



DC Transducerized Tools

KL-TCG & KL-TCG-L

The features

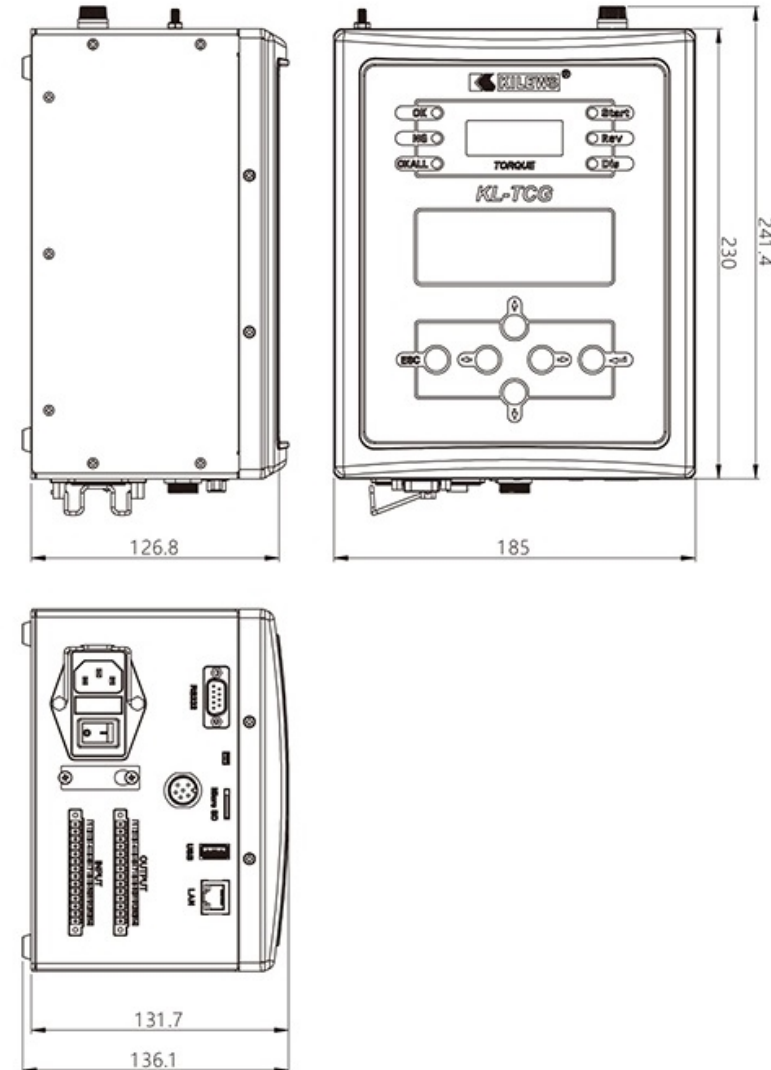
- Transducerized tool
- High precision made in Germany torque transducer
- Real time monitoring
- Torque Control
- Thread Control
- Start mode: Lever/ Push/ Lever + Push
- Fastening torque data collection
- Data management
- Very attractive price

Industry
4.0



KL-TCG series

Model	KL-TCG	KL-TCG-L
Input Voltage	AC 115 / 230V 50-60Hz	
I/O Output Voltage	DC 24V 50mA / 12V 100mA	
Count	1~99	
Count method	Count-up/Count-down	
Detection torque value	According to the screwdriver specifications	
Detection screw thread number	0.0~999.9	
External connection input	Start / Reverse / Disable / Confirm / Cleared / Gate / Sequence cleared	
External connection output	OK/NG/OK ALL/Start/Reverse	
Serial interface	RS-232X2 , Micro SD , LAN	
Assembly management	KL-DAS / KL-AMS	
External dimensions	185 x 241.4 x 127 (mm)	
Weight(Kg)	3.4 Kg	
Applicable Models	SKT-CGS series SKT-CG30/50/70 SKT-LCG30/50/70	SKT-CG120/180



