

# Electric nutrunner

## DE1*docu* & DE1*docu-plus*



# The latest generation of our electric nutrunner – **DE1docu**



We have given the DE1*docu* a new control system which includes voltage monitoring and speed sensing. This allows you to complete your bolting with even greater precision and reliability. As it reliably offsets any voltage fluctuations and changes in temperature, this new tool delivers superior torque accuracy. The DE1*docu* switches automatically to the available mains frequency (e.g. 50 Hz or 60 Hz).

The digital multifunction display (O-LED) allows the user outstanding ease of use and a comprehensive range of values.

- The intuitive operating menu largely dispenses with text.
- The two-digit torque setting 00-99 can be adjusted using the corresponding buttons.
- The values measured for mains voltage, mains frequency and the motor temperature are indicated on the display.
- Another option is to display the torque value (as listed in the enclosed torque table).
- A host of additional features are available in the symbol navigation menu (e.g. key lock, loosening mode and locking of individual setting steps).

# The benefits

The standard version of the electric nutrunner **DE1docu** comes with a large variety of features.

## Optimised gearbox

Designed to sustain a constant load, the gearbox is now slimmer, shorter and lighter.

## Multifunction display

The digital multifunction display (O-LED) allows the user outstanding ease of use and a comprehensive range of values.

## Maximum safety

The motor temperature is monitored constantly. When overheating, the motor is switched off automatically.

## Perfect handling

The highly advanced ergonomic design and the low vibration technology of the tool reduces strain on your hands and joints (HAVS).



## Exceptional flexibility

The drive rotates 360°.

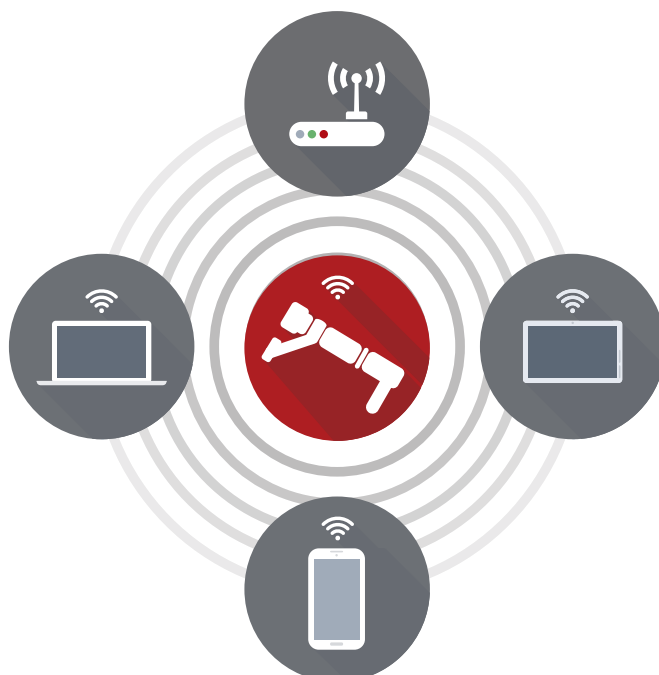
**Silicon display protector**  
included

## DE1docu & DE1docu-plus

### Documentation via WLAN

As current technology development steps lead towards Industry 4.0 the degree of digitization is steadily increasing. The elementary demand of more process security is also reflected in the field of bolting technology. This newly developed WLAN documentation function of the nutrunner DE1docu/DE1docu-plus will not only fulfil the needs of the market but the future standards of industrial production.

- Digital storage of up to 10 000 individual bolted joints
- Wireless transmission via a WLAN module with real-time clock
- Integrated web server
- CSV data format with device-specific information
- Connectivity to all WLAN-capable devices
- Actual devices need only one common web browser for transmission of data
- Login with a device-specific IP address





# The **DE1** *docu-plus*

## Torque/angle feature



### The software controlling Plarad nutrunners – greater precision and intelligence!

The newly developed DE1*docu-plus* expands the range of functions offered on the standard version. The innovative software adds additional features that expand the capabilities of the various bolting procedures. Key among these capabilities is the new torque/angle mode (combined procedure) which can be executed as one combined process successively, snug torque and then angle. An alternative option is to complete two separate steps of the process manually: application of the snug torque first followed by the application of the tightening angle in pure angle mode.

The torque/angle procedure produces uniform, accurately repeatable and, thus, exceptionally precise

bolting results. The extensive Plus package widens the DE1*docu*'s field of application by additional use options in the areas of installation and service.



# Putting the Plus in the **DE1plus**

Its highly advanced operating concept allows for a quick and easy selection of the different bolting modes, which can be selected simply by choosing the corresponding symbol from the menu options.



## Torque mode

- Two digit torque setting 00-99 can be adjusted using the corresponding buttons.
- Another option is to display the torque value (as listed in the enclosed torque table).



