



Quick Installation Guide
P2545KA
2021-02

CellTek™

CTBA & CTBP

Data Transmission



For additional product information visit our website at www.ClecoTools.com

Copyright © Apex Tool Group, 2020

No part of this document may be reproduced in any way or in any form, in whole or in part, or in a natural or machine-readable language, or transmitted on electronic, mechanical, optical, or other media, without the express permission of the Apex Tool Group.

Disclaimer

Apex Tool Group reserves the right to modify, supplement, or improve this document or the product without prior notice.

Trademark

Cleco is a registered trademark of Apex Brands, Inc.

Manufacturer

Apex Tool Group
670 Industrial Drive
Lexington
SC 29072
USA

Importer

Apex Tool Group GmbH
Industriestraße 1
73463 Westhausen
Germany

Contents

1	About this document.....	4
2	System layout.....	5
2.1	WLAN communication	5
2.1.1	Data on the tool	5
2.1.2	Country-specific channel settings.....	6
2.1.3	Cell planning for access point	7
2.2	Bluetooth connection.....	7
3	Initial operation	8
3.1	Prior to Initial Startup.....	8
3.2	Configuring the access point.....	8
3.2.1	mPro200GC-AP.....	8
3.2.2	mPro400GCD.....	10
3.3	Configuring tool RF settings with the PC.....	10
3.4	Configuring tool Bluetooth settings with mPro200GC-AP	12
3.5	Installing the tool on the controller.....	14

About this document

This description is intended for anyone who sets up the CellTek tool CTBP or CTBA on a mPro200GC-AP or mPro400GCD controller.

This document contains instructions and notes:

- for safe, appropriate and effective handling of the product.
- about the system structure.
- about the installation of the components.

This document:

- is not sufficient for planning complex network infrastructures.
- does not contain detailed information about the components. For detailed information, please refer to the respective manuals.

The original language of this document is German.

Other documents

No.	Type
P2544PM	Programming Manual – CTBP & CTAW CellTek
P2543BA	Hardware Description – CTBP & CTAW CellTek
P2260JH	Installation Instructions – WLAN-Datenübertragung
P2372JH	Installation Instructions – LiveWire Utilities
P2280PM	Programming Manual – S168813
	Documentation – mProRemote Professional

Symbols in the text

<i>italic</i>	Menu options (e.g., <i>Diagnostics</i>) input fields, check boxes, radio buttons or dropdown menus.
>	Indicates selection of a menu option from a menu, e.g., <i>File > Print</i>
<...>	Specifies switches, pushbuttons or the keys of an external keyboard, e.g., <F5>
Courier	Filenames and paths, e.g., setup.exe
•	List
-	List, level 2
a)	Options
b)	
→	Result
1. (...)	Action steps
2. (...)	
►	Single action step

2 System layout

The communication between the controller and the tool is possible via WLAN or Bluetooth. The access point is integrated in the mPro200GC-AP controller. To communicate with the controller, the tools must be in the mPro mode.

2.1 WLAN communication

The system layout described is based on communication via WLAN. The access point is integrated in the mPro200GC-AP controller. The tools can communicate according to the following standard:

Tool	Standard
CellTek: CTBP, CTBA	WLAN dual band: 2,4 GHz/5 GHz Standard IEEE 802.11 a/b/g/n

