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AWR300 Quick Start Guide



Firmware v1.02 and higher

V12/09/16

1 Introduction

The AWR300 is a high quality, ruggedized portable RFID reader for tags complying with the ISO11784 / 11785 standard. It can read transponders with FDX-B and HDX technology. In addition to the reading functions, the device can store up to 1.000.000 records in several groups in the large internal memory. Each record also contains a timestamp plus a Visual ID and an Alert, if available. The data are transmitted via the several available interfaces directly after reading like USB, RS232, Bluetooth and Wi-Fi (optional).

The AWR300 also supports the Task-Mode and the **DataBaseFunction** (DBF) if the appropriate definitions or data have been uploaded. This is usually done by 3rd-party Management Software.

The reader has a large color display which can show many information at one glance. Together with the seven keys it allows the easy and convenient navigation through menus and data. In addition, the device has status LEDs above the display for charging and interface information and multicolor LEDs at the tip which indicate the current reading state. The integrated speaker provides acoustical feedback to the user and the vibrating handle is very useful in noisy environments.

2 Before you start

The internal high-capacity lithium-ion battery should be fully charged before the first use. The battery can be charged by using the provided Y-Cable and power adapter. Please connect the Y-Cable to the bayonet connector at the bottom of the reader and the power supply to the circular connector of the Y-Cable.



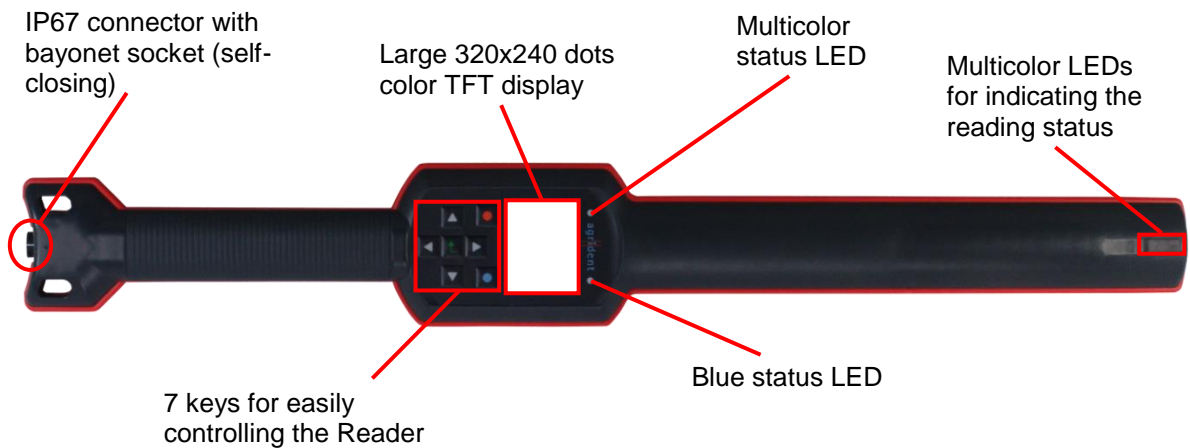
The internal fast charging takes 3.5 hours maximum in case the battery was empty completely. Please note that the battery will only be charged within a temperature range of 0°C to 45°C (+32 to 113°F).

3 Reader Hardware

This chapter describes the AWR300 hardware including all accessories.

3.1 Parts of the AWR300

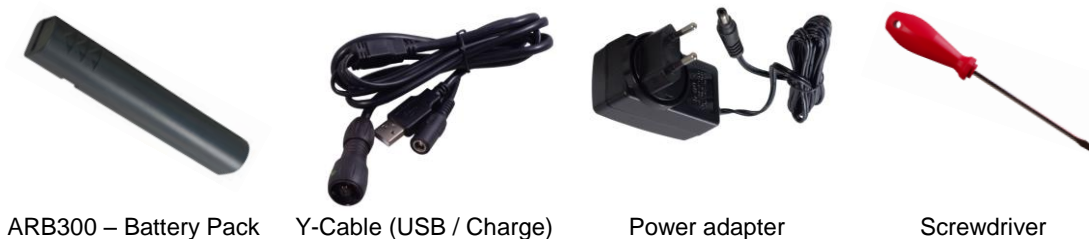
The AWR300 stick reader is 65 centimeters long and has a weight of only 750 grams including the battery. It provides an excellent reading performance, a large 2.4 inch color TFT display, a multicolor LED indicator at the tip, two status LEDs above the display, a speaker and a vibrating handle. The Reader can be controlled with seven ergonomic keys below the display.



