



## Torque & Angle Hand-held Screwdrivers | Torque range 0.4 – 443 in-lb

Industrial tightening requires precise control strategies. TA systems feature Torque and Angle monitoring, making it possible to manage both torque and rotation angle of the screw.

### The Torque/Angle Control

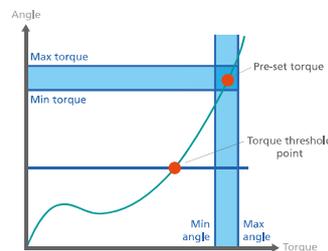
The main parameters to be controlled are the tightening torque and the rotation angle of the screw, either with torque or angle priority. The screwdriver stops automatically when the pre-set angle and torque value have been reached and an indication of OK cycle (green led turned on) is given, otherwise 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.

### Main features

- 'EDU Expand' software for remote programming via USB port and PC.
- USB port on front panel for uploading and downloading programs.
- Easy to program user interface screens.
- Password protected.
- Torque value in in-lb, lbf.in and kgf.cm.
- Angle value in degrees.
- 8 independent programs including the options:
  - Min/Max torque value.
  - Min/Max angle value.
  - Rundown speed.
  - Slow start/Soft stop.
  - Hard/soft joint.
  - Min/Max rundown time.
  - Prevailing torque (threadcutting).
  - Auto reverse if required.
- 6 Torque & Angle strategies:
  - Torque priority: angle count from torque threshold (T) or from remote input (T/I) or from lever input (T/L).
  - Angle priority: driver stops when angle is reached from threshold torque (A) or from remote input (A/I) or from lever (A/L).

### EDU2AE/TOP/TA Torque and Angle Functionalities

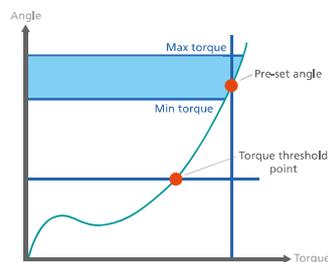
#### Torque Mode



It's the most common mode. If the final torque and angle values are within the pre-set 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.





## Inline TA Screwdrivers

Code	Model	Torque in-lb	RPM min-max	Dimensions in	Weight lb	Bit Drive
160015/TA	NATO15D/TA	0.18 - 2.4	100 - 700	8.3 x 1.3	0.5	Half moon 4 mm
160050/TA	NATO50D/TA	0.4 - 4.4	200 - 700	8.3 x 1.3	0.5	Hex 1/4"
170015/TA	MITO15D/TA	2.5 - 13.3	450 - 850	8.5 x 1.3	0.8	Hex 1/4"
130203/TA	PLUTO3D/TA	4.4 - 26.6	370 - 1300	8.9 x 1.6	1.1	Hex 1/4"
130206/TA	PLUTO6D/TA	7.5 - 53.1	200 - 850	8.9 x 1.6	1.1	Hex 1/4"
130211/TA	PLUTO10D/TA	13.3 - 88.5	110 - 600	8.9 x 1.6	1.1	Hex 1/4"
130216/TA	PLUTO15D/TA	17.7 - 133	60 - 320	8.9 x 1.6	1.1	Hex 1/4"
<b>Models with LED light ring</b>						
130203/TA/LED	PLUTO3D/TA/LED	4.4 - 26.6	370 - 1300	8.9 x 1.6	1.1	Hex 1/4"
130206/TA/LED	PLUTO6D/TA/LED	7.5 - 53.1	200 - 850	8.9 x 1.6	1.1	Hex 1/4"
130211/TA/LED	PLUTO10D/TA/LED	13.3 - 88.5	110 - 600	8.9 x 1.6	1.1	Hex 1/4"
130216/TA/LED	PLUTO15D/TA/LED	17.7 - 133	60 - 320	8.9 x 1.6	1.1	Hex 1/4"

## Pistol grip TA Screwdrivers

Code	Model	Torque in-lb	RPM min-max	Dimensions in	Weight lb	Connector Option
130204/TA	PLUTO3P/TA	4.4 - 26.6	370 - 1300	6.3 x 6.9 x 1.8	1.1	Bottom connector
130205/TA	PLUTO3P/U/TA	4.4 - 26.6	370 - 1300	6.4 x 6.9 x 1.8	1.1	Top connector
130207/TA	PLUTO6P/TA	7.5 - 53.1	200 - 850	6.3 x 6.9 x 1.8	1.1	Bottom connector
130207/U/TA	PLUTO6P/U/TA	7.5 - 53.1	200 - 850	6.4 x 6.9 x 1.8	1.1	Top connector
130210/TA	PLUTO10P/TA	13.3 - 88.5	110 - 600	6.3 x 6.9 x 1.8	1.1	Bottom connector
130210/U/TA	PLUTO10P/U/TA	13.3 - 88.5	110 - 600	6.4 x 6.9 x 1.8	1.1	Top connector
130215/TA	PLUTO15P/TA	17.7 - 133	60 - 320	6.3 x 6.9 x 1.8	1.1	Bottom connector
130215/U/TA	PLUTO15P/U/TA	17.7 - 133	60 - 320	6.4 x 6.9 x 1.8	1.1	Top connector

## Aluminium body TA Screwdrivers

Code	Model	Torque in-lb	RPM min-max	Dimensions in	Weight lb	Bit Drive
133221/SR/TA	PLUTO20CA/SR/TA	26.6 - 177	50 - 200	9.1 x 2.1	2.4	Sq 3/8"
133236/SR/TA	PLUTO35CA/SR/TA	26.6 - 310	40 - 140	9.7 x 2.2	3.3	Sq 3/8"
133250/SR/TA	PLUTO50CA/SR/TA	44.3 - 443	20 - 90	9.9 x 2.2	3.3	Sq 1/2"

