

**NEW!**

**vmax™ 44V**

**Up To 83% Faster!**



**LIVEWIRE™**

**Durable Production Performance**

**Cordless For Safety Critical Joints**

**Cleco®**

# The Most Cost-Effective Safe

## Up To 50% Savings Over Traditional Systems!

Mobility is a major advantage with wireless communications. Cleco LiveWire™ marries the freedom and flexibility of cordless tools with real-time wireless error proofing. Utilizing an industry standard 2.4GHz WLAN (Wireless Local Area network) interface in conjunction with the highest security encryption and authentication levels, plus a 512-cycle tool memory buffer, LiveWire™ ensures you will never compromise safety critical data transmissions.



**10  
LiveWire  
Tools.  
1 Line  
Controller.**



# Security Critical Solution Available.

## Up To 83% More Productivity!

Cleco LiveWire™ tools are now available with Vmax™, a solution that drives tool power and speed increases up to 83% without losing accuracy or durability. This leading innovation utilizes the same 10 tools to one line controller hardware solution with up to 50% cost savings over traditional systems. New Vmax™ technology auto-senses the applied power source and adjusts the maximum tool speed capability on the fly. LiveWire™ with Vmax™ combines the power you need with the most versatile wireless system available today.



### Wireless Security

- WEP (Wired Equivalent Privacy)
  - 64/128 Bit Encryption HEX (RC4)
- WPA (Wireless Protected Access)/WPA2/802.11
  - 128 Bit TKIP/CCMP Encryption
  - 802.1x EAP Authentication
    - LEAP, PEAP, TTLS
    - GTC, MD5, OTP, PAP, CHAP, MSCHAP, MSCHAPv2, TTLS MSCHAPv2

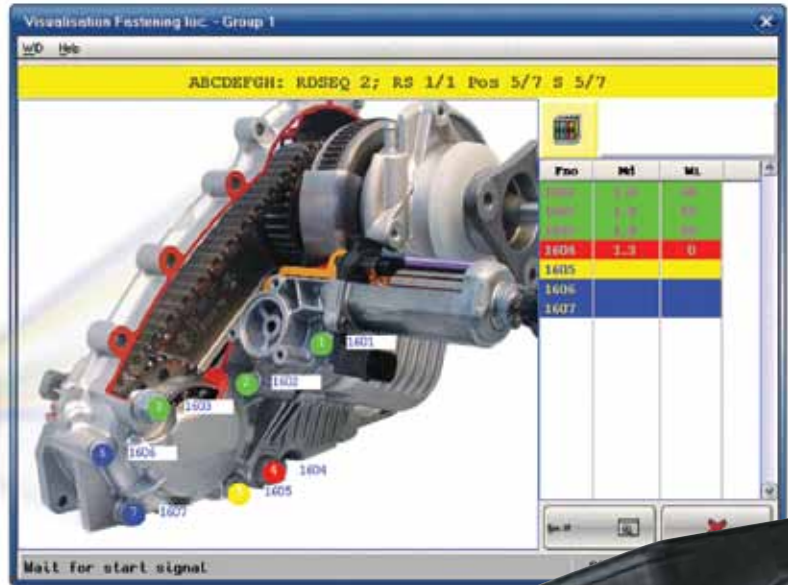


# All The Brains. All The Power.

LiveWire™ offers precision torque, angle and speed control features for safety critical fastening in an ergonomic, wireless design.

With up to 1,700 rundowns per battery charge or continuous power, your safety critical applications are assured to never run out of power.

LiveWire™ has been designed and tested to provide wireless connectivity across the harshest of machine-to-machine environments.