## Angle mode

- Option to limit the maximum overall torque when applying angle tightening ( this protects the tool and the bolt which is being tightened).
- Setting the snug torque at 100 increments according to torque table (00 to 99)
- Continuous adjustment of the torque/angle from 0 to 999°



## Torque/angle mode

- Snug torque can be set via the torque chart – 100 individual settings (00-99).
- Angle can be set at any angle from 0 to 999°.



## Angle counting mode

- Torque-controlled cut-off of the nutrunner
- The angle is counted starting with the minimum torque (level 00) of the respective performance category, serving as a control variable.



## Test mode

- Check of the pretightened bolts without overtightening

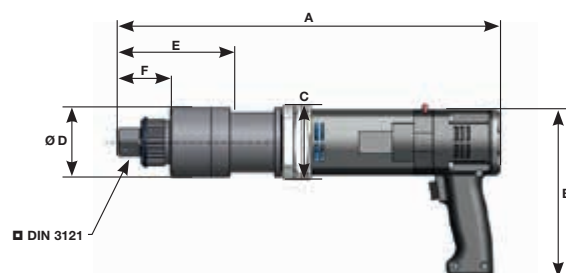
# Feature set of the models

Valid for the standard and angle modes of the DE1-series

Type	Features					
	Torque mode	Preset mode	Angle mode	Torque/angle mode	Angle counting mode	Test mode
DE1 <i>docu</i> -10 - 110V / 230V	✓	✓				
DE1 <i>docu-plus</i> -10 - 110V / 230V	✓	✓	✓	✓	✓	
DE1 <i>docu</i> -20 - 110V / 230V	✓	✓				
DE1 <i>docu-plus</i> -20 - 110V / 230V	✓	✓	✓	✓	✓	
DE1 <i>docu</i> -30 - 110V / 230V	✓	✓				
DE1 <i>docu-plus</i> -30 - 110V / 230V	✓	✓	✓	✓	✓	
DE1 <i>docu</i> -36 - 110V / 230V	✓	✓				
DE1 <i>docu-plus</i> -36 - 110V / 230V	✓	✓	✓	✓	✓	✓*
DE1 <i>docu</i> -48 - 110V / 230V	✓	✓				
DE1 <i>docu-plus</i> -48 - 110V / 230V	✓	✓	✓	✓	✓	✓*
DE1 <i>docu</i> -80 - 110V / 230V	✓	✓				
DE1 <i>docu-plus</i> -80 - 110V / 230V	✓	✓	✓	✓	✓	✓*

Repeat accuracy: ≤ 4%, dependent on the bolted joint. Regardless of the torque, the repeat accuracy depends on the individual bolted joint and therefore has to be determined for the specific bolting application.

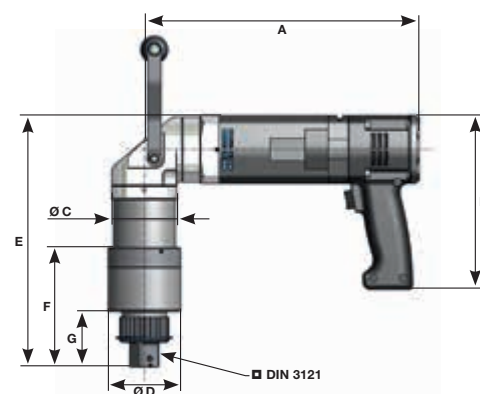
\* only available for standard 230V versions (no angular gearbox)



Type	Torque range (Nm)	Speed (U/min) <sup>1</sup>	A (mm)	B (mm)	C (mm)	Ø D (mm)	E (mm)	F (mm)	■ = Output	Weight (kg)
DE1docu-10 / DE1docu-plus-10 - 110V	150-1 000	16,8	425	192	85	68,5	145,5	60,5	¾ "	5,7
DE1docu-10 / DE1docu-plus-10 - 230V	150-1 000	19,6	425	192	85	68,5	145,5	60,5	¾ "	5,7
DE1docu-20 / DE1docu-plus-20 - 110V	250-2 000	9,0	449	192	85	80	132	61,5	1 "	6,8
DE1docu-20 / DE1docu-plus-20 - 230V	250-2 000	12,0	449	192	85	80	132	61,5	1 "	6,8
DE1docu-30 / DE1docu-plus-30 - 110V	450-3 000	5,9	465	192	85	80	132	61,5	1 "	7,2
DE1docu-30 / DE1docu-plus-30 - 230V	450-3 000	8,0	449	192	85	80	132	61,5	1 "	7,2
DE1docu-36 / DE1docu-plus-36 - 110V	500-3 600	4,5	465	192	85	80	132	61,5	1 "	7,2
DE1docu-36 / DE1docu-plus-36 - 230V	500-3 600	5,2	465	192	85	80	132	61,5	1 "	7,2
DE1docu-48 / DE1docu-plus-48 - 110V	700-4 800	3,5	497	192	85	86	161	83,5	1 ½ "	9,0
DE1docu-48 / DE1docu-plus-48 - 230V	700-4 800	4,6	497	192	85	86	161	83,5	1 ½ "	9,0
DE1docu-80 / DE1docu-plus-80 - 110V <sup>2</sup>	1.200-8 000	2,0	565	192	75	101	211,5	106	1 ½ "	14,5
DE1docu-80 / DE1docu-plus-80 - 230V <sup>2</sup>	1.200-8 000	2,5	565	192	75	101	211,5	106	1 ½ "	14,5

## The angle version

The compact solution for installation operations in tight spaces. The angle version works effortlessly even in the most hard to reach places. The tool is perfectly balanced and has a secure feel in the operator's hands, due to its angular design.

