



CL/CLS Click wrench solution



SCS Concept, 20 May 2020

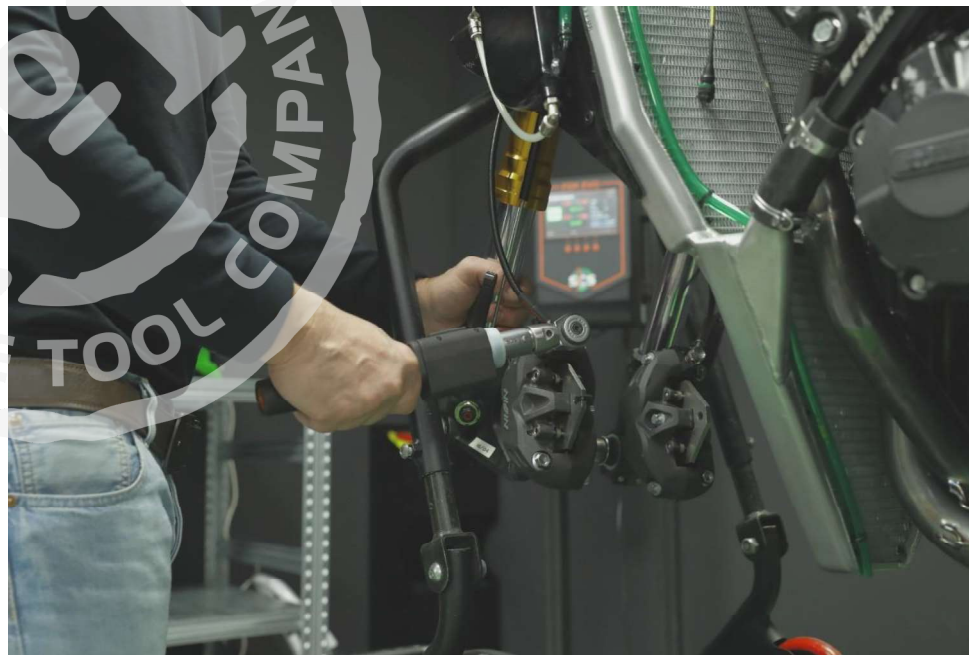
Edition 1



Small, Light & Robust Transducerized click wrench

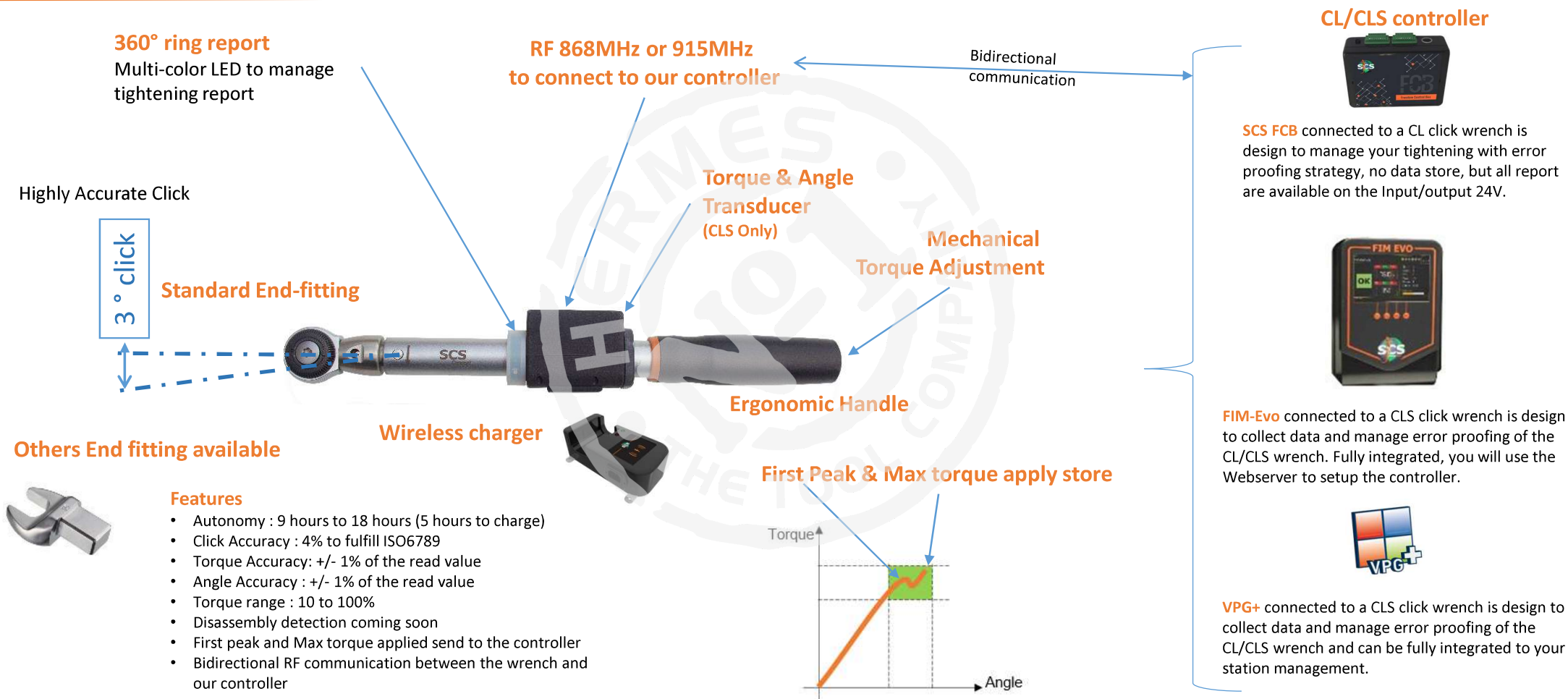


Small, Light, Ergonomic and Robust
Productivity of click wrench with data traceability
Accurate and repeatability
Error Proofing Management





