00

Customizable, High-Quality, Heavy Duty, Industrial-Grade Actuators

INDUSTRIAL MOTION

TIMOTION ELECTRONIC LINEAR ACTUATORS – MOTION TECHNOLOGY THAT HELPS PROVIDE A CLEANER, BETTER FUTURE

Many industrial applications require heavy-duty automation on a large scale — especially for agricultural, construction, mining, ventilation, and process control machinery, among others. The technology is out there, and it's only getting better. Equipment manufacturers are increasingly turning to electric linear actuators as a cost-efficient and reliable alternative to previous industry standards, such as hydraulic and pneumatic motion systems. TiMOTION's Industrial Motion product line is shown within this catalog, as well as additional information about what we offer and the full benefits of our linear actuator technology.

J P series

TiMOTION's JP series family is designed with an inline actuator appearance. All the products in the JP series are ideally suited for high or low load required industrial applications where up to IP69K dust and liquid ingress protection is necessary. The JP series is made for use in limited spaces without sacrificing power.



JP3 - Page 10

Max. load 2,000N (push/pull)

Max. speed at max. load 3.5mm/s

Max. speed at no load 23.5mm/s

Retracted length ≥ Stroke + 217mm

IP rating IP69K



JP4 - Page 12

Max. load 4,500N (push) 3,000N (pull)

Max. speed at max. load 2.5mm/s

Max. speed at no load 27.5mm/s

Retracted length ≥ Stroke + 289mm

IP rating IP69K



TiMOTION's MA series family is specifically designed for harsh working environments, requiring a durable, longlife solution. All of our MA series actuators are ideal for the heavy-duty machinery, industrial equipment and off road vehicles. Also, they all comply with IP69K protection that will withstand high-pressure water jets, and the ingress of dust and other solid contaminants.



MA1 - Page 14

Max. load ACME screw: 2,500N (push/pull) Ball screw: 4,500N (push/pull)

Max. speed at max. load 14.3mm/s (ACME screw, DC motor) 14mm/s (Ball screw, DC motor)

Max. speed at no load 58.5mm/s (Ball screw, DC motor)

Retracted length

≥ Stroke + 160mm (ACME screw, without POT) ≥ Stroke + 201mm (Ball screw, without POT)

IP rating IP69K



MA2 - Page 16

Max. load 8,000N (push/pull)

Max. speed at max. load 5.4mm/s

Max. speed at no load 52.5mm/s

Retracted length ≥ Stroke + 131mm

IP rating IP69K



MA2T - Page 18

Max. load 8,000N (push/pull)

Max. speed at max. load 5.4mm/s

Max. speed at no load 52.5mm/s

Retracted length ≥ Stroke + 131mm

IP rating IP69K



MA4 - Page 20

Max. load 3,500N (push) 2,000N (pull)

Max. speed at max. load 1.8mm/s

Max. speed at no load 43mm/s

Retracted length ≥ Stroke + 106mm (min. retracted length has to be greater than 213mm)

IP rating IP69K



MA5 - Page 22

Max. load 3,500N (push) 2,000N (pull)

Max. speed at max. load 2.4mm/s

Max. speed at no load 56.5mm/s

Retracted length ≥ 200mm (depending on chosen fixation type)

IP rating IP69K



TiMOTION'S TA series family is a well-developed product line for the industrial market segment. All the products in the TA series have a compact design, and can meet the demands of high-force, high-speed, and low noise requirements. The TA series is recommended for use in small spaces where force or capability cannot be sacrificed.



TA2 - Page 24

Max. load 1,000N (push/pull)

Max. speed at max. load 7.6mm/s

Max. speed at no load 67.5mm/s

Retracted length ≥ Stroke + 105mm (without output signals)

IP rating IP66D



TA2P - Page 26

Max. load 3,500N (push) 2,000N (pull)

Max. speed at max. load 2.4mm/s

Max. speed at no load 56.5mm/s

Retracted length ≥ Stroke + 108mm (with Hall sensors or without output signals)

IP rating IP66D



TA16 - Page 28

Max. load 3,500N (push/pull)

Max. speed at max. load 6.2mm/s

Max. speed at no load 23.5mm/s

Retracted length > Stroke + 112mm

IP rating



TA21 - Page 30

Max. load 10,000N (push) 6,000N (pull)

