

pivCLASS® Contactless Readers

Meet NIST assurance-level requirements for these areas:

- “Unrestricted” Areas
- “Controlled” Areas
- “Limited” Areas
- “Exclusion” Areas



CONTACTLESS READERS FOR “CONTROLLED” AREAS ENABLE HIGH SECURITY, INTEROPERABILITY AND COMPLIANCE

- **Part of an integrated solution from a single, trusted provider** – Enable FIPS 201 compliance per NIST SP 800-116 guidelines and the TWIC Reader Specification.
- **Contactless reader solutions for “Controlled” security areas** – Meet NIST’s “Controlled” security area assurance-level requirements with a single-factor authentication.
- **Support multiple card types** – Work with PIV, PIV-I, CAC, CIV (a.k.a., PIV-C), TWIC, FRAC, iCLASS® and HID Prox® cards for easy, phased transitions from legacy technology to new PKI-enabled smart cards.

ADDITIONAL PRODUCT FEATURES:

- Architected for maximum security and affordability, these readers utilize the pivCLASS Authentication Module to provide cryptographic functionality and to pass Wiegand-formatted data to the PACS controller. Locating the critical security operations within the secure perimeter, rather than on the attack side of the door, increases security and reader affordability.
- Available for either half-duplex or full-duplex communication.
- Up to two pivCLASS readers can connect to a pivCLASS Authentication Module via full duplex RS-485 communication to the reader, typically enabling facilities to reuse much of their existing wiring.
- Available in mini-mullion and wall switch form factors to mount and cover single-gang switch boxes.
- Available with either a pigtail or terminal strip wiring termination.
- Each of these readers can also be ordered with 125 kHz proximity support.

HID Global’s pivCLASS Government Solutions portfolio enables facilities to upgrade their existing physical access control system (PACS) to achieve FIPS 201 compliance.

The pivCLASS contactless readers (R10 and R40) and their proximity-enabled versions deliver the “Controlled” assurance level defined in the National Institute of Standards and Technology (NIST) SP 800-116 guidelines when used with the pivCLASS Authentication Module (PAM) to perform a single-factor authentication check.

CHUID + VIS Authentication – The pivCLASS system tests the signature on the PIV Card Holder Unique Identifier (CHUID) data object. The CHUID signature check ensures the card is authentic (came from a valid issuer) and has integrity (has not been altered).

Because the CHUID is a “free read” and will be transmitted unencrypted to any reader, it could be possible for perpetrators to capture a PIV

card’s CHUID and create a counterfeit card. However, the required visual check (VIS) of the card secures against this threat by making it possible to identify cards that have been counterfeited or altered.*

CAK Authentication – The full duplex version of these pivCLASS readers work with the PAM to perform a PKI challenge-response test in addition to a signature check to validate the card authentication key (CAK). The challenge-response test ensures the public key in the card authentication certificate is bound to the private key on the card. This CAK authentication secures against cards that have been counterfeited, altered, copied or cloned. The half duplex version of these readers supports the OSDP protocol to half duplex authentication modules.

These pivCLASS readers are guaranteed to meet the stringent specifications for operation, reliability and interoperability with other Genuine HID™ products.

* Per SP 800-116, to achieve “Controlled” assurance, the CHUID read must be combined with a visual check (VIS) of the identification card.

SPECIFICATIONS



| Model Name | R10-H | R40-H | RP10-H | RP40-H |
|---|--|--|---|--|
| Base Part Number - FDX | 900NHR | 920NHR | 900PHR | 920PHR |
| Base Part Number - HDX | 900NHP | 920NHP | 900PHP | 920PHP |
| 13.56 MHz Card Compatibility | PKI-Based FIPS-201 Credentials including PIV, PIV-I, CIV, CAC, TWIC and FRAC Secure Identity Object (SIO) on iCLASS Seos, iCLASS SE, MIFARE DESFire EV1 and MIFARE Classic standard iCLASS Access Control Application ISO14443A (MIFARE) CSN | | | |
| 125 kHz Card Compatibility | N/A | | HID Prox, AWID, EM4102 Prox | |
| Typical Contactless Read Range¹ | FIPS 201 type cards can be read using either the contact or contactless card interface | | | |
| FIPS-201 Type Cards, Contactless Interface PIV, PIV-I, CIV, CAC, TWIC and FRAC | | | | |
| FIPS-201 type cards | 1.2" (3 cm) | 2.0" (5 cm) | 1.2" (3 cm) | 2.0" (5 cm) |
| 13.56 MHz Single Technology ID-1 Cards - SIO Data Model | | | | |
| iCLASS ⁺ Seos [®] | 2.4" (6 cm) | 3.1" (8 cm) | 1.2" (3 cm) | 2.0" (5 cm) |
| iCLASS [®] | 3.5" (9 cm) | 5.1" (13 cm) | 3.1" (8 cm) | 4.7" (12 cm) |
| MIFARE DESFire EV1 | 2.4" (6 cm) | 3.1" (8 cm) | 1.2" (3 cm) | 2.0" (5 cm) |
| MIFARE Classic | 2.4" (6 cm) | 3.9" (10 cm) | 2.8" (7 cm) | 4.7" (12 cm) |
| 125 kHz Single Technology ID-1 Cards | | | | |
| HID Prox / AWID | N/A | N/A | 2.8" (7 cm) | 2.8" (7 cm) |
| EM4102 Prox | N/A | N/A | 4.3" (11 cm) | 4.3" (11 cm) |
| Mounting | Ideally suited for mullion-mounted door installations or any flat surface | Wall switch size; designed to mount and cover single-gang switch boxes primarily used in the Americas; includes a slotted mounting plate for European and Asian back box spacing | Ideally suited for mullion-mounted door installations or any flat surface | Wall switch size with keypad (illuminated, 4 x 3); designed to mount and cover single-gang switch boxes; primarily used in the Americas; includes a slotted mounting plate for European and Asian back box spacing |
| Color | Black | | | |
| Dimensions | 1.9" x 4.1" x 0.9" (4.8 x 10.3 x 2.3 cm) | 3.3" x 4.8" x 1.0" (8.4 x 12.2 x 2.4 cm) | 1.9" x 4.1" x 0.9" (4.8 x 10.3 x 2.3 cm) | 3.3" x 4.8" x 1.0" (8.4 x 12.2 x 2.4 cm) |
| Product Weight (Pigtail) | 3.9 oz. (113 g) | 7.7 oz. (220 g) | 4.0 oz. (114 g) | 7.8 oz. (222 g) |
| Product Weight (Terminal Strip) | 2.9 oz. (84 g) | 7.5 oz. (215 g) | 3.0 oz. (85 g) | 7.6 oz. (216 g) |
| Operating Voltage Range | +12VDC | | | |
| Current Draw - Normal Standby Current² | 60 mA | 65 mