

DATA ACQUISITION SYSTEMS

TORQ-HUB



TORQ-HUB WIFI



TORQ-HUB RF

CMI
CONCEPT

MEASUREMENT INC.



WWW.CONCEPT-CMI.COM

COMPLETE FORCE MEASUREMENT

The TorqHub is an accurate, lightweight and economical means of measuring torque on screw (helical) pile installations. We offer both the existing RF 2.4 GHz FHSS product – and our new, more economical WiFi version. This torque monitoring and data logging device is intended to replace the Kelly Bar Adaptor (mount onto anchor drive output shaft). It is available in 2", 2-1/2", 2-5/8", 3" hex drive & 4", 75mm, 100mm square drive Kelly shaft sizes.

The TorqHub reliably and accurately measures torque forces in either ft/lb or N-m values, as well as pile/ anchor inclination. Data is logged and can be transmitted as "bare" data in a csv file – or compiled into a PDF line chart report. Output is achieved through either email (WiFi connection to smartphone) – or USB (USB drive installed into port at rear of display).

RF 2.4 GHz FHSS System:

Suited for larger, longer range wireless transmission requirements. This option includes our 7" Windows® 10 based LCD touchscreen display, with cab mounts and power supply harness included. This display also transmits a WiFi signal to any mobile device with the CMI TorqApp installed – for viewing via the app, rather than the display.



RF Option
Range: 185 ft - 40 channels

7" Window® OS LCD touchscreen in a rugged ABS casing. Designed to IP67 ingress protection.

Circuit boards, firmware and software all designed by CMI specific to the application. Sealed, gasketed and cushioned to ensure maximum protection and long life.



Range: 85 ft - 13 channels

WiFi System

The CMI WiFi option allows you to use your own device. Our WiFi signal can be received by either iOS™ or Android™ devices - and displayed/ logged/ reported with our free TorqApp.

The shorter range, more economical WiFi version is offered for smaller installations. This option includes the measurements noted on the RF version (torque and angle), and also includes RPM measurement – and GPS location. This system communicates with the free CMI TorqApp (available on iOS™ or Google Play™) installed on a smartphone or tablet (Note: A device with cellular connection with a SIM card is required for emailing of reports from the job site).

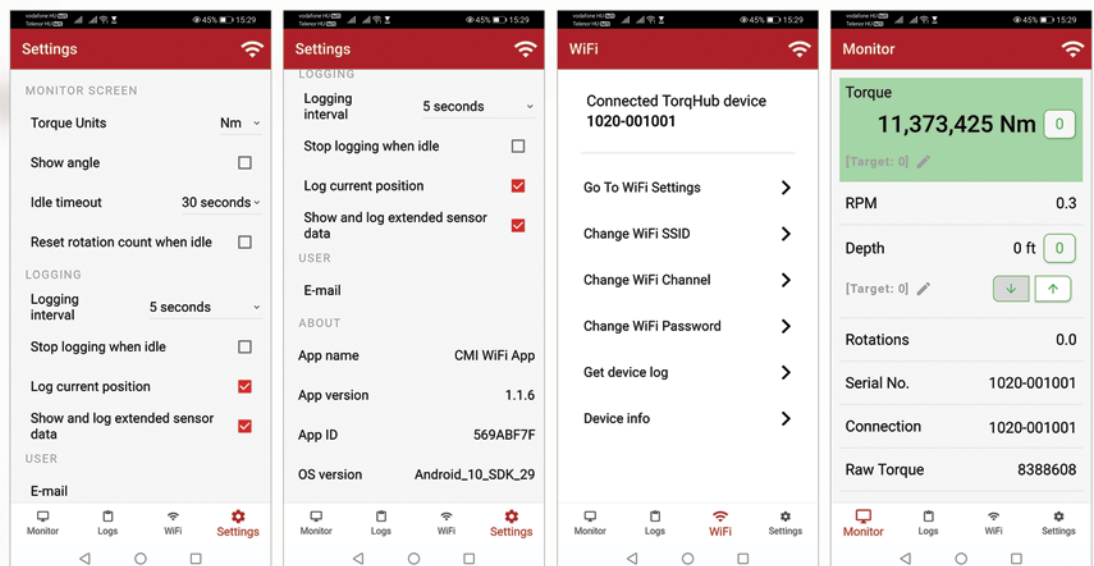


CMI Torq App

CMI is now offering a free smartphone app for both iOS™ (Apple) and Android™ (Samsung, etc) users.

- Available for FREE download from either the Apple App Store® or Google Play™.
- Allows a user to remotely monitor torque and inclination data for piles/ anchors as they are installed via a WiFi connection between their smartphone and our display.

