





# **PLUTO Screwdrivers for Automation** | Torque range 0.5 – 50 Nm

PLUTO CA screwdrivers are designed for automated and fixtured applications. Whether you're working with a robot or adapting your assembly line to Industry 4.0 standards, we have the right solution for automation in all its forms.

## Long-lasting quality

PLUTO® Screwdrivers feature an innovative coreless motor with low inertia and friction and absence of iron losses for extreme efficiency and extended life.

Planetary gearboxes are made of high-quality composite materials for excellent accuracy and repeatability throughout the wide 0.5 -  $50~\rm Nm$  torque range.

## Perfect for automatic machines

PLUTO CA are supplied in an aluminium body for a quick and easy integration with automatic machines and screwfeeding systems. PLUTO tools in CA/FN version are equipped with a flange mount and reciprocating spindle for high volume/high duty applications.

### **Robotic applications**

Our PLUTO CA screwdrivers can be easily interfaced with robots. The EDU2AE screwdriver controller connects to robots to determine screw speed, torque and time out. The controller sends a signal to the robot when the screw reaches the specified torque.

# Industry 4.0 ready

Simply connect the screwdriver controller to your PLC, robot or machine through the proper connectors to manage input/output signals such as start, stop, error and more.

You can also get data reports of the full tightening procedure on advanced control units like EDU2AE/TOP/E and EDU2AE/TOP/TA.

#### **Available Housings**



ALUMINIUM BODY (PLUTO CA and PLUTO CA/N) – Specifically designed for automation Easy to install on any machine or robot.



ALUMINIUM BODY WITH FLANGE MOUNT (PLUTO CA/FN and PLUTO CA/FN2) – Ideal for automated high volume/high duty applications.

Flange and telescopic spindle available together or separately.



Robotic application SCAN TO WATCH





# Fixture Mount Screwdrivers / PLUTO Series

# Aluminium housing PLUTO Screwdrivers

Code	Model	Torque Nm	RPM min-max	Dimensions mm	Weight kg	Bit Drive
130303	PLUTO3CA	0.5 - 3	370 - 1300	168 x 40	0.50	Hex 1/4"
133206	PLUTO6CA	0.85 - 6	200 - 850	168 x 40	0.50	Hex 1/4"
133211/N	PLUTO10CA/N	1.5 - 10	110 - 600	168 x 40	0.50	Hex 1/4"
133216/N	PLUTO15CA/N	2.0 - 15	60 - 320	168 x 40	0.50	Hex 1/4"
133221	PLUTO20CA	3.0 - 20	50 - 200	232 x 47	1.10	Sq 3/8"
133236	PLUTO35CA	3.0 - 35	40 - 140	247 x 57	1.50	Sq 3/8"
133250	PLUTO50CA	5.0 - 50	20 - 90	252 x 57	1.50	Sq 1/2"

# Aluminium housing PLUTO Screwdrivers with flange mount

Code	Model	Torque Nm	RPM min-max	RPM min-max Dimensions mm		Bit Drive
130303/FN2	PLUTO3CA/FN2	0.5 - 3	370 - 1300	268 x 40	0.70	Sq 3/8"
130303/FN2/1-4	PLUTO3CA/FN2/1-4	0.5 - 3	370 - 1300	247 x 40	0.70	Hex 1/4"
133206/FN2	PLUTO6CA/FN2	0.85 - 6	200 - 850	268 x 40	0.70	Sq 3/8"
133206/FN2/1-4	PLUTO6CA/FN2/1-4	0.85 - 6	200 - 850	247 x 40	0.70	Hex 1/4"
133211/FN2	PLUTO10CA/FN2	1.5 - 10	110 - 600	268 x 40	0.70	Sq 3/8"
133211/FN2/1-4	PLUTO10CA/FN2/1-4	1.5 - 10	110 - 600	247 x 40	0.70	Hex 1/4"
133216/FN2	PLUTO15CA/FN2	2.0 - 15	60 - 320	268 x 40	0.70	Sq 3/8"
133221/FN	PLUTO20CA/FN	3.0 - 20	50 - 200	323 x 47	1.35	Sq 3/8"
133236/FN	PLUTO35CA/FN	3.0 - 35	40 - 140	338 x 57	1.95	Sq 3/8"
133250/FN	PLUTO50CA/FN	5.0 - 50	20 - 90	351 x 57	1.95	Sq 1/2"

## Control units for PLUTO Screwdrivers

Code	Model	Single Program	Torque Value in Nm	Serial Port	Multitorque (8 P-sets)	USB Port	PC Software	Weight kg	Dimensions mm
032000	EDU2AE	•	-	-	-	-	-	2.40	195 x 170 x 110
032000/HPRO	EDU2AE/HPRO	•	•	•	-	-	-	2.40	195 x 170 x 110
032000/TOP	EDU2AE/TOP	-	•	•	•	-	-	2.50	190 x 205 x 120
032000/TOP/E	EDU2AE/TOP/E	-	•	•	•	•	•	2.50	190 x 205 x 120

See page 19 for a complete list of features.