Wide Torque Range

Inline type SKT-CG tools

Applicable with KL-TCG

- SKT-CGS10/30: 0.1~3N.m with compact body
- SKT-CG30/50/70: 0.6~7N.m

Applicable with KL-TCG-L

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

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



SKT-CGS10/30



SKT-CG30/50/70



SKT-CG120/180

Angle type SKT-LCG tools

SKT-LCG30/50/70

- ***Applicable with KL-TCG***
- **Torque range 0.6~7N.m**
- **For 90 degree angle application**



SKT-LCG30/50/70

S1 Version for KL-TCG & KL-TCG-L

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



KL-TCG *Special noun abbreviation*

- **TS:** Tightening Step
- **TP:** Tightening Program
- **JS:** Job Sequence
- **TR:** Tightening Repeat

➤ TS: Tightening Step

Step number

Step name

Speed RPM setting

Direction: Foreword or Reverse

Target select: Thread or Torque

Thread or Torque condition

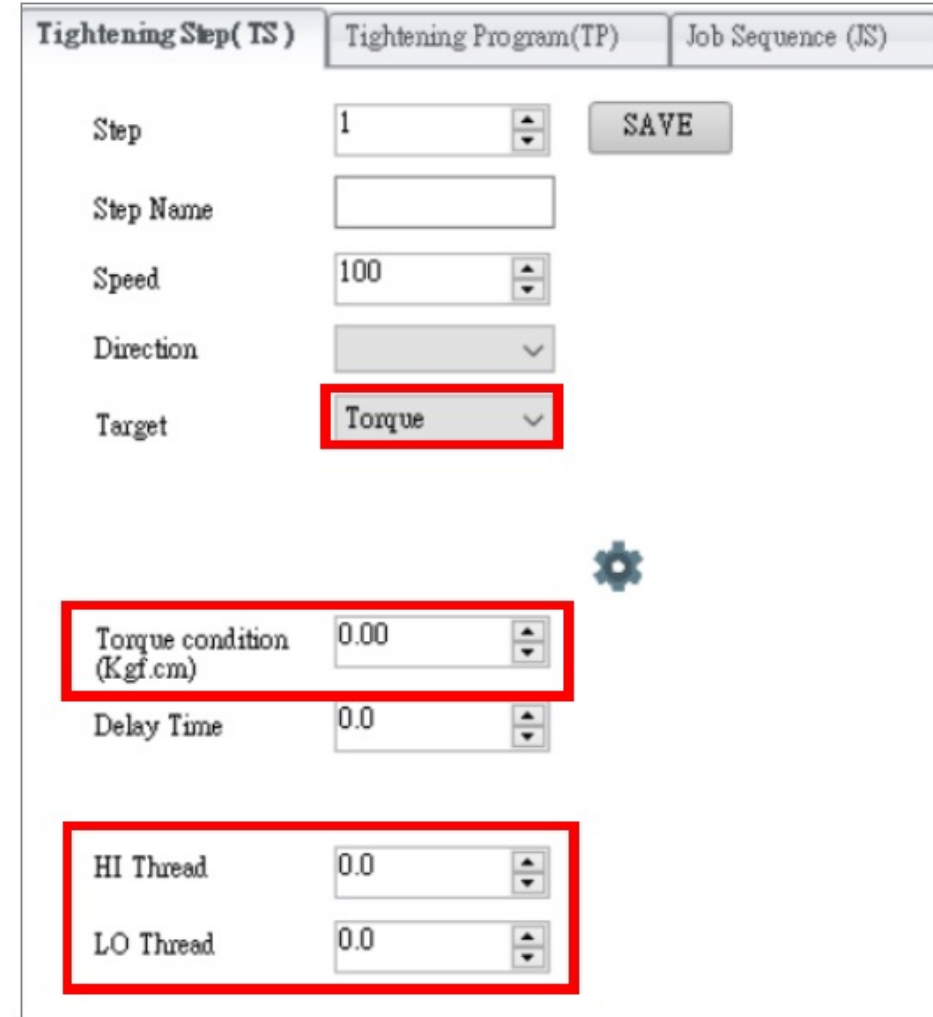
Delay time

Delay is interval time that between current step and next step (Sec).

