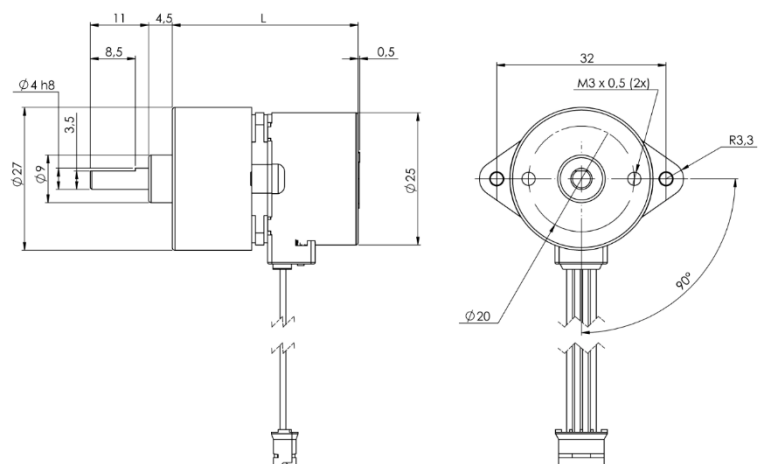
Dynamic Torque Curves

25LSG24B09

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step
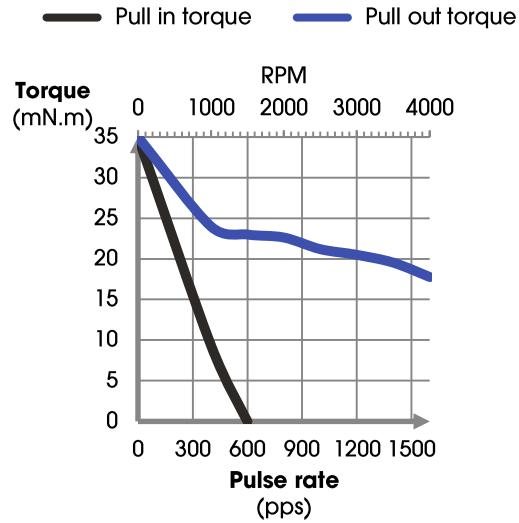
— Pull in torque   — Pull out torque

25LSG24B25

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

— Pull in torque   — Pull out torque
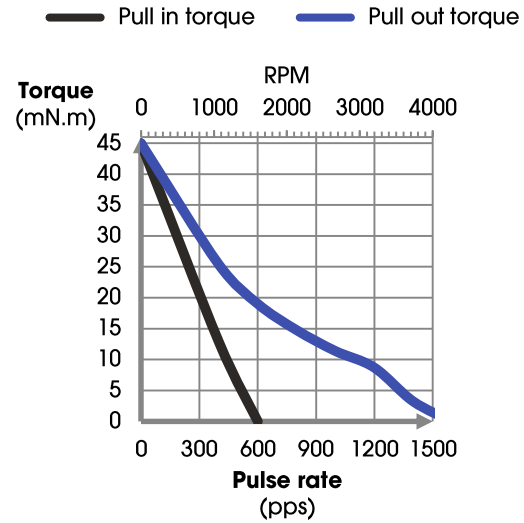
25LSG48B09

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step
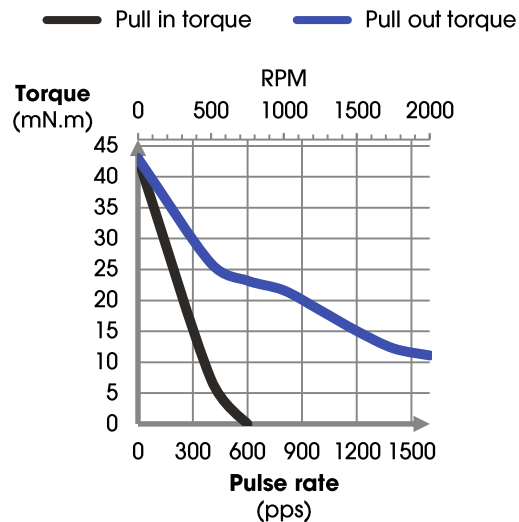
— Pull in torque   — Pull out torque

25LSG48B25

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

— Pull in torque   — Pull out torque
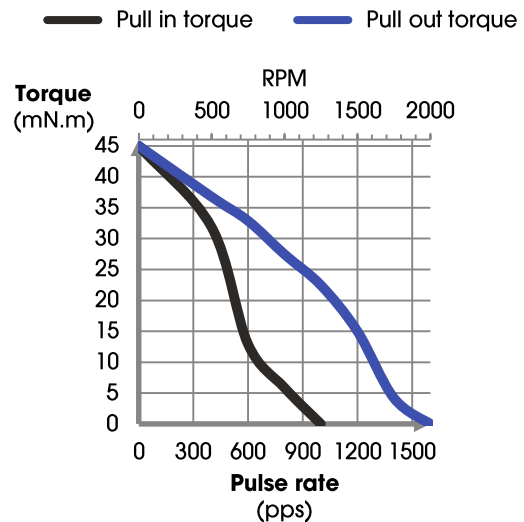
35BS Series

Key Features

- High torque
- Low noise
- Small size
- Motor step angle 3,75° & 7,5° & 15°

General Specifications

Series	Reduction (:1)	Step angle (°)	Voltage (V)	Current (A)	Resistance (ohm)	Inductance (mH)	Holding torque (mNm)
35BS24B07R012-00	12	1,250°	24	0,5	7	7,3	456
35BS24B07R021-00	21	0,714°	24	0,5	7	7,3	798
35BS24B07R036-00	36	0,417°	24	0,5	7	7,3	800
35BS24B07R072-00	72	0,208°	24	0,5	7	7,3	800
35BS24B07R149-00	149	0,101°	24	0,5	7	7,3	800
35BS24B07R208-00	208	0,072°	24	0,5	7	7,3	800
35BS24B07R608-00	608	0,025°	24	0,5	7	7,3	800
35BS24B07R1470-00	1470	0,010°	24	0,5	7	7,3	800
35BS24B25R012-00	12	1,250°	24	0,5	25	22,3	720
35BS24B25R021-00	21	0,714°	24	0,5	25	22,3	800
35BS24B25R036-00	36	0,417°	24	0,5	25	22,3	800
35BS24B25R252-00	72	0,208°	24	0,5	25	22,3	800
35BS24B25R149-00	149	0,101°	24	0,5	25	22,3	800

35BS24B25R208-00	208	0,072°	24	0,5	25	22,3	800
35BS24B25R608-00	608	0,025°	24	0,5	25	22,3	800
35BS24B25R1470-00	1470	0,010°	24	0,5	25	22,3	800
35BS48B07R012-00	12	0,625°	24	0,5	7	10	600
35BS48B07R021-00	21	0,357°	24	0,5	7	10	800
35BS48B07R036-00	36	0,208°	24	0,5	7	10	800
35BS48B07R072-00	72	0,104°	24	0,5	7	10	800
35BS48B07R149-00	149	0,050°	24	0,5	7	10	800
35BS48B07R208-00	208	0,036°	24	0,5	7	10	800
35BS48B07R608-00	608	0,012°	24	0,5	7	10	800
35BS48B07R1470-00	1470	0,005°	24	0,5	7	10	800
35BS48B25R012-00	12	0,625°	24	0,5	25	27,2	800
35BS48B25R021-00	21	0,357°	24	0,5	25	27,2	800
35BS48B25R036-00	36	0,208°	24	0,5	25	27,2	800
35BS48B25R252-00	72	0,104°	24	0,5	25	27,2	800
35BS48B25R149-00	149	0,050°	24	0,5	25	27,2	800
35BS48B25R208-00	208	0,036°	24	0,5	25	27,2	800
35BS48B25R608-00	608	0,012°	24	0,5	25	27,2	800
35BS48B25R1470-00	1470	0,005°	24	0,5	25	27,2	800
35BS96B07R012-00	12	0,313°	24	0,5	7	11,9	420

35BS96B07R021-00	21	0,179°	24	0,5	7	11,9	735
35BS96B07R036-00	36	0,104°	24	0,5	7	11,9	800
35BS96B07R072-00	72	0,052°	24	0,5	7	11,9	800
35BS96B07R149-00	149	0,025°	24	0,5	7	11,9	800
35BS96B07R208-00	208	0,018°	24	0,5	7	11,9	800
35BS96B07R608-00	608	0,006°	24	0,5	7	11,9	800
35BS96B07R1470-00	1470	0,003°	24	0,5	7	11,9	800
35BS96B25R012-00	12	0,313°	24	0,5	25	37	540
35BS96B25R021-00	21	0,179°	24	0,5	25	37	800
35BS96B25R036-00	36	0,104°	24	0,5	25	37	800
35BS96B25R252-00	72	0,052°	24	0,5	25	37	800
35BS96B25R149-00	149	0,025°	24	0,5	25	37	800
35BS96B25R208-00	208	0,018°	24	0,5	25	37	800
35BS96B25R608-00	608	0,006°	24	0,5	25	37	800
35BS96B25R1470-00	1470	0,003°	24	0,5	25	37	800