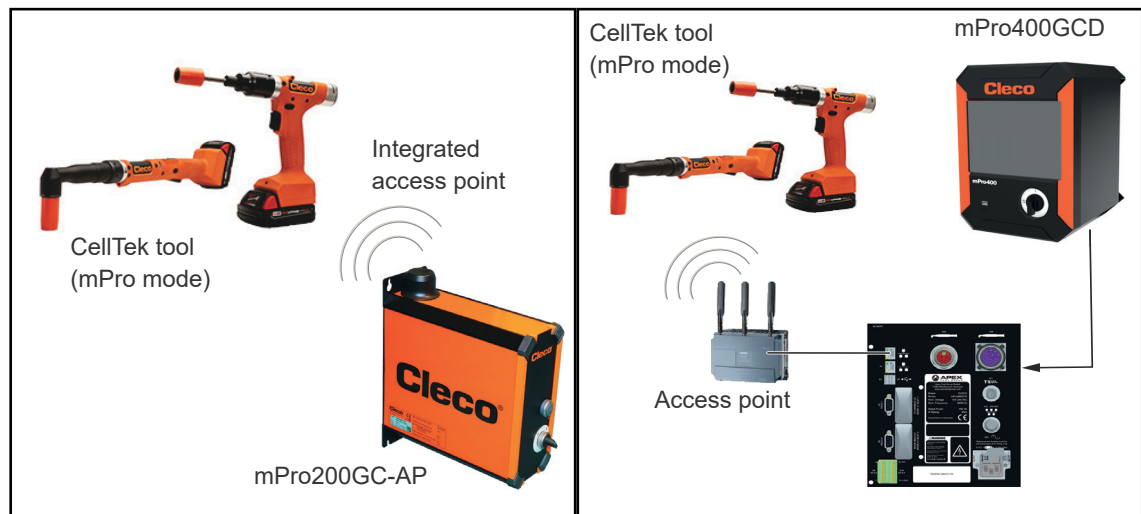


Fig. 2-1: System layout with mPro200GC-AP

Fig. 2-2: System layout with mPro400GCD

2.1.1 Data on the tool

Features	Data
Standard	IEEE 802.11a/b/g/n
Safety	<div> <div> WEP-64 HEX WEP-64 ASCII WEP-128 HEX WEP-128 ASCII WPA/WPA2-PSK TKIP WPA/WPA2-PSK AES 802.1x LEAP-PEAP¹ WEP-64 802.1x LEAP-PEAP¹ WEP-128 802.1x LEAP-PEAP¹ TKIP 802.1x LEAP-PEAP¹ AES 802.1x LEAP-TLS WEP-64 802.1x LEAP-TLS WEP-128 802.1x LEAP-TLS TKIP </div> <div> 802.1x LEAP-TLS AES 802.1x EAP-PEAP¹ WEP-64 802.1x EAP-PEAP¹ WEP-128 802.1x EAP-PEAP¹ TKIP 802.1x EAP-PEAP¹ AES 802.1x EAP-TLS WEP-64 802.1x EAP-TLS WEP-128 802.1x EAP-TLS TKIP 802.1x EAP-TLS AES Ciso LEAP WEP-64 Ciso LEAP WEP-128 Ciso LEAP TKIP Ciso LEAP AES </div> </div>
Range	Typically up to 50 m
Channels	<ul style="list-style-type: none"> 1 – 13 (2.412 – 2.472 GHz) 36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 149, 153, 157, 161, 165 (5.180 – 5.825 GHz)
Transmission power	20 dBm
Sensitivity	-95 dBm (typ. @ 1 Mbps DSSS, 2.4 GHz) -66.3 dBm (typ. @ 40 MHz MCS7 MM 4K) -92.5 dBm (typ. @ 6 Mbps OFDM, 5 GHz) -69.3 dBm (typ. @ 40 MHz MCS7 MM 4K, 5 GHz)
Modulation	CCK/DSSS/OFDM

1) PEAP without Client certificate

2.1.2

Country-specific channel settings

The tools work in the license-free 2.4 GHz/5 GHz ISM band:

Band	Channel	Frequency in GHz	World	Europe	USA/Canada
			World	CE	FCC
2.4 GHz IEEE802.11b/g	1	2.412	x	x	x
	2	2.417	x	x	x
	3	2.422	x	x	x
	4	2.427	x	x	x
	5	2.432	x	x	x
	6	2.437	x	x	x
	7	2.442	x	x	x
	8	2.447	x	x	x
	9	2.452	x	x	x
	10	2.457	x	x	x
	11	2.462	x	x	x
	12	2.467	-	x	-
	13	2.472	-	x	-
5 GHz IEEE802.11a U-NII-1	36	5.180	x	x	x
	40	5.200	x	x	x
	44	5.220	x	x	x
	48	5.240	x	x	x
5 GHz IEEE802.11a U-NII-2	52	5.260	-	x	x
	56	5.280	-	x	x
	60	5.300	-	x	x
	64	5.320	-	x	x
5 GHz IEEE802.11a U-NII-2 ext	100	5.500	-	x	x
	104	5.520	-	x	x
	108	5.540	-	x	x
	112	5.560	-	x	x
	116	5.580	-	x	x
	120	5.600	-	x	-
	124	5.620	-	x	-
	128	5.640	-	x	-
	132	5.660	-	x	-
	136	5.680	-	x	x
	140	5.700	-	x	x
Outdoor channels U-NII-3	149	5.745	-	o	x
	153	5.765	-	o	x
	157	5.785	-	o	x
	161	5.805	-	o	x
	165	5.825	-	o	x

Key

x	Approved and available
-	Not permissible, blocking necessary
o	Permissible with limited power to 20 dBm (SRD)

2.1.3 Cell planning for access point

Each channel operates with a frequency range of 22 MHz. To avoid overlapping the frequency ranges, the channels must be chosen so that they do not overlap. In other words, a maximum of 3 independent channels (e.g., 1, 6 and 11) are available in the 2.4 GHz frequency band.

