

# R90 Long Range Reader

Long Range Contactless Smart Card Reader • Read Only • 6150

- ▶ Long read range distance  
(up to 18 inches or 45 centimeters)
- ▶ Reads all HID iCLASS® and ISO15693 compatible (CSN) credentials
- ▶ “Parking Hold” feature allows connection to a loop detector to ensure accurate detection of vehicles in parking lanes



## ACCESS distance.

HID's iCLASS® Long Range Reader is ideal for installations incorporating parking control and long read range applications. The iCLASS Long Range Reader packages all the electronics in one rugged, attractive, and easy-to-install housing.

Using the 13.56 MHz technology platform, the iCLASS R90 read-only contactless smart card long range reader combines the longer read range of proximity with the flexibility and heightened security of smart card technology, making it ideal for access control applications.

iCLASS smart readers and cards make access control more powerful, more versatile, and most importantly, offer enhanced security through encryption and mutual authentication. At the same time, iCLASS is user-friendly, delivering the same convenience and reliability of HID's world-renowned Prox technology. HID's offerings encompass the industry's broadest range of open standard contactless smart card products, available from over 40,000 resellers worldwide.

Featuring crisp architectural styling, the reader has an elegantly curved faceplate. The high intensity LED provides clear, visual feedback even in direct sunlight. Distinct tone sequences indicate status conditions.

### Experience enhanced versatility:

- Auto tuning for more consistent read ranges.
- Use one reader to read standard proximity format data from HID iCLASS credentials.
- Multicolor LED and beeper can be controlled internally or at host.
- Two R90 units can operate one meter apart for “HI-LO” truck and car installations.
- Wiegand output easily interfaces with most existing Wiegand protocol access control panels.

### Appreciate advanced security:

- All RF data transmission between the card and reader is encrypted using a secure algorithm.
- By using industry-standard encryption techniques and advanced key management systems, iCLASS reduces the risk of compromised data or duplicated cards.
- Open architecture design permits the flexibility to use standard or custom keys for enhanced security.

<b>Security</b>	64-bit authentication keys are extremely secure. Readers and cards require matching keys to function. All RF data transmission between the card and reader is encrypted, using a secure algorithm. The key management system reduces the risk of compromised data or duplicated cards.  The R90 includes a tamper switch to provide electronic notification of reader tampering.
<b>Programming/ Configuration</b>	Key management is made easy! All cards are shipped with unique diversified keys, and readers are shipped with compatible keys. All keys are derived from the HID Standard transport key. While cards and readers with Standard keys are interchangeable, the keys are highly secure, and cards can be made unique by ordering with iCLASS® Elite formatting.
<b>Diagnostics</b>	On reader power-up, an internal self-test routine checks and verifies the setup configuration, determines the internal or external control of the LED and beeper, and initializes the reader's operation.
<b>Easily Interfaced</b>	The reader's Wiegand output easily interfaces with most existing Wiegand protocol access control panels. The reader reads standard proximity format data from HID iCLASS cards and will output data as encoded.
<b>Card Compatibility</b>	The iCLASS R90 long range reader is compatible with all iCLASS credentials meeting the following ISO standard: <ul style="list-style-type: none"> <li>• I5693 - read only; 2k bit (256 Byte), 16k bit (2k Byte), and 32k bit (4k Byte) iCLASS credentials</li> <li>• I5693 - read only card serial number (CSN)</li> </ul>
<b>Audiovisual Indication</b>	Audio transducer provides various tone sequences to signify access granted, access denied, power up, and diagnostics. Visually impaired cardholders can easily distinguish between access granted and access denied.  When an iCLASS card is presented to the reader, the red LED flashes green and the beeper sounds. The multicolor LED and beeper can also be controlled individually by the host system.
<b>Mounting</b>	Reader body fits onto base mounting plate. Cover fits over reader body, secured with four screws.
<b>Indoor/Outdoor Design</b>	Rugged, weatherized polycarbonate enclosure, designed to withstand harsh environments, provides reliable performance and resistance to vandalism.
<b>Warranty</b>	Warranted against defects in materials and workmanship for life. (See complete warranty policy for details.)
<b>Part Numbers</b>	Base Part Number: 6150
<b>Description</b>	Long range reader, read only, Wiegand output
<b>Options</b>	Color - Black Key Management – Standard or Custom Standard Termination – Terminal Programmable LED/Beeper operation Custom label (Please see "How to Order Guide" for a description of the options and associated part numbers.)

**Typical Maximum Read Range\***  
 17" - 18" (43.2 - 45 cm) with HID iCLASS 2k card  
 16" - 17" (40.6 - 43.2 cm) with HID iCLASS 16k and 32k cards  
 15" - 16" (38 - 40.6 cm) with HID iCLASS 16k and 32k cards with Prox technology  
 9" (22.9 cm) with HID iCLASS Key  
 9" (22.9 cm) with HID iCLASS Tag

\*Dependent upon installation conditions.

Please note that all iCLASS credentials are available in either a 2k bit (256 Byte), 16k bit (2k Byte) or 32k bit (4k Byte) configuration.

**Dimensions**  
 12" (30.48 cm) x 12" x 1.25" (3.175 cm)

**Material**  
 UL94 Polycarbonate

**Power Supply**  
 12 - 24 VDC reverse voltage protected  
 Linear supply recommended

**Current Requirements (Avg/Peak)**  
 12 VDC (420/1300 mA)  
 24 VDC (210/700 mA)

**Operating Temperature**  
 -22° to 150° F (-30° to 65° C)

**Operating Humidity**  
 5% to 95% relative humidity non-condensing

**Weight**  
 60 oz. (1.86 kgm)

**Transmit Frequency**  
 13.56 MHz

**Environmental**  
 IP55

**Certifications**  
 UL294/cUL (US), FCC Certification (US), IC (Canada), CE (EU), C-tick (Australia, New Zealand), SRRC (China), MIC (Korea), NCC (Taiwan), MIC (Japan), iDA (Singapore), RoHS

**Pending Certifications**  
 Taiwan, Singapore, Germany Vds IP

**Cable Distance**  
 Wiegand Interface - 100 feet (30.5 m) - 22 AWG  
 500 feet (150 m) - 18 AWG  
 Recommended cable is ALPHA 1295 (22AWG)  
 9-conductor stranded with overall shield or equivalent.  
 Additional conductors may be required to connect all outputs.

Specifications subject to change without notice.

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**ACCESS** experience.

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