## Digital Audio Interface

- Operator audible alarm
- Programmable sound duration

## Digital Process Control

- Auto bolt sequencing
- Auto image selection
- Configurable reject management



## Electronic Intelligence

- On-board controller with power management
- Integrated servo with I/O signal handling
- Auto sensing power intelligence
- 512 cycle memory buffer





# Power. And It's Wireless.

## Integrated Bar Code Scanner (optional)

- Enables real-time bar code data collection
- Programmable bit for Auto Parameter Select
- Tool enable and disable configurability

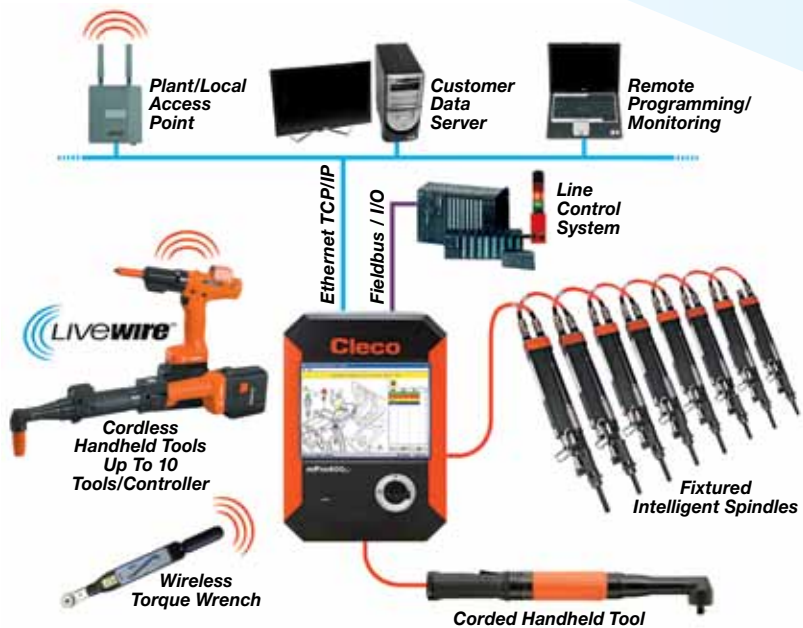


## Modular Tightening System



### Operator Display

- Real-time interface
- Redundant feedback
  - Green LCD = OK
  - Yellow LCD = Running
  - Red LCD = NOK / Errors
  - Green LED = OK
  - Red LED = NOK
- Configurable application buttons



One controller manages up to 32 tools simultaneously in varying combinations.

**Cordless Freedom**

*or*

**Tethered Speed...**



**The Choice Is Yours.**



## 44V Li-Ion Battery Technology

- Up to 83% faster vs. 26V battery
- Up to 1,700 rundowns/charge (hard joint)
- Life > 800 charging cycles
- On-board intelligence
  - Charge level/cycles LCD
  - Diagnostics to a PC
- Single tab, one-hand removal



The cells and electronic balancing circuit are fixed to an internal cell holder to provide maximum durability.



Single tab removal



5 bar on-battery display for advanced feedback

Charge Cycles – Unplugged display

Display	Charge Cycles
■ ■ ■ ■ ■	0 – 199
■ ■ ■ ■ □	200 – 399
■ ■ ■ □ □	400 – 599
■ ■ □ □ □	600 – 799
■ □ □ □ □	> 800

Charge Level – Operational display

Display	Charge Level
□ □ □ □ □	Deep Sleep Mode or Defective
■ □ □ □ □	< 20%
■ ■ □ □ □	20 – 40%
■ ■ ■ □ □	40 – 60%
■ ■ ■ ■ □	60 – 80%
■ ■ ■ ■ ■	80 – 100%

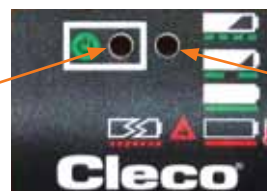
## 26V/44V Charger Technology

- Auto-sensing 26/44V
- One hour charge cycle
- Auto-sensing input (85-270) VAC
- Power/Status LEDs

Charger Display For Advanced Feedback

Power Supply

LED Display	Status
●	No Main Supply
●	Main Supply OK



Red/Green LED For Charge & Error

LED Display	Status
●	No Battery
● Flash @ .5 Hz	Charging, Level > 80%
● Flash @ 1 Hz	Charging, Level < 80%
●	Battery 100% Charge
●	Cell Over Temperature
● Flash @ 2 Hz	Battery Error (Short circuit, defective cell, etc.)



936491PT



### LiveWire Power Module

- Up to 83% faster!
- Auto sensing input – (85-275 VAC)
- Power & status LEDs
- Electronic circuit protection



#### Power Module

Model No.	Weight		Width		Length		Depth	
	lbs.	kg	in.	mm	in.	mm	in.	mm
961350PT	6.8	3.1	9.4	240	4.7	120	5.9	150

2M power cable included.