Optional Features

- Custom winding, wire harness
- Custom pinion, leadscrew
- Custom shaft

Mechanical Dimensions

Dynamic Torque Curves

35BS24B07

Conditions:	Bi-polar Constant Current Driver
Driver:	AMIS 30522
Mode:	Full Step

35BS24B25

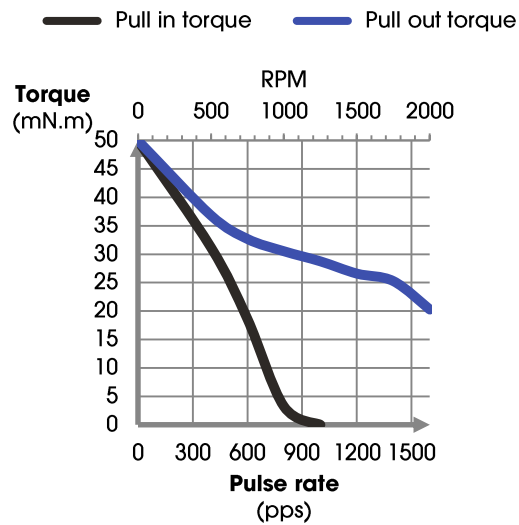|	
Conditions:	Bi-polar Constant Current Driver
Driver:	AMIS 30522
Mode:	Full Step

Dynamic Torque Curves

35BS48B07

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

— Pull in torque   — Pull out torque

35BS48B25

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

— Pull in torque   — Pull out torque

35BS96B07

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

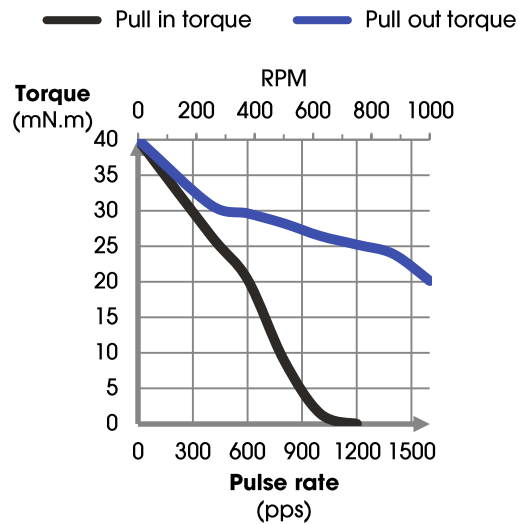— Pull in torque   — Pull out torque

35S96B2500

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

— Pull in torque   — Pull out torque
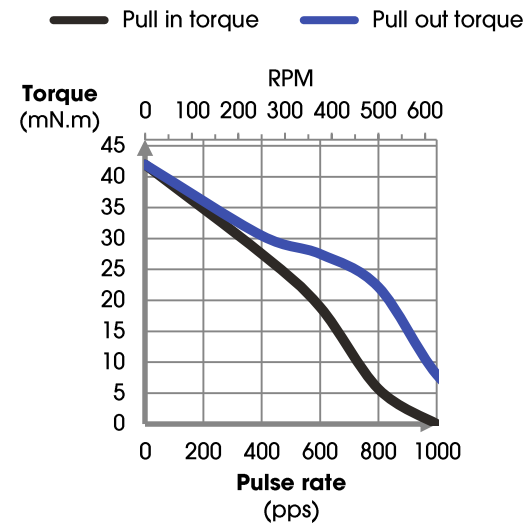
35RH Series

Key Features
- High torque
- Low noise
- Small size
- Motor step angle 3,75° & 7,5° & 15°

General Specifications

Series	Reduction (:1)	Step angle (°)	Voltage (V)	Current (A)	Resistance (ohm)	Inductance (mH)	Holding torque (mNm)
35RH24B07R015-00	15	1,000°	24	0,5	7	7,3	570
35RH24B07R030-00	30	0,500°	24	0,5	7	7,3	1140
35RH24B07R075-00	75	0,200°	24	0,5	7	7,3	1500
35RH24B07R100-00	100	0,150°	24	0,5	7	7,3	1500
35RH24B07R200-00	200	0,075°	24	0,5	7	7,3	1500
35RH24B07R250-00	250	0,060°	24	0,5	7	7,3	1500
35RH24B07R510-00	510	0,029°	24	0,5	7	7,3	1500
35RH24B07R630-00	630	0,024°	24	0,5	7	7,3	1500
35RH24B25R015-00	15	1,000°	24	0,5	25	22,3	900
35RH24B25R030-00	30	0,500°	24	0,5	25	22,3	1500
35RH24B25R255-00	75	0,200°	24	0,5	25	22,3	1500
35RH24B25R100-00	100	0,150°	24	0,5	25	22,3	1500
35RH24B25R200-00	200	0,075°	24	0,5	25	22,3	1500

35RH24B25R250-00	250	0,060°	24	0,5	25	22,3	1500
35RH24B25R510-00	510	0,029°	24	0,5	25	22,3	1500
35RH24B25R630-00	630	0,024°	24	0,5	25	22,3	1500
35RH48B07R015-00	15	0,500°	24	0,5	7	10	570
35RH48B07R030-00	30	0,250°	24	0,5	7	10	1140
35RH48B07R075-00	75	0,100°	24	0,5	7	10	1500
35RH48B07R100-00	100	0,075°	24	0,5	7	10	1500
35RH48B07R200-00	200	0,038°	24	0,5	7	10	1500
35RH48B07R250-00	250	0,030°	24	0,5	7	10	1500
35RH48B07R510-00	510	0,015°	24	0,5	7	10	1500
35RH48B07R630-00	630	0,012°	24	0,5	7	10	1500
35RH48B25R015-00	15	0,500°	24	0,5	25	27,2	900
35RH48B25R030-00	30	0,250°	24	0,5	25	27,2	1500
35RH48B25R255-00	75	0,100°	24	0,5	25	27,2	1500
35RH48B25R100-00	100	0,075°	24	0,5	25	27,2	1500
35RH48B25R200-00	200	0,038°	24	0,5	25	27,2	1500
35RH48B25R250-00	250	0,030°	24	0,5	25	27,2	1500
35RH48B25R510-00	510	0,015°	24	0,5	25	27,2	1500
35RH48B25R630-00	630	0,012°	24	0,5	25	27,2	1500
35RH96B07R015-00	15	0,250°	24	0,5	7	11,9	570

|						
35RH96B07R030-00	30	0,125°	24	0,5	7	11,9	1140
35RH96B07R075-00	75	0,050°	24	0,5	7	11,9	1500
35RH96B07R100-00	100	0,038°	24	0,5	7	11,9	1500
35RH96B07R200-00	200	0,019°	24	0,5	7	11,9	1500
35RH96B07R250-00	250	0,015°	24	0,5	7	11,9	1500
35RH96B07R510-00	510	0,007°	24	0,5	7	11,9	1500
35RH96B07R630-00	630	0,006°	24	0,5	7	11,9	1500
35RH96B25R015-00	15	0,250°	24	0,5	25	37	900
35RH96B25R030-00	30	0,125°	24	0,5	25	37	1500
35RH96B25R255-00	75	0,050°	24	0,5	25	37	1500
35RH96B25R100-00	100	0,038°	24	0,5	25	37	1500
35RH96B25R200-00	200	0,019°	24	0,5	25	37	1500
35RH96B25R250-00	250	0,015°	24	0,5	25	37	1500
35RH96B25R510-00	510	0,007°	24	0,5	25	37	1500
35RH96B25R630-00	630	0,006°	24	0,5	25	37	1500

Optional Features

- Custom winding, wire harness
- Custom pinion, leadscrew
- Custom shaft

Length

- 42,8mm for 15:1 & 30:1
- 45,3mm for 75:1 & 100:1
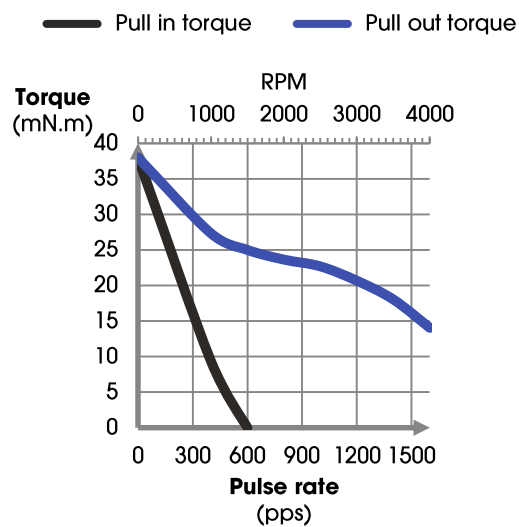- 47,8mm for 200:1 & 250:1
- 50,8mm for 510:1 & 630:1

