



Smart Tools

- Transducerized Smart Tools KL-GTCS series
- Transducerized Smart Tools KL-TCG series
- Current Control Smart Tools KL-TCC series
- Clutch Type Smart Tools KL-CTDS series





Transducerized Smart Tools

KL-GTCS series



SGT-CS

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L202402



Features:

- Precise Torque/Angle control
- Premium Color Touch Panel
- Intuitive User Interface
- Real time Fastening data
- Fastening Graphic & Record
- I/O signal port can be customized

Industry 4.0





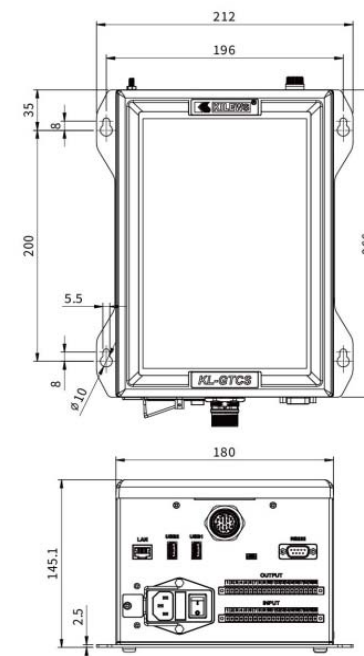
The spec of KL-GTCS controller

Specifications

Model	KL-GTCS
Input Voltage	AC 115V / 230V
Input Frequency	50 - 60Hz
Input Current	6.3A
Output Voltage	DC 40V
Output Current	Max 9A
power consumption	360W
External dimensions(mm)	266*180*145
Weight(g)	4080
Applicable Model	SGT-CS Series



External Dimension



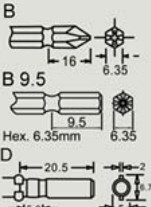
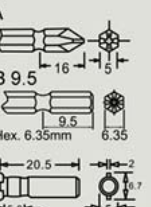
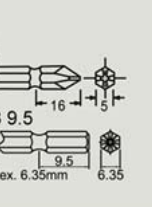
Unit: mm



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Specification for SGT- CS screwdriver

Specifications							
Model		SGT-CS301	SGT-CS302F	SGT-CS303	SGT-CS503	SGT-CS505	SGT-CS507
Input Voltage		DC40					
Torque	(N. m)	0.1~ 1	0.3 ~ 2.4	0.38 ~ 3	0.38 ~ 3	0.63 ~ 5	0.88 ~ 7
	(kgf. cm)	1.02 ~ 10.2	3.06 ~ 24.48	3.88 ~ 30.60	3.88 ~ 30.60	6.43 ~ 51.00	8.98~ 71.40
	(Lbf. in)	0.88 ~ 8.85	2.66 ~ 21.24	3.36 ~ 26.55	3.36 ~ 26.55	5.58 ~ 44.26	7.79 ~ 61.96
Free Speed (r. p. m)		980~60	2000 ~60	980 ~60	1600 ~60	1100 ~60	660 ~60
Power Consumption		90W					
Weight(g)		644	692	718		900	
Length(mm)		282	291	291		307	
Power Controller		KL-GTCS					
Bit Type							



*Lever start type only for SGT-CS301.

Lever & Push start type: SGT-CS302F/CS303/CS503/CS505/CS507

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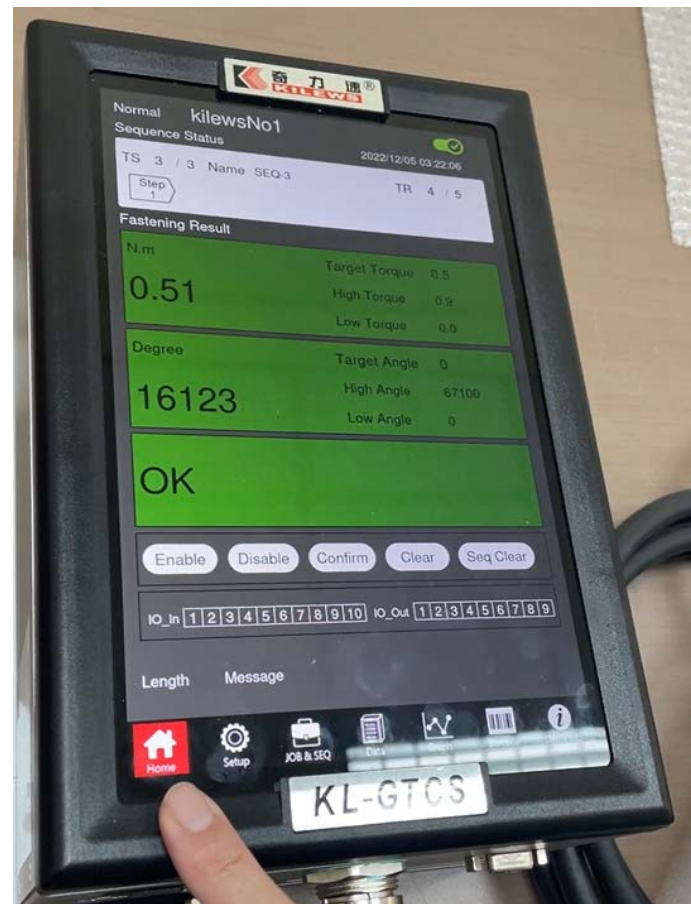


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Home page

Able to view about screw tightening and other relevant information in real-time on the home page.