The 5 GHz frequency band provides up to 21 independent channels.

To minimize interference between different radio cells that share the same RF channel, it is advisable to physically separate them. Note that for multistory buildings, it is necessary to consider both higher and lower floors.

The following overview shows the basic channel assignment.

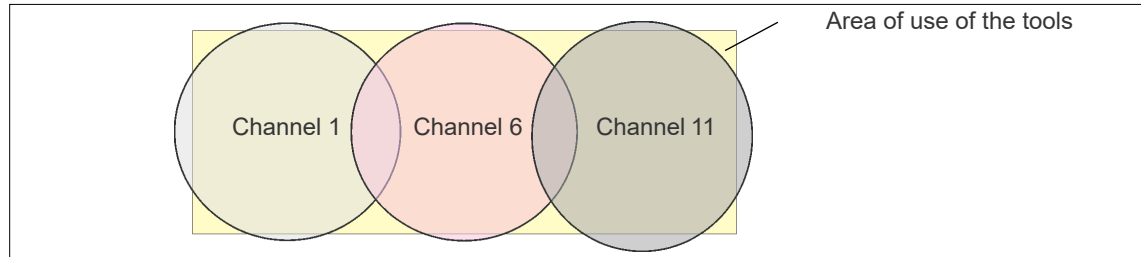


Fig. 2-3: Idealized radio cells

The physical circumference of a radio cell depends primarily on the access point used, the antennas and the type of construction in the surrounding area. The limit of a radio cell is reached when the signal-to-noise ratio (SNR) falls below 15 dB. If the ratio falls below this value, a new radio cell should be started. The typical circumference of a radio cell in a building is up to 50 m.

For the tool to be able to connect to different access points automatically (roaming), the SSID and encryption must be set identically at the corresponding access points.



If wide-area coverage with controlled emission from multiple access points is required, corresponding planning and evaluation must be carried out for the specific case.

Example installation 5 GHz

- Several overlapping radio cells are possible, even if only one free channel is used.
- Up to 200 tools are then possible within the radio range with a limited volume of data.
- The range of the radio cells is limited by the minimal transmission power.

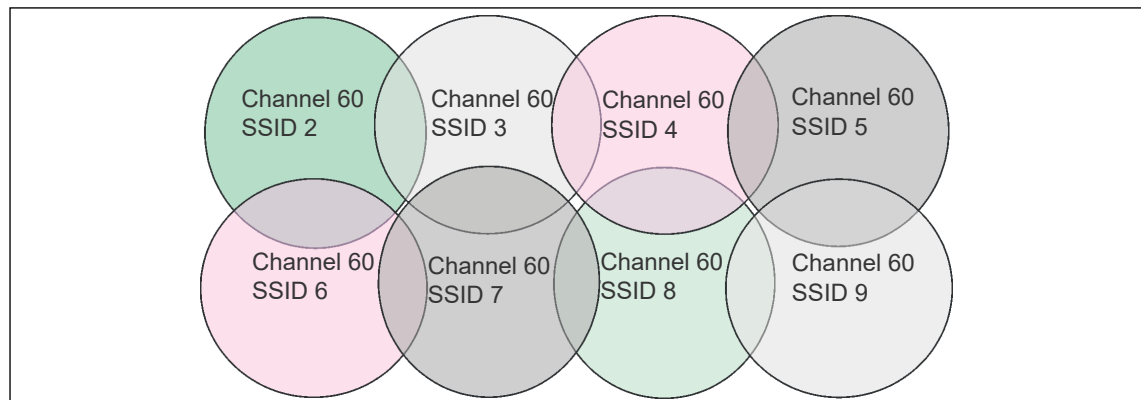


Fig. 2-4: Idealized radio cells = Range of use of the tools

2.2 Bluetooth connection

The controller can communicate via the Bluetooth connection with up to seven tools at a time. The tools can communicate according to the following standard:

Tool	Standard
CellTek: CTBP, CTBA	Bluetooth 4.2

3 Initial operation

3.1 Prior to Initial Startup

To set up the controller, the following items are required:

- PC
- Ethernet cable
- Software mProRemote Professional
- Software LiveWire Utilities
- Monitor with VGA connector, keyboard and mouse (optional)

1. Download the *mProRemote Professional* and *LiveWire Utilities* software from the following website:
<http://software.apextoolgroup.com/current-software-packages/pc-software/>
2. Install the *mProRemote Professional* software on the PC, see Document *mProRemote Professional*.
3. Install the *LiveWire Utilities* software on the PC, see Document *P2372JH*.
4. Set network settings from laptop/PC to i. e. 192.168.100.201 (if mPro200GC-AP is used).