A3 main pages





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, Pfcs, 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 Torque & Angle	Capacity 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		

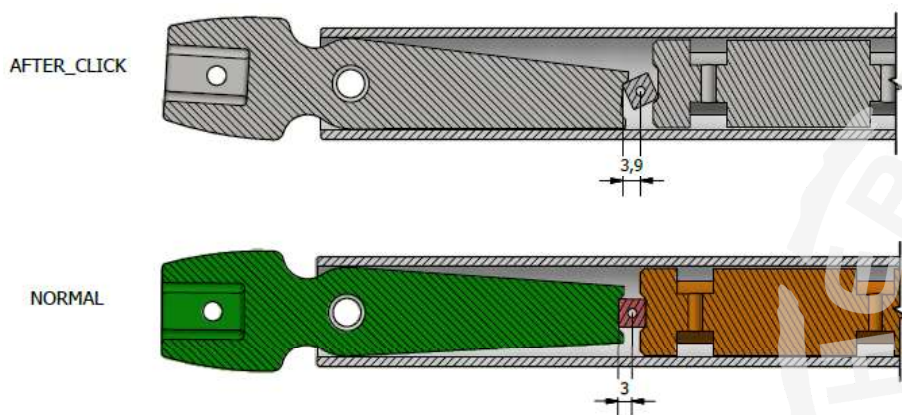
MWR T&A

FD/FDD Wrench Torque

TAC Model T&A

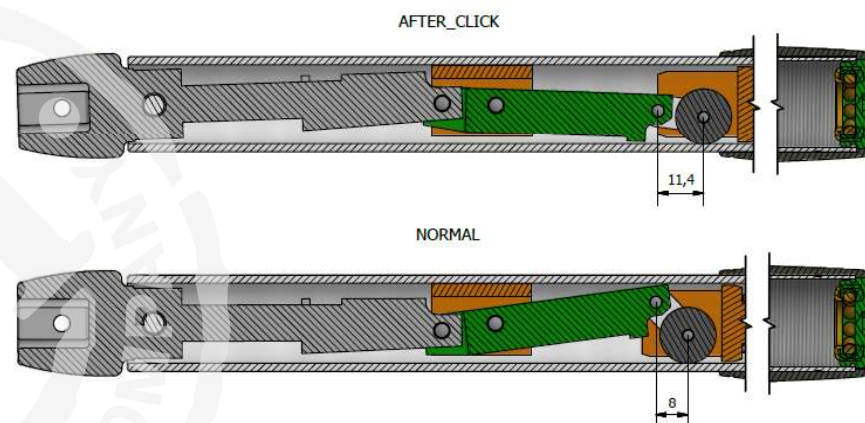


Competitor click mechanism



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
Tasks
Job
I/O Module
Settings

RESULTS


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	1 / 1	FREEDOM 3 STD	20.3 Nm	26.4 °	13/02/2020 04:38:...	OK	Details - Trace





New Web Interface for FIM-EVO



VIN: VIM0001
Task: P0001

Network1 ● **Network2** ●

Results

TOOLS

Vin: 20200219172507 **Task Description:** OP_01_F3STD_DESCR **Batch:** 2 / 2 **Status:** OK

← Back to Grid →

Torque Min

16

Torque Nominal

20

Torque Max

24

Torque: 20.9 Nm

Angle Min

0

Angle Nominal

30

Angle Max

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

SCS

Results

Tools

Tasks

Job

I/O Module

Settings

VIN: VIM0001

Task: P0001

Network1

Network2

RESULTS

TOOLS

Vin: 20200219172507

Task Description: OP_01_F3STD_DESCR

Batch: 2 / 2

Status: OK

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

Nominal Torque

Min Torque


RESET

Torque-Angle





New Web Interface for FIM-EVO

**Home**

User access :
Code :

VIN: VIM0001
Program: P0001

192.168.1.12 Network1
192.168.1.52 Network2
Setting

Results / Trace

Home x Results x


Add and Modify

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

Setting

- Controller
- Communications
- Fieldbus
- Logs
- Diagnostic

Tools N°	Serial N°	Name	Brand	Tools Type	Range	IP/Address	Connected	In cycle	Ready
1	CLS236785	CLS-20Nm	SCS	Click	2 - 20	1			
2	FR753610PU	Freedom 4.70 Nm	SCS	T&A Wrench	7 - 70	192.168.1.34			
3	FR1HF5784	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 :
Code :

VIN: VIM0001
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

Save

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

SCS Home

User access :
Code :

VIN: VIM0001
Program: P0001

192.168.1.12 Network1
192.168.1.52 Network2
Setting

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°	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		
2	Freedom 4 12 Nm	***489FDEX*****		Tightening 5 screw at 12 Nm	1	Ethernet		
3	Freedom 4 30 Nm	YHOG5694D*****		Tightening 5 screw at 30 Nm	1	Serial		
4	Freedom 4 6 Nm	YD7HFT7*****GY		Tightening 2 screw at 30 Nm	1	Can		
5	Multi Task	***TFRT**	RTG*****	Tight blabla	3	Serial		
6	±							
7	±							
8	±							
9	±							
10	±							
11	±							
12	±							
13	±							
14	±							
15	±							
16	±							
17	±							
18	±							
19	±							
20	±							

SCS Home

User access :
Code :

VIN: VIM0001
Program: P0001

192.168.1.12 Network1
192.168.1.52 Network2
Setting

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 :

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

Name: Click 20 Nm
Vin 2 :

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	CLS296785
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