Mechanical Dimensions
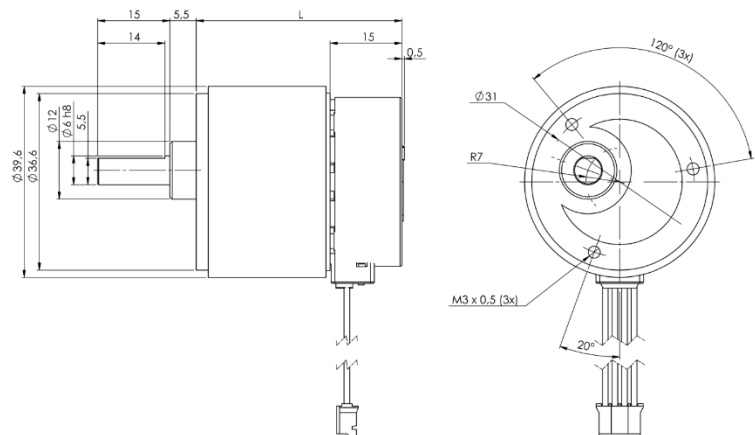
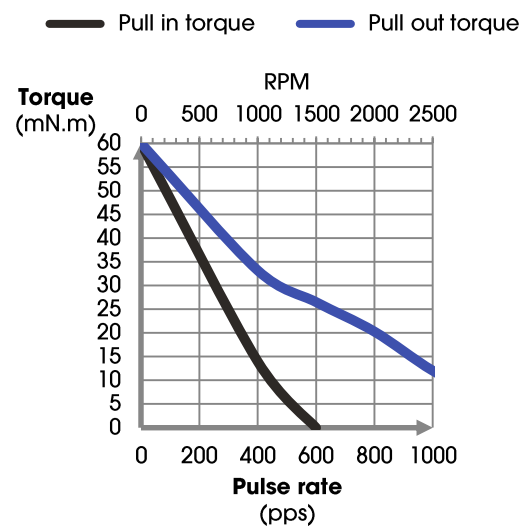## Dynamic Torque Curves

35RH24B07

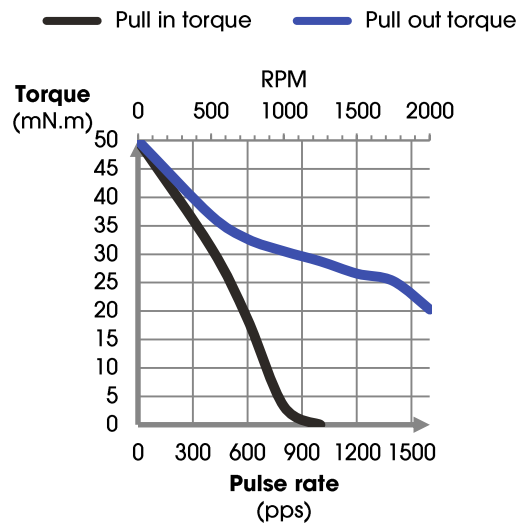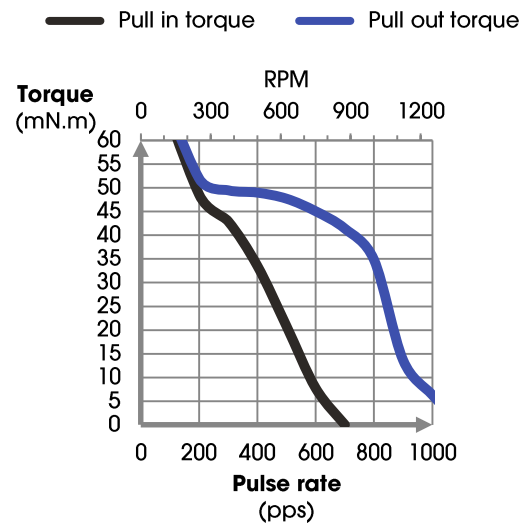Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

35RH24B25

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

Dynamic Torque Curves

35RH48B07

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
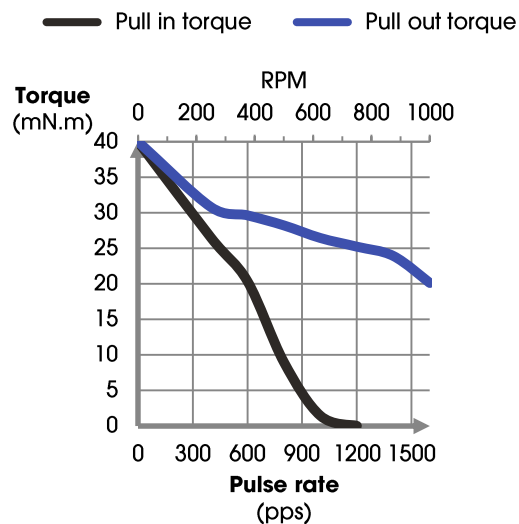Mode: Full Step

35RH48B25

Conditions: Bi-polar Constant Current Driver
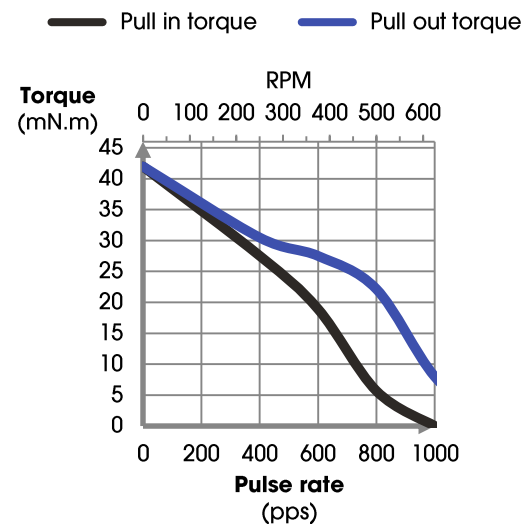Driver: AMIS 30522
Mode: Full Step

35RH96B07

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

35RH96B25

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

Linear PM

LM25L Series

Key Features

- Captive, high force
- Low noise, small size
- Pitch 0.5mm & 1.0mm

General Specifications

Series	Step angle (°)	Voltage (V)	Current (A)	Resistance (ohm)	Inductance (mH)	Increment (mm/step)
LM25L100CB0900	15°	24	0,5	9	6,7	0,0416
LM25L100CB2500	15°	24	0,5	25	17,6	0,0416
LM25L101CB0900	7,5°	24	0,5	9	8,7	0,0208
LM25L101CB2500	7,5°	24	0,5	25	21,3	0,0208
LM25L050CB0900	15°	24	0,5	9	6,7	0,0208
LM25L050CB2500	15°	24	0,5	25	17,6	0,0208
LM25L051CB0900	7,5°	24	0,5	9	8,7	0,0104
LM25L051CB2500	7,5°	24	0,5	25	21,3	0,0104

Optional Features

- Custom winding, wire harness
- Custom leadscrew
- Drive electronics
- Other specifications

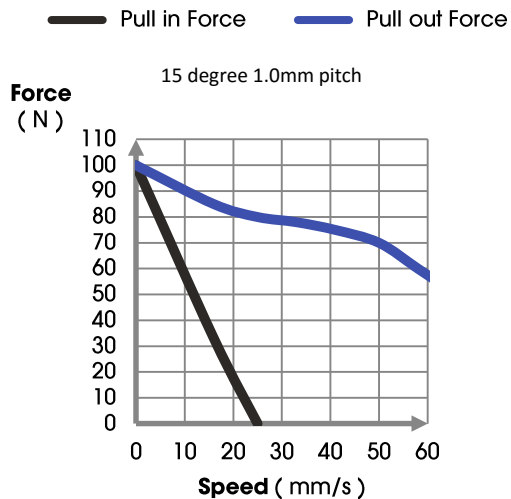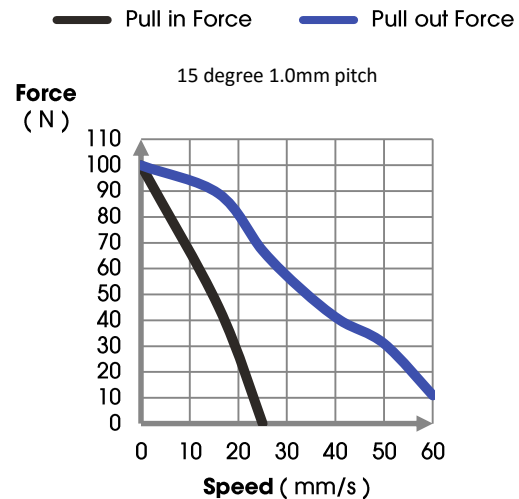## Mechanical Dimensions
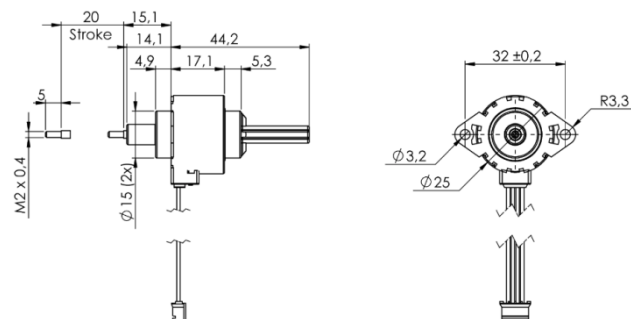
Dynamic Force Curves

LM25L100CB0900

Conditions: Bi-polar Constant Current Driver
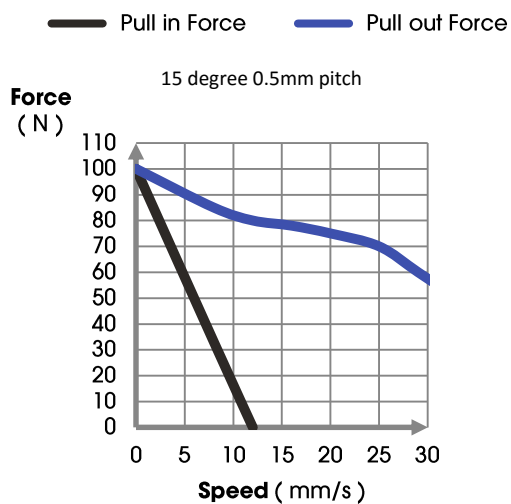Driver: AMIS 30522
Mode: Full Step