### Speed Improvement Comparison

Series	Model Number	Free Speed (RPM)		% Increase
		26V Battery	Tethered	
Pistol	17BPXSB05Q	1639	2428	48%
	17BPXSB07Q	1161	1721	48%
	17BPXSB09Q	887	1314	48%
	17BPXSB13Q	629	931	48%
Right Angle	47BAXSB15AM3	538	983	83%
	47BAXSB21AM3	411	751	83%
	47BAXSB28AM3	291	532	83%
	47BAXSB35AM3	244	447	83%
	47BAXSB50AM3	168	293	75%
	47BAXSB70AH4	123	216	75%
	47BAXSB105AH4	82	114	75%

### mPro400GC Controller

- Up to 16 tools per controller (LiveWire + Corded + Fixtured)
- 10.4" display with wide viewing angle
- Touchscreen with alpha numeric entry
- Corded and cordless functionality
- Redundant Ethernet and Fieldbus ports
- Serial and USB connectivity
- Configurable 24V I/O
- System bus standard
- Fieldbus optional



#### mPro400GC Nomenclature

<b>M</b> PRO	<b>400</b> GC	<b>X</b>
Controller Style	Series	Type
		M – Master P – Primary



#### Global Controllers

Model Number*	Description	Weight		Width		Height		Depth*	
		lbs.	kg	in.	mm	in.	mm	in.	mm
MPRO400GC-M	Master controller, display, no servo, Fieldbus optional	23.3	10.57	10.5	266.7	15	381.0	13.24	336.29
MPRO400GC-P	Primary controller, display, STMH servo, Fieldbus optional	30.8	13.97	10.5	266.7	15	381.0	13.24	336.29

\*Includes mounting bracket.

### Low-Cost Software Solution



- No error proofing
- No software licensing
- Up to 10 tools to PC
- Local data storage



TMEB-COM-V2.03





# Cordless Transducer Control – Angle

# Cleco®

## Right Angle Series

**Torque Range**  
5.5 - 105 Nm  
4.1 - 77.4 Ft. Lbs.

**Bolt Size**  
M5 - M12  
#10 - 9/16"

- Brushless precision
- Resolver control
- Transducer accuracy
- On-board controller with power management
- Integrated servo with I/O signal handling

47BAXSB28AM3

(Apex u-Guard socket shown above not included)



### Cordless Tools Nomenclature

<b>47</b>	<b>B</b>	<b>A</b>	<b>X</b>	<b>X</b>	<b>B</b>	<b>XXX</b>	<b>XXX</b>	<b>X</b>
<b>Motor</b> 47	<b>Power</b> B-Battery				<b>Battery</b> B - 26-48V		<b>Output Drive</b> AM3 - 3/8" Sq.Dr. - Pin Retainer AH4 - 1/2" Sq.Dr. B Ball Retainer	<b>Retainer</b>
<b>Tool Style</b>			<b>Peripherals</b>			<b>Max Torque (Nm)</b>		
A - Angle			S - Barcode Scanner - - None			Under 60Nm, rounded up to the nearest 1Nm. Over 60Nm, rounded to the nearest 5Nm.		
<b>Data Transmission</b>								
X - WLAN: WEP, WPA, WPA2, 802.1x Z - Xbee (4 tools/access point) R - RF868MHz (4 tools/box station) EU only								

Angle	Torque Range		Free Speed (RPM)			Weight Less Battery		Output Drive Size	Length With 26V Battery	
	Model Number	Ft.Lbs.	Nm	26V*	44V*	Tethered	lbs.		kg	in.
47BAXSB15AM3	4.1-11.1	5.5-15	538	983	983	4.77	2.17	3/8" SQ	21.79	553.5
47BAXSB21AM3	5.9-15.5	8-21	411	751	751	4.77	2.17	3/8" SQ	21.79	553.5
47BAXSB28AM3	7.4-20.7	10-28	291	532	532	4.77	2.17	3/8" SQ	22.32	567.5
47BAXSB35AM3	9.6-25.8	12-35	244	447	447	5.35	2.43	3/8" SQ	23.06	600.0
47BAXSB50AM3	13.3-36.9	18-50	168	293	293	5.39	2.45	3/8" SQ	23.94	608.0
47BAXSB70AH4	17.7-51.6	24-70	123	216	216	8.54	3.88	1/2" SQ	26.7	678.0
47BAXSB105AH4	29.5-77.4	40-105	82	144	144	8.73	3.96	1/2" SQ	26.7	678.0

\*Speed with fully charged battery.