The AWR300 is using a 7.4V Lithium-Ion battery with a capacity of 2.600mAh, which is located in the handle. This battery could be replaced but normally it is not necessary because of the very long operating time.

3.2 Accessories

The AWR300 comes with some standard accessories that are shown below.



The USB plug of the Y-Cable can be connected to any USB-port of a computer. Please note that it is necessary to install the appropriate USB driver first. The power adapter has interchangeable plugs for most power outlets used all over the world. The provided screw driver shall be used in order to remove and fix the screws for the battery cover.

The following optional accessories are available:



RS232 cable 'APC310'



Transport box 'ATB300'

The RS232 cable 'APC310' (p/n 4061) allows the wired serial RS232 connection to other devices in case these devices do not support Bluetooth. When it is required to take the AWR300 to different sites very often, it makes sense to purchase the robust transport box ATB300 (p/n 4063). It can accommodate the reader and its accessories plus additional devices like a mobile printer (not included, has to be purchased via local distributors).

3.3 Connecting a serial cable

The AWR300 uses a bayonet connector system that is IP67 without an additional cap. Attach the connector of the serial cable to the socket at the bottom of the reader. Please pay attention on the correct orientations (see marking). Push the connector against the socket and turn it clockwise until it is locked.



Turn the connector counterclockwise in order to unlock the connector. The socket closes itself automatically after removing the plug.

3.4 Exchanging the battery pack

Although normally not required due to the long operating time of the battery pack, it is possible to change it. This might be necessary if the pack has reached the end of its life cycle.



Remove the flat-head-screws by using the provided screwdriver. Lift the battery cover and take out the battery. After the new battery pack has been inserted, close the battery cover again and tighten the two flat-head-screws.

4 Controlling the AWR300

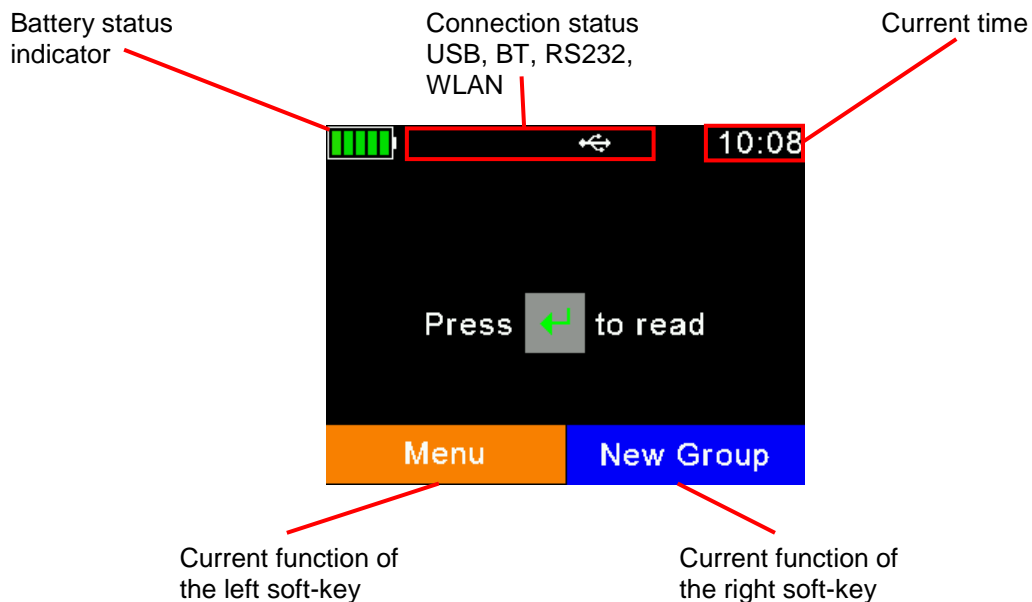
The AWR300 has a large color display and seven keys which are used for controlling the device.

