

Technical Reference

MR-1824HiLo Proximity Reader Set

Application – In & Out at a Door

Change History

Version	Date	Author	Comments
1.0	26 December 2012	L. Hickcox	First release.

Use of proximity readers on the two sides of a doorway, for ingress and egress at the single door, can be difficult if the two readers are so close that their low-frequency RF fields intersect. RF field overlap can cause both readers to have short read range. This note explains use of two MR-1824HiLo reader units in this application with no interference.

Task

- (a) **In and Out** – If the application requires reading a credential (an encoded card or tag) for both entering and exiting a door, a card reader must be installed on both sides of the doorway. Even small proximity readers generate enough RF field so that the two readers may interfere with each other, unless they are installed with enough distance or enough metal shielding between the two readers.
- (b) **Direction** – If the access control system requires knowledge of the direction in which people with credentials pass through the doorway, the two readers must be wired into two separate reader input ports of the controller panel.
- (c) **Read Range** – If the people entering and exiting the door are not able to present their credentials to the card reader to gain access to the door – for example, if the people are carrying bulky objects, or are disabled, or otherwise are prevented from reaching out with their credentials as they pass the readers – the users want the best possible read range for the reader and credentials.

Solution

AWID's **MR-1824HiLo-G-0** is a set of two identical proximity readers, with special firmware that allows them to operate alternately. At any point in time, only one of the units is operating; and so the two units can not interfere with each other. Each unit generates its RF for only one-third second, while the other unit is at rest. Then these conditions reverse for the next one-third second.

Installation

- (a) The two “HiLo” units may be installed right next to each other, or as much as 75 feet apart.
- (b) Each of the two “HiLo” reader units requires normal MR-1824 power. Use an independent DC power supply (not the panel's reader port) with 2 amperes or more current rating.
- (c) Wiring connections are normal except for a cross-over pair of connections on the units' orange and violet wires.

If one of the units is mounted outside the door, and the other is mounted inside the door – even back-to-back on wall-board surfaces with wood studs between them – the two units work with full read range rating (up to 24 inches).

Alternative Reader

Model **MR-1824HiLoMC-G-0** is available when the reader units must be mounted directly on a metal surface. These units are metal-compensated to provide best read range (up to 16 inches) when they are mounted directly on metal.

Notes

- 1. Maximum read **delay time** when presenting a credential to one of the “HiLo” units is 1/3 second.
- 2. The “HiLo” reader set has standard Wiegand data **interface** – but no RS-232 interface.
- 3. Contact AWID for product sheets, installation instructions, Technical Reference issues, and technical support.