3.2 Configuring the access point

3.2.1 mPro200GC-AP

In the factory setting, the IP address and the subnet mask of the controller are specified with a default value (Ethernet 1):

Parameter	Default value
IP address	192.168.100.200
Subnet mask	255.255.255.0



Note

If installing more than one Series 200 Controller, each controller must have a unique IP address.

Connecting all controllers to the same network without changing the original IP address of 192.168.100.200 will create an IP conflict.

- Assign a new IP address to each controller.

To configure the access point:

1. Connect laptop/PC directly to a mPro200GC-AP using an Ethernet cable.
2. Start *mProRemote Professional* on the PC.
3. In the *Remote Control* tab in the *Target* input box, enter the IP address 192.168.100.200.
4. Press *Remote (TCP/IP)*.
 - A connection to the controller is established.
 - The user interface for the controller opens on the PC.
5. Select *Navigator > Utility > System Settings > Cordless Tools*.
6. Open the *Wireless AP Configuration* tab.
7. Carry out the desired settings for the configuration of the access point.
8. Press <Apply> to save the changes.

Fig. 3-1: WLAN AP Configuration

Parameter	Description
Activate WLAN Communication	If the checkbox is activated, WLAN is active on the controller. → The Bluetooth function is deactivated.
SSID	Enter the SSID for the WLAN name (access point) to which a connection is to be established.
Set default SSID	If the <i>Set default SSID</i> checkbox is activated, then a default value for the SSID is assigned.
Password	Enter the password for the access point. The default password is visible. As soon as a new password is assigned, asterisks * are displayed instead of numbers.
<Generate Password>	Press <Generate Password> to generate any eight-digit password.
Default Password	If the <i>Default Password</i> checkbox is activated, then the default password is displayed.
Channel bands	Select the frequency band. Only one channel can be selected. The following may be selected: <ul style="list-style-type: none"> • 2.4 GHz • 5.2 GHz
2.4 GHz channels (802.11 b/g/n)	Select channel. Only one channel can be selected. Only active if the 2.4 GHz frequency band has been selected.
5.2 GHz channels (802.11 a)	Select channel. Only one channel can be selected. Only active if the 5.2 GHz frequency band has been selected.
Information to setup clients for access point	Information to setup clients for access point: <ul style="list-style-type: none"> • IP address range for tools • Subnet mask • Gateway • WLAN-Encryption
<Identify>	Update the view of the WLAN settings.
<Apply>	Save the settings.
<OK>	Exit <i>WLAN AP Configuration</i> , the settings are saved.
<Cancel>	Exit <i>WLAN AP Configuration</i> , the settings are not saved.

For all other settings, default values are assigned, which can not be changed.



If the PC can not establish a connection to the controller, then the settings can be made via a monitor connected to the controller.

1. Connect a monitor via a VGA connection, as well as a keyboard and a mouse, to the controller.
→ The software user interface for the controller appears on the screen.
2. Select *Navigator > Utility > System Settings > Cordless Tools*.
3. Open the *Wireless AP Configuration* tab.
4. Carry out the desired settings for the configuration of the access point.
5. Press <Apply> to save the changes.

3.2.2 mPro400GCD

To configure an access point to work with a mPro400GCD, see document P2260JH.