The Reader is activated by pressing the  key in the middle of the directional pad.

4.1 AWR300 Display

4.1.1 Home Screen

After the reader is switched on, the following home screen appears:



The battery status indicator shows the approximate battery level. In this example the battery is fully charged. It would also display possible faults concerning the battery, like high-temperature.

In the screenshot above the only active connection is USB (symbol on the right side). The reader would also indicate an active RS232 connection or the status of Bluetooth or WLAN (optional).

The soft keys have different meanings depending on the current operation. In the home screen, the left soft key would be used for entering the menu and the right one for creating a new group separator. The 'new group' function is only the default action triggered by pressing the right soft key. Other 'quick menus' might be configured and uploaded to the reader from the PC and the action to be started can be changed on the reader by long pressing the right soft key.

4.1.2 The status symbols at the top of the display

There is a status bar in the first display line. Beside the time (on the right side) it provides information about the battery status and the different interfaces.



The blue symbol is for WLAN (optional) and the orange one for Bluetooth. The color of the symbols depend on the current connection status.

4.1.2.1 Battery status

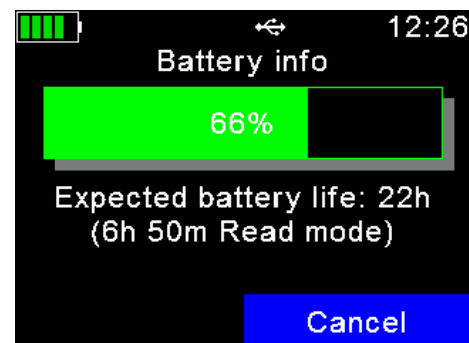
The battery symbol on the left side indicates the approximate battery capacity.

Status	Meaning
	Battery capacity is higher than 80 percent.
	Capacity is between 60 and 80 percent.
	Capacity is between 40 and 60 percent.
	Capacity is between 20 and 40 percent (no charger connected -> discharging)
	Capacity is between 10 and 20 percent (no charger connected -> discharging) When flashing, capacity is lower than 11 percent.
	Capacity is between 20 and 40 percent (only green when charging).
	Capacity is between 10 and 20 percent (only green when charging).
	General charging error. There is a condition that prevents charging. Please check the external power supply. If this error is shown repeatedly, the battery might not work correctly any longer and should be replaced.
	Charging not allowed because the battery temperature is outside the allowed range of 0°C to 45°C.





During charging the battery symbol is constantly filling from the point of the remaining capacity. Charging is complete if no bars are flashing anymore. The charger can be disconnected in this case.

The menu item 'Show Battery Info' in the 'Setup' menu shows an estimate of the remaining battery capacity in percent as well as the estimated remaining operating time in idle mode and in continuous read mode.





Navigation from the home screen:



4.1.2.2 WLAN status

Status	Meaning
	WLAN is switched on but not connected to an Access Point.
	Connected to an Access Point and waiting for connection (listening).
	Connection is established (TCP or UDP – port is open)
	WLAN error: Communication to WLAN module failed or booting in progress.

4.1.2.3 Bluetooth status

Status	Meaning
	Slave Mode – AWR300 can be connected from other devices
	Master Mode – AWR300 is trying to connect to remote device.
	Connected (in either Bluetooth Mode)
	Bluetooth error: Communication to Bluetooth module failed or booting in progress.

4.1.2.4 USB status

When the AWR300 is connected to the USB port of a computer, the USB symbol is shown:



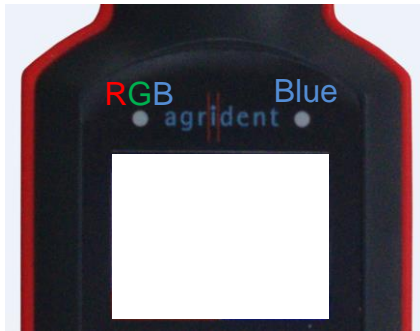
4.1.2.5 RS232 status

If the AWR300 is connected to an RS232 interface, the following symbol appears:





4.2 The status LEDs above the display

The AWR300 has two status LEDs above the display.





