



# CL/CLS Click wrench solution



SCS Concept, 20 May 2020

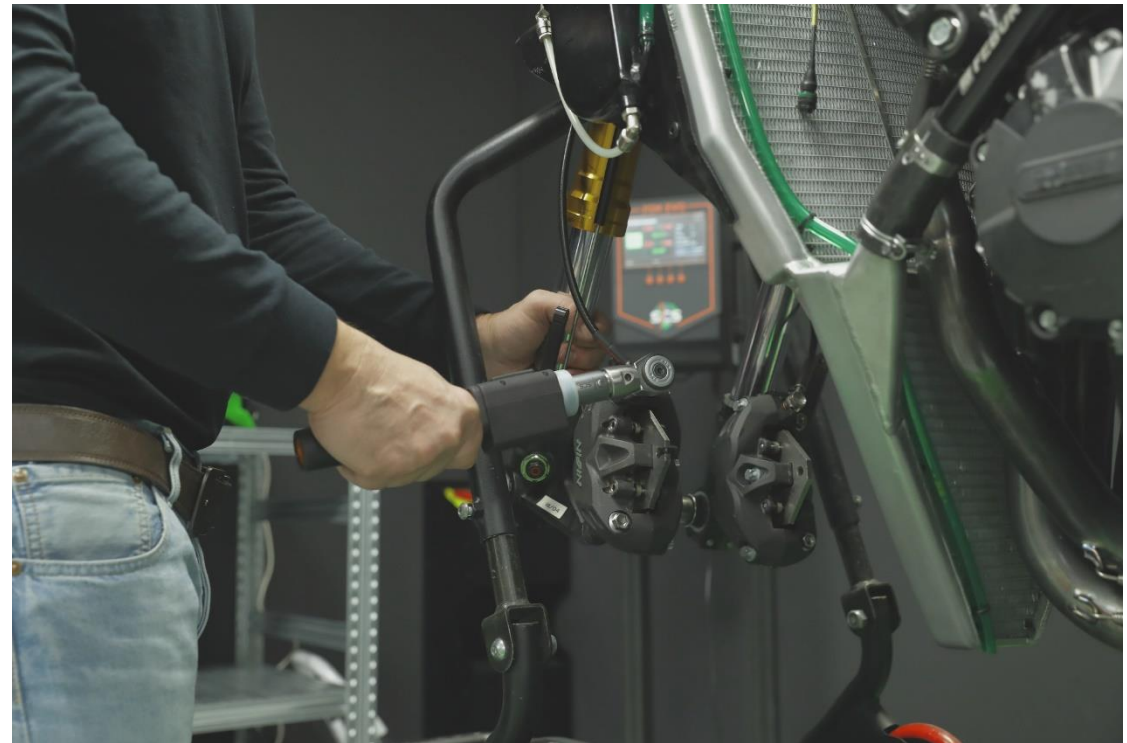
Edition 1



# Small, Light & Robust Transducerized click wrench



Small, Light, Ergonomic and Robust  
Productivity of click wrench with data traceability  
Accurate and repeatability  
Error Proofing Management





# A3 main pages

## CL/CLS controller



SCS FCB connected to a CL click wrench is design to manage your tightening with error proofing strategy, no data store, but all report are available on the Input/output 24V.



FIM-Evo connected to a CLS click wrench is design to collect data and manage error proofing of the CL/CLS wrench. Fully integrated, you will use the Webserver to setup the controller.



VPG+ connected to a CLS click wrench is design to collect data and manage error proofing of the CL/CLS wrench and can be fully integrated to your station management.