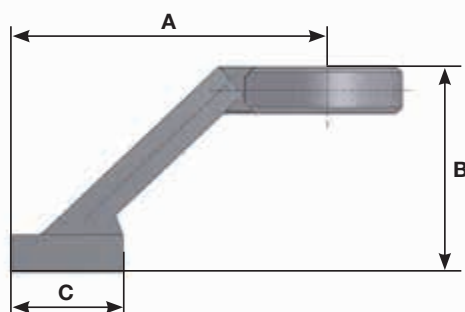


Type	Torque range (Nm)	Speed (U/min) <sup>1</sup>	A (mm)	B (mm)	C (mm)	Ø D (mm)	E (mm)	F (mm)	G (mm)	■ = Output	Weight (kg)
DE1docu-10-W / DE1docu-plus-10-W - 110V	150-1 000	16,8	303	192	72	68,5	253	145,5	60,5	¾ "	7,1
DE1docu-10-W / DE1docu-plus-10-W - 230V	150-1 000	16,8	303	192	72	68,5	253	145,5	60,5	¾ "	7,1
DE1docu-20-W / DE1docu-plus-20-W - 110V	250-2 000	9,0	303	192	72	80	277,5	132	61,5	1 "	8,3
DE1docu-20-W / DE1docu-plus-20-W - 230V	250-2 000	9,0	303	192	72	80	277,5	132	61,5	1 "	8,3
DE1docu-30-W / DE1docu-plus-30-W - 110V	450-3 000	5,9	303	192	72	80	293,5	132	61,5	1 "	8,6
DE1docu-30-W / DE1docu-plus-30-W - 230V	450-3 000	5,9	303	192	72	80	293,5	132	61,5	1 "	8,6
DE1docu-36-W / DE1docu-plus-36-W - 110V	500-3 600	4,5	303	192	72	80	293,5	132	61,5	1 "	8,6
DE1docu-36-W / DE1docu-plus-36-W - 230V	500-3 600	4,5	303	192	72	80	293,5	132	61,5	1 "	8,6
DE1docu-48-W / DE1docu-plus-48-W - 110V	700-4 800	3,5	303	192	72	86	326	161	83,5	1 ½ "	9,2
DE1docu-48-W / DE1docu-plus-48-W - 230V	700-4 800	3,5	303	192	72	86	326	161	83,5	1 ½ "	9,2
DE1docu-80-W / DE1docu-plus-80-W - 110V <sup>2</sup>	1 200-8 000	2,0	303	192	72	101	393	211,5	106	1 ½ "	17,0
DE1docu-80-W / DE1docu-plus-80-W - 230V <sup>2</sup>	1 200-8 000	2,5	303	192	72	101	393	211,5	106	1 ½ "	17,0

<sup>1</sup> Idle speed at setting 99

<sup>2</sup> Divisible suspension included in the scope of delivery (see optional accessories)

## Standard reaction arms



Type	A (mm)	B (mm)	C (mm)	Weight (kg)
DE1 <i>docu</i> -10	150	100	90	1,5
DE1 <i>docu</i> -20	150	100	90	1,85
DE1 <i>docu</i> -30	190	100	90	2,4
DE1 <i>docu</i> -36	190	100	90	2,4
DE1 <i>docu</i> -48	210	130	90	3,25
DE1 <i>docu</i> -80	250	165	140	7,38

## Optional accessories

Various accessories including fittings, extensions, sockets, steel rings which can be welded or reaction arms are available both as standard and custom models.



## Mobile measuring unit **TC1**

The TC1 monitors the applied torque and thus the on-site bolting process. The system operates without cable during the bolting process and can be fitted with ease on the bolting tool.



Type	Measurement range min. - max.		Compatible with
	Nm	ft-lbs	
<b>TC1 – 11</b>	110 - 1 100	81 - 811	DE1 <i>docu</i> -10 DE1 <i>docu-plus</i> -10
<b>TC1 – 41</b>	410 - 4 100	302 - 3 024	DE1 <i>docu</i> -20, -30, -36 DE1 <i>docu-plus</i> -20, -30, -36
<b>TC1 – 55</b>	550 - 5 500	406 - 4 056	DE1 <i>docu</i> -48 DE1 <i>docu-plus</i> -48



... a successful connection!

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