General: All tools must be used with a Cleco approved line controller.

Standard Equipment: Integrated infrared communications.

Extra Equipment: See back page for optional accessories.





17BPXSB13Q

(Apex u-Guard socket shown above not included)

## Cleco®

### Pistol Grip Series

<b>Torque Range</b>	<b>Bolt Size</b>
3.0 - 13 Nm	M5 - M6
2.2 - 9.6 Ft. Lbs.	#10 - 1/4"

- Brushless precision
- Resolver control
- Transducer accuracy
- On-board controller with power management
- Integrated servo with I/O signal handling



### Cordless Tools Nomenclature

<b>17</b>	<b>B</b>	<b>P</b>	<b>X</b>	<b>X</b>	<b>B</b>	<b>XX</b>	<b>Q</b>
<b>Motor</b> 17	<b>Power</b> B-Battery				<b>Battery</b> B - 26-48V		<b>Output Drive</b> Q - Quick change
<b>Tool Style</b>					<b>Peripherals</b>		<b>Max Torque (Nm)</b>
P - Pistol					S - Barcode Scanner - - None		Under 60Nm, rounded up to the nearest 1Nm.
<b>Data Transmission</b>							
X - WLAN: WEP, WPA, WPA2, 802.1x							
Z - Xbee (4 tools/access point)							
R - RF868MHz (4 tools/box station) EU only							

Pistol Model Number	Torque Range		Free Speed (RPM)			Weight Less Battery		Output Drive Size	Length With 26V Battery	
	Ft.Lbs.	Nm	26V*	44V*	Tethered	lbs.	kg		in.	mm
17BPXSB05Q	2.2-3.7	3-5	1639	2428	2428	3.34	1.52	1/4" Hex	8.44	214.5
17BPXSB07Q	2.2-5.2	3-7	1161	1721	1721	3.34	1.52	1/4" Hex	8.44	214.5
17BPXSB09Q	2.2-6.6	3-9	887	1314	1314	3.34	1.52	1/4" Hex	8.44	214.5
17BPXSB13Q	2.2-9.6	3-13	629	931	931	3.34	1.52	1/4" Hex	8.44	214.5

\*Speed with fully charged battery.

**General:** All tools must be used with a approved Cleco line controller.

**Standard Equipment:** Integrated infrared communications.

**Extra Equipment:** See back page for optional accessories.

# Cordless Transducer Control – Tube Nut

# Cleco®

## Tube Nut Series

**Torque Range**  
10 - 40 Nm  
7.4 - 29.5 Ft. Lbs.

**Bolt Size**  
M6 - M8  
1/4" - 7/16"

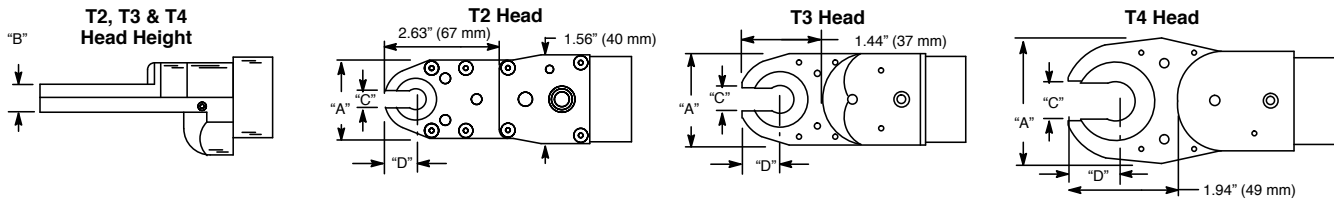
- Brushless precision
- Resolver control
- Transducer accuracy
- On-board controller with power management
- Integrated servo with I/O signal handling



The 47BT tube nut wrench alternates the direction of rotation each time the lever is actuated. When rotating in reverse, the socket will stop at the open position.