### 360° ring report

Multi-color LED to manage tightening report

RF 868MHz or 915MHz to connect to our controller

Bidirectional communication

Torque & Angle Transducer (CLS Only)

Mechanical Torque Adjustment

Ergonomic Handle

Wireless charger

Standard End-fitting

3° click

Highly Accurate Click

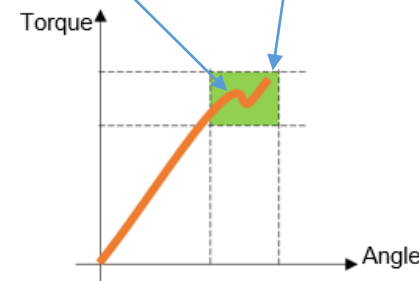
Others End fitting available



### Features

- Autonomy : 9 hours to 18 hours (5 hours to charge)
- Click Accuracy : 4% to fulfill ISO6789
- Torque Accuracy: +/- 1% of the read value
- Angle Accuracy : +/- 1% of the read value
- Torque range : 10 to 100%
- Disassembly detection coming soon
- First peak and Max torque applied send to the controller
- Bidirectional RF communication between the wrench and our controller

### First Peak & Max torque apply store





FIM-EVO



SCS FCB



Manage 4 CL  
Error Proofing Solution  
No data collection  
8 input & 8 output 24V  
10 sequence / 1 operator

Manage 12 SCS Tools  
2 operator in same time  
Data Storage & Open protocol  
4 output & 16 IO24V in option  
Manage Barcode reader / Printer  
Manage Socket tray

### Wrench Led description Today

- **Blue blinking**: Wrench powered on in standby mode
- **Blue fixed**: Wrench turned on in Admin mode
- **White blinking**: Wrench ready for tightening
- **Green steady for 1 second**: Result OK Today
- **Red steady for 1 second**: Result Not OK Today
- **Red blinking 5 times**: Torque applied with CLS not ready
- **Red blinking** (during standby mode): Battery low
- **Orange blinking** (during Standby mode): Battery charging

### Features

- Autonomy : 9 hours to 18 hours
- Torque click Accuracy : 4% to fulfill ISO6789:2017
- Torque accuracy : 1% of the read value
- Torque range : 10 to 100%
- Angle Accuracy : +/-1% of the read value
- Torque & Angle value store on the wrench : Fifo 64 value
- Well Balancing
- Disassembly detection (in progress)
- First peak and Max torque apply send to the controller
- Bidirectional RF communication to control data transfer between the wrench and our controller







Description	FIM_EVO	SCS FCB
Number of tools managed	12	4
Compatible with SCS Product (Wrench)	Yes	CL/CLS
Manage Job (Sequence), Task	Illimited	10
Manage Tightening strategy	Yes	Yes
Manage Barcode reader	Yes	No
Manage printer / Label Printer	USB/Serial	No
Number of result Store	100 000	No
Number of Traces store	100 000	No
Protocol available : Open protocol, Pfc, etc	Yes	No
FieldBus compatibility (Profinet, etc)	No	No
Number of Input/output manage	4 output	IO 8/8
Manage X tools, Station in same time	2	1
Universal Hub compatibility	No	No

# CLS wrench size comparison



Click wrench CL and CLS					Atlas comparison		Tohnichi Comparison		Tohnichi Comparison	
Designation	Capacity Torque & Angle Nm	Drive	L1 mm	Weight Kg	Atlas Lenght mm	Atlas Weight Kg	Tohnichi Lenght mm	Tohnichi Weight Kg	Sturtevant Lenght mm	Sturtevant Weight Kg
Freedom CLS 20	2 - 20	9*12	190	0.43	-13	0.016	3	-0.110	-9.819	-0.204
Freedom CLS 50	5 - 50	9*12	270	0.672	-36	-0.107	-56	-0.212	-40.606	-0.446
Freedom CLS 100	10 - 100	9*12	330	0.795	-23	-0.165	-40	-0.145	-4.166	-0.569
Freedom CLS 200	20 - 200	14*18	445	1.18	-26	-0.329	-16	0.020	-33.838	-0.591
Freedom CLS 350	35 - 350	14*18	690	1.98	208	0.520	-63	-0.330		