Internet connection is not required for WiFi Hub to function (unit does not need to be operating in cell coverage). Internet connection is only required to email reports.



Improved Reporting

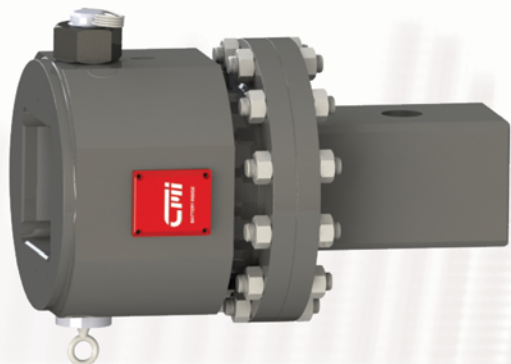
CMI is pleased to introduce our vastly improved reporting capabilities.

- ▶ Reports are exportable directly from the display, either via email using a smartphone with its' hotspot enabled, or through the onboard USB port connected to a flash drive. The user can also choose to email or export via USB - a smaller .csv format file.
- ▶ Reports are exported as both bare data (.csv file - open with Excel), and as a PDF line chart as shown below. One cover page for the job and a page for each individual pile is generated.
- ▶ Additionally, the PDF line chart will show depth as it is entered during the job. This will give the engineer a view of depth vs. torque on each pile. An optional hand held trigger is available which allows the operator (or his helper) to depress it when the pile/ anchor reaches a marked depth, allowing a more accurate (and more continuous) representation of torque vs. time"

User customizable client name and job information (Client logo's can easily be added with any 3rd party PDF editor software)

Simple to review look for torque data exceeding user preset threshold.

Drive Adaptors



Drive & Pile Adaptors available for all Torq Hubs – Please inquire.

CMI Depth Trigger Wireless RF System option

Replaces standard power supply cable for CMI's RF display—adding a cable branching to plastic hand held cylinder with button on top surface.

Allows the user to easily press the button—to record depth mark—as they see graduations marked on the pile advance to meet the ground surface.

This option is a considerable time saving and comfort adding device for the operator. It can be mounted to machine control handles—and depth marks become an easy addition to machine operation.



To display/HMI

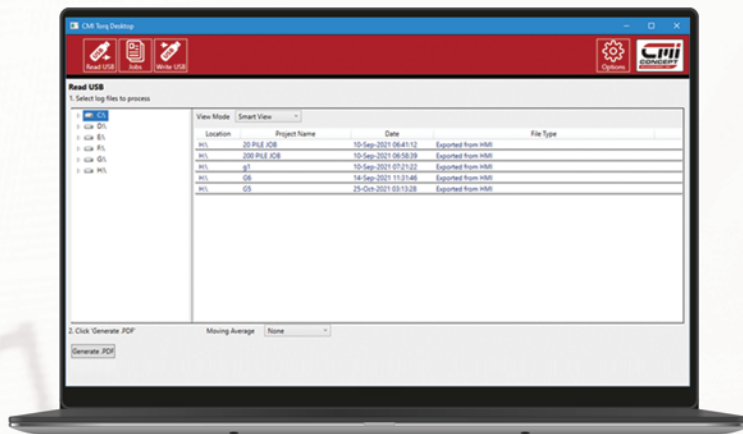
Attach to machine joystick

Attach to 12V/24V Power

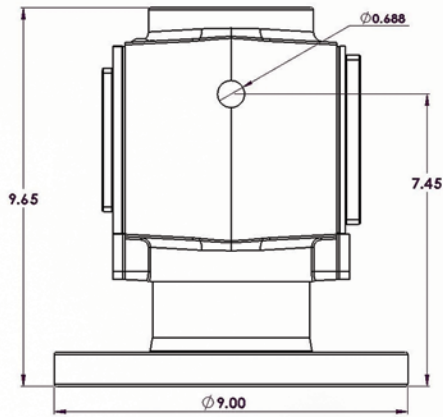
CMI Reporting

Our new offline Windows® 10 App is well suited to larger installation jobs with a large volume of piles to report. It is designed to offer unique and time-saving functions.

- ▶ Offline "Pre-Entry: Job variables (pile numbers, operator name, job site, client, etc.) can all be entered into the application prior to beginning a large job, saving your operator considerable time in the field.
- ▶ Offline PDF Report Generation: On projects with a large volume of piles, generating the PDF line chart on the small display can be time consuming. Simply export your data as the CSV file option, return or send this to a machine with our Windows 10 application installed. The generation of the PDF report is a quick operation.
- ▶ The Windows® 10 app is currently available for the RF 2.4 GHz FHSS system. It will be updated to interface with the new WiFi system in the near future.