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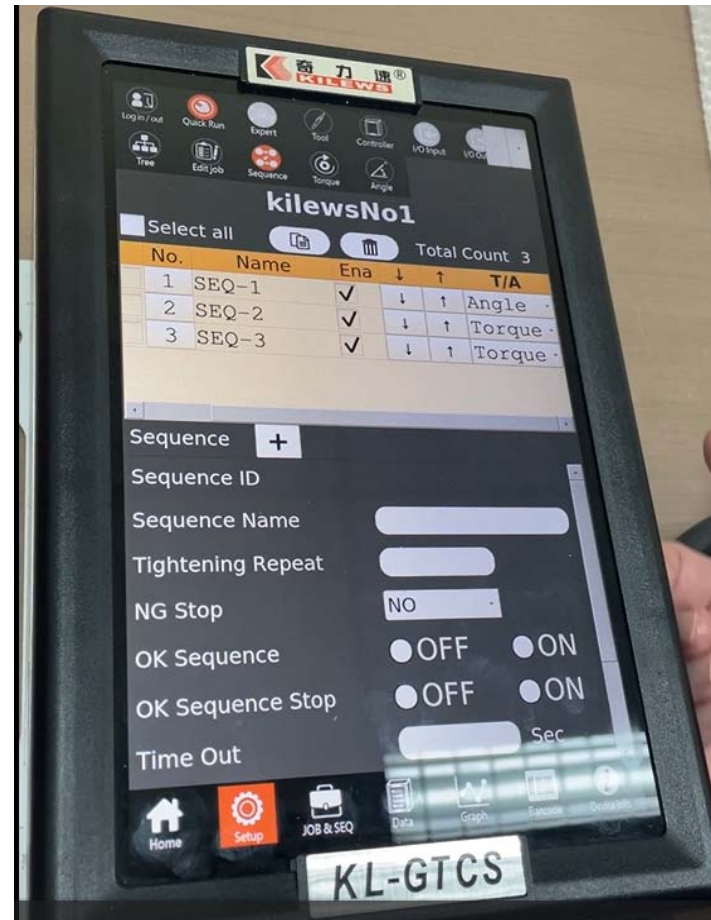


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Setup page

On the setup page, the job and other related parameters can be set.



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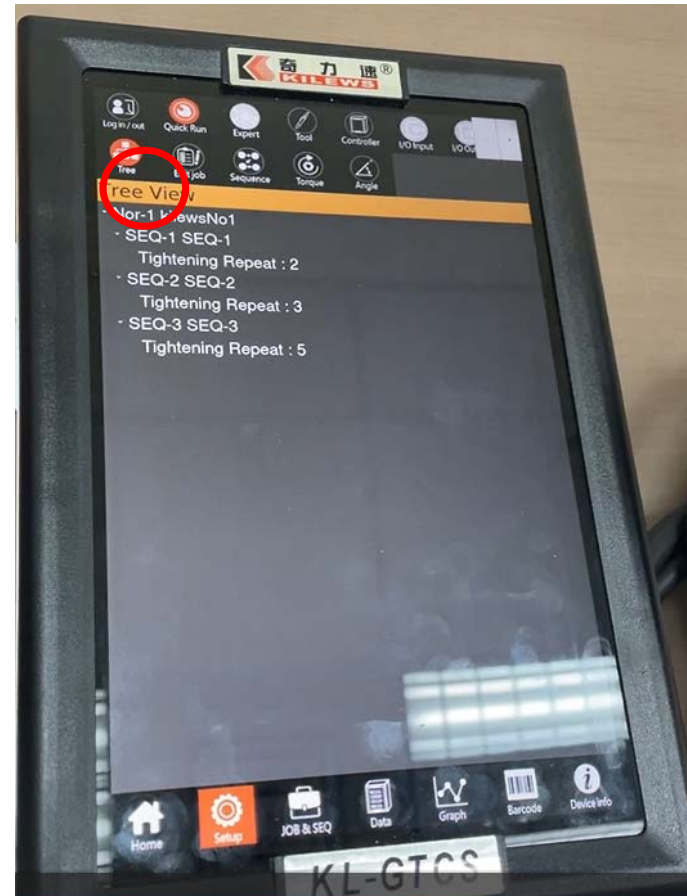


® L202402



Setup page

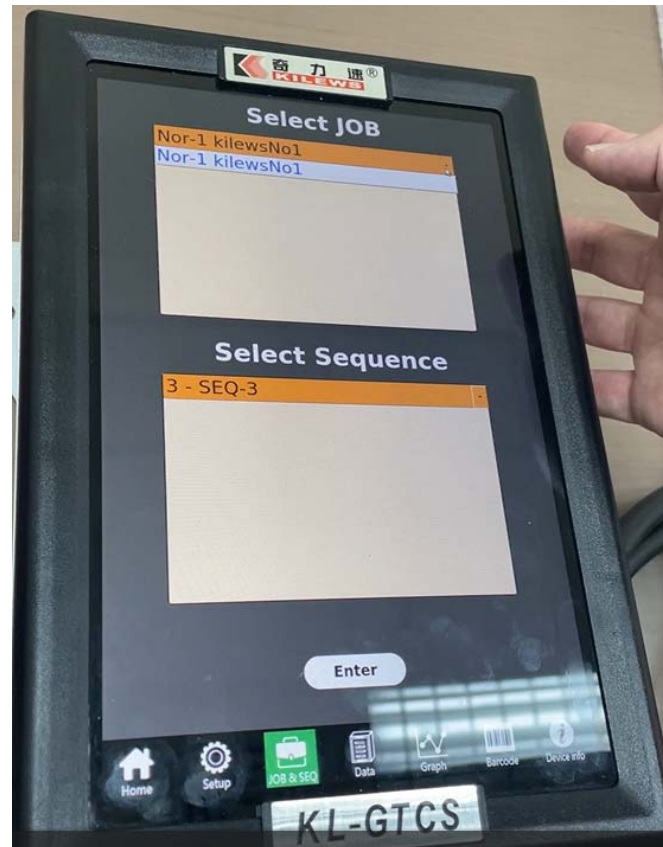
The Tree view on the setup page displays detailed configuration information for the fastening sequence of the job.