Max. speed at max. load 6.3mm/s

Max. speed at no load 24.7mm/s

Retracted length ≥ 67mm



TA38 - Page 32

Max. load 1,500N (push/pull)

Max. speed at max. load 9mm/s

Max. speed at no load 15.7mm/s

Retracted length ≥ 160mm

IP rating IP66



TiMOTION'S VN series is designed especially for automated ventilation systems. Whether trying to improve the indoor air quality in the building through lower peak summer temperatures or enhancing the interior climate in livestock houses, our VN series can meet the growing demand for ventilation applications. All the actuator in our VN series have metallic appearance with an IP66 rating.



VN1 - Page 34

Max. load 3,500N (push/pull)

Max. speed at max. load 4.2mm/s

Max. speed at no load 10.4mm/s

Retracted length

≥ 181mm
(DC version, w/o T-Smart)
≥ 401mm
(AC version)
* With front attachment #1, 2, or 3
* Required outer tube adjustble attachment

IP rating

IP66

series

TiMOTION's TL (lifting column) series is made up of two or three extruded aluminum tubes of rectangular shape that give the system great stability and a high stroke with reduced retracted length. Our electric lifting columns are perfect for industrial applications such as height- adjustable workstations, screens and lifting tables.



Max. load 4,000N (push)

Self-locking force 4,000N

Max. dynamic bending moment 1,000Nm

Max. speed at max. load 13.7mm/s

Max. speed at no load 39mm/s

Retracted length ≥ Stroke/2 + 150mm

IP rating IPX6



TL17 - Page 38

Max. load 2,000N (push)

Max. dynamic bending moment 250Nm

Max. speed at max. load 11.5mm/s

Max. speed at no load 41mm/s

Retracted length ≥ Stroke/2 + 150mm

IP rating IPX6



TL18 - Page 40

Max. load 4,500N (push)

Self-locking force 4,500N

Max. dynamic bending moment 200Nm

Max. speed at max. load 6.6mm/s

Max. speed at no load 45mm/s

Retracted length ≥ Stroke + 147mm



Max. load 4,500N (push)

Self-locking force 4,500N

Max. dynamic bending moment 250Nm

Max. speed at max. load 6.6mm/s

Max. speed at no load 45mm/s

Retracted length ≥ 383mm

TG M

TiMOTION'S TGM (Gear Motor) series is primarily designed for height-adjustable table applications. The TGM products allow for fast, smooth and quiet adjustments of built-in spindles through the use of external limit switches. Shafting allows for the mechanical synchronization of dual spindles.



TGM1 - Page 44

Max. rated torque 7.4Nm

Max. speed at max. load 72RPM (±5%)

Max. speed at no load 262.5RPM (±5%)

Options Hall sensors



TGM2 - Page 46

Max. rated torque 18.3Nm

Max. speed at max. load 51RPM (±5%)

Max. speed at no load 108RPM (±5%)

Options Hall sensors



TGM3 - Page 48

Max. rated torque 4.6Nm

Max. speed at max. load 61RPM (±5%)

Max. speed at no load 259RPM (±5%)

Options Hall sensors



TGM4 - Page 50

Max. rated torque 6Nm

Max. speed at max. load 98RPM (±5%)

Max. speed at no load 219RPM (±5%)

Options Hall sensors



TGM7 - Page 52

Max. rated torque 7.2Nm

Max. speed at max. load 78RPM (±5%)

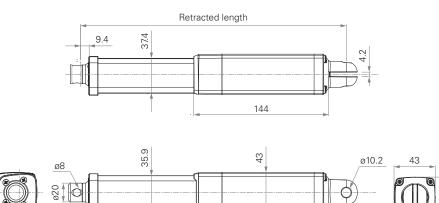
Max. speed at no load 355RPM (±5%)

Options Hall sensors





(mm)



General Features

Max. load Max. speed at max. load Max. speed at no load Retracted length IP rating Certificate Stroke 2,000N (push/pull) 3.5mm/s 23.5mm/s ≥ Stroke + 217mm IP69K UL73 20~1000mm

Voltage	12/24V DC; 12/24V DC (PTC)
Color	Black or grey
Operational temperature range	-5°C~+65°C
Operational temperature range at full performance	+5°C~+45°C
Storage temperature range	-40°C~+70°C