3.3 Configuring tool RF settings with the PC

1. Connect the tool to the PC via a Micro B USB cable.
→ The tool switches on automatically.

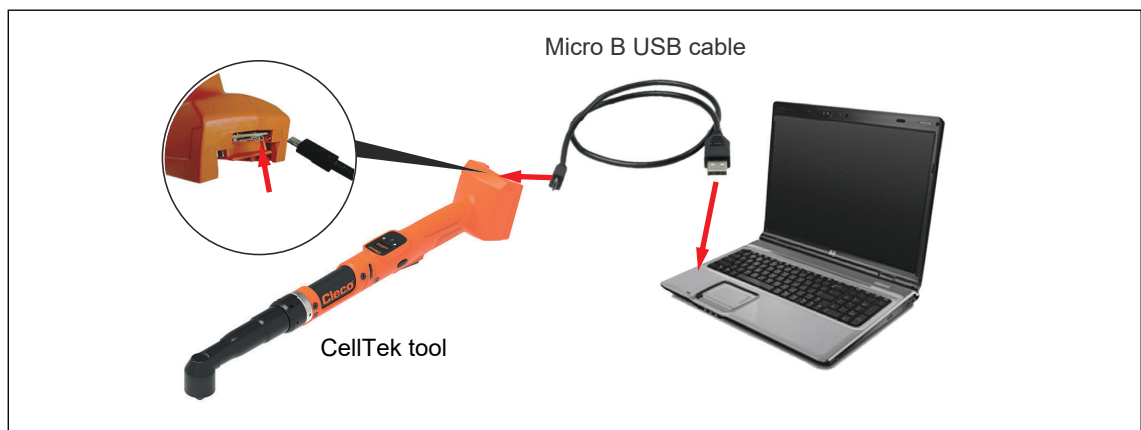


Fig. 3-2: LiveWire Utilities

2. Determine the serial interface (COM port) for the driver in the device manager for the PC.

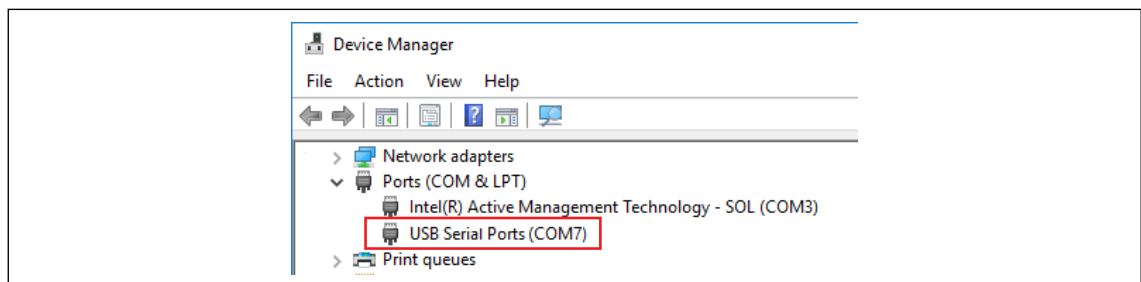


Fig. 3-3: Device manager

- Starting the *LiveWire RF Configuration* program under the Apex Tool Group.

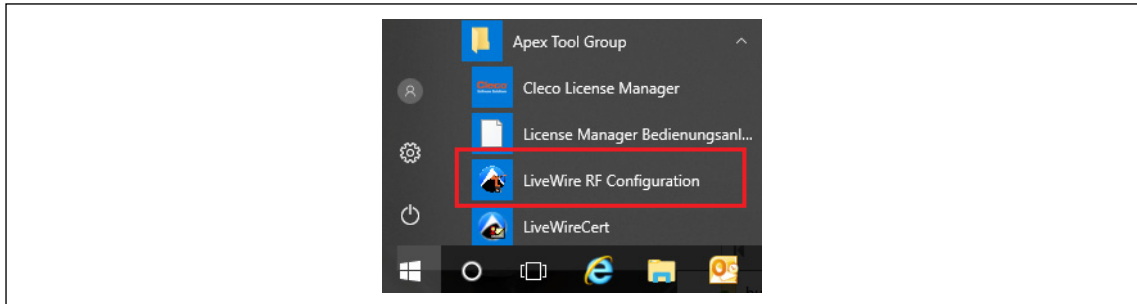


Fig. 3-4: Starting the *LiveWire RF Configuration* program

- For an *IRDA Connection*, select the serial interface (COM port) for the driver.
- Select <Identify> to read out the specific data of the WLAN module.