Legend: Pull in Force — Pull out Force

15 degree 1.0mm pitch

Force (N) vs Speed (mm/s)

LM25L100CB2500

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

Legend: Pull in Force — Pull out Force

15 degree 1.0mm pitch

Force (N) vs Speed (mm/s)

LM25L050CB0900

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

Legend: Pull in Force — Pull out Force

15 degree 0.5mm pitch

Force (N) vs Speed (mm/s)

LM25L050CB2500

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

Legend: Pull in Force — Pull out Force

15 degree 0.5mm pitch

Force (N) vs Speed (mm/s)
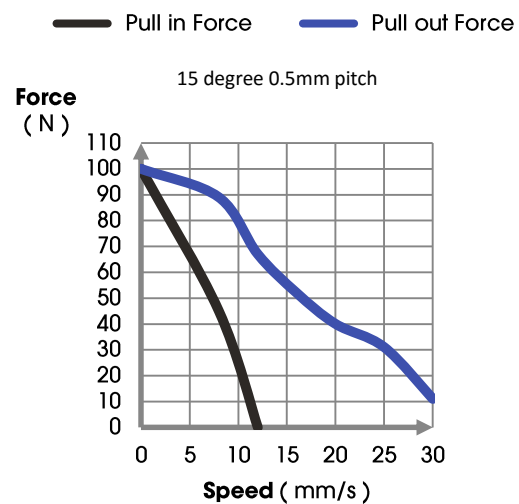
Dynamic Force Curves

LM25L101CB0900

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step
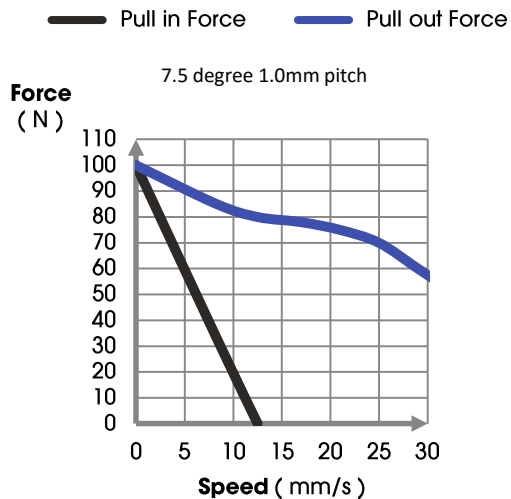

7.5 degree 1.0mm pitch

LM25L101CB2500

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

7.5 degree 1.0mm pitch
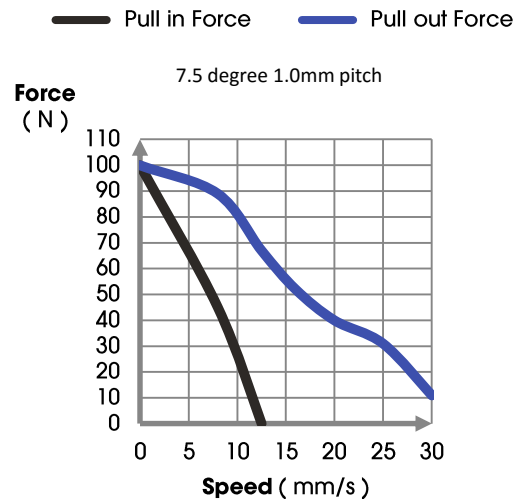
LM25L051CB0900

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
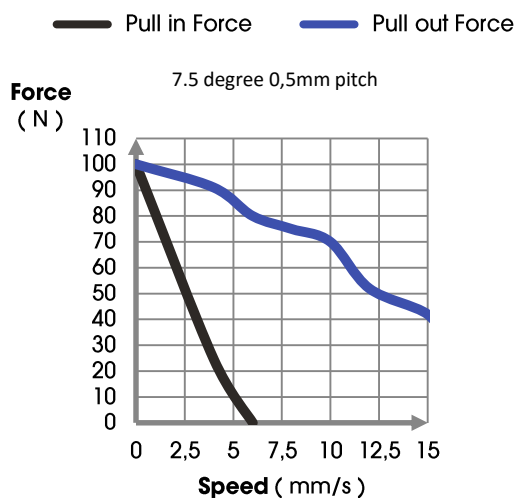Mode: Full Step

7.5 degree 0,5mm pitch

LM25L051CB2500

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

7.5 degree 0.5mm pitch
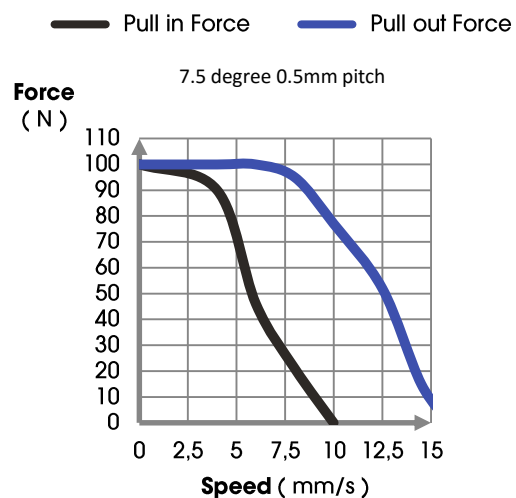
Key Features

- Non-Captive, high force
- Low noise, small size
- Pitch 0.5mm & 1.0mm

General Specifications

Series	Step angle (°)	Voltage (V)	Current (A)	Resistance (ohm)	Inductance (mH)	Increment (mm/step)
LM25L100NB0900	15°	24	0,5	9	6,7	0,0416
LM25L100NB2500	15°	24	0,5	25	17,6	0,0416
LM25L101NB0900	7,5°	24	0,5	9	8,7	0,0208
LM25L101NB2500	7,5°	24	0,5	25	21,3	0,0208
LM25L050NB0900	15°	24	0,5	9	6,7	0,0208
LM25L050NB2500	15°	24	0,5	25	17,6	0,0208
LM25L051NB0900	7,5°	24	0,5	9	8,7	0,0104
LM25L051NB2500	7,5°	24	0,5	25	21,3	0,0104

Optional Features

- Custom winding, wire harness
- Custom leadscrew
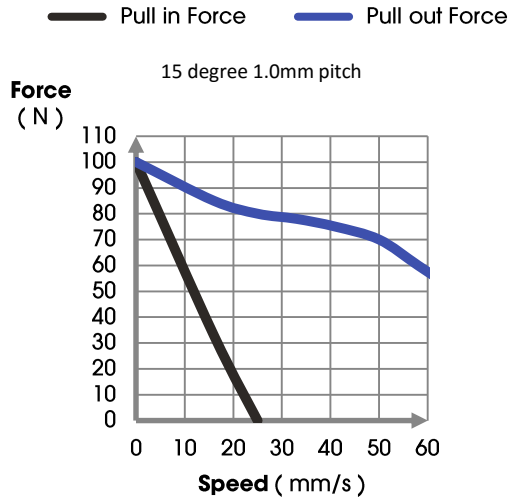- Drive electronics
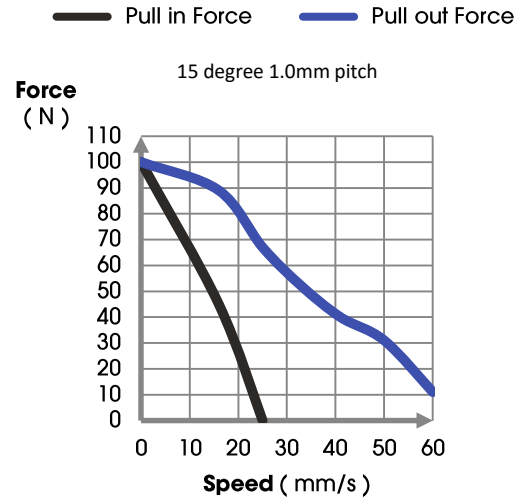- Other specifications

Mechanical Dimensions
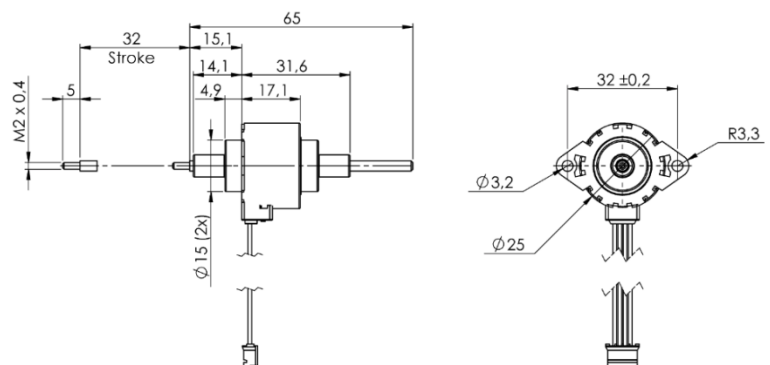
Dynamic Force Curves