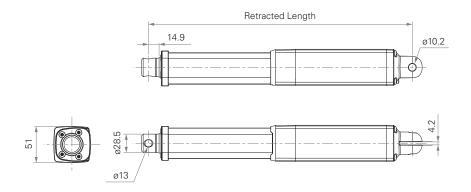
က္

An inline actuator designed for small spaces





(mm)



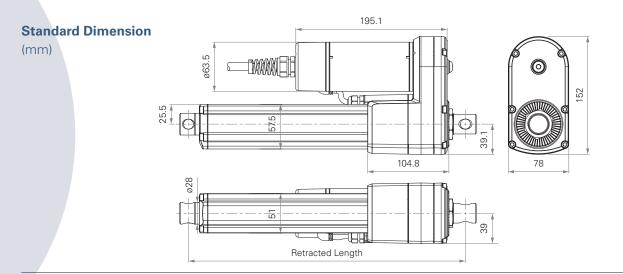
Max. load
Max. speed at max. load
Max. speed at no load
Retracted length
IP rating
Certificate
Stroke

4,500N (push); 3,000N (pull)	Vo
2.5mm/s	Co
27.5mm/s	0
≥ Stroke + 289mm	0
IP69K	at
UL73	St
20~1000mm	Ar

Voltage	12/24V DC; 12/24V DC (PTC)
Color	Black or grey
Operational temperature range	-5°C~+65°C
Operational temperature range at full performance	+5°C~+45°C
Storage temperature range	-40°C~+70°C
An inline actuator designed for small s	spaces



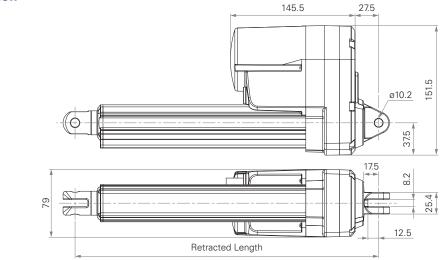




Max. load	ACME screw: 2,500N (push/pull) Ball screw: 4,500N (push/pull)	Options	Overload clutch, electromagnetic brake, Hall
Max. speed at max. load	14.3mm/s (ACME screw, DC motor) 14mm/s (Ball screw, DC motor)		sensors, POT, manual crank function
Max. speed at no load	58.5mm/s (Ball screw, DC motor)	Voltage	12/24/36V DC; 110/220V AC
Retracted length	≥ Stroke + 160mm	Spindle	ACME or Ball screw
netratica length	(ACME screw, without POT) ≥ Stroke + 201mm (Ball screw, without POT)	Color	Black
		Operational temperature range	-30°C~+65°C
IP rating	IP69K	Operational temperature range at full performance	+5°C~+45°C
Certificate	UL73, EMC	Mechanical or electromagnetic brake	1
Stroke	20~1000mm (ACME screw) 50~800mm (Ball screw)	Higher duty cycle (25%), corrosion p	



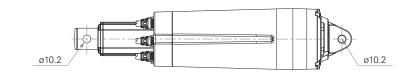
(mm)

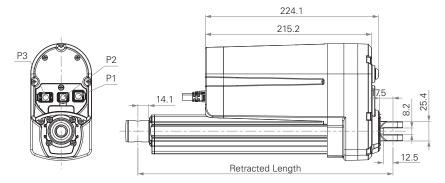


Max. load	8,000N (push/pull)	Options	Hall sensors, POT, manual drive, Reed sensor on the outer tube	
Max. speed at max. load	5.4mm/s			
Max. speed at no load	52.5mm/s	Voltage	12/24/36V DC; 12/24/36V DC (thermal control)	
Retracted length	≥ Stroke + 131mm			
IP rating	IP69K	Operational temperature range	-30°C~+65°C	
Certificate	UL73, EMC	Operational temperature range at full performance	+5°C~+45°C	
Stroke	25~1000mm			



(mm)