47BTXSB20T2



### Tube Nut Tool Nomenclature

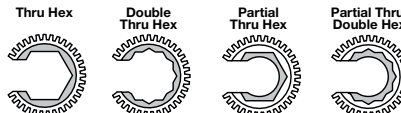
<b>47</b>	<b>B</b>	<b>T</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>XX</b>
<b>Series</b> 47	<b>Power</b> B-Battery					<b>Battery</b> B-26V-48V
<b>Tool Style</b> T - Tube Nut						<b>Peripherals</b> S - Barcode Scanner - - None
<b>Data Transmission</b>			<b>Head Type</b>			
X - WLAN: WEP, WPA, WPA2, 802.1x			T2 - 20 Nm			
Z - Xbee (4 tools/access point)			T3 - 30 Nm			
R - RF868MHz (4 tools/box station) EU only			T4 - 40 Nm			

### Socket Nomenclature

<b>KSX</b>	<b>XX</b>	<b>XX</b>	<b>X</b>
<b>Head Type</b> KS2 - T2 KS3 - T3 KS4 - T4	<b>Output Type</b>		
	0 - Partial Thru Hex	2 - Double Thru Hex	
	1 - Thru Hex	3 - Partial Thru Double Hex	
	<b>Extension Length</b>		
	0 - Flush	4 - 1/2"	
	2 - 1/4"	6 - 3/4"	
	<b>Maximum Hex Socket Size</b>		
MG, EE	T2 Head Type		
MM, 3/4"	T3 Head Type		
MU, 1 1/16"	T4 Head Type		
00, ## (Specials)	All Head Types		

### Socket Sizes

<b>EA</b> - 1/4"	<b>M5</b> - 5mm	<b>MH</b> - 14mm	<b>MP</b> - 22mm
<b>EC</b> - 3/8	<b>M6</b> - 6mm	<b>MI</b> - 15mm	<b>MQ</b> - 23mm
<b>EE</b> - 1/2	<b>MA</b> - 7mm	<b>MJ</b> - 16mm (5/8")	<b>MR</b> - 24mm (15/16")
<b>EF</b> - 9/16	<b>MB</b> - 8mm (5/16)	<b>MK</b> - 17mm	<b>MS</b> - 25mm
<b>EH</b> - 11/16	<b>MD</b> - 10mm	<b>ML</b> - 18mm	<b>MT</b> - 26mm
<b>EJ</b> - 13/16	<b>ME</b> - 11mm (7/16)	<b>MM</b> - 19mm (3/4")	<b>MU</b> - 27mm (1 1/16")
<b>EK</b> - 7/8	<b>MF</b> - 12mm	<b>MN</b> - 20mm	
<b>EM</b> - 1	<b>MG</b> - 13mm	<b>MO</b> - 21mm	



Tube Nut	Torque Range		Free Speed (RPM)			Weight Less Battery		Max. Drive Size	Length w/ 26V Battery		Head							
	Ft.Lbs.	Nm	26V*	44V*	48V	lbs.	kg		in.	mm	A Width		B Blade Ht.		C Opening		D End/Cntr.	
47BTXSB20T2	7.4-14.8	10-20	260	455	455	5.6	2.54	1/2"	23.6	598	1.42	36	0.55	14	0.28	7	0.53	13
47BTXSB30T3	11.1-22.1	15-30	188	329	329	5.6	2.53	3/4"	23.3	588	1.65	42	0.59	15	0.475	12	0.73	19
47BTXSB40T4	14.8-29.5	20-40	141	247	247	6.4	2.90	1 1/16"	29.9	612	2.36	60	0.59	15	0.675	17	0.93	24

\*Speed with fully charged battery.

General: All tools must be used with a Cleco approved line controller.

Standard Equipment: Integrated infrared communications.

Extra Equipment: See back page for optional accessories.

To order individual sockets, use a "KS" prefix. (i.e. KS2EA01 for a T2, 1/4", flush, thru hex socket.)