LM25L100NB0900

Conditions:	Bi-polar Constant Current Driver
Driver:	AMIS 30522
Mode:	Full Step

Pull in Force ── **Pull out Force** ──

15 degree 1.0mm pitch

Force (N) vs **Speed (mm/s)**

LM25L100NB2500

Conditions:	Bi-polar Constant Current Driver
Driver:	AMIS 30522
Mode:	Full Step

Pull in Force ── **Pull out Force** ──

15 degree 1.0mm pitch

Force (N) vs **Speed (mm/s)**

LM25L050NB0900

Conditions:	Bi-polar Constant Current Driver
Driver:	AMIS 30522
Mode:	Full Step

Pull in Force ── **Pull out Force** ──

15 degree 0.5mm pitch

Force (N) vs **Speed (mm/s)**

LM25L050NB2500

Conditions:	Bi-polar Constant Current Driver
Driver:	AMIS 30522
Mode:	Full Step

Pull in Force ── **Pull out Force** ──

15 degree 0.5mm pitch

Force (N) vs **Speed (mm/s)**
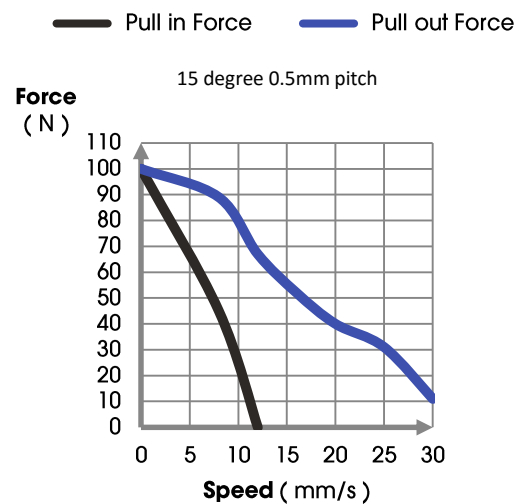
Dynamic Force Curves

LM25L101NB0900

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step
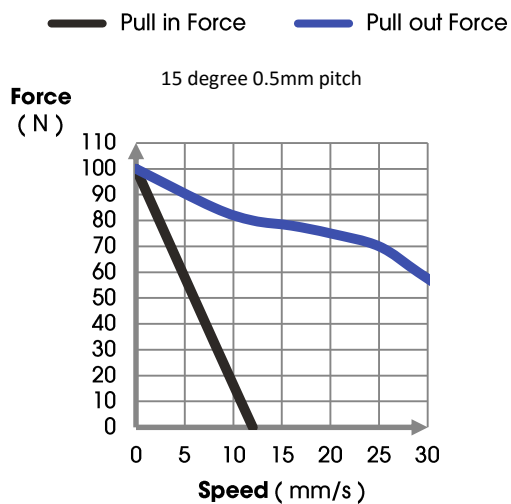
Pull in Force   Pull out Force

7.5 degree 1.0mm pitch

Force (N)
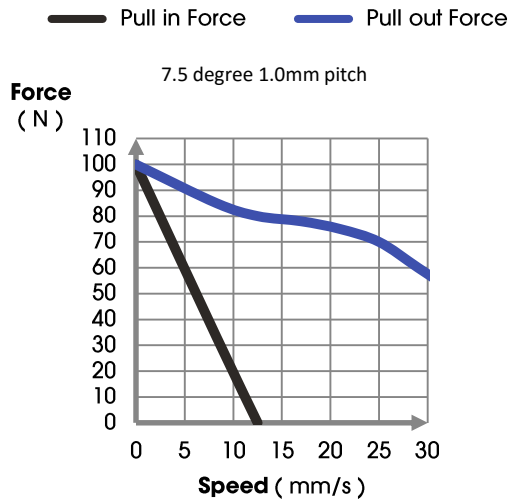
LM25L101NB2500

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

Pull in Force   Pull out Force

7.5 degree 1.0mm pitch

Force (N)
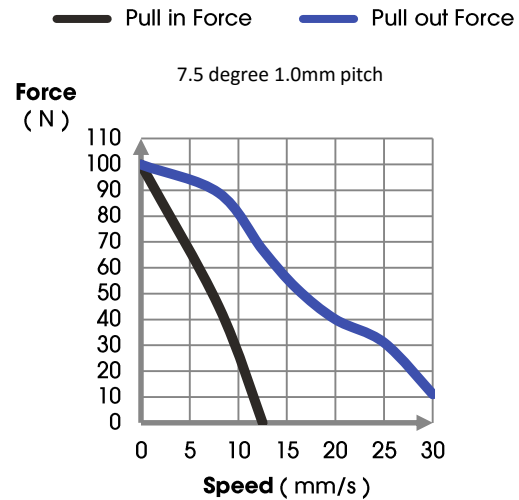
LM25L051NB0900

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

Pull in Force   Pull out Force

7.5 degree 0,5mm pitch

Force (N)
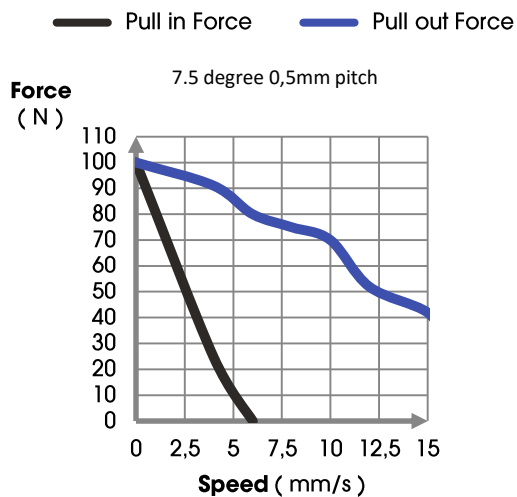
LM25L051NB2500

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

Pull in Force   Pull out Force

7.5 degree 0.5mm pitch

Force (N)
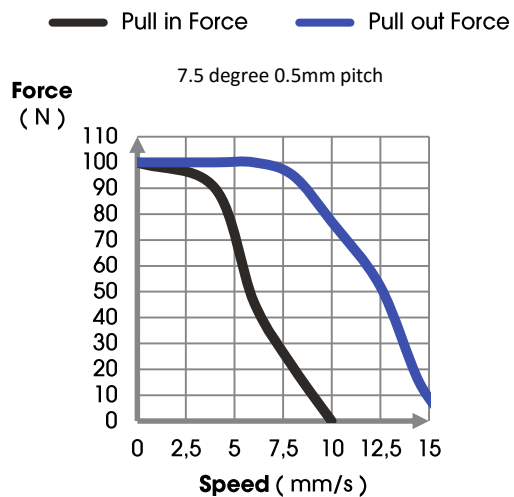
Synchronous

15S Series

Key Features

- High torque
- Low noise
- Small size

General Specifications

Series	Frequency (Hz)	Voltage (Vac)	Speed @ 50/60 Hz (RPM)	Power Output (W)	Capacitor (uF)	Running torque (mNm)	Temperature rise (°)
15S20S0240	50/60	24	600/720	0,91	2,2	0,5	54
15S40S0240	50/60	24	300/360	0,91	2,2	0,8	52

Optional Features

- Gearbox
- Custom winding, wire harness
- Custom pinion, leadscrew
- Custom shaft
- Other specifications

Mechanical Dimensions

Key Features

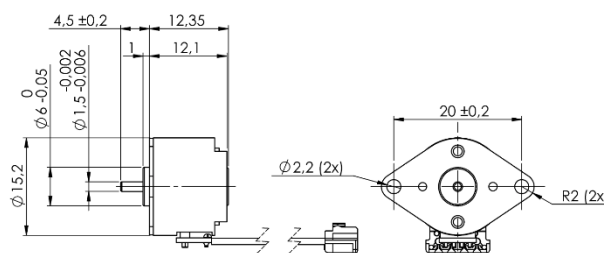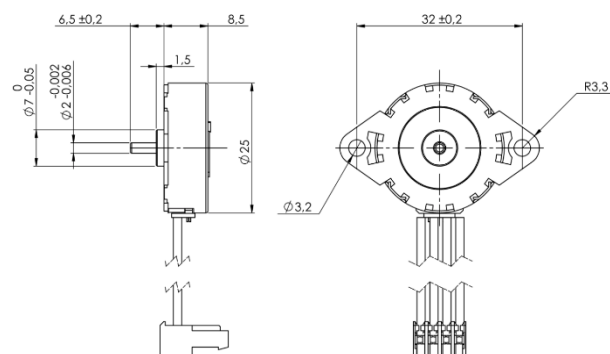- High torque
- Low noise
- Small size

General Specifications

Series	Frequency (Hz)	Voltage (Vac)	Speed @ 50/60 Hz (RPM)	Power Output (W)	Capacitor (uF)	Running torque (mNm)	Temperature rise (°)
25T24S0240	50/60	24	500/600	1,11	3,3	2,5	48
25T24S0480	50/60	48	500/600	1,12	1,0	3,5	52
25T48S0240	50/60	24	250/300	1,11	3,3	3,5	46
25T48S0480	50/60	48	250/300	1,12	1,0	5	43
25T96S0240	50/60	24	125/150	1,11	3,3	6	48
25T96S0480	50/60	48	125/150	1,12	1,0	7	52

Optional Features

- Gearbox
- Custom winding, wire harness
- Custom pinion, leadscrew
- Custom shaft
- Other specifications

Mechanical Dimensions

25L Series

Key Features
- High torque
- Low noise
- Small size

General Specifications

Series	Frequency (Hz)	Voltage (Vac)	Speed @ 50/60 Hz (RPM)	Power Output (W)	Capacitor (uF)	Running torque (mNm)	Temperature rise (°)
25L24S0240	50/60	24	500/600	2,3	0,1	19	50
25L24S1100	50/60	110	500/600	2,6	4,7	11	45
25L48S0240	50/60	24	250/300	2,3	0,1	23	49
25L48S1100	50/60	110	250/300	2,6	4,7	13	49