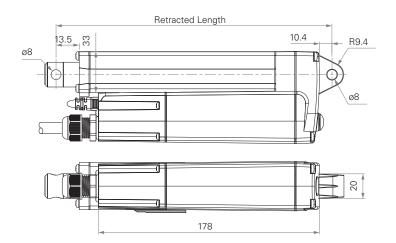




Max. load	8,000N (push/pull)	Options	Hall sensors, manual drive,
Max. speed at max. load	5.4mm/s		Reed sensor on the outer tube, T-Smart, CAN bus board
Max. speed at no load	52.5mm/s	Voltage	12/24 V DC
Retracted length	≥ Stroke + 131mm	Operational temperature range	-40°C~+85°C
IP rating	IP69K	Operational temperature range	+5°C~+45°C
Stroke	25~1000mm	at full performance	



(mm)

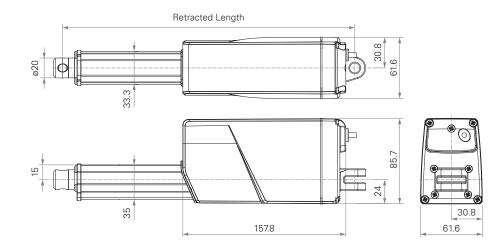


Max. load	3,500N (push); 2,000N (pull)	Options	Adjustable reed switch,
Max. speed at max. load	1.8mm/s		mechanical POT, Hall sensor(s), CAN bus interface
Max. speed at no load	43mm/s	Voltage	12/24V DC; 12/24V DC
Retracted length	≥ Stroke + 106mm		(thermal control)
	(min. retracted length has to be greater than 213mm)	Operational temperature range	-40°C~+85°C
IP rating	IP69K	Operational temperature range at full performance	+5°C~+45°C
Stroke	20~1000mm	-	





(mm)



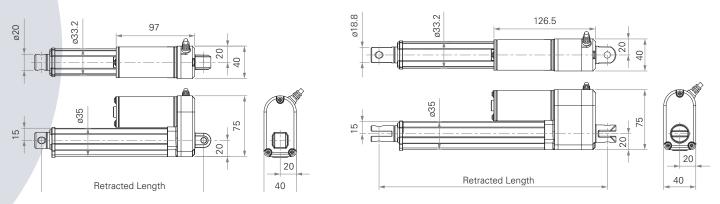
Max. load	3,500N (push); 2,000N (pull)	Stroke	20~1000mm
Max. speed at max. load	2.4mm/s	Options	Hall sensors, POT, grease
Max. speed at no load	56.5mm/s		chamber
Retracted length	≥ 200mm	Operational temperature range	-25°C~+65°C
·	(depending on chosen fixation type)	Operational temperature range	+5°C~+45°C
IP rating	IP69K	at full performance	





(mm)

Without Output Signal



With Output Signal

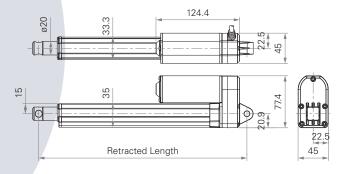
Max. load	1,000N (push/pull)	Options	POT, Reed, Hall sensors
Max. speed at max. load	7.6mm/s	Voltage	12/24/36/48V DC;
Max. speed at no load	67.5mm/s		12/24/36/48V DC (PTC)
Retracted length	≥ Stroke + 105mm	Color	Silver
netroted length	(without output signals)	Operational temperature range	+5°C~+45°C (Load < 500N);
IP rating	IP66D		-25°C~+65°C (Load ≥ 500N)
Certificate	IEC60601-1, ES60601-1, EMC	Operational temperature range at full performance	+5°C~+45°C
Stroke	20~1000mm	Compact size for limited space	



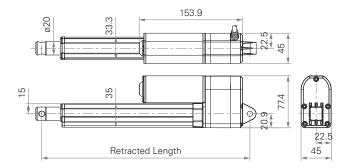


(mm)

Without Output Signal



With Output Signal



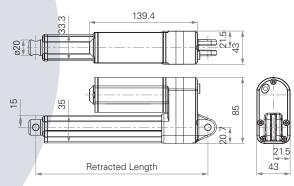
Max. load	3,500N (push); 2,000N (pull)	Stroke	20~1000mm
Max. speed at max. load	2.4mm/s	Options	POT, Reed or Hall sensors
Max. speed at no load	56.5mm/s	Voltage	12/24/36V DC; 12/24V DC
Retracted length	\geq Stroke + 108mm (with Hall sensors		(PTC)
J	or without output signals)	Color	Silver
IP rating	IP66D	Operational temperature range	-25°C~+65°C
Certificate	IEC60601-1, ES60601-1, EN 61000-6-1, EN 61000-6-3, UL73	Operational temperature range at full performance	+5°C~+45°C