The left LED is a multicolor type and thus the color can change depending on the charging status. The LED on the right is blue and it is used for indicating the connection status.

The RGB LED on the left side indicates the charging status of the battery pack as follows:

Color	Interval	Meaning
	Flashing, every seconds for 10ms	Battery is being charged
	Solid	Battery is fully charged




The multicolor LEDs are only used when the AWR300 is turned off. When switched on, the battery symbol in the display indicates the charging status.

The blue LED on the right side is only used when the display is turned off. Then it indicates the following operating modes:

Color	Interval	Meaning
	Flashing every 3 seconds	AWR300 is in SD-Card-Mode
	Flashing once a second	AWR300 is in Suspend-Mode (CDC)

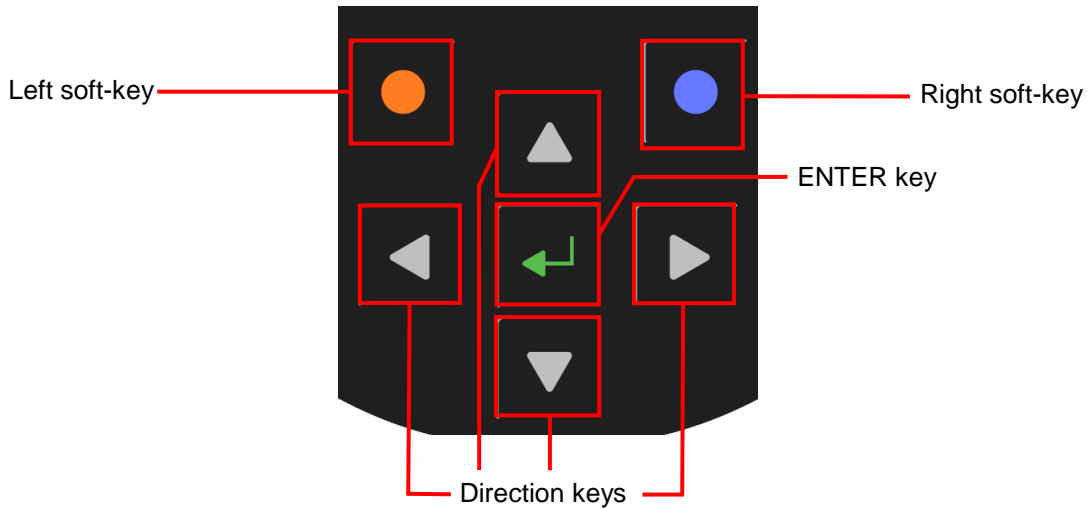
4.3 The multicolor LEDs at the tip

The AWR300 has multicolor LEDs at the end of the reader. They allow to indicate the reading status when the device is pointing into the direction of the transponder and where it might not be possible to look at the readers display.

Color	Interval	Meaning
	Flashing slowly	RF is activated, ready to scan tags
	Flashing fast	Tag has been read the first time (new tag)
	Flashing fast	Tag has been read repeatedly (duplicate)

4.4 Using the keyboard

The AWR300 has 7 keys in order to allow the easy and convenient operation of the reader. There is a directional pad with an ENTER key in the middle and there are two additional soft-keys below the display which change their function depending on the current action.



Key	Operation
	Enters the menu in the home screen. Moves up one menu level ('Back'), other functions depend on current operation – the current function is always displayed on the left side in the last display line (above the key).
	When in the home screen, the configured 'quick action' will be executed. Exits the menu completely and moves back to the home screen. Other functions depending on the actual operation are shown in the display on the lower right side.
	Switches on the AWR300. Starts a reading attempt from the home screen. Enters menu items and confirms selections there. Moves to the next field in Task-Mode.
	No function in home screen *
	Switches off the AWR300 on a long press (>2 seconds) *
	No function in home screen *
	No function in home screen *

* The directional keys are also used to navigate within menus (up, down, left and right), for scrolling through Database fields and selection lists and for selecting characters in numeric or text input fields.