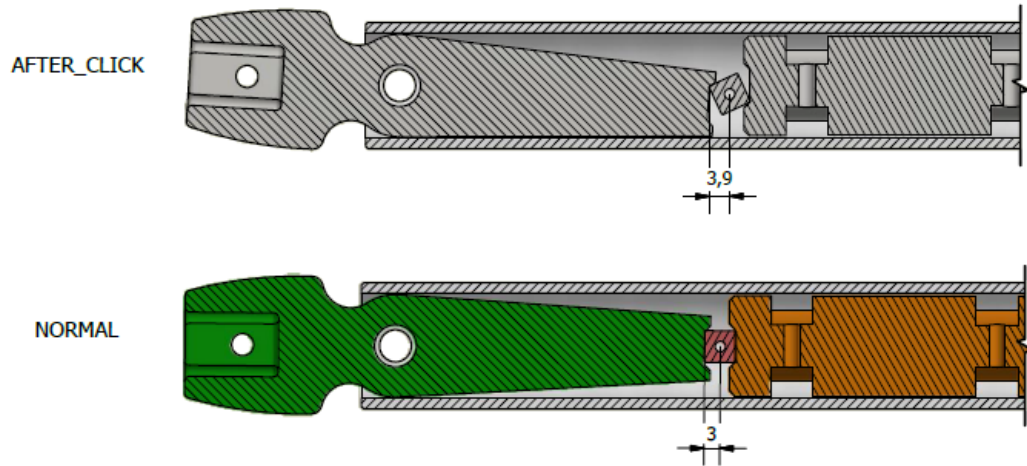
MWR T&A

FD/FDD Wrench Torque

TAC Model T&A

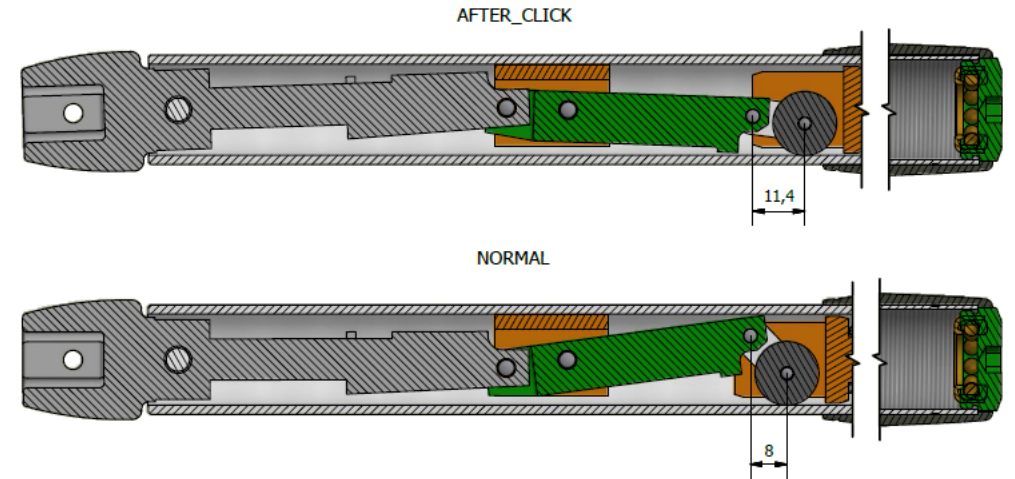


## Competitor click mechanism



This conception of click mechanism is based on the friction of the square parts. After each tightening, the geometry of the parts change a little due to the mechanical wear and oblige the customer to adjust the spring to maintain the same level of torque

## SCS Concept click mechanism



This conception of click mechanism reduce at the minimum the friction and the mechanical wear and authorize the customer to use the wrench without any adjustment with the same quality of tightening.