JOB & SEQ page

On the JOB & SEQ page, you can quickly switch jobs and sequences by clicks.

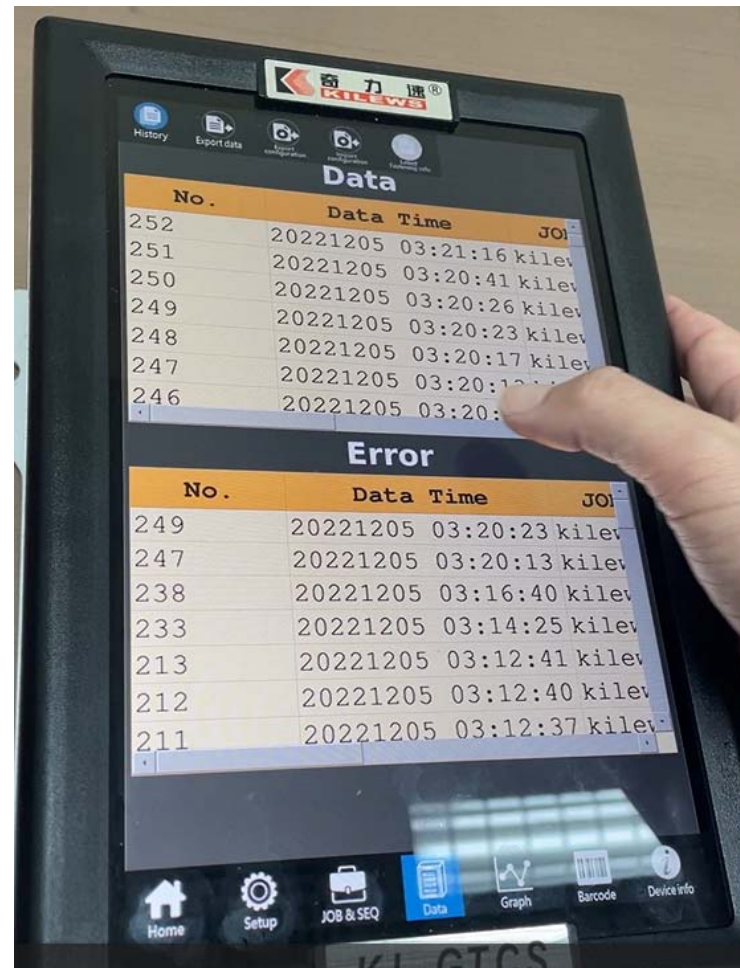




Data page

On the Data page, you can view the history of past fastenings results.

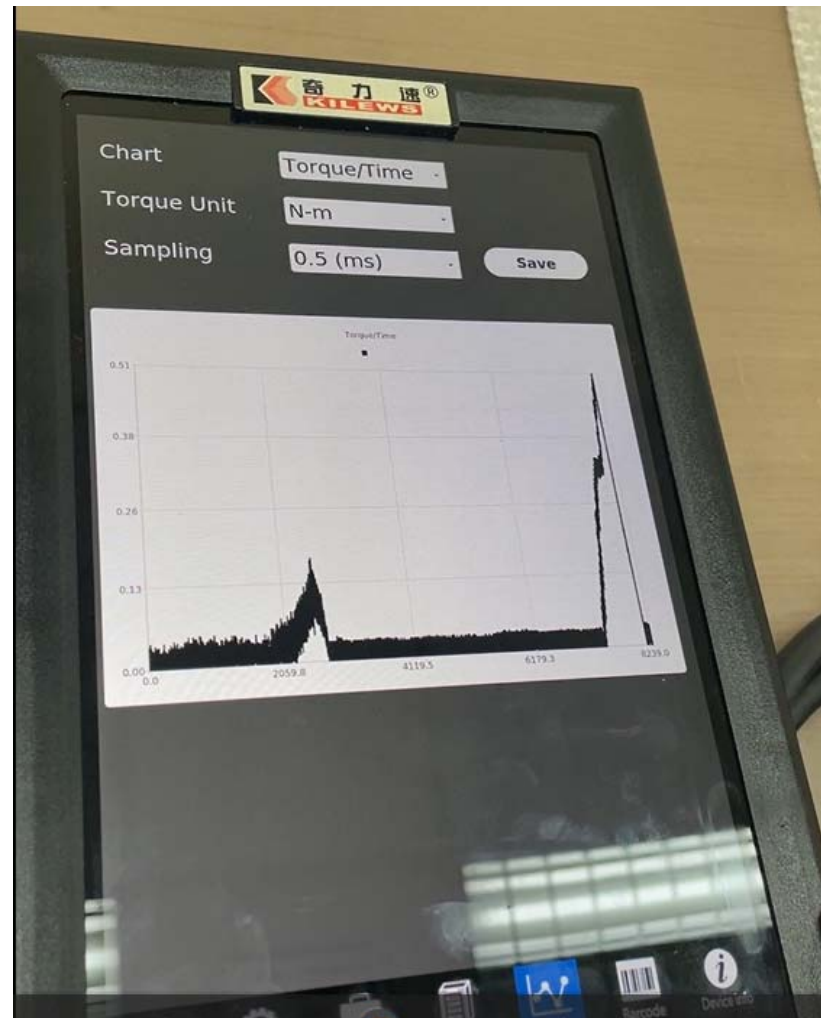
Additionally, Errors part have a separate column list for record.





Graph page

The Graph page displays real-time fastening graphics.