➤ TP: Tightening Program

➤ JS: Job Sequence

➤ TR: Tightening Repeat



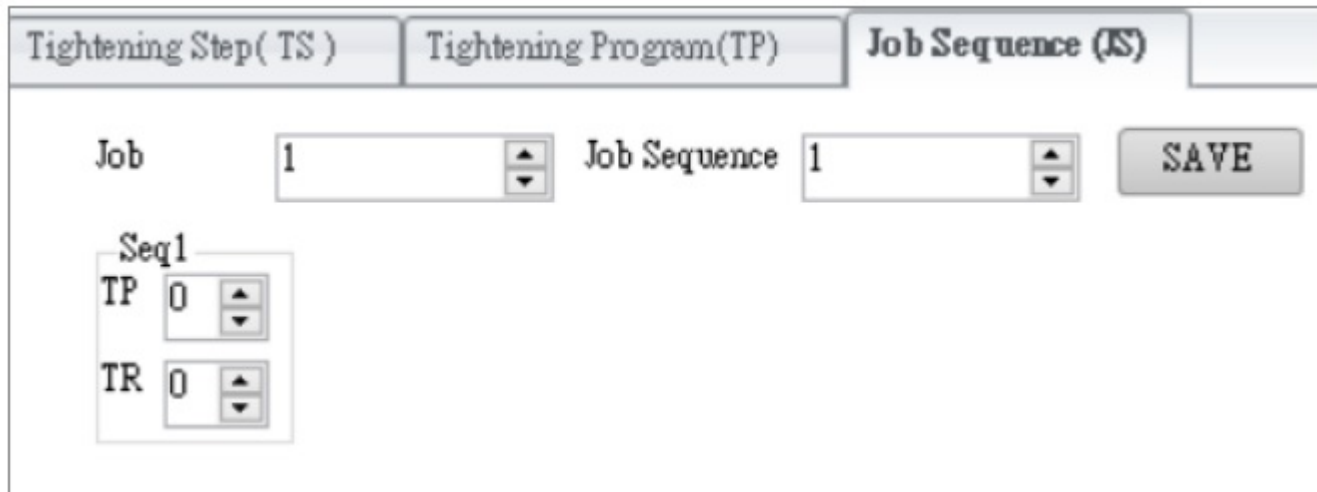
Tightening Step (TS)	Tightening Program (TP)	Job Sequence (JS)
Step	1	SAVE
Step Name		
Speed	100	
Direction		
Target	Torque	
Torque condition (Kgf.cm)	0.00	
Delay Time	0.0	
HI Thread	0.0	
LO Thread	0.0	

- TS: Tightening Step
- **TP: Tightening Program**
 - Program number
 - Program name
 - Select First – Fifth step TS
 - Ok All Alarm Time
 - OK one Alarm Time
 - OK All Stop On/Off
 - NG Stop On/Off
- JS: Job Sequence
- TR: Tightening Repeat

Tightening Step(TS)	Tightening Program(IP)	Job Sequence (JS)
Program	1	<input type="button" value="SAVE"/>
Program Name	<input type="text"/>	
<hr/>		
The First Step	1	
The Second Step	0	
The Third Step	0	
The Fourth Step	0	
The Fifth Step	0	
OK ALL Alarm Time	0.0	
OK One Alarm Time	0.0	
OK ALL Stop	<input type="checkbox"/> OFF	
NG Stop	<input type="checkbox"/> OFF	

- ▶ TS: Tightening Step
- ▶ TP: Tightening Program
- ▶ JS: Job Sequence
- ▶ TR: Tightening Repeat

Select Job number and determine how many Job sequence as application need, select “TP” as choose preset Tightening program number and set number of “TR”, TR as how many quantity of screws in the batch.