# New Web Interface for FIM-EVO

**VIN:** VIM0001  
**Task:** P0001

Network1 ●    Network2 ●

RESULTS ✕

TOOLS ✕

Drag a column header here to group by that column 📄

<input type="checkbox"/>	Description	Vin	Batch	Tool	Torque Result	Angle Result	Date / Time	Status	
	🔍	🔍	🔍	🔍	🔍	🔍	🔍	🔍	
<input type="checkbox"/>	OP_01_F3STD_DE...	20200219172507	2 / 2	FREEDOM 3 STD	20.9 Nm	21.9 °	19/02/2020 04:26:...	OK	Details - Trace
<input type="checkbox"/>	OP_01_F3STD_DE...	20200219172507	2 / 2	FREEDOM 3 STD	17.6 Nm	0.1 °	19/02/2020 04:26:...	OK	Details - Trace
<input type="checkbox"/>	OP_01_F3STD_DE...	20200219172507	2 / 2	FREEDOM 3 STD	20.8 Nm	0 °	19/02/2020 04:26:...	OK	Details - Trace
<input type="checkbox"/>	OP_01_F3STD_DE...	20200219172507	2 / 2	FREEDOM 3 STD	21.9 Nm	0.4 °	19/02/2020 04:26:...	OK	Details - Trace
<input type="checkbox"/>	OP_01_F3STD_DE...	20200219172507	2 / 2	FREEDOM 3 STD	22.7 Nm	0.3 °	19/02/2020 04:26:...	OK	Details - Trace
<input type="checkbox"/>	OP_02_F3STD_DE...	20200219172507	1 / 1	FREEDOM 3 STD	21.8 Nm	0.2 °	19/02/2020 04:26:...	OK	Details - Trace
<input type="checkbox"/>	OP_02_F3STD_DE...	20200219172507	1 / 1	FREEDOM 3 STD	21.4 Nm	0.4 °	19/02/2020 04:26:...	OK	Details - Trace
<input type="checkbox"/>	OP_02_F3STD_DE...	20200219172507	1 / 1	FREEDOM 3 STD	22.1 Nm	0.4 °	19/02/2020 04:26:...	OK	Details - Trace
<input type="checkbox"/>	OP_02_F3STD_DE...	20200219172507	1 / 1	FREEDOM 3 STD	25 Nm	2.2 °	19/02/2020 04:25:...	NOT OK	Details - Trace
<input type="checkbox"/>	OP_02_F3STD_DE...	20200219172507	1 / 1	FREEDOM 3 STD	23.8 Nm	24.5 °	19/02/2020 04:25:...	OK	Details - Trace
<input type="checkbox"/>	OP_02_F3STD_DE...	20200219172507	1 / 1	FREEDOM 3 STD	20.5 Nm	0.3 °	19/02/2020 04:25:...	OK	Details - Trace
<input type="checkbox"/>	OP_01_F3STD_DE...	20200213173642	/	FREEDOM 3 STD	20.3 Nm	26.4 °	13/02/2020 04:38:...	OK	Details - Trace