2D and 3D drawings available on kolver.it

IMPORTANT: Continuous use over 80% of torque range is not recommended.



# Fixture Mount Screwdrivers / Torque & Angle Series





# **Torque & Angle Screwdrivers for Automation** | Torque range 0.02 – 50 Nm

Automation requires accurate torque controlling techniques. TA automated systems feature advanced monitoring strategies such as torque and rotation angle of the screw, for precise torque and angle control on all automated operations.

#### The Torque/Angle Control

The main parameters to be controlled are the tightening torque and the rotation angle of the screw, either with torque or angle priority. The screwdriver stops automatically when the pre-set angle and torque value have been reached and an indication of OK cycle (green led turned on) is given, otherwise a red led turns on if the tightened screw doesn't match the pre-set parameters. The final torque and angle values are also displayed.

#### Easy interface

TA Screwdrivers work in combination with EDU2AE/TOP/TA control units, which allow to set, change and save all parameters via PC, USB key and a wide range of I/O connections for an easy interface with your PLC, robot or machine.

#### Plenty of options

PLUTO, MITO and NATO automated torque & angle screwdrivers cover a wide torque range of 0.1-50 Nm: choose the tool that best suits your application and set the desired working cycle through TOP/TA control units. You can set 8 independent programs either directly on control unit or remotely.

TA automated screwdrivers give you total control over automated applications.

## Industry 4.0

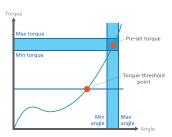
Interconnection, automatic control and continuous monitoring are fundamental aspects of Industry 4.0.

Through EDU2AE/TOP/TA control units you can easily manage input and output signals such as start, stop, error and more.

You can also get data reports of the full tightening procedure on PC, USB key or serial connection.

# EDU2AE/TOP/TA Torque and Angle Functionalities

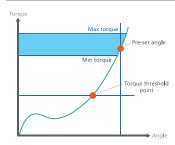
#### Torque Mode



It's the most common mode. If the final torque and angle values are within the preset minimum and maximum values, the screw is tightened correctly and the controller will give an OK message.

If the torque and/or angle are outside the pre-set values, the screw will be considered incorrectly tightened and the controller will give an error message.

#### Angle Mode



This mode gives priority to the angle to be reached. Starting from the pre-set threshold torque, the system will start counting the degrees and when the pre-set angle is reached the screwdriver will stop.

The control unit will give an OK or NOK message depending on whether the screw is tightened correctly or not. It is also possible to set minimum and maximum values within which the set angle must be reached.





# Fixture Mount Screwdrivers / Torque & Angle Series

# Aluminium housing TA Screwdrivers

Code	Model	Torque Nm	RPM min-max	<b>Dimensions mm</b>	Weight kg	Bit Drive
163015/TA	NATO15CA/TA	0.02 - 0.27	100 - 700	150 x 25	0.18	Half moon 4 mm
163050/TA	NATO50CA/TA	0.05 - 0.5	50 - 700 150 x 25		0.18	Hex 1/4"
170016/TA	MITO15CA/TA	0.35 - 1.5	450 - 850	450 - 850 193 x 32		Hex 1/4"
130303/TA	PLUTO3CA/TA	0.5 - 3	370 - 1300	168 x 40	0.50	Hex 1/4"
133206/TA	PLUTO6CA/TA	0.85 - 6	200 - 850	168 x 40	0.50	Hex 1/4"
133211/TA	PLUTO10CA/TA	1.5 - 10	110 - 600	168 x 40	0.50	Hex 1/4"
133216/TA	PLUTO15CA/TA	2.0 - 15	60 - 320	168 x 40	0.50	Hex 1/4"
133221/TA	PLUTO20CA/TA	3.0 - 20	50 - 200	232 x 47	1.10	Sq 3/8"
133236/TA	PLUTO35CA/TA	3.0 - 35	40 - 140	247 x 57	1.50	Sq 3/8"
133250/TA	PLUTO50CA/TA	5.0 - 50	20 - 90	252 x 57	1.50	Sq 1/2"

# Aluminium housing TA Screwdrivers with flange mount

Code	Model	Torque Nm	RPM min-max	Dimensions mm	Weight kg	Bit Drive
170016/FN/TA	MITO15CA/FN/TA	0.35 - 1.5	450 - 850	271 x 32	0.40	Hex 1/4"
130303/FN2/TA	PLUTO3CA/FN2/TA	0.5 - 3	370 - 1300	268 x 40	0.70	Sq 3/8"
130303/FN2/TA/1-4	PLUTO3CA/FN2/TA/1-4	0.5 - 3	370 - 1300	247 x 40	0.70	Hex 1/4"
133206/FN2/TA	PLUTO6CA/FN2/TA	0.85 - 6	200 - 850	268 x 40	0.70	Sq 3/8"
133206/FN2/TA/1-4	PLUTO6CA/FN2/TA/1-4	0.85 - 6	200 - 850	247 x 40	0.70	Hex 1/4"
133211/FN2/TA	PLUTO10CA/FN2/TA	1.5 - 10	110 - 600	268 x 40	0.70	Sq 3/8"
133211/FN2/TA/1-4	PLUTO10CA/FN2/TA/1-4	1.5 - 10	110 - 600	247 x 40	0.70	Hex 1/4"
133216/FN2/TA	PLUTO15CA/FN2/TA	2.0 - 15	60 - 320	268 x 40	0.70	Sq 3/8"
133221/FN/TA	PLUTO20CA/FN/TA	3.0 - 20	50 - 200	323 x 47	1.35	Sq 3/8"
133236/FN/TA	PLUTO35CA/FN/TA	3.0 - 35	40 - 140	338 x 57	1.95	Sq 3/8"
133250/FN/TA	PLUTO50CA/FN/TA	5.0 - 50	20 - 90	351 x 57	1.95	Sq 1/2"