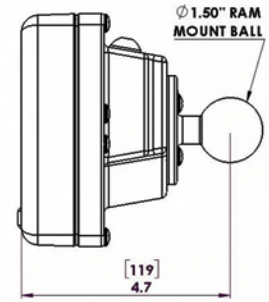
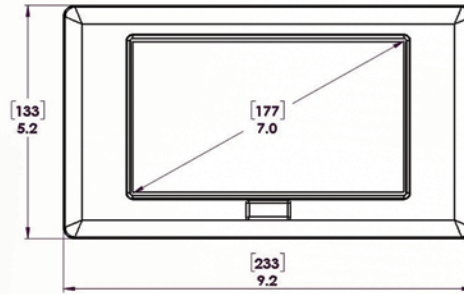
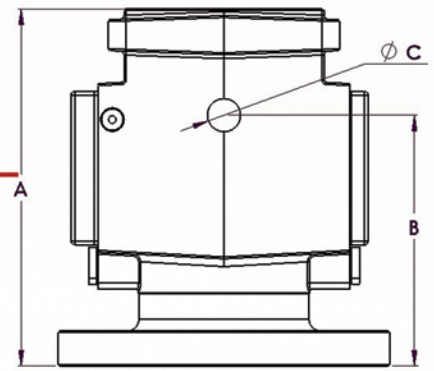


COMPLETE FORCE MEASUREMENT AND



2", 2-1/2", 2-5/8" & 3" Torq Hubs

75mm, 100mm & 4" Torq Hubs.



PART NO.	SHAFT	BOLT CIRCLE	TORQUE RATING (MAX.)	"A"	"B"	"C"	WEIGHT
RF TQHB-RF-BL-75MM-KIT	75mm	12 ea-5/8" on 7-5/8" B.C.	27,116 Nm/ 20,000 ft·lb (7-5/8" BC)	9.65"	6.78"	0.97"	74lb
WiFi TQHB-WF-BL-75MM-KIT				245mm	172mm	24.6mm	33.6Kg
RF TQHB-RF-BL-100MM-KIT	100mm	12 ea-3/4" on 8-5/8" B.C.	94,907 Nm/ 70,000 ft·lb (8-5/8" BC)	11.4"	8.03"	1.06"	97.5lb
WiFi TQHB-WF-BL-100MM-KIT				290mm	204mm	26.9mm	44Kg
RF TQHB-RF-BL-4-KIT	4 inch	12 ea-3/4" on 8-5/8" B.C.	94,907 Nm/ 70,000 ft·lb (8-5/8" BC)	12.2"	8.03"	1.06"	101lb
WiFi TQHB-WF-BL-4-KIT				310mm	204mm	26.9mm	45.8Kg

Units:	ft/lb, N-m, Ft, Mt
Resolution:	Torque - 1 ft/lb; N-m -- Depth 0.00 Ft; N-m
Accuracy	+/- 1.0% F.S.O.
Safe Temp. Range:	-40°C – +50°C
Excitation Voltage:	5 VDC
Safe Overload:	200% of R.O.
Batteries:	Gen A - 12V rechargeable Li-ion Battery Pack Gen B - 4 x 18650 rechargeable Li-ion Flat Top
Range	RF - 90m (295 feet), WiFi - 20m (66 feet)
Environmental Sealing	Designed to IP67 requirements

PART NUMBER	FLANGE BOLT CIRCLE DIA.	HEX SHAFT SIZE	TORQ RATING (MAX.)	WEIGHTS
RF TQHB-RF-BL-2-KIT	5-1/4"	2"	10,000 ftlb (13,558 Nm)	64 lbs - 29.0 kg
WiFi TQHB-WF-BL-2-KIT	7-5/8"	2"	20,000 ftlb (27,116 Nm)	
RF TQHB-RF-BL-212-KIT	7-5/8"	2-1/2"	22,500 ftlb (30,506 Nm)	68 lbs - 31.0 kg
WiFi TQHB-WF-BL-212-KIT				
RF TQHB-RF-BL-258-KIT	7-5/8"	2-5/8"	22,500 ftlb (30,506 Nm)	68 lbs - 31.0 kg
WiFi TQHB-WF-BL-258-KIT				
RF TQHB-RF-BL-3-KIT	7-5/8"	3"	22,500 ftlb (30,506 Nm)	67 lbs - 30.5 kg
WiFi TQHB-WF-BL-3-KIT				

RECOMMENDED STUD SIZE	
5-1/4" Bolt Circle	6 ea - 1/2" -13 UNC x 3-1/2" B7 studs w/ 6 ea - 1/2" -13 UNC Gr 8 Nuts
7-5/8" Bolt Circle	12 ea - 5/8" -11 UNC x 3-1/2" B7 Studs w/ 12 ea - 5/8" -11 UNC Gr 8 Nuts



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