>

Results

Tools

Tasks

Job

I/O Module

Settings





# New Web Interface for FIM-EVO



VIN: VIM0001  
Task: P0001

Network1 ● Network2 ●

Results

RESULTS

TOOLS

Tools

Tasks

Job

I/O Module

Settings

Vin: 20200219172507

Task Description: OP\_01\_F3STD\_DESCR

Batch: 2 / 2

Status: OK

Curve

← Back to Grid →

Torque Min	Torque Nominal	Torque Max
16	20	24

Torque: **20.9 Nm**

Angle Min	Angle Nominal	Angle Max
0	30	120

Angle: **21.9 °**

Time: **- ms**

Station: FIM STATION

Job: 1 - JOB FIM

Phase: 5 / 5

Task: 1 - OP\_01\_F3STD\_DESCR

Tool: 1 - FREEDOM 3 STD

Date / Time 2020/02/19 04:26:42





# New Web Interface for FIM-EVO

## Trace not available with CL/CLS wrench



VIN: VIM0001  
Task: P0001

Network1 ● Network2 ●

Results

RESULTS

TOOLS

Tools

Tasks

Job

I/O Module

Settings

Vin: 20200219172507

Task Description: OP\_01\_F3STD\_DESCR

Batch: 2 / 2

Status: OK

Details

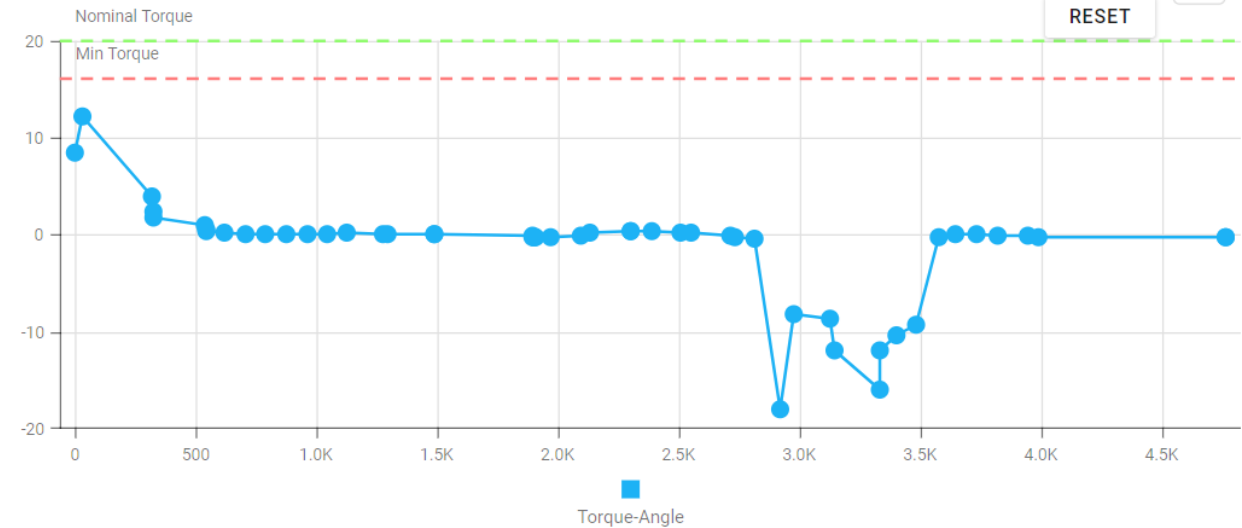
← Back to Grid →

Torque: 17.6 Nm    Angle: 0.1 °    Time: 17.6 ms

Switch to Torque - Angle Curve

Torque Nm	Angle °	Time ms
8.4	-0.1	0
12.2	-0.1	32
4	-0.2	320
2.4	-0.2	322
1.7	-0.2	325
1	-0.2	540
0.6	-0.2	543

Torque - Time Curve





# New Web Interface for FIM-EVO

Home

 User access : VIN: VIM0001  
 Code : Program: P0001  
 192.168.1.12 Network1 192.168.1.52 Network2 Setting

Results / Trace

Add and Modify

- Tools
- Sequence or Job
- Program or Task
- Backup / Restore

Setting

- Controller
- Communications
- Fieldbus
- Logs
- Diagnostic

Home x
Results x

Tools N°	Serial N°	Name	Brand	Tools Type	Range	IP/Adress	Connected	In cycle	Ready
1	CLS236785	CLS-20Nm	SCS	Click	2 - 20	1	■	■	■
2	FR7536IOPU	Freedom 4 70 Nm	SCS	T&A Wrench	7-70	192.168.1.34	■	■	■
3	FRIHF5784	Freedom 4 20 Nm	SCS	T&A Wrench	2 - 20	192.168.1.27	■	■	■
4	+			Power tools					
5	+								
6	+								
7	+								
8	+								
9	+								
10	+								
11	+								
12	+								

Home

 User access : VIN: VIM0001  
 Code : Program: P0001  
 192.168.1.12 Network1 192.168.1.52 Network2 Setting