Optional Features
- Gearbox
- Custom winding, wire harness
- Custom pinion, leadscrew
- Custom shaft
- Other specifications

Mechanical Dimensions

35S Series

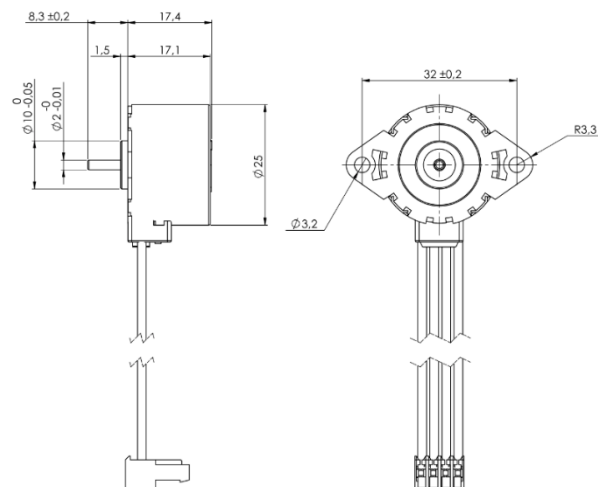## Key Features

- High torque
- Low noise
- Small size

General Specifications

Series	Frequency (Hz)	Voltage (Vac)	Speed @ 50/60 Hz (RPM)	Power Output (W)	Capacitor (uF)	Running torque (mNm)	Temperature rise (°)
35S24S0240	50/60	24	500/600	2,70	4.7	20	42
35S24S1100	50/60	110	500/600	2,72	0.33	16	51
35S24S2300	50/60	230	500/600	2,62	0.1	21	49
35S48S0240	50/60	24	250/300	2,70	4.7	23	49
35S48S1100	50/60	110	250/300	2,72	0.33	32	54
35S48S2300	50/60	230	250/300	2,62	0.1	40	50
35S96S0240	50/60	24	125/150	2,70	4.7	32	47
35S96S1100	50/60	110	125/150	2,72	0.33	25	47
35S96S2300	50/60	230	125/150	2,62	0.1	24	47

Optional Features

- Gearbox
- Custom winding, wire harness
- Custom pinion, leadscrew
- Custom shaft
- Other specifications

## Mechanical Dimensions
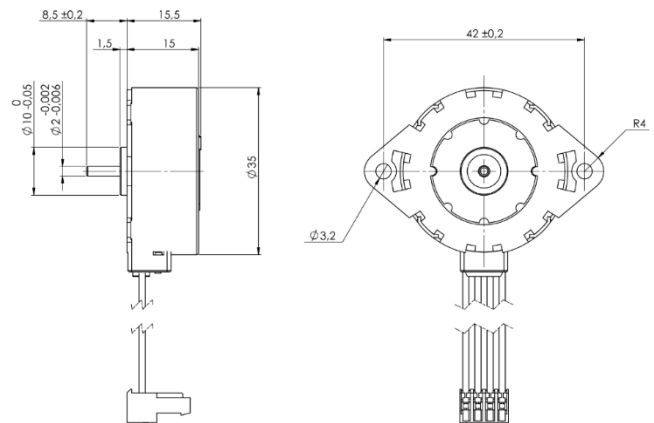
Motors with Integrated Electronics

General Specifications

Series	Step angle (°)	Voltage (V)	Current (A)	Resistance (Ω)	Inductance (mH)	Holding torque (mNm)	Detent torque (mNm)
15SE20B1000	18	12	0,4	10	4,1	5,0	0,5
15SE20B2000	18	12	0,4	20	6,7	7,8	0,6
15SE40B1000	9	12	0,4	10	5,0	4,6	0,4
15SE40B2000	9	12	0,4	20	6,5	6,0	0,5

Optional Features

- Integrated driver
- I²C, LIN
- Gearbox
- Custom winding, wire harness
- Custom pinion, leadscrew
- Custom shaft

Mechanical Dimensions
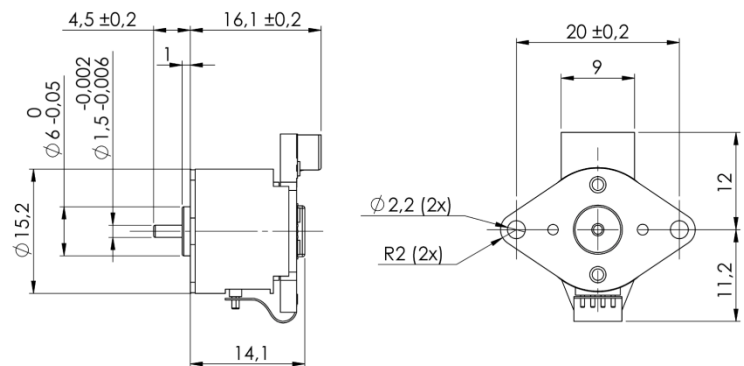
Key Features

- Sensorless stall detection
- Automatic selection of fast and slow decay mode
- No external fly-back diodes required
- Configurable speed, and acceleration
- Field-programmable node addresses
- High-temp warning and management
- Peak current 800mA (for driver chip)
- 32 Motors can be connected to each master
- 400 kbit serial data transfer

General Description

Stegia 1500E series is our stepper motor series with integrated single-chip position controller and control/diagnostic interface. The 1500E is a dedicated motor solution connected remotely with the I²C bus.

The motor receives positioning instructions through the bus and positions the motor to the desired position. The on-chip position controller is configurable for positioning ranges as well as parameters for speed, acceleration and deceleration.

Stegia 1500E series acts as a slave on the I²C bus, and the master can fetch specific status information like actual position, error flags, etc. from each individual slave node.

Integrated sensorless step-loss detection prevents the positioner from losing steps and stops the motor when running into stall. This enables silent, yet accurate position calibrations and allows semi-closed loop operation when approaching the mechanical end-positions.

The chip is implemented in I2T100 technology, enabling both high voltage analog circuitry and digital functionality on the same chip. Stegia 1500E stepper motor series is fully compatible with the automotive voltage requirements.

Motor Driver

Micro-stepping technology
Sensorless stall detection
Peak current up to 800mA (for driver)
Fixed frequency PWM current-control
Automatic selection of fast and slow decay mode
14V/24V compliant

Protection

Over-current protection
Under-voltage management
Open circuit detection
High-temp. warning and management Low-temp
flag

Controller with RAM and OTP Memory

Position controller
Configurable speed, current and acceleration
Input to connect optional motion switch

I²C Interface

Bi-directional 2-wire bus for Inter IC Control
Field-programmable node addresses
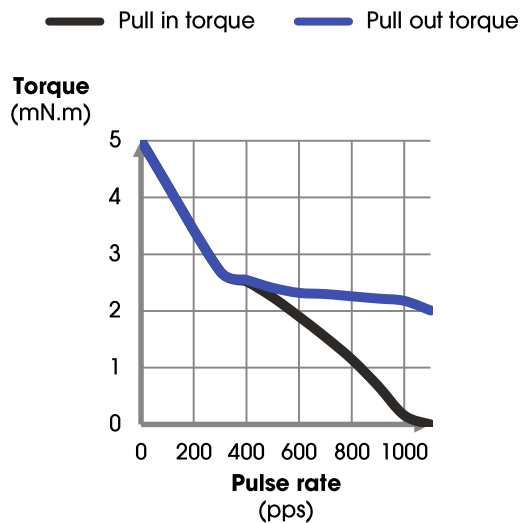Full diagnostics and status information

EMI Compatibility

High voltage outputs with slope control
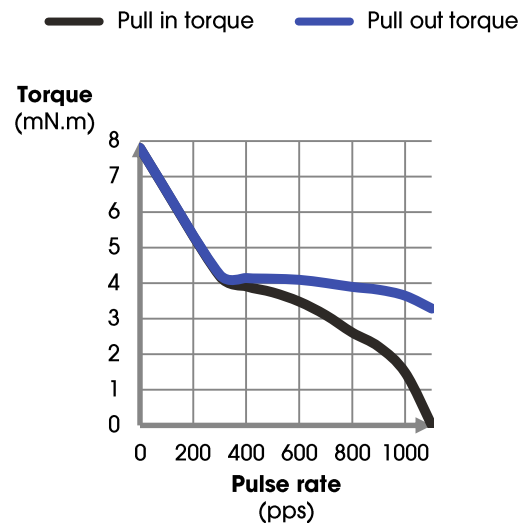HV outputs with slope control