# Control units for TA Screwdrivers

Code	Model	NATO TA Series	PLUTO, MITO TA Series	Serial Port	Multitorque (8 P-sets)	Computer Interface	Torque & Angle	Weight kg	Dimensions mm
031000/TOP/NT/TA	EDU2AE/TOP/NT/TA	•	-	•	•	•	•	2.00	190 x 205 x 120
032000/TOP/TA	EDU2AE/TOP/TA	-	•	•	•	•	•	2.50	190 x 205 x 120

See page 19 for a complete list of features.

2D and 3D drawings available on kolver.it

IMPORTANT: Continuous use over 80% of torque range is not recommended.







# KBL Screwdrivers for Automation | Torque range 0.04 – 4 Nm

KBL CA Screwdrivers combine state-of-the-art brushless motors with an aluminium housing for quick and easy installation on robots and automatic machines.

## Designed for automation

KBL CA tools are supplied in an aluminium body for a quick and easy integration with automatic machines and screw feeding systems. KBL tools in CA/FN version are equipped with a flange mount and reciprocating spindle for high-intensity applications.

#### Easy to install and operate

Each KBL CA screwdriver works in combination with an EDU1BL/SG control unit. Its electronic control circuit cuts the power supply to the screwdriver motor in response to the clutch action, as soon as the pre-set torque has been reached.

KBL's torque clutch only needs to be set once and guarantees accurate repeatability on any kind of joint.

## Industry 4.0 with KBL

Transitioning to Industry 4.0 is easy with KBL CA screwdrivers. They can be easily connected to robots or automatic machines through their EDU 1BL/SG controller's proper connectors to manage input/output signals such as start, stop, error and more.

#### No maintenance required

Automation requires tools capable of keeping high quality standards, even on heavy-duty applications. KBL Screwdrivers combine Swiss brushless motors with magnetic clutch switches for a real maintenance-free solution. The absence of maintenance operations guarantees high productive continuity.

#### For clean-room environments

KBL screwdrivers are perfect for automated applications requiring cleanroom standards. No brushes means zero emissions of carbon dust or other pollutants into the working environment, which guarantees highquality assembly on any joint.

#### **Available Housings**



ALUMINIUM BODY (KBL CA) – Specifically designed for automation. Easy to install on any machine or robot.



ALUMINIUM BODY WITH FLANGE MOUNT (KBL CA/FN) – Ideal for automated high volume/high duty applications. Flange and telescopic spindle available together or separately.









# Fixture Mount Clutch Screwdrivers / KBL Series

# Aluminium housing KBL Screwdrivers

Code	Model	Torque Nm	RPM min-max Dimensions mm		Weight kg	Bit Drive
190004/CA	KBL04FR/CA	0.04 - 0.4	700 - 1150	257 x 40	0.60	Hex 1/4"
190015/CA	KBL15FR/CA	0.4 - 1.5	700 - 1150	257 x 40	0.60	Hex 1/4"
190030/CA	KBL30FR/CA	0.7 - 3	700 - 1150	264 x 40	0.75	Hex 1/4"
190040/CA	KBL40FR/CA	0.9 - 4	400 - 700	264 x 40	0.75	Hex 1/4"

# Aluminium housing KBL Screwdrivers with flange mount

Code	Model	Torque Nm	RPM min-max	Dimensions mm	Weight kg	Bit Drive
190004/CA/FN	KBL04FR/CA/FN	0.04 - 0.4	700 - 1150	330 x 40	0.65	Hex 1/4"
190015/CA/FN	KBL15FR/CA/FN	0.4 - 1.5	700 - 1150	330 x 40	0.65	Hex 1/4"
190030/CA/FN	KBL30FR/CA/FN	0.7 - 3	700 - 1150	338 x 40	0.80	Hex 1/4"
190040/CA/FN	KBL40FR/CA/FN	0.9 - 4	400 - 700	338 x 40	0.80	Hex 1/4"

#### Control unit for KBL CA Screwdrivers

Code	Model	Settable Speed	Ramp Option		Serial Print			Weight kg	Dimensions mm
003000/SG	EDU1BL/SG	•	•	•	with ACE	with ACE	with ACE	0.60	138 x 118 x 67

2D and 3D drawings available on kolver.it

IMPORTANT: Continuous use over 80% of torque range is not recommended.