## Cleco®

### Crowfoot Series

**Torque Range**  
10.5 - 30 Nm  
7.7 - 22.1 Ft. Lbs.

**Bolt Size**  
M6 - M8  
1/4" - 7/16"

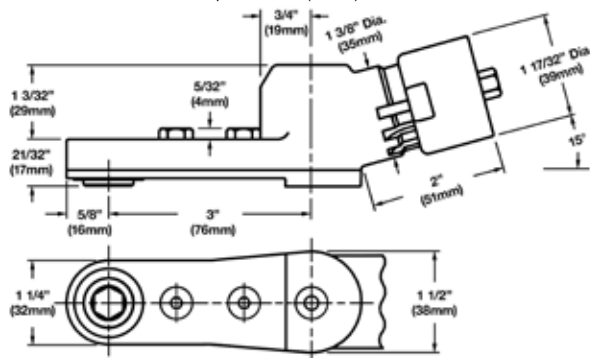
- Brushless precision
- Resolver control
- Transducer accuracy
- On-board controller with power management
- Integrated servo with I/O signal handling



47BCXSB30C1

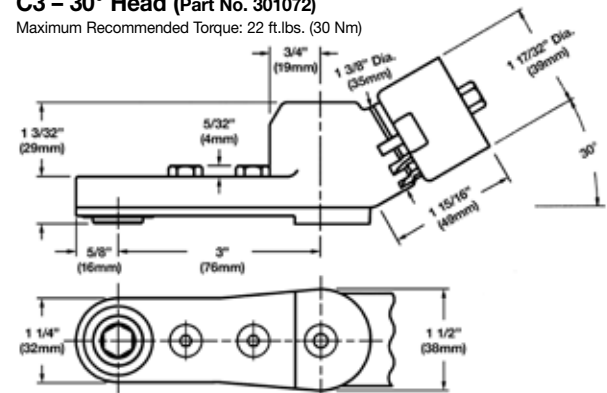
#### C1 – 15° Head (Part No. 301071)

Maximum Recommended Torque: 22 ft.lbs. (30 Nm)



#### C3 – 30° Head (Part No. 301072)

Maximum Recommended Torque: 22 ft.lbs. (30 Nm)



#### Crowfoot Tool Nomenclature

**47** | **B** | **C** | **X** | **X** | **B** | **XX** | **CS** | **XX** | **X** | **X**

**Series**  
47

**Battery**  
B – 26V-48V

**Tool Style**  
C – Crowfoot

**Peripherals**  
– None  
S – Barcode scanner

**Data Transmission**  
X – WLAN: WEP, WPA, WPA2, 802.1x  
Z – Xbee (4 tools/access point)  
R – RF868MHz (4 tools/box station) EU only

**Head Type**  
C1 – 15°  
C3 – 30°

#### Socket Nomenclature

**Socket Type**  
CS – Crowfoot

**Output Type**  
1 – Thru Hex

**Extension Length**  
0 – Flush    4 – 1/2"    6 – 3/4"

**Socket Size**  
EA – 1/4"    MA – 7mm    MF – 12mm  
EC – 3/8"    MB – 8mm (5/16)    MG – 13mm  
EE – 1/2"    MC – 9mm    MH – 14mm  
EF – 9/16"    MD – 10mm    MI – 15mm  
ME – 11mm (7/16)

Crowfoot Model Number	Torque Range		Free Speed (RPM)			Weight Less Battery		Max. Drive Size	Length w/26V Battery	
	ft. lbs.	Nm	26V*	44V*	48V	lbs.	kg		in.	mm
47BCXSB30C1	7.7-22.1	10.5-30	186	326	326	6.12	2.78	1/2"	26.26	667
47BCXSB30C3	7.7-22.1	10.5-30	186	326	326	6.12	2.78	3/4"	25.98	660

\*Speed with fully charged battery.  
General: All tools must be used with a Cleco approved line controller.

Standard Equipment: Integrated infrared communications.  
Extra Equipment: See back page for optional accessories.

To order individual sockets, use a "CS" prefix before the required socket. (i.e. CSEE01 for a 1/2", flush, thru hex socket.)