## Angle head TA Screwdrivers

Code	Model	Torque in-lb	RPM min-max	Dimensions in	Bit Drive	Start Option
130203/A/TA	PLUTO3ANG/TA	4.4 - 22	370 - 1300	11.9 x 1.6	Hex 1/4"	Lever start
130206/A/TA	PLUTO6ANG/TA	7.5 - 53	200 - 850	11.9 x 1.6	Hex 1/4"	Lever start
130208/TA	PLUTO8ANG/TA	13.3 - 70.8	110 - 600	11.9 x 1.6	Hex 1/4"	Lever start
130216/A/TA	PLUTO15ANG/TA	17.7 - 115	100 - 320	11.9 x 1.6	Hex 1/4"	Lever start

## 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 lb	Dimensions in
031000/TOP/NT/TA	EDU2AE/TOP/NT/TA	•	-	•	•	•	•	4.4	7.5 x 8.1 x 4.7
032000/TOP/TA	EDU2AE/TOP/TA	-	•	•	•	•	•	5.5	7.5 x 8.1 x 4.7

See page 18 for a complete list of features.

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



## Torque & Angle Screwdrivers for Automation | Torque range 0.4 – 443 in-lb

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 0.4 - 443 in-lb: 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

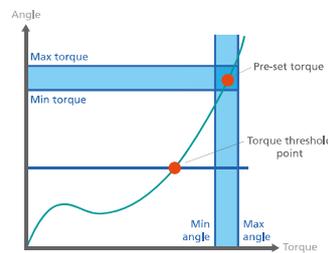
Interconnection, automatic control and continuous monitoring are fundamental aspects of Industry 4.0.

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

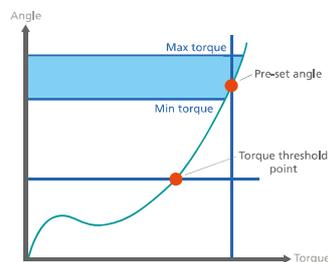
#### Torque Mode



It's the most common mode. If the final torque and angle values are within the pre-set 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.

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## Aluminium housing TA Screwdrivers

Code	Model	Torque in-lb	RPM min-max	Dimensions in	Weight lb	Bit Drive
163015/TA	NATO15CA/TA	0.18 - 2.4	100 - 700	5.9 x 2.2	0.4	Half moon 4 mm
163050/TA	NATO50CA/TA	0.4 - 4.4	200 - 700	5.9 x 2.2	0.4	Hex 1/4"
170016/TA	MITO15CA/TA	2.5 - 13.3	450 - 850	7.6 x 2.9	0.8	Hex 1/4"
130303/TA	PLUTO3CA/TA	4.4 - 26.6	370 - 1300	6.6 x 1.6	1.1	Hex 1/4"
133206/TA	PLUTO6CA/TA	7.5 - 53.1	200 - 850	6.6 x 1.6	1.1	Hex 1/4"
133211/TA	PLUTO10CA/TA	13.3 - 88.5	110 - 600	6.6 x 1.6	1.1	Hex 1/4"
133216/TA	PLUTO15CA/TA	17.7 - 133	60 - 320	6.6 x 1.6	1.1	Hex 1/4"
133221/TA	PLUTO20CA/TA	26.6 - 177	50 - 200	9.1 x 1.9	1.5	Sq 3/8"
133236/TA	PLUTO35CA/TA	26.6 - 310	40 - 140	9.7 x 2.2	1.5	Sq 3/8"
133250/TA	PLUTO50CA/TA	44.3 - 443	20 - 90	9.9 x 2.2	1.5	Sq 1/2"

## Aluminium housing TA Screwdrivers with flange mount

Code	Model	Torque in-lb	RPM min-max	Dimensions in	Weight lb	Bit Drive
130303/FN2/TA	PLUTO3CA/FN2/TA	4.4 - 26.6	370 - 1300	10.6 x 1.6	1.5	Sq 3/8"
133206/FN2/TA	PLUTO6CA/FN2/TA	7.5 - 53.1	200 - 850	10.6 x 1.6	1.5	Sq 3/8"
133211/FN2/TA	PLUTO10CA/FN2/TA	13.3 - 88.5	110 - 600	10.6 x 1.6	1.5	Sq 3/8"
133216/FN2/TA	PLUTO15CA/FN2/TA	17.7 - 133	60 - 320	10.6 x 1.6	1.5	Sq 3/8"
133221/FN/TA	PLUTO20CA/FN/TA	26.6 - 177	50 - 200	12.7 x 1.9	2.3	Sq 3/8"
133236/FN/TA	PLUTO35CA/FN/TA	26.6 - 310	40 - 140	13.3 x 2.2	4.3	Sq 3/8"
133250/FN/TA	PLUTO50CA/FN/TA	44.3 - 443	20 - 90	13.8 x 2.2	4.3	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 lb	Dimensions in
031000/TOP/NT/TA	EDU2AE/TOP/NT/TA	•	-	•	•	•	•	4.4	7.5 x 8.1 x 4.7
032000/TOP/TA	EDU2AE/TOP/TA	-	•	•	•	•	•	5.5	7.5 x 8.1 x 4.7

See page 18 for a complete list of features.

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