

Long Range Reader

High frequency (13.56 MHz), long range readers were historically developed and designed as two-piece devices to pass the Federal Communications Commission (FCC) guidelines. These designs separated the radio frequency (RF) coupler from the antenna. Because the antenna is an RF radiator, placing it into the same housing as the reader causes emissions to be reintroduced into the reader. Therefore at the same time you are mitigating emissions at the reader, you compound this problem with additional emissions from the antenna.

Our goal during development was to introduce the first high frequency (13.56 MHz) long range reader within a self-contained design, and it would be FCC certified. One of the obstacles was reducing emissions to an acceptable level, while still being able to pass FCC emission guidelines. Our engineering team successfully designed the iCLASS R90 Long Range Reader to meet all of our objectives. This achievement was unique enough in that we were able to file a patent based on its design. In addition to FCC certification, the R90 has also met CE test requirements, and more regulatory testing is underway for other regions of the world.

The R90 features clean, distinctive lines that have made our iCLASS reader family instantly recognizable in the field. Mounting options include wall mount or a goose neck stand for parking applications. Secured with four screws, one in each corner, the housing is manufactured with high-impact, polycarbonate plastic that withstands daily traffic interactions. A housing gasket ensures a moisture-tight seal and a wire nut protects the cable entry area. Finally, a tamper circuit provides notification of any attempts at manually disabling the reader.

Operating at a frequency of 13.56 MHz, the R90 complies with ISO standard 15693 Identification Cards – contactless integrated circuit card(s) -- vicinity cards). It is designed to read secure HID applications on iCLASS 2k, 16k or 32k bit credentials, as well as a card serial number (CSN) for any 15693 compatible cards. Depending on the credential and the reader environment, the R90 can achieve a read range up to 18 inches (45 cm). Any iCLASS cards that are currently used at a facility can be read by the R90, in which turn sends the same data to a system controller. The reader will support Wiegand output with a future version that will include RS232 communication for electronic purse parking applications. A sophisticated auto-tuning circuit is used to maintain a consistent read range, eliminating drastic range swings that are possible with parking lot readers. With a voltage operation averaging 12-24 VDC, the R90 can be easily upgraded from a proximity system.

A popular parking feature, named Parking Hold, ensures accurate detection of vehicles within a parking lane. The R90 provides complete annunciation feedback with an ultra bright LED that is visible even in bright sunlight, and a buzzer which can communicate to users the acceptance of their access card.

As with our other iCLASS readers, the R90 wires exactly like our “R” readers with an internal terminal strip for a continuous wire length into the building. For convenience and a higher level of security, all iCLASS readers are upgradeable to our Corporate 1000 and iCLASS Elite programs managed by HID. Both programs offer custom tailored solutions for multi-national and multiple facility companies.

Now iCLASS goes the distance for all your long range reader requirements.