Results / Trace
Home x
Tools x
Tool 1 x
Tool 4 x

Add and Modify

- Tools
- Sequence or Job
- Program or Task
- Backup / Restore

Setting

- Controller
- Communications
- Fieldbus
- Logs
- Diagnostic

Tools N° : 1

VIN : HTGU8753HFTIB965HDT54689GR

Name : CLS 20 Nm

Type : Click

IP address : 1

Serial N°:123456789AZERTY

Range : 2 to 20 Nm

Brand : SCS Concept

Band Hz: 868

Extra Length End-fitting : 21 mm      Coefficient corrector : 1.04

Picture

Maintenance counter : 123

Calibration date : 01/01/2020

Check calibration : 01/04/2020

Max torque apply : 21

Over Torque counter : 3

Status transducer : Ok





# New Web Interface for FIM-EVO

Home
 User access : VIN: VIM0001
192.168.1.12 Network1
192.168.1.52 Network2
Setting

Code :
Program: P0001

- Results / Trace
- Add and Modify
  - Tools
  - Sequence or Job
  - Program or Task
  - Backup / Restore
- Setting
  - Controller
  - Communications
  - Fieldbus
  - Logs
  - Diagnostic

Home x Job x Job 1 x

Job N°	Name	VIN 1	VIN 2	Description	Nb Task	Job Source	Re-tight	retry
1	Click 20 Nm	th56GT*****		Tightening 6 screw at 20 Nm	1	Serial	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2	Freedom 4 12 Nm	***489FDEX*****		Tightening 5 screw at 12 Nm	1	Ethernet	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3	Freedom 4 30 Nm	YHOG5694D*****		Tightening 5 screw at 30 Nm	1	Serial	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4	Freedom 4 6 Nm	YD7HFT7*****GY		Tightening 2 screw at 30 Nm	1	Can	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
5	Multi Task	***TFRT**	RTG*****	Tight blabla	3	Serial	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
6	±							
7	±							
8	±							
9	±							
10	±							
11	±							
12	±							
13	±							
14	±							
15	±							
16	±							
17	±							
18	±							
19	±							
20	±							

Home
 User access : VIN: VIM0001
192.168.1.12 Network1
192.168.1.52 Network2
Setting

Code :
Program: P0001

Results / Trace Home x Job x Job 1 x

- Add and Modify
  - Tools
  - Sequence or Job
  - Program or Task
  - Backup / Restore
- Setting
  - Controller
  - Communications
  - Fieldbus
  - Logs
  - Diagnostic

Job N° : 1  
 Vin 1 :  
 Description :

Name: Click 20 Nm  
 Vin 2 :

Job sources : Serial  
 Re-tight detection : Yes  
 Result Validation : Auto

Retry : 3  
 Auto sequence : Yes

Task N°	Names	Target Torque	Min T	Max T	Target A	Min A	Max A	Batch	Tools 1	Tools 2
1	20 Nm	20 Nm		18	22	0	5	99	6	CLS236785 ±
2	±									
3	±									
4	±									
5	±									
6	±									
7	±									
8	±									
9	±									
10	±									





# Launch Time



Reference	Designation	Capacity Nm	Drive	L1 mm	Weight Kg
114 31 0020	Freedom CLS 20	2 - 20	9*12	190	0.43
114 31 0050	Freedom CLS 50	5 - 50	9*12	270	0.672
114 31 0100	Freedom CLS 100	10 -100	9*12	330	0.795
114 31 0200	Freedom CLS 200	20 - 200	14*18	445	1.18
114 31 0350	Freedom CLS 350	35 - 350	14*18	690	1.98

Week of 9 March with Software to setup ID Nb and RF frequency value on the wrench

## FIM-CFW



- Step 1 : Data collection, Tools CLS , Station CLS, Job CLS, Task CLS, Network setup, Socket tray, result, export => ready
- Step 2 : Full IO24V => ready
- Step 3 : SCS Brand complete, Open protocol => ready
- Step 4 : Toolsnet, Backup and Restore for End of May => In progress
- Step 5 : Printer management, format label printer, End of July 2020

## SCS FCB



Ready