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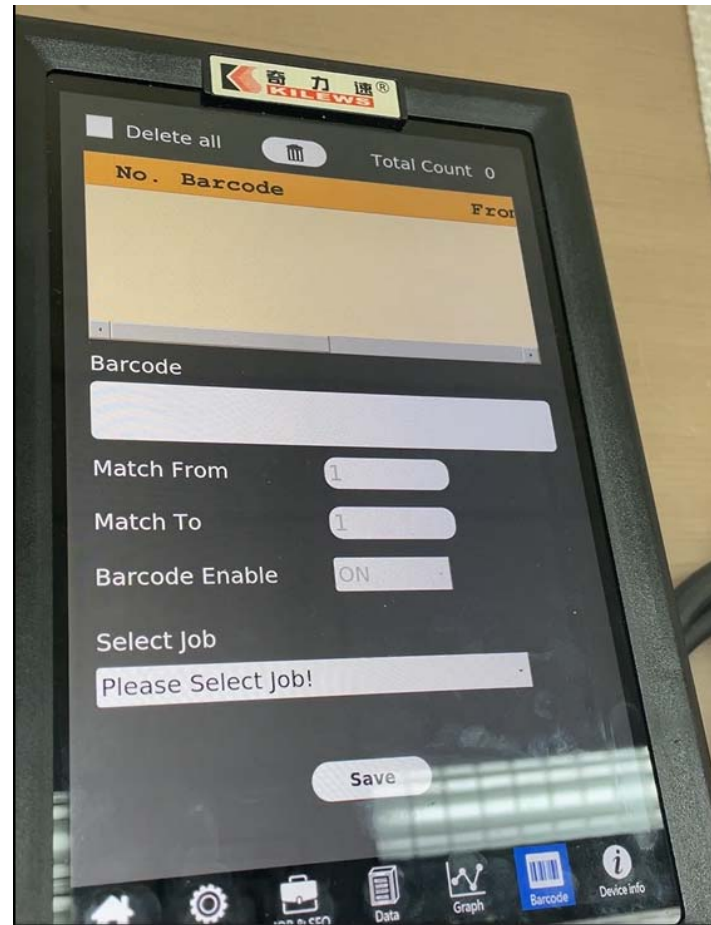


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Barcode page

On the Barcode page,
you can set the barcode
for job switching.





Device info page

On the Device info page, you can view detailed information about the controller and tool.





Transducerized Smart Tools

KL-TCG & KL-TCG-L

The features

- Very attractive price
- Adopted high-precision torque transducer sensor
- Torque/ Thread Control
- Real time data monitoring and management
- Start mode: Lever/ Push/ Lever + Push
- Fastening graph presented through N-DAS PRO

Industry 4.0



Wide Torque Range

Inline type SKT-CG tools

Applicable with KL-TCG

- SKT-CGS10/S30: 0.1~3N.m with compact body
- SKT-CGS24F: 0.4~2.4N.m with 2000rpm
- SKT-CG30/50/70: 0.6~7N.m

Applicable with KL-TCG-L

- SKT-CG120/180: 2.4~18N.m
- SKT-CG250: 5~25N.m

(Special requirement for smaller torque with 0.05N.m is available.)

*Lever start type: SKT-CGS10/CG250

Lever & Push start type: SKT-CGS24F/CGS30/CG30/CG50/CG70/CG120/CG180



SKT-CGS10/24F/30



SKT-CG30/50/70



SKT-CG120/180



SKT-CG250



Angle type SKT-LCG tools

For 90 degree angle application.

Applicable with KL-TCG

➤ **SKT-LCG30/50/70: 0.6~7N.m**

Applicable with KL-TCG-L

➤ **SKT-LCG120/180: 2.4~18N.m**

➤ **SKT-LCG250: 5~25N.m**

***Lever start type only for SKT-LCG series**



SKT-LCG30/50/70

S1 Version for KL-TCG

- Up to 7 groups of Job Switching via I/O signal for selection
- The difference between KL-TCG and KL-TCG-S1

I/O Signal	KL-TCG	KL-TCG-S1
7 groups of Job Switching via I/O signal		V
Start	V	
Reverse	V	
Disable	V	V
Confirm	V	V
Clear	V	V
Gate	V	V
Return	V	



Loover



L202402

Concepts

KL-TCG

- TS: Tightening Step(250)
- TP: Tightening Program(50)
- TR: Tightening Repeat(T.P+SC)(50)
- JS: Job Sequence{(TP_01)+(TP_02)+...}(50)

(JOB Sequence)	(Screw Unit)	(Screw Count)
01	TP_01(TS01)	TR 03
02	TP_02(TS02+TS03+TS04)	TR 05
03	TP_03(TS02+TS03+TS05+TS04+TS06)	TR 02