Dynamic Torque Curves

15SE20B1000

Conditions:	Bi-polar Constant Current Driver
Driver:	AMIS 30522
Mode:	Full Step

―― Pull in torque　―― Pull out torque

Torque (mN.m) vs **Pulse rate (pps)**

15SE20B2000

Conditions:	Bi-polar Constant Current Driver
Driver:	AMIS 30522
Mode:	Full Step

―― Pull in torque　―― Pull out torque

Torque (mN.m) vs **Pulse rate (pps)**

15SE40B1000

Conditions:	Bi-polar Constant Current Driver
Driver:	AMIS 30522
Mode:	Full Step

―― Pull in torque　―― Pull out torque

Torque (mN.m) vs **Pulse rate (pps)**

15SE40B2000

Conditions:	Bi-polar Constant Current Driver
Driver:	AMIS 30522
Mode:	Full Step

―― Pull in torque　―― Pull out torque

Torque (mN.m) vs **Pulse rate (pps)**
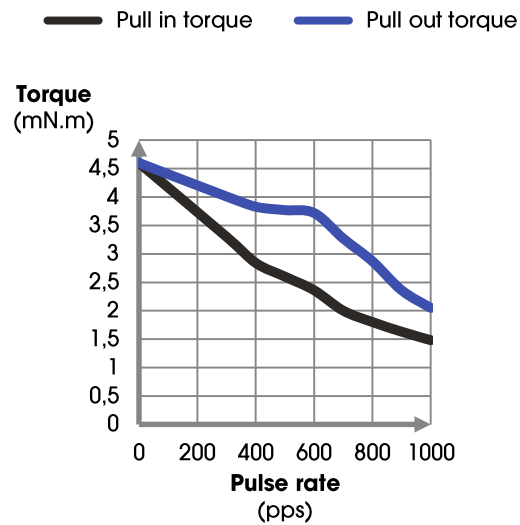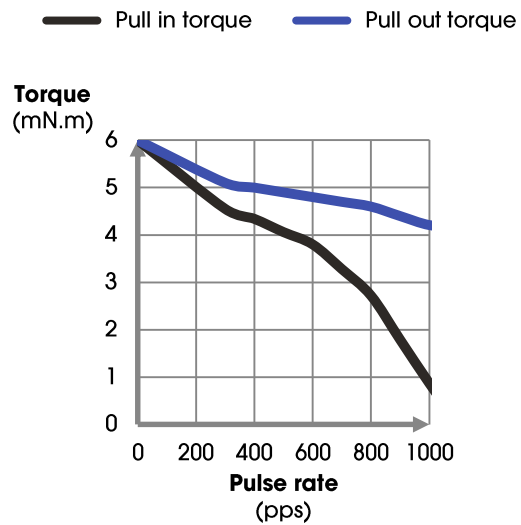
General Specifications

| Series	Step angle (°)	Voltage (V)	Current (A)	Resistance (Ω)	Inductance (mH)	Holding torque (mNm)	Detent torque (mNm)
25TE24B1500	15°	24	0,4	15	5,6	12	2,2
25TE24B2300	15°	24	0,4	23	6,3	13	2,2
25TE48B1500	7,5°	24	0,4	15	8,0	21	2,7
25TE48B2300	7,5°	24	0,4	23	8,8	22	2,7
25TE96B1500	3,75°	24	0,4	15	10,7	17	1,8
25TE96B2300	3,75°	24	0,4	23	10,3	20	1,8

Optional Features

- Integrated driver
- I2C, LIN
- Gearbox
- Custom winding, wire harness
- Custom pinion, leadscrew
- Custom shaft

Mechanical Dimensions
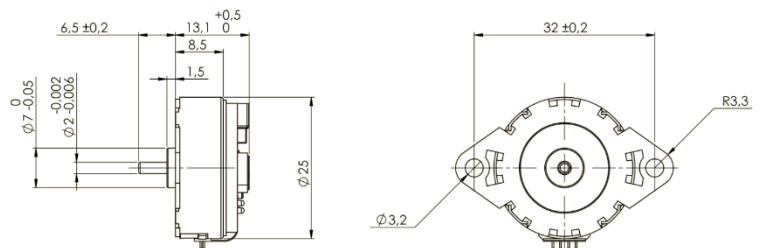
Key Features

- Sensorless stall detection
- Automatic selection of fast and slow decay mode
- No external fly-back diodes required
- Configurable speed, and acceleration
- Field-programmable node addresses
- High-temp warning and management
- Peak current 800mA (for driver chip)
- 32 Motors can be connected to each master
- 400 kbit serial data transfer

General Description

Stegia 2500TE series is our stepper motor series with integrated single-chip position controller and control/diagnostic interface. The 2500TE is a dedicated motor solution connected remotely with the I^{2}C bus.

The motor receives positioning instructions through the bus and positions the motor to the desired position. The on-chip position controller is configurable for positioning ranges as well as parameters for speed, acceleration and deceleration.

Stegia 2500TE series acts as a slave on the I^{2}C bus, and the master can fetch specific status information like actual position, error flags, etc. from each individual slave node.

Integrated sensorless step-loss detection prevents the positioner from losing steps and stops the motor when running into stall. This enables silent, yet accurate position calibrations and allows semi-closed loop operation when approaching the mechanical end-positions.

The chip is implemented in I2T100 technology, enabling both high voltage analog circuitry and digital functionality on the same chip. Stegia 2500TE stepper motor series is fully compatible with the automotive voltage requirements.

Motor Driver

Micro-stepping technology
Sensorless stall detection
Peak current up to 800mA (for driver)
Fixed frequency PWM current-control
Automatic selection of fast and slow decay mode
14V/24V compliant

Protection

Over-current protection Under-voltage
management
Open circuit detection
High-temp. warning and management Low-
temp flag

Controller with RAM and OTP Memory

Position controller
Configurable speed, current and acceleration
Input to connect optional motion switch

I²C Interface

Bi-directional 2-wire bus for Inter IC Control
Field-programmable node addresses
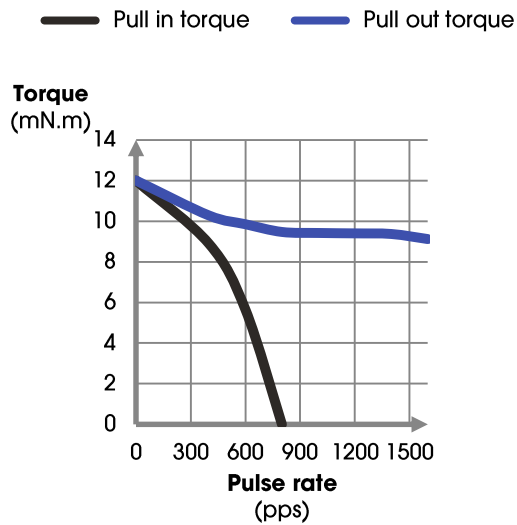Full diagnostics and status information

EMI Compatibility

High voltage outputs with slope control
HV outputs with slope control

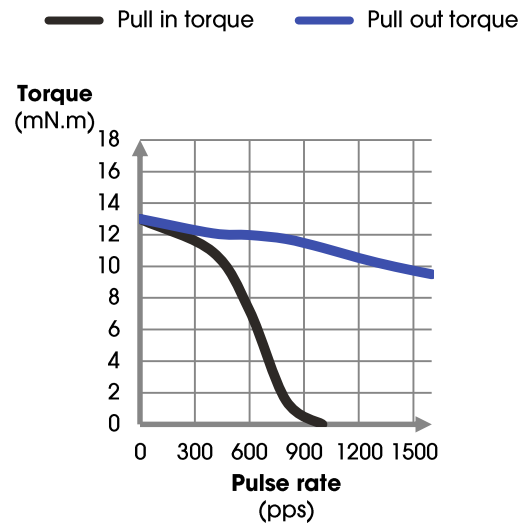# Dynamic Torque Curves

25TE24B1500

Conditions:	Bi-polar Constant Current Driver
Driver:	AMIS 30522
Mode:	Full Step

25TE24B2300

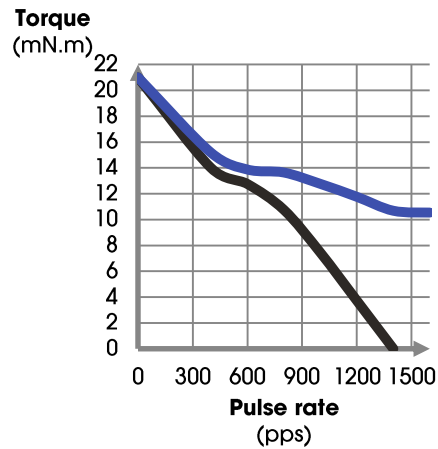| Conditions: | Bi-polar Constant Current Driver |
| Driver: | AMIS 30522 |
| Mode: | Full Step |

Dynamic Torque Curves

25TE48B1500

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

—— Pull in torque   —— Pull out torque

Torque (mN.m) vs Pulse rate (pps)

25TE48B2300

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

—— Pull in torque   —— Pull out torque

Torque (mN.m) vs Pulse rate (pps)

25TE96B1500

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

—— Pull in torque   —— Pull out torque

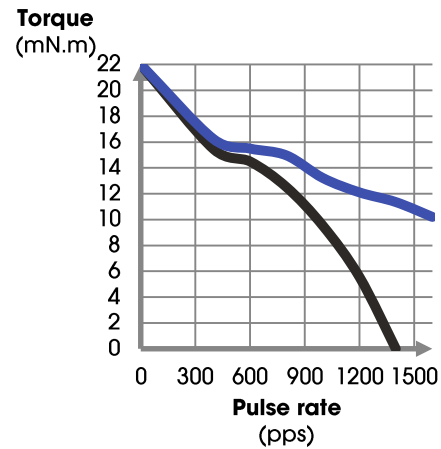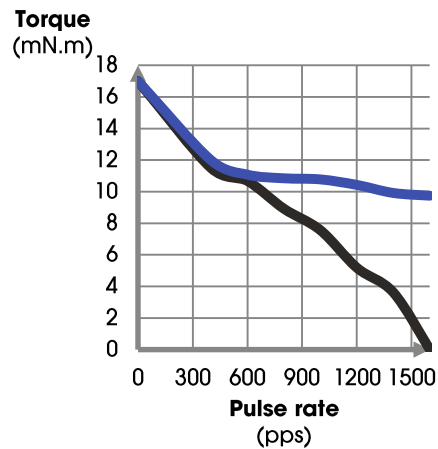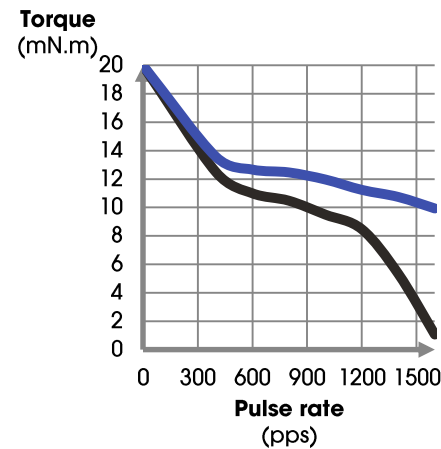Torque (mN.m) vs Pulse rate (pps)