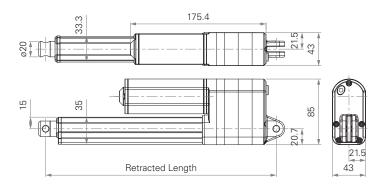


(mm)

Without Output Signal or with Hall Sensors



With POT

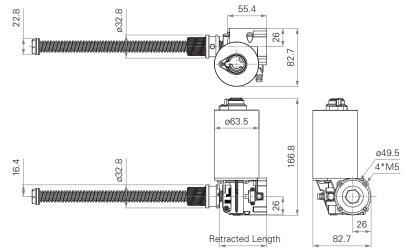


Max. load	3,500N (push/pull)	Stroke	20~600mm
Max. speed at max. load	6.2mm/s	Options	POT, Hall sensor(s)
Max. speed at no load	23.5mm/s	Voltage	12/24/36/48V DC
Retracted length	≥ Stroke + 112mm	Color	Silver
IP rating	IP66	Operational temperature range	+5°C~+45°C
Certificate	IEC60601-1, ES60601-1,	at full performance	1
	IEC60601-1-2, UL962, EMC	With very low noise, small size for ea	asy installation





(mm)



General Features

Max. load
Max. speed at max. load
Max. speed at no load
Retracted length
Certificate

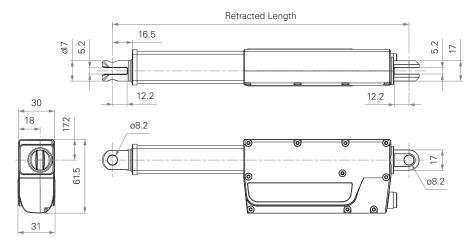
10,000N (push); 6,000N (pull) 6.3mm/s 24.7mm/s ≥ 67mm UL962

Stroke	25~400mm
Options	Hall sensors, Reed sensor
Voltage	24V DC; 24V DC (UL)
Color	Black or grey
High design flexibility	





(mm)



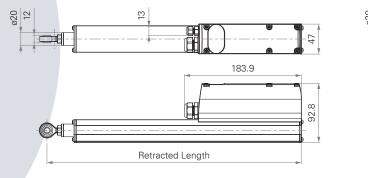
Max. load	1,500N (push/pull)
Max. speed at max. load	9mm/s
Max. speed at no load	15.7mm/s
Retracted length	≥ 160mm
IP rating	IP66

Stroke	20~200mm
Options	Hall sensors
Voltage	24V DC; 12/24V DC (PTC)
Color	Black or grey
Operational temperature range	+5°C~+45°C

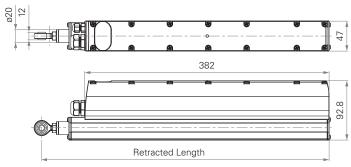


(mm)

With DC Voltage



With AC Voltage

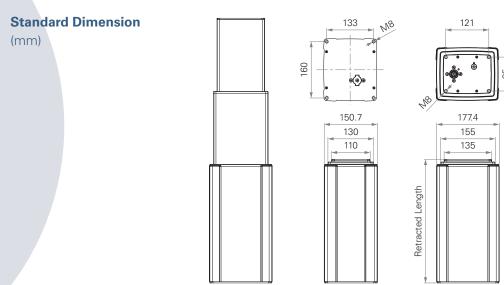


Max. load	3,500N (push/pull)	Stroke	20~500mm
Max. speed at max. load	4.2mm/s	Options	Hall sensors, safety nut,
Max. speed at no load	10.4mm/s		window seal mechanism
Retracted length	≥ 181mm (DC version, w/oT-Smart) ≥ 401mm (AC version)	Voltage	12/24V DC; 100~240V AC (50Hz)
* With front attachment #1, 2, or 3 * Required outer tube adjustble attachment	Color	Black, grey	
	Operational temperature range	-15°C~+50°C	
IP rating	IP66	Operational temperature range at full performance	+5°C~+45°C