Video Link

<https://youtu.be/pUuTTkbAZYU>



20/48



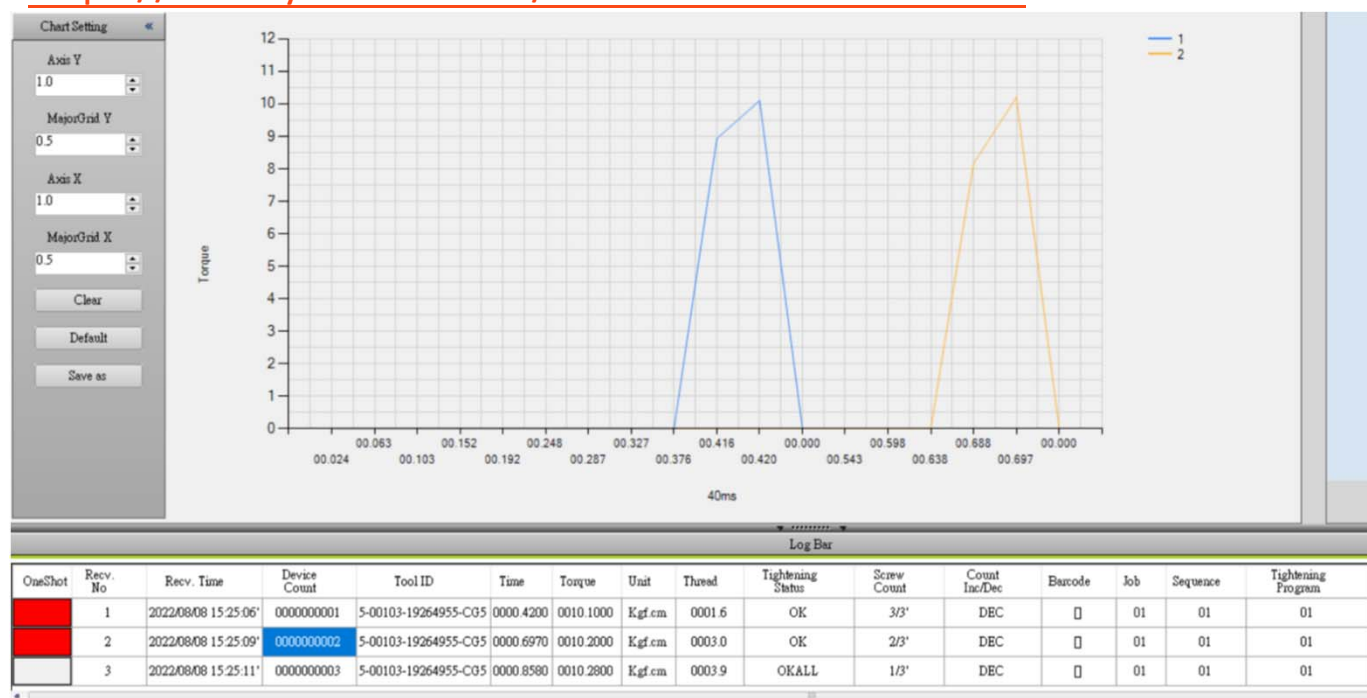
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The Software of N-DAS Pro

The fastening data can be presented by graph.

Check Video with clear image for fastening graph.

<https://www.youtube.com/watch?v=kGdr0bVhWDw>



The Calibration of SKT-CG Tools

Kilews allows the agents to do the calibration for SKT-CG tools on their site based on completing below requests step by step.

1. Purchase the calibration jigs & accessories first.
2. Get calibration training of SKT-CG tools and KL-TCG.
3. Get maintenance training of SKT-CG tools and KL-TCG at Kilews Taiwan and get approval by Kilews.

SKT- CG Tool test standard in KILEWS



SKT- CG Series
screwdriver

Test jig stand

Rotary sensor
(n·gineric : TTR500-xi)

Run-down Joint
(ATLAS : M6 900Drgree & M4 Soft Joint)



CG Tool test data sheet



Software: SKT-CG-TAS (Calibration)



SKT- CG Tool test data sheet example (CG30)

Serial number	0.6 N.m		0.7 N.m		0.9 N.m		1 N.m		2.4 N.m		3 N.m	
TPS192539												
Number of tests	TCG	N-gineric	TCG	N-gineric	TCG	N-gineric	TCG	N-gineric	TCG	N-gineric	TCG	N-gineric
1	0.593	0.649	0.690	0.735	0.887	0.882	0.987	1.026	2.372	2.387	2.981	3.182
2	0.595	0.646	0.693	0.738	0.889	0.898	0.988	1.019	2.371	2.379	2.979	3.169
3	0.592	0.642	0.691	0.740	0.888	0.892	0.989	0.995	2.369	2.385	2.980	3.199
4	0.592	0.642	0.693	0.745	0.886	0.893	0.989	1.016	2.368	2.395	2.984	3.175
5	0.592	0.647	0.690	0.747	0.887	0.895	0.989	1.015	2.369	2.397	2.977	3.167
6	0.593	0.643	0.689	0.744	0.887	0.898	0.989	1.014	2.369	2.379	2.978	3.174
7	0.592	0.642	0.691	0.739	0.889	0.898	0.989	1.012	2.371	2.395	2.975	3.114
8	0.591	0.648	0.691	0.738	0.884	0.875	0.990	1.011	2.37	2.401	2.984	3.179
9	0.592	0.644	0.690	0.734	0.888	0.873	0.989	1.011	2.372	2.398	2.978	3.177
10	0.592	0.654	0.690	0.738	0.887	0.876	0.990	1.012	2.376	2.390	2.976	3.117
11	0.593	0.652	0.689	0.736	0.890	0.890	0.988	1.012	2.375	2.399	2.979	3.086
12	0.592	0.653	0.690	0.737	0.888	0.887	0.990	1.013	2.373	2.391	2.975	3.105
13	0.593	0.655	0.690	0.740	0.888	0.891	0.988	1.014	2.37	2.385	2.975	3.077
14	0.593	0.648	0.692	0.744	0.889	0.894	0.990	1.013	2.367	2.390	2.974	3.082
15	0.594	0.651	0.692	0.736	0.888	0.898	0.989	1.013	2.37	2.419	2.976	3.080
16	0.593	0.646	0.690	0.738	0.888	0.894	0.988	1.014	2.373	2.378	2.978	3.111
17	0.593	0.642	0.689	0.737	0.887	0.889	0.990	0.977	2.374	2.409	2.978	3.117
18	0.594	0.647	0.689	0.735	0.888	0.887	0.990	0.974	2.373	2.400	2.978	3.137
19	0.593	0.648	0.690	0.738	0.889	0.893	0.991	1.007	2.373	2.416	2.975	3.122
20	0.591	0.650	0.690	0.736	0.889	0.893	0.989	1.016	2.367	2.410	2.979	3.113
21	0.593	0.648	0.689	0.743	0.888	0.892	0.986	1.008	2.375	2.425	2.976	3.133
22	0.597	0.641	0.692	0.742	0.888	0.891	0.986	0.989	2.373	2.418	2.975	3.137
23	0.591	0.634	0.689	0.737	0.890	0.887	0.990	1.020	2.371	2.405	2.976	3.095
24	0.592	0.635	0.693	0.672	0.889	0.889	0.988	1.020	2.373	2.370	2.976	3.106
25	0.593	0.647	0.689	0.751	0.891	0.890	0.986	1.102	2.37	2.411	2.973	3.083
Mean	0.593	0.646	0.690	0.737	0.888	0.890	0.989	1.013	2.371	2.397	2.977	3.129
Std Dev s	0.0013	0.005265295	0.0013565	0.014127397	0.0014119	0.006928203	0.0013699	0.022395907	0.0024644	0.014345499	0.0027839	0.037924398
Std Dev s	0.22%	0.81%	0.20%	1.92%	0.16%	0.78%	0.14%	2.21%	0.10%	0.60%	0.09%	1.21%
3 Std dev s	0.66%	2.44%	0.59%	5.75%	0.48%	2.34%	0.42%	6.63%	0.31%	1.80%	0.28%	3.64%
Run/Down joint	ATLAS : M6 900Dgree & M4 Soft Joint											
Measuring device	N-gineric : TTR500-xi											