The screenshot shows a software interface with three tabs: "Tightening Step (TS)", "Tightening Program (TP)", and "Job Sequence (JS)". The "Job Sequence (JS)" tab is active. Below the tabs, there are two dropdown menus: "Job" with the value "1" and "Job Sequence" with the value "1". To the right of these is a "SAVE" button. Below the "Job Sequence" dropdown, there is a section labeled "Seq1" containing two more dropdown menus: "TP" with the value "0" and "TR" with the value "0".

Demonstration

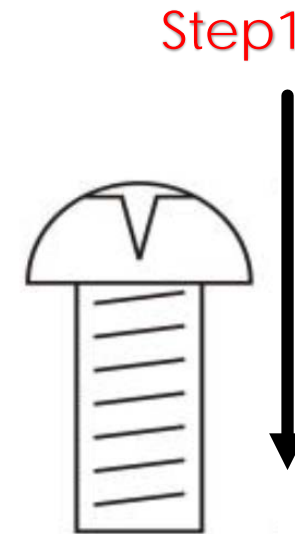
Example 1:

- 1. Single step (1 TS)

Step1= Target: (F) **Torque** 10 Kgf.cm

Rotating speed 200 r.p.m

- 2. Screw counts : 3ea



Demonstration

Example 2:

➤ 1. 3 Steps (3 TS)

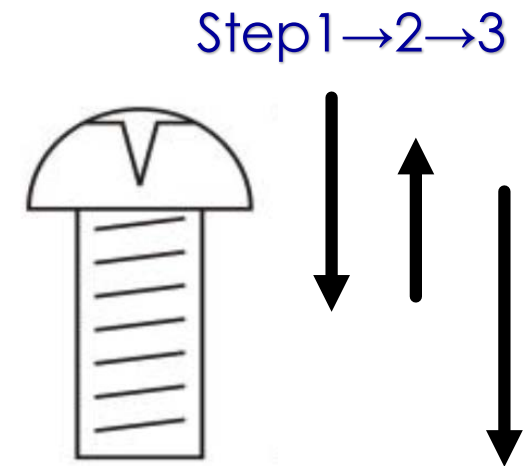
Step1= Target : (F) **Thread** 3 Circle

Step2= Target : (R) **Thread** 2 Circle

Step3= Target : **Torque** 15 Kgf.cm

Rotating speed 200 r.p.m

➤ 2. . Screw counts : 5ea



Demonstration

Example 3:

➤ 1. 5 Steps (5 TS)

Step1= Target : (F) **Thread** 2 Circle

Step2= Target : (R) **Thread** 1.5 Circle

Step3= Target : (F) **Thread** 3 Circle

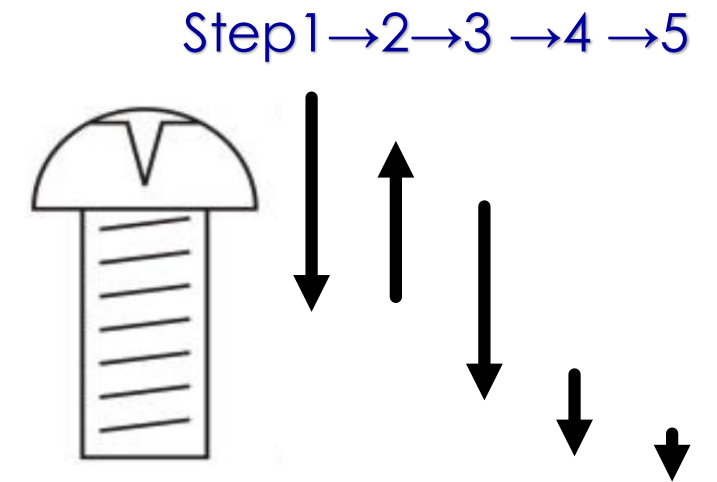
Step4= Target : **Torque** 15 Kgf.cm

Rotating speed 200 r.p.m

Step5= Target : **Torque** 20 Kgf.cm

Rotating speed 100 r.p.m

➤ 2. Screw counts : 2ea



Demonstration

Video Link Example:

► <https://youtu.be/pUuTTkbAZYU>



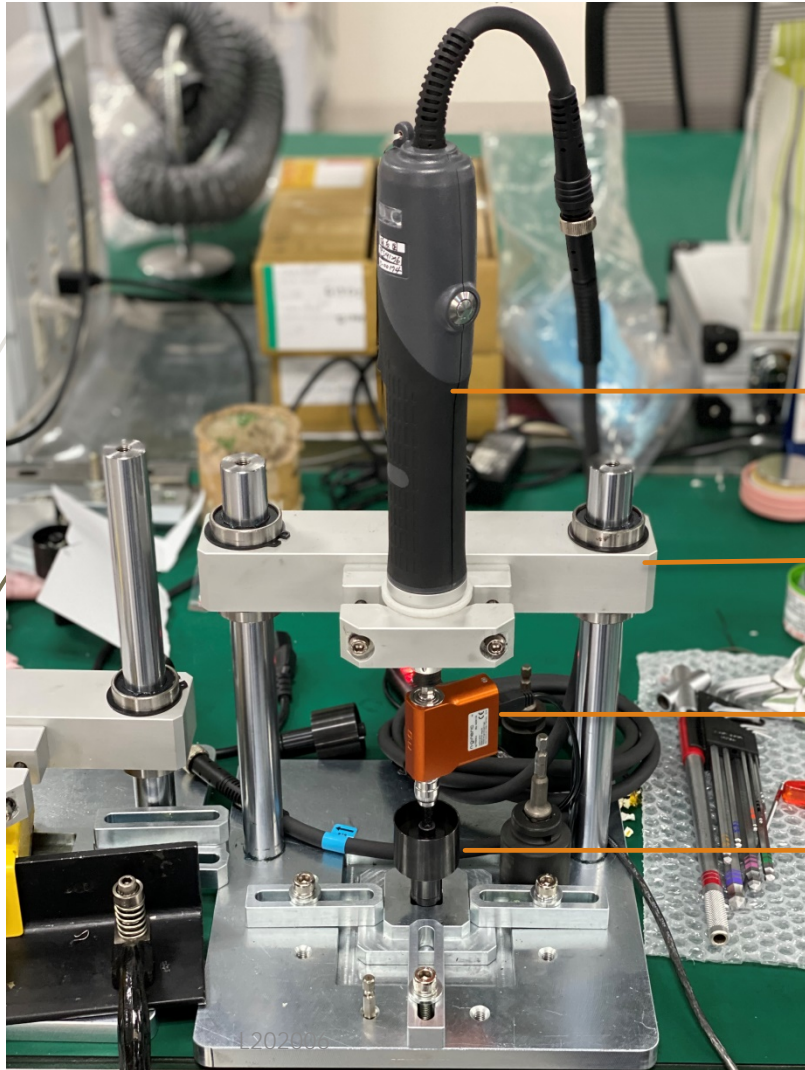
Concepts

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

SKT- CG Tool test standard in KILEWS



SKT- CG Series screwdriver

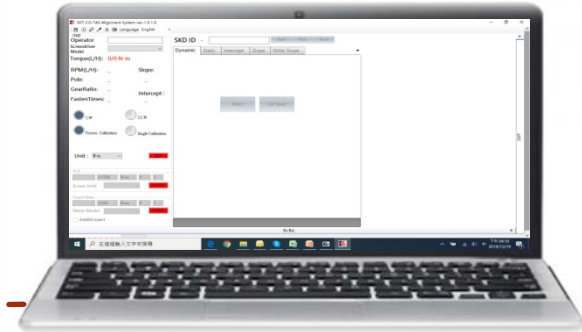
Test jig stand

Rotary sensor
(n·generic : 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	
TPS <input type="text"/>												
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%
Rundown joint	ATLAS : M6 900Drgree & M4 Soft Joint											
Measuring device	N·gineric : TTR500-xi											

Calculated by Statistical formula



~Thank you~