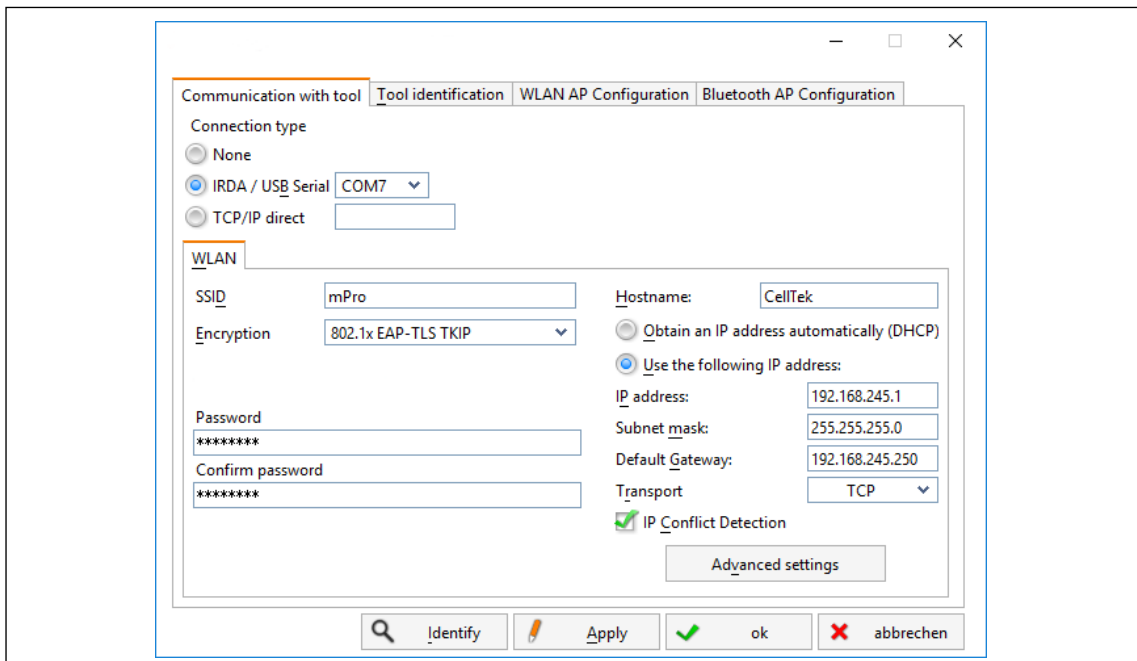


Fig. 3-5: RF Settings

Parameter	Description
SSID	Enter SSID. SSID must be identical to the access point.
Encryption	Select <i>WPA/WPA2-PSK TKIP</i> or <i>WPA/WPA2-PSK AES</i> . <i>Encryption</i> must be identical to the access point.
Network key	Enter the network key. The network key must be identical to the access point.
Confirm network key	Confirm the network key.
Hostname	Optionally, a hostname can be entered.
Obtain an IP address automatically (DHCP)	Do not select this option. The IP address is automatically assigned.
Use the following IP address	Enter the IP address manually.
IP address	Enter the IP address. For the mPro200GC-AP, the first three blocks of the IP address are fixed and must not be changed: 192.168.245.xxx In the last block, numbers between 1 and 49 can be assigned as a static address.
Subnet mask	Enter the subnet mask. For the mPro200GC-AP, the default value is: 255.255.255.0

Parameter	Description
Default Gateway	IP address that is assigned by the access point. For the mPro200GC-AP, the default value is: 192.168.245.250
Transport	Select TCP.
IP conflict detection	– Setting not programmed –

6. Select <Advanced settings>.

→ The *WLAN Advanced Settings* window opens to set the wireless channel.

Parameter	Description
Wireless mode	Select the WLAN mode: <ul style="list-style-type: none"> Select 802.11b/g/n if a frequency band of 2.4 GHz is used. Select 802.11a if a frequency band of 5 GHz is used.
5.2 GHz radio band (802.11a)	Select frequency band. This setting is only possible if the 5 GHz frequency band has been selected.
Wireless channel	There are two setting options: <ul style="list-style-type: none"> Select <i>Auto</i> after the corresponding channel is automatically searched for. Assign the channel selected during the WLAN configuration.
<Scan channels>	Scan wireless channels. The button is not active if a channel is selected for <i>Wireless channel</i> . When using the mPro200GC-AP, this function is not needed because only one channel can be selected.
Transmit power	Set transmission power.
Roaming Aggressiveness	Setting option, from which signal strength the tool connects with another access point. Select <i>Low</i> because the access point is integrated in the controller for the mPro200GC-AP.
<OK>	Exit input window; the settings are saved.
<Cancel>	Exit input window; the settings are not saved.










7. Confirm settings with <OK>.
8. Press <Apply>.
→ Settings are written onto the tool.
9. Confirm the following message with <Yes>:
Toolserial: xxxxxxxx
Builddate: xx.xx.xx
Configure Tool?
10. Confirm the following message with <OK>:
Configuration done!
11. Installing the tool on the controller.

3.4

Configuring tool Bluetooth settings with mPro200GC-AP

Perform the following steps only when Bluetooth communication is to be established. For WLAN communication see chapter 3.3 Configuring tool RF settings with the PC, page 10. A Bluetooth connection is only possible with mPro200GC-AP.