series

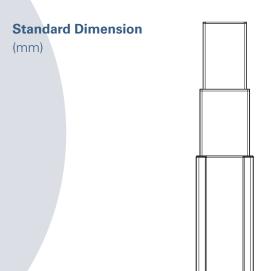


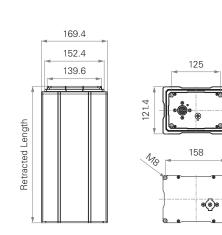


Max. load	4,000N (push)
Self-locking force	4,000N
Max. dynamic bending moment	1,000Nm
Max. static bending moment	2,000Nm
Max. speed at max. load	13.7mm/s
Max. speed at no load	39mm/s
Retracted length	≥ Stroke/2 + 150mm

IP rating	IPX6
Dimension of outer tube	3-stage, 177.4*150.7mm rectangular
Stroke	250~1200mm
Certificate	IEC60601-1, EMC
Options	POT, Hall sensors, direct cut system
Operational temperature range	+5°C~+45°C







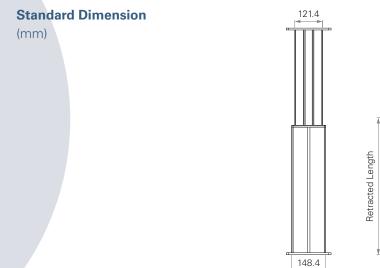
2

Mo

110

Max. load	2,000N (push)	Dimension of outer tube	3-stage, 169.4*121.4mm rectangular
Max. dynamic bending moment	250Nm		lectaliguiai
Max. static bending moment	500Nm	Stroke	250~1200mm
Max. speed at max. load	11.5mm/s	Certificate	IEC60601-1, ES60601-1, IEC60601-1-2
Max. speed at no load	41mm/s	Options	Hall sensor(s)
Retracted length	≥ Stroke/2 + 150mm	Color	Silver, black
IP rating	IPX6	Operational temperature range	+5°C~+45°C



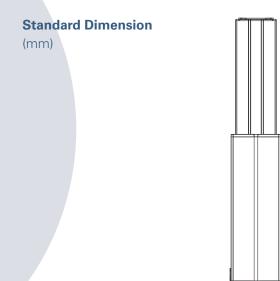


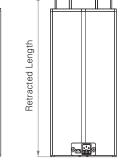
Betracted Length

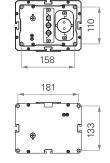
169.4

Max. load	4,500N (push)	Dimension of outer tube	2-stage, 196.4*148.4mm rectangular
Self-locking force	4,500N		5
Max. dynamic bending moment	200Nm	Stroke	100~700mm
Max. static bending moment	400Nm	Certificate	IEC60601-1, ES60601-1, IEC60601-1-2, UL73, EMC
Max. speed at max. load	6.6mm/s	Options	Hall sensor(s), cable exit from
Max. speed at no load	45mm/s		top or bottom side, direct cut system
Retracted length	≥ Stroke + 147mm		,
		Operational temperature range	+5°C~+45°C









Max. load	4,500N (push)
Self-locking force	4,500N
Max. dynamic bending moment	250Nm
Max. static bending moment	500Nm
Max. speed at max. load	6.6mm/s
Max. speed at no load	45mm/s

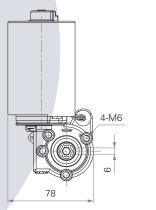
Retracted length	≥ 383mm
Dimension of outer tube	2-stage, 196.4*148.4mm rectangular
Stroke	200~700mm
Options	AC cable exit from top end, top side; Ethernet socket
Operational temperature range	+5°C~+45°C

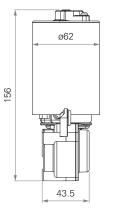




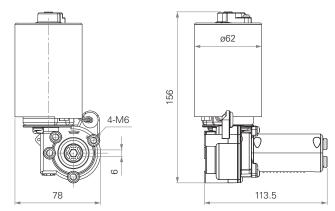
(mm)

Without TES2





With TES2



General Features

Max. rated torque
Max. speed at max. load
Max. speed at no load
Certificate
Options

7.4Nm 72RPM (±5%) 262.5RPM (±5%) UL962 Hall sensors

Voltage

Operational temperature range at full performance

+5°C~+45°C

12, 24V DC or 24V DC (PTC)