Current Control Smart Tools

KL-TCC series



SGT-CC

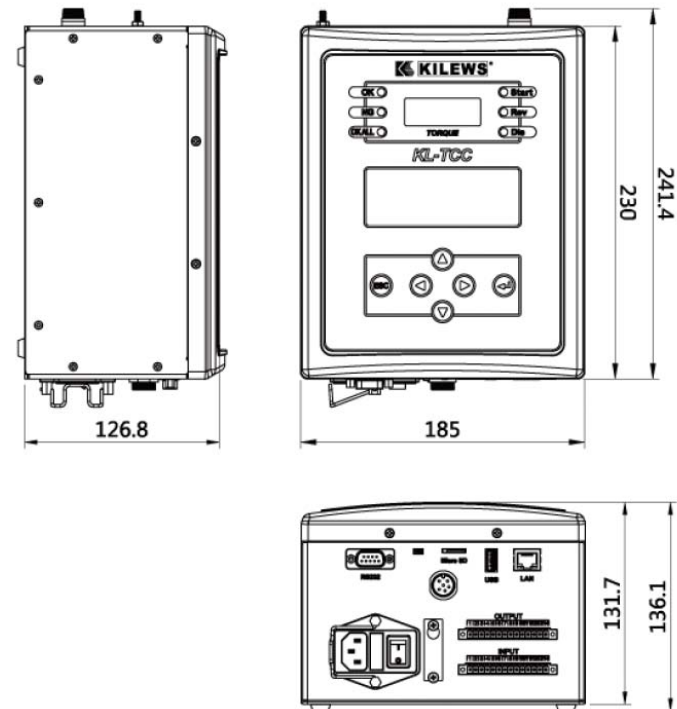
Features:

- Angle control function included
- Stable performance with high torque accuracy +/- 5%
- Selective in Hard/Soft joint
- Compact and lightweight design for comfortable long-term operation
- Downshift function to slow down rpm automatically in the final tightening step of screw fastening



Specifications:

Model	KL-TCC
Input Voltage	AC 115V / 230V
Input Frequency	50 - 60Hz
Input Current	6.3A
Output Voltage	DC 40V
Output Current	Max 9A
Power Consumption	360W
External dimensions	241 x 185 x 127(mm)
Weight	4.6Kg
Applicable Model	SGT-CC Series



Unit: mm

Specifications:

Specifications						
Model		SGT-CC612	SGT-CC620	SGT-CC630F	SGT-CC650	SGT-CC670
Input Voltage		DC40V				
Torque	(N.m)	0.3~1.2	0.6~2	1~ 3	1.5~5	2~7
	(kgf.cm)	3.06~12.24	6.12~20.40	10.2~30.60	15.30~51.00	20.40~71.40
	(Lbf.in)	2.66~10.62	5.31~17.70	8.85~26.55	13.28~44.25	17.70~61.96
Repeatable Torque Accuracy(%)		±5%				
Free Speed (r.p.m)		1000~100	1000~100	1700~200	1000~100	800~100
Power Consumption		90W				
Weight(g)		743				
Length(mm)		255				
Power Controller		KL-TCC				
Bit Type		B 9.5-D				B 9.5



* Lever type only.

KL-TCC - Introduction to job setting combination

Job → JS → TS → TR → Downshift (on/off) → Threshold

Job: (15)

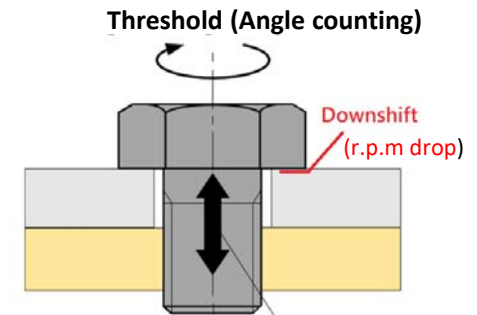
JS: Job Sequence (15)

TS: Tightening Steps (4)

TR: Tightening Repeat

Downshift: r.p.m drop when reach the point of setting torque, which is about the fastening screw touch the surface of the object and start increase the loading and sense the torque value that reach to the setting value, then the rpm will drop to the setting value of rpm from original automatically; However, if downshift function is turn on, then TS can be set by 1 step only.(Please be noted)

Threshold: Start counting the rotate angle once reach the threshold setting point of torque value.