- Switch on the tool.
- Using *mProRemote Professional* to access the controller and select *Navigator > Utility > System-Settings > Cordless Tools*.
- Open the *Bluetooth AP Configuration* tab.
- Select the *Activate Bluetooth Communication* check box.
- Press <Start pairing...>.

6. Activate Bluetooth on the tool: Select  >  >  in the main menu.
7. Use the tool to scan for Bluetooth devices: Select  >  in the main menu.
8. Select the desired controller  and confirm with the -button.
→ When the Bluetooth connection is established, the field is highlighted in green.
9. Set the node number: Select  >  in the main menu.
10. Installing the tool on the controller.

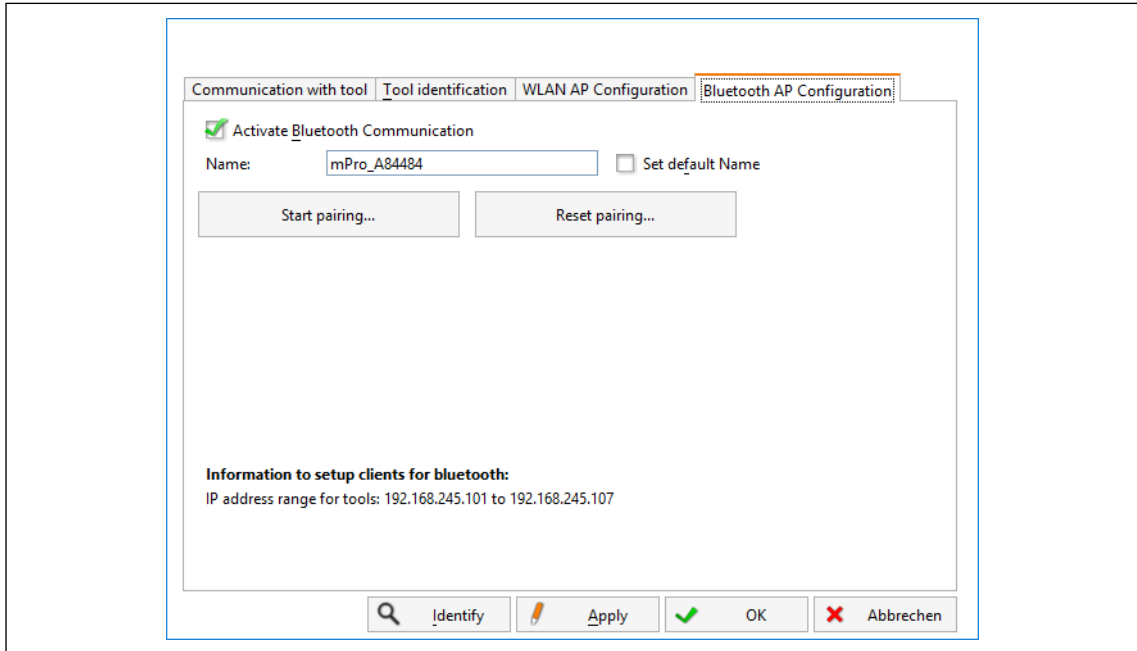


Fig. 3-6: Bluetooth AP Configuration

The *Bluetooth AP Configuration* tab contains the following setting options:

Parameter	Description
Activate Bluetooth Communication	If the check box is activated, Bluetooth is active on the controller. → The WLAN function is deactivated.
Name	Enter the name used to display the control on the tool.
Set default Name	If the <i>Set default Name</i> check box is activated, a default value is assigned to the name.
Start pairing...	Press to make the controller visible to the tool for a Bluetooth connection. → The following message indicates whether the operation was successful.
Reset pairing...	Press to disconnect the Bluetooth connection between the controller and the tool. → The following message indicates whether the operation was successful.
Information to setup clients for bluetooth	Information about possible IP addresses for tools. To establish a Bluetooth connection, the IP address of the tool must be in the specified range.
<Identify>	Update the view of the WLAN settings.
<Apply>	Save the settings.
<OK>	Exit <i>Bluetooth AP Configuration</i> , the settings are saved.
<Cancel>	Exit <i>Bluetooth AP Configuration</i> , the settings are not saved.

3.5

Installing the tool on the controller

Up to ten tools can be connected to one controller via WLAN.

Up to seven tools can be connected to one controller via Bluetooth.

