APPLIED WIRELESS ID

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Technical Reference

Readers -- Controllable Functions

Change History

Version	Date	Author	Comments
1.0	05 May 2009	L. Hickcox	First release.

Most of AWID's readers contain functions that may be controlled by programming in the host system to which the readers are interfaced. This memo explains these features, names the applicable reader models, and describes how to use them in the access control system.

LED Indicator

The three-color LED gives the cardholder visual indications that power is supplied to the reader, that the reader is initialized, that the reader is in Standby mode and ready to read a credential (encoded card, keytag or wafer), that the reader has read the credential and has transmitted its code to the host system's controller, and that the system has granted access or taken other programmed action.

The LED is present in all AWID proximity (125 kHz) readers. It is present also in the UHF reader UA-612.

These readers provide internal LED control, whether or not the brown wire is connected to the controller panel. Without connection, the LED indicates that the reader has read the card and transmitted the card's code. There is a half-second change in LED color from standby-red to amber, then back to red, for each event.

When the system's controller pulls the reader's brown wire to a TTL low level (between 0 and +1.2 volts DC), LED color is changed from standby-red to green. LED returns to red when the brown wire is allowed to float again at TTL high level (between +3.6 and +5.0 volts DC). These logic levels are provided by the "LED" or "Green LED" terminal on the panel's input port for this reader.

Some controllers offer 2-wire LED color control for red and green independently. AWID has readers that are specially programmed for use with these controllers. With 2-wire control, LED colors are controlled totally by the host system, not by the reader.

On occasion the LED's normal red-and-green color sequence may need to be reversed. This is done using AWID's Color Changer Card. Please read the Technical Reference "Color Changer Card for Proximity Readers" before using the Color Changer Card.

Beeper *[also called buzzer or piezoelectric sounder]*

The beeper gives the cardholder an audible indication that a reader has been initialized after power is reset to the reader, and that the reader has read the credential and has transmitted its code to the system's controller.

This feature is present in all AWID proximity readers. It is present also in the UHF reader UA-612.

These readers provide internal beeper control, whether or not the yellow wire is connected to the panel. Without connection, the beeper identifies the reader's "Revision" (firmware version) by a sequence of long and short beeps, and indicates that the reader has read the card and has transmitted the card's code, by a 1/8 second beep.

When the system's controller pulls the reader's yellow wire to a TTL low level, the beeper sounds continually. In this "Alarm" mode, the reader is prevented from reading credentials and transmitting code data, and the LED does not change color. Alarm mode ends when the yellow wire is allowed to float again at the high level.

Data Hold

The reader's Hold feature lets the host system delay code input from a card until the system is ready to accept and process the data. The system can make the reader hold the code data of the most recently read card in the reader's single-event data buffer, by pulling the reader's blue wire to a TTL low-level. Then, when the controller releases the blue wire to float at TTL high level, the reader immediately transmits that code from its buffer through the Data 0 and Data 1 lines to the panel.

This feature is present in all AWID proximity readers *except* SR-2400. The UA-612 does *not* have this feature.

The controller's reader port must have a terminal labeled "Hold" or "Data Hold" to enable this function.

When the reader's blue wire is not used in the system wiring, the reader transmits the card's data to the panel immediately when the reader reads an AWID proximity credential. This is the normal state for most installations.

Technical Notes

These functions are possible only when the controller's reader input port has the appropriate control terminals. Almost every controller has "LED" terminals. Most also have "Beeper" or "Buzzer" terminals. Only a few have "Hold" terminals.

When the brown, yellow or blue wire is not connected to the controller, the related function (LED, beeper or Hold) remains active and under the reader's internal control.

These three control lines operate at TTL logic levels. *Never* apply power to them. They may be pulled by the controller's circuits to a low level (0 to +1.2 volts DC) to enable their functions, and left floating at a high level (+3.6 to +5.0 volts DC) when not used.

When they are not used, the reader's unused control wires must be insulated from all other wires and from ground.