Jobs Setting Examples:

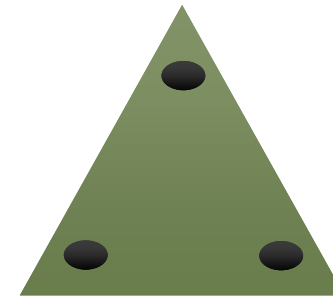
Job 1

→ JS 1

→ TS 1(Target: Angle 300, rpm 300)

→ TS 2(Target: Torque 10kg, rpm 100)

→ TR 3 ● ● ●



Job 2

→ JS 1

→ TS 1(Target: Torque 18kg, rpm 300)

→ TR 2 ○ ○



→ **Down shift on** / Down shift Torque 10kg/ Down shift rpm 100/ Threshold 10kg

Jobs Setting Examples:

Job 3

→ JS 1/2

→ TS 1(Target: Angle 300, rpm 300)

→ TS 2(Target: Torque 10kg, rpm 100)

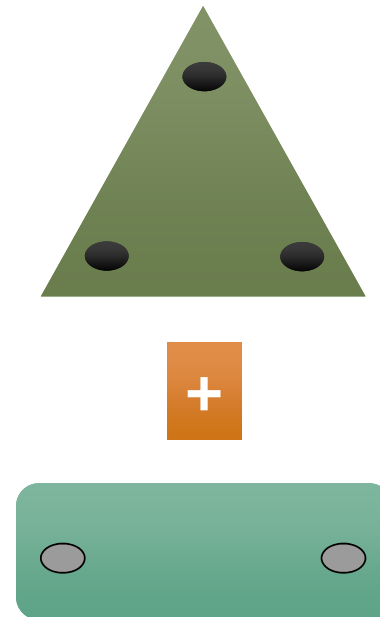
→ TR 3 ● ● ●

→ JS 2/2

→ TS 1(Target: Torque 18kg, rpm 300)