1. Select *Navigator* > *Tool Setup* on the user interface of the controller.
2. Press <Install> to add a tool to the tool list.
3. Carry out the following settings:


Parameter	Description
Group Name	Select Tool Group.
Name	Enter Tool Name.
Type	Select <i>Cordless Tools</i> .
IP address/Hostname	Enter the IP address that has been assigned to the tool using the <i>Live-Wire Utilities</i> software.

4. Press <OK> and save the settings.
 - The Tool List is displayed.
 - Status of tool is now *Needs User Acceptance*.
5. Select <Tool Settings>.
6. Check the *Model Number* and *Serial Number* and confirm that the tool displayed corresponds to the tool connected.
7. Save the settings with <Accept>.
 - The Tool List is displayed. Status of tool is now *online*.
8. Select <Navigator>.
 - The settings are saved.
9. For additional programming for tightening (e.g., PG), see Document P2280PM.

POWER TOOLS SALES & SERVICE CENTERS

Please note that all locations may not service all products.

Contact the nearest Cleco® Sales & Service Center for the appropriate facility to handle your service requirements.

-  Sales Center
-  Service Center

NORTH AMERICA | SOUTH AMERICA

DETROIT, MICHIGAN

Apex Tool Group
2630 Superior Court
Auburn Hills, MI 48236
Phone: +1 (248) 393-5644
Fax: +1 (248) 391-6295

LEXINGTON, SOUTH CAROLINA

Apex Tool Group
670 Industrial Drive
Lexington, SC 29072
Phone: +1 (800) 845-5629
Phone: +1 (919) 387-0099
Fax: +1 (803) 358-7681

MEXICO

Apex Tool Group
Vialidad El Pueblito #103
Parque Industrial Querétaro
Querétaro, QRO 76220
Mexico
Phone: +52 (442) 211 3800
Fax: +52 (800) 685 5560

BRAZIL

Apex Tool Group
Av. Liberdade, 4055
Zona Industrial Iporanga
Sorocaba, São Paulo
CEP# 18087-170
Brazil
Phone: +55 15 3238 3870
Fax: +55 15 3238 3938

EUROPE | MIDDLE EAST | AFRICA

ENGLAND

Apex Tool Group GmbH
C/O Spline Gauges
Piccadilly, Tamworth
Staffordshire B78 2ER
United Kingdom
Phone: +44 1827 8727 71
Fax: +44 1827 8741 28

FRANCE

Apex Tool Group SAS
25 Avenue Maurice Chevalier -
ZI
77330 Ozoir-La-Ferrière
France
Phone: +33 1 64 43 22 00
Fax: +33 1 64 43 17 17

GERMANY

Apex Tool Group GmbH
Industriestraße 1
73463 Westhausen
Germany
Phone: +49 (0) 73 63 81 0
Fax: +49 (0) 73 63 81 222

HUNGARY

Apex Tool Group
Hungária Kft.
Platánfa u. 2
9027 Győr
Hungary
Phone: +36 96 66 1383
FAX: +36 96 66 1135

ASIA PACIFIC

AUSTRALIA

Apex Tool Group
519 Nurigong Street, Albury
NSW 2640
Australia
Phone: +61 2 6058 0300

CHINA

Apex Power Tool Trading
(Shanghai) Co., Ltd.
2nd Floor, Area C
177 Bi Bo Road
Pu Dong New Area, Shanghai
China 201203 P.R.C.
Phone: +86 21 60880320
Fax: +86 21 60880298

INDIA

Apex Power Tool India
Private Limited
Gala No. 1, Plot No. 5
S. No. 234, 235 & 245
Indialand Global
Industrial Park
Taluka-Mulsi, Phase I
Hinjawadi, Pune 411057
Maharashtra, India
Phone: +91 020 66761111

JAPAN

Apex Tool Group Japan
Korin-Kaikan 5F,
3-6-23 Shibakoen, Minato-
Ku,
Tokyo 105-0011, JAPAN
Phone: +81-3-6450-1840
Fax: +81-3-6450-1841

KOREA

Apex Tool Group Korea
#1503, Hibrand Living Bldg.,
215 Yangjae-dong,
Seocho-gu, Seoul 137-924,
Korea
Phone: +82-2-2155-0250
Fax: +82-2-2155-0252

Cleco®
Production Tools

Apex Tool Group, LLC

Phone: +1 (800) 845-5629

Phone: +1 (919) 387-0099

Fax: +1 (803) 358-7681

www.ClecoTools.com

www.ClecoTools.de