25TE96B2300

Conditions: Bi-polar Constant Current Driver
Driver: AMIS 30522
Mode: Full Step

—— Pull in torque   —— Pull out torque

Torque (mN.m) vs Pulse rate (pps)

Technical Pages

Primary units in this guide are metric (SI – the International System of units):

Length -   m - (meter)
Mass - g - (gram)
Force -   mN - (millinewton)
Torque -   mN•m - (millinewton meter)
Inertia -   g•m2 - (gram meter2)

In this system, mass is always in kilograms or grams. Force, or
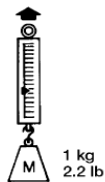weight, is always in newtons or milli newtons.

$$F = ma$$

when a = 9.81 m/sec2 (acceleration due to gravity), then F would be the weight in newtons.
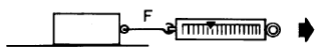
How to measure Mass or Force

A spring scale reading of 1 kg means that you are measuring a mass of 1 kg.

A spring scale reading of 2.2 lbs also is measuring a mass of 1 kg.

If you use that same spring scale to measure a force, the 1 kg reading must be multiplied by 9.8 to give a force of 9.8 Newtons.

The reading of 2.2 lb is a force and is equal to 9.8 newtons.

If the same scale is used to measure torque (T = FR) at a one meter radius, the reading of

1 kilogram x 1 meter = 1 kgm

must be multiplied by 9.8 to give a torque of 9.8 newton meters

Watts out = torque output x speed in radians/sec

1 watt   = 1Nm/sec

For a given output Torque (mNm) and converting v (steps/sec) to radians/sec

If the speed is in RPM then:

Watts out = 1.05 x 10 -4 x torque (mN•m) x RPM

9. Steps/sec to RPM

Motor watts output

$$RPM = \frac{v(steps/s\ Hz) \times 60}{motor\ steps/rev}$$

$$Watts\ out = Torque\ (mN \times m) \times v\frac{motor\ step\ angle}{57.3} \times 10^{-3}$$

1. Torque (mN•m) = Force (mN) x Radius (m)
Torque = FR

2. Torque required to accelerate inertial load
T (mN•m) = Jα
J = Inertia in g•m2
α = Acceleration in radians/sec2

EXAMPLE:

If a rotor inertia plus load inertia = J = 2 x 10-3 g•m2, and the motor is to be accelerated at 6,000 radians per sec, what torque is required?

T = Jα = 2 x 10-3 x 6000

T = 12 mN•m

For stepper motors, a can be converted to radians/sec2 from steps/sec2.

a (radians/sec) = x

TORQUE = J x

EXAMPLE:

For a 48-step per revolution motor accelerating from zero to

steps/sec running rate v in ∆t seconds.

TORQUE = J x

	Units US		Units Metric SI
Length	1 inch	2.54 cm	2.54×10^{-2} m
Force	1 oz 1 lb 1 g•m	4.45 N	278 nM 4 450 mN 9.8 mN
Mass	1 lb 1 oz 1 kg		454 g 28.4 g 1 000 g
Inertia	1 g•cm2 1 oz-in-sec2 1 slug ft2		10^{-4} g•m2 7.06 g•m2 0.29 g•m2
Torque	1 oz-in 1 lb-ft 1 g•cm	10.2 g•cm 141.6 oz-in	7.06 mN•m 1.356 N•m 9.8×10^{-2} mN•m 1 mN•m 1 N•m

Conversion Table for Torque

	lb•ft	lb•in	oz•in	dyne•cm	N•m	mN•m	kg•cm	g•cm
lb•ft	1	12	192	1.356×10^{7}	1.356	1.356×10^{3}	13.825	13.825×10^{4}
lb•in	8.333×10^{-2}	1	16	1.130×10^{6}	0.113	1.130×10^{2}	1.152	1.152×10^{3}
oz•in	5.208×10^{-3}	6.250×10^{-2}	1	7.062×10^{4}	7.062×10^{-3}	7.062	7.201×10^{-2}	72.01
dyne•cm	7.3761×10^{-8}	8.851×10^{-7}	1.416×10^{-5}	1	10^{-7}	10^{-4}	1.0197×10^{-6}	1.0197×10^{-3}
N•m	0.7376	8.851	141.8	10^{7}	1	1000	10.197	1.0197×10^{4}
mN•m	7.376×10^{4}	8.851×10^{-3}	0.1416	10^{4}	10^{-3}	1	1.0197×10^{-2}	10.197
kg•cm	7.233×10^{-2}	0.8679	13.877	9.8066×10^{5}	9.8066×10^{-2}	98.066	1	1000
g•cm	7.233×10^{-5}	8.680×10^{-4}	1.389×10^{-2}	980.67	9.8066×10^{-5}	9.8066×10^{-2}	10^{-3}	1

Conversion Table for Moment of Inertia

	lb·ft²	lb·ft·s²	lb·in²	lb·in·s²	oz·in²	oz·in·s²	kg·cm²	kg·cm·s²	g·cm²	g·cm·s²
lb·ft²	1	3.108×10^{-2}	144	.373	2.304×10^{3}	5.968	421.40	0.4297	4.214×10^{5}	429.71
lb·ft·s²	32.174	1	4.633×10^{3}	12	7.413×10^{4}	192	1.356×10^{4}	13.825	1.356×10^{7}	1.383×10^{4}
lb·in²	6.944×10^{-3}	2.158×10^{-4}	1	2.590×10^{-3}	16	4.144×10^{-2}	2.926	2.984×10^{-3}	2.926×10^{3}	2.984
lb·in·s²	2.681	8.333×10^{-2}	386.1	1	32.174	16	1.130×10^{3}	1.152	1.130×10^{6}	1.152×10^{3}
oz·in²	4.340×10^{-4}	1.349×10^{-5}	6.250×10^{-2}	1.619×10^{-4}	1	2.59×10^{-3}	0.183	1.865×10^{-4}	182.901	0.186
oz·in·s²	0.168	5.208×10^{-3}	24.13	6.250×10^{-2}	386.088	1	70.616	7.201×10^{-2}	7.201×10^{4}	72.008
kg·cm²	2.373×10^{-3}	7.376×10^{-5}	0.3417	8.851×10^{-4}	5.467	1.416×10^{-2}	1	1.0197×10^{-3}	1000	1.0197
kg·cm·s²	2.327	7.233×10^{-2}	335.109	0.8679	5.362×10^{3}	13.887	980.665	1	9.807×10^{5}	1000
g·cm²	2.373×10^{-6}	7.376×10^{-8}	3.417×10^{-4}	8.851×10^{-7}	5.467×10^{-3}	1.416×10^{-5}	10^{-3}	1.0197×10^{-6}	1	1.0197×10^{-3}
g·cm·s²	2.327×10^{-3}	7.233×10^{-5}	0.3351	8.680×10^{-4}	5.362	1.389×10^{-2}	.9807	10^{-3}	980.667	1

Request Form – Stepper Motors

Customer Info	
Name :	Company name :
Department/Division :	Adress :
Phone/Fax number :	
Website adress www :	Country :

Requirements PM STEPPERS			
Application:			
Motor diameter : mm	Motor height : mm	Shaft diameter : mm	Stepangle : °
Type of bearings: ◯ Sleeve bearings ◯ Ballbearings	Wire type: AWG	Constant Current : mA/phase	Motor Voltage: V
Driving method : ◯ Bipolar ◯ Unipolar		Winding resistance Ω	Inductance: mH
Holding Torque : mNm		Driver mode : ◯ Full step ◯ Half step	
Pull in Torque: mNm	@ Hz	◯ Micro step number of microsteps	
Pull out Torque : mNm	@ Hz	Production start:	Qty

Request Form – Synchronous Motors

Customer Info	
Name :	Company name :
Department/Division :	Adress :
Phone/Fax number :	
Website adress www :	Country :

Requirements SYNCHRONUS			
Application:			
Motor diameter :	Motor height :	Shaft diameter :	
Connector type :	Wire type: AWG	Voltage: ◯ 24 Vac ◯ 48 Vac ◯ 110 Vac ◯ 230 Vac	
Speed RPM @ 50Hz		Speed RPM @ 60Hz	
◯ 125 rpm ◯ 250 rpm ◯ 500 rpm ◯ other rpm		◯ 150 rpm ◯ 300 rpm ◯ 600 rpm ◯ other rpm	
Running Torque:		Other requirements:	