

INFORMATION

Status Message - Automated report

Status Message - Torque Device to App

	Header	Reference Test Index	Current Fastener (1-'M)	M (Total fasteners 1-9)	Checksum
Sample 1: No job received	\$ PTRQS	0	0	0	XoR Result
Sample 2: Job in Progress	\$ PTRQS	1	1	1	49

Note Live status update every second

INF - Tool information request

INF request - App to Torque Device

Field descriptors	Header	Checksum
Format	\$ PTINF	XOR result
Message	\$ PTINF	***

INF response - Torque Device to App

Field descriptors	Header	Bluetooth ID	Product ID	Transducer #	Firmware #	Units Calibration	Date Calibration	Current Counter #	Validation status	Battery level	Date Validation	Current Date	Lifetime Counter	Angle identifier	Checksum
Format	\$ PTINF	Free text (up to 8 Characters)	Free text (up to 8 Characters)	Free text (up to 8 Characters)	Free text (up to 8 Characters)	Nm/ lbft/cNm/lbin	YYYY-MM-DD	Whole number	1-4	1-4	YYYY-MM-DD	YYYY-MM-DD	Whole number as Hexidecimal	A/Blank	XOR result
Sample	\$ PTINF	BT400001	HW250ABT	XV001001	V4.5231	Nm	2024-01-01	65	1	4	2024-01-01	2024-01-20	41	A	***

Validation Status	1	Wrench validated
	2	Wrench over-torqued. Transducer recalibration or replacement required
	3	Wrench needs validation
	4	Wrench needs calibration
Battery level	1	Battery at Empty
	2	Battery Low
	3	Battery mid life
	4	Battery Full
Angle Identifier	A	Angle wrench
	Blank	Non-angle wrench or wrench with damaged gyroscope

Request Torque Counter Limit

TCL request - App to Torque Device

Field descriptors	Header	Checksum
Format	\$ PTTCL	XOR result
Message	\$ PTTCL	***

TCL response - Torque Device to App

Field descriptors	Header	Counter limit	Checksum
Format	\$ PTTCL	Whole number	XOR result
Sample	\$ PTTCL	25000	16

Request Duration between calibrations

DUR request - App to Torque Device

Field descriptors	Header	Checksum
Format	\$ PTDUR	XOR result
Message	\$ PTDUR	***

DUR response - Torque Device to App

Field descriptors	Header	Duration	Checksum
Format	\$ PTDUR	Number days	XOR result
Sample	\$ PTDUR	550	***

INFORMATION

Request Current Date & Time

DTM request - App to Torque Device

Field descriptors	Header	Checksum
Format	\$ PTDTM *	XOR result
Sample	\$ PTDTM *	***

DTM response - Torque Device to App

Field descriptors	Header	Current Date & Time	Checksum
		YYYY-MM-DDTHH:MM:SS	
Format	\$ PTDTM *	2024-01-31T12:36:40	XOR result
Sample	\$ PTDTM *		***

CONFIGURATION

CFG - Configuration message

Send CFG settings - App to Torque Device

Field descriptors		Header	Current Date & Time	New Counter limit	Date Validation	Checksum
Format	\$	PTCFG	YYYY-MM-DD-THH:MM:SS	Whole Number (<100,000)	YYYY-MM-DD	XOR Result
Sample	\$	PTCFG	2024-02-15:T12:30:45	25000	2024-01-31	***

DOC - Set the Date of Calibration

Set Cal. date - App to Torque Device

Field descriptors		Header	Date of Calibration	Checksum
Format	\$	PTDOC	MMDDYYYY	XOR result
Sample	\$	PTDOC	01312024	***

SLEEP - Set time for autosleep

Set Sleep Time - App to Torque Device

Field descriptors		Header	Number of Minutes	Checksum
Format	\$	PTSLP	Whole Number (1-45)	XOR result
Sample	\$	PTSLP	10	***

Duration - Days between Cals

Set Duration - App to Torque Device

Field descriptors		Header	Number of days	Checksum
Format	\$	PTDUR	Whole Number (1-550)	XOR result
Sample	\$	PTDUR	550	***

Lock/Unlock settings options

Lock - Sent from App to Torque Device

Field descriptors		Header	Checksum
Format	\$	PTLOC	XOR result
Sample	\$	PTLOC	***

Unlock - Sent from App to Torque Device

Field descriptors		Header	Checksum
Format	\$	PTULOC	XOR result
Sample	\$	PTULOC	***

TORQUE JOBS

Wheel Torque Tightening Job

WT Job - App to Torque Device

Field descriptors	Header	Test Index	"Text Field"	Number of fasteners	Torque Nominal	Torque Minimum	Torque Maximum	Angle Minimum	Angle Maximum	Units	Checksum
Format	\$ PTRQT	Number (1-32167)	Free text (up to 8 Characters)	1-9	Torque Value	Torque Value	Torque Value	Angle Value	Angle Value	Nm/ lbft/cNm/lbin	XOR result
Sample	\$ PTRQT	1	Bolt 3	1	100	80	120	10	30	lbft	***
Rules											
Torque Nominal	>T.Min,										
Torque Minimum	>10% of Span										
Torque Maximum	>T.Nom, <100% of Span										
Angle Minimum	0.5 - 719.5										
Angle Maximum	>Amin & < 720.0										
Torque Value	From 10% to 100% of connected Tool span, e.g 75-750lb.ft and can consist if a max of 4 significant figures e.g. 450.5, 45.05										
Torque Reference	>5% of Span & <T.Min. T.Ref sets the Torque where angle starts counting.										

WT Result - Torque Device to App

Field descriptors	Header	Date & Time of result	Test Index	Transducer #	Peak Torque results	Peak Angle results	Just Move results	Torque Nominal	Torque Minimum	Torque Maximum	Checksum
Format	\$ PTRQR	YYYY-MM-DDTHH:MM:SS	Number (1-32167)	Free text (up to 8 Characters)	Torque Value	Torque Value	Torque Value	Torque Value	Torque Value	Torque Value	XOR result
Sample	\$ PTRQR	2024-02-15:12:35:45	1	XV001001	100.1	15.5	75.8	100	80	120	***

Gyro Calibration

Initiate Gyro Cal - App to Torque Device

Field descriptors	Header	Checksum
Format	\$ PTGCAL	XOR result
Sample	\$ PTGCAL	***

Gyro Cal response - Torque Device to App

Field descriptors	Header	GCL 1	GCL 2	Checksum
Format	\$ PTRGCL	Integer	Integer	XOR result
Sample	\$ PTRGCL	258	15	***

Notes If the Gyro Calibration was successful GCL 1 should be <400 & >-400 and GCL 2 should be <50

Show Gyro Val - App to Torque Device

Field descriptors	Header	Checksum
Format	\$ PTVGA	XOR result
Sample	\$ PTVGA	***

Notes Is not visible in Lock state

JUST MOVE ANGLE

Set default JMA - App to Torque Device

Field descriptors	Header	Degree setting	Checksum
Format	\$ PTJMA	1.0 - 270.0	XOR result
Sample	\$ PTJMA	3.0	***

Note This angle control should be used as part of the set up process for a Wheel-Torque job with angle control. Reference the JMA algorithm document which explains how to define JMA.