Hexagon hole for the shaft by 6 or 9.1mm diameter

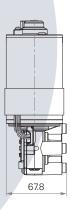
Low noise

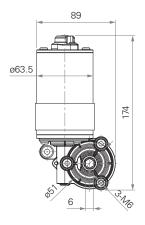




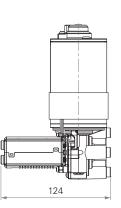
(mm)

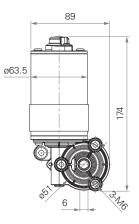
Without TES2





With TES2





General Features

Max. rated torque Max. speed at max. load Max. speed at no load

18.3Nm 51RPM (±5%) 108RPM (±5%)

Options
Voltage

Low noise

Hall sensors

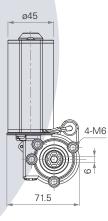
12V DC or 24V DC (thermal protector)

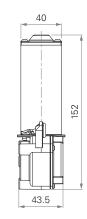




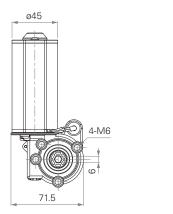
(mm)

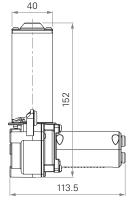
Without TES2





With TES2





General Features

Max. rated torque
Max. speed at max. load
Max. speed at no load
Options

4.6Nm 61RPM (±5%) 259RPM (±5%) Hall sensors

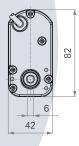
Voltage	24V DC	
Operational temperature range at full performance	+5°C~+45°C	
Hexagon hole for the shaft by 6mm diameter		
Low noise		

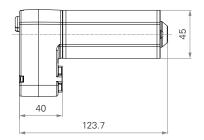




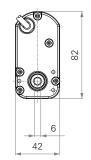
(mm)

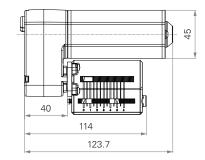
Without TES2





With TES2





General Features

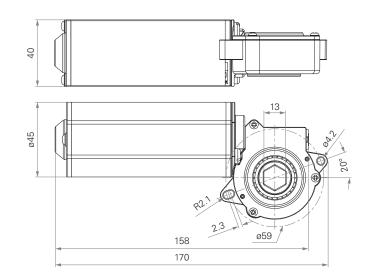
Max. rated torque
Max. speed at max. load
Max. speed at no load
Options

6Nm 98RPM (±5%) 219RPM (±5%) Hall sensors

Voltage	24V DC
Operational temperature range at full performance	+5°C~+45°C
Hexagon hole for the shaft by 9mm diameter	
Low noise	



(mm)



General Features

Max. rated torque Max. speed at max. load Max. speed at no load Options 7.2Nm 78RPM (±5%) 355RPM (±5%) Hall sensors

Voltage	24V DC
Operational temperature range at full performance	+5°C~+45°C
Low noise	

Terms of Use

The user is responsible for determining the suitability of TiMOTION products for a specific application. TiMOTION takes great care in providing accurate and up-to-date information on its products. However, due to continuous development, frequent modifications and changes to products may occur without prior notice. It is for this reason that TiMOTION cannot guarantee the correct and actual status of said information on its products, nor can it guarantee the availability of any particular product.

Therefore, TiMOTION reserves the right to discontinue the sale of any product displayed on its website or listed in its catalogues or other written material produced by TiMOTION.

For the most accurate and up-to-date information on our products, please visit TiMOTION's website.

www.timotion.com



Every Day is Earth Day

TiMOTION uses FSC certificated paper in order to help care for our forests, as well as the people and wildlife who call them home.

Taiwan & China

sales.tw@timotion.com tel 886 2 2219 6633

Europe

sales.eu@timotion.com tel 33 (0)1 74 82 50 51

Japan

sales.jp@timotion.com tel 81 6 6713 1188

USA

sales.us@timotion.com tel (855)235 1424

Korea

sales@timotion.co.kr tel 82 31 745 1060

Latin America

sales.la@timotion.com tel 55 (11) 5081 5011

Australia

sales.tw@timotion.com tel 61 3 8725 0331



For the latest product information

Updated: Jun 2021