# Cleco Cordless Accessories

## Batteries

Part No.	Description	Weight	
		lbs.	kg
935377	26V Li-Ion	1.1	0.50
936400PT	44V Li-Ion	1.9	0.85



## Battery Chargers

Part No.	Description
935391	26V battery charger
936491PT	26V/44V charger



## Vmax Tethers

Part Number	
Tool	Extension
961341-***	961342-***

\*\*\*Length: 030=3m, 060=6m,  
080=8m, 100=10m  
Note: Maximum 20M length

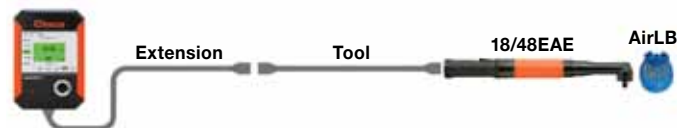


## Corded Tool Cables

Tool Model	Extension Model	Description	Connectors
301866-XM	301877-XM	Inline, Std. Durability (NA)	AirLB-AirLB
961259-XXX	961249-XXX	Inline, Std. Durability (EU)	AirLB-AirLB

(X = 1,2,3,6,8,10,15) Meters  
(XXX = 010, 020, 030, 040, 050, 060, 080, 100, 120, 130, 140, 150, 180, 220)  
Decimeters

Maximum tool to controller cable length 20M.



Primary controller - Up to 16 tools (LiveWire + Corded + Fixtured)

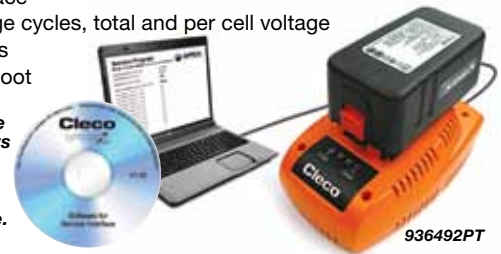
## Accessory Cables

Part No.	Accessory Cable Description
543445-7	Ethernet Cable Patch - 2M
543446-7	Ethernet Cable Crossover - 2M
543490-10	Serial Cable Null Modem - 3M
935170	Serial Cable IrDA - 1M
544196-005	System Bus Cable - 0.5M Bus
544196-020	System Bus Cable - 2M Bus
544196-050	System Bus Cable - 5M Bus
544196-200	System Bus Cable - 20M Bus
544196-500	System Bus Cable - 50M Bus
544197PT	System Bus Terminator

## Preventative Maintenance Diagnostics

- USB to PC interface
- Displays discharge cycles, total and per cell voltage
- Better diagnostics
- Easy to troubleshoot

Battery service interface allows cycles and cell voltages to be read via serial interface cable.



## Accessories

Part No.	Accessory Description
301837	Reversible Mount Pistol Dead Handle
543995	Access Point 2.4GHz WLAN (US)
544163PT	CompactFlash Module Programmed
544171PT	Fieldbus Devicenet
544172PT	Fieldbus Ethernet-IP
544173PT	Fieldbus Profibus
544174PT	Fieldbus Profinet
544183PT	Cleco Remote Programming Software
935144	Pistol tool holder w/infrared interface
935154	9' (3m) extension cable
935155	19.5' (6m) extension cable
935157	33' (10m) extension cable
935290	Angle tool holder w/infrared interface
935395	Angle tool holder
935396	Pistol tool holder
935998	70/110 Nm RA & Crowfoot tool holder
935999	70/110 Nm RA & Crowfoot tool holder w/infrared interface
936372	Cover Angle Head (47BA15-28AM)
936373	Cover Angle Head (47BA35-50AM)
936424PT	Cover Scanner (47BA)
936492PT	Battery service interface and software CD
961300	868MHz Base Station (EU only)
961323	Access Point 2.4GHz WLAN (EU)
961390	Xbee 2.4GHz Access Point (US/EU)
S133405	System Bus Stack Light without Buzzer
S133406	System Bus Control Box with Buzzer
S133410	System Bus 4-Position Socket Tray
S133411	System Bus 8-Position Socket Tray
S133420	System Bus Stack Light with Buzzer
S133436	System Bus 32 I/O Expander
S133437	System Bus 16 I/O Expander
TMEB-COM-V2.03	PC software interface



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# Cleco®