→ TR 2

→ **Down shift on** / Down shift Torque 10kg/ Down shift rpm 100/ Threshold 10kg



Innovation for screw fastening

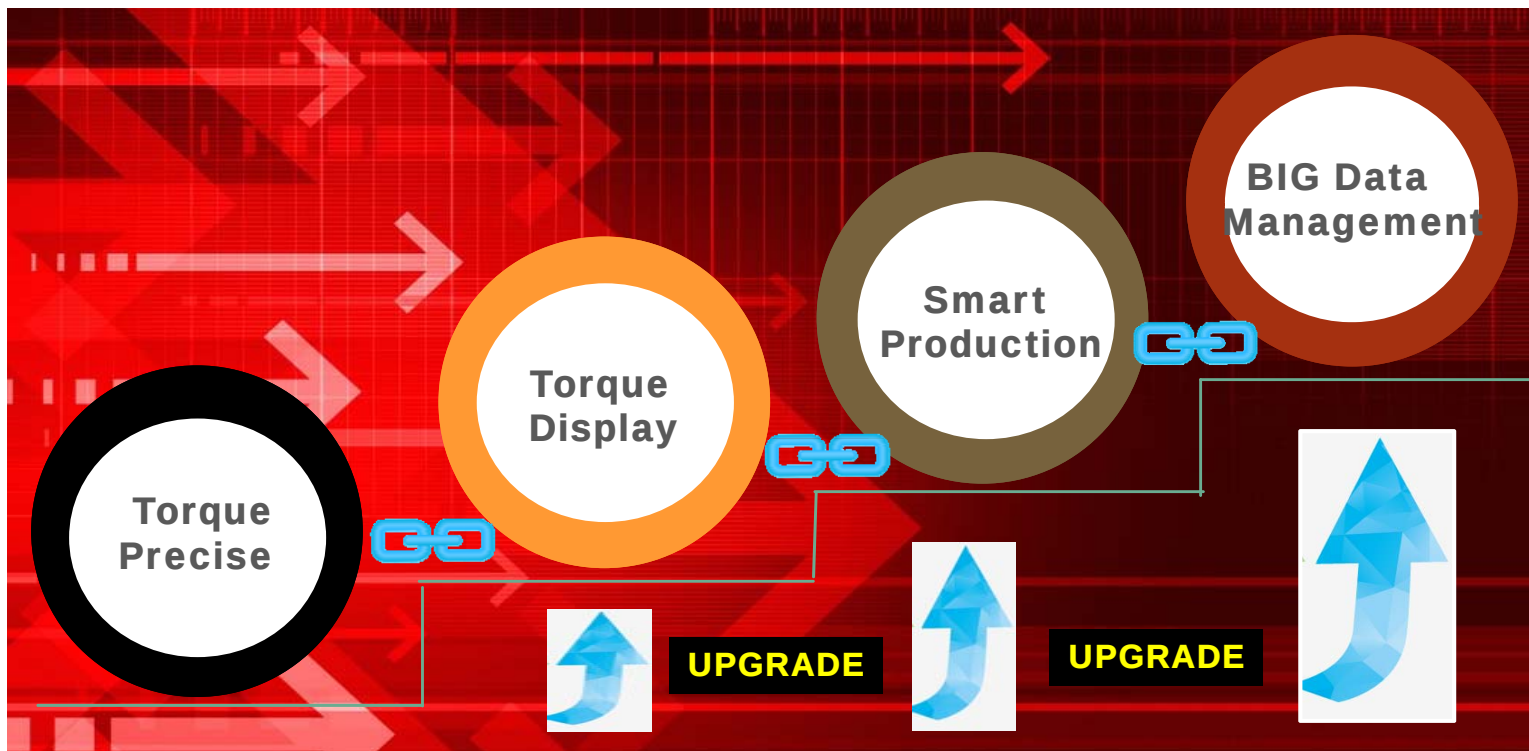


Clutch Type Smart Tools

KL-CTDS series



Kilews Smart Tools V.S. Industry 4.0





Clutch Type Smart Tools

1. **KL-CTDS V2.0**
2. **KL-MCTDS5**
3. **SKD-BNK screwdriver**





1. KL-CTDS Torque Display



SKD-BNK/RBNK/TBNK/LRBNK
series

1 KL-CTDS to 1 screwdriver



The features of KL-CTDS / KL-MCTDS5

1. Real Time Data/Status Display

Fastening torque results will display in real time to prevent and detect error immediately. (The results of torque value was calculated by each of fastening peak current)

2. Data Transmission

Every signal fastening results can be transmitted and stored in computer (KL-NDAS).



The features of KL-CTDS / KL-MCTDS5

3. I/O port available

Automated production can be achieved by linked with PLC

4. Parameters/Program and Work Sequence

Can be programming by device setting or computer software KL-DAS.

5. Bar code reader

A. Job Switch

B. Record the product serial number (Bar code scanner can be used for switching program and record workpiece's bar code)



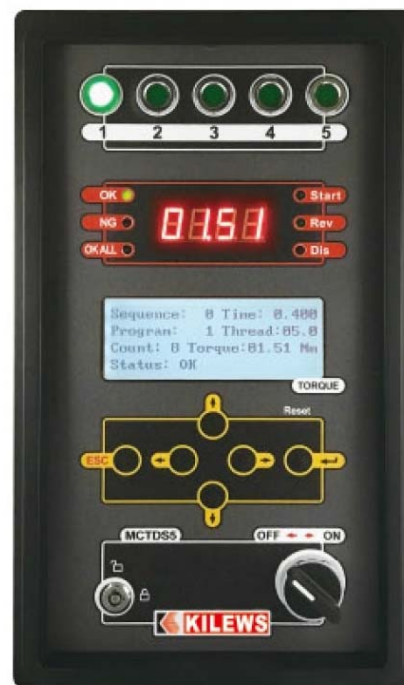


The application of KL-CTDS

- ✓ UPS (Uninterrupted Power System)
- ✓ Car bumper



2. KL-MCTDS5



1 KL-MCTDS5 to 5 screwdriver



LCD display

Sequence: 1~99

Time: 0.0~9.9

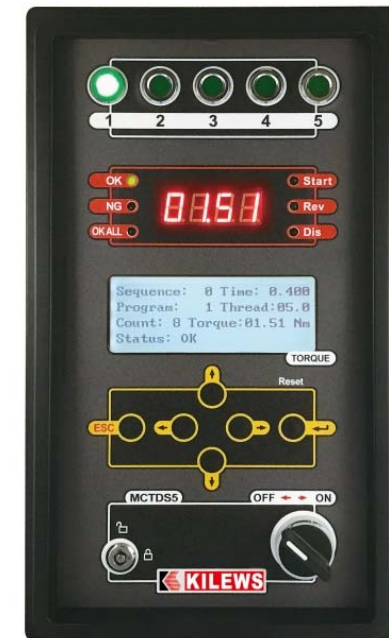
Program: 1~99

Thread: 0.0~999.9

Count: 1~99

Torque: (kg.cm/ N.m/ inlb/ kg.m)

Status: (OK,NG TQC,OKALL....)



3. SKD-BNK screwdriver

► Low & Medium Torque series

- SKD-BNK200/ BNK500

► Power Torque series

- SKD-BNK800/BNK900
- SKD-RBNK60/90/120/180/250/350/500
- SKD-LRBNK50/100(F)/150(F)/220
- SKD-TBNK60/90/120/180 & SKD-TBNK20L/30L(F)/35LF/50L(F)/70L

A red, cloud-like thought bubble with a black outline, containing the text 'Brushless & Clutch Control Tool' in red, italicized font. Three small red circles lead from the bubble towards the top right.

*Brushless &
Clutch
Control Tool*



SKD-BNK200/ BNK500

- Low & medium torque (under 19kgf.cm)
- Repeatable torque accuracy: $\pm 3\%$
- Maximum speed can reach 2000r.p.m (SKD-BNK500)
- Noise-free & low voltage





SKD-BNK800 / BNK900

- Torque range 0.98~4.9N.m
- Repeatability torque accuracy:
±3% (for BNK800) & ±5% (for BNK900)
- Noise-free & low voltage





SKD-RBNK60/90/120/180/250/350/500

- Torque can reach 50N.m
- Repeatability torque accuracy: $\pm 5\%$
- Suitable for assembling industrial products
- Automobile parts assembly production
- May be collaborated with auxiliary arm for easy operation





SKD-LRBNK50/100(F)/150(F)/220

- New models for 90 degree angle application
- Repeatable torque accuracy: $\pm 5\%$
- Automobile parts assembly production
- May be collaborated with auxiliary arm for easy operation





SKD-TBNK60/90/120/180

- Best fit to assemble high torque product
- Torque can reach up to 18N.m.
- Repeatability torque accuracy : $\pm 5\%$



SKD-TBNK20L/30L(F)/35LF/50L(F)/70L

- COMPACT new models
- High speed (3300r.p.m.) to replace pneumatic tools
- Torque reach up to 0.3~7N.m.
- Repeatability torque accuracy : $\pm 5\%$





The video for KL-MCTDS5

1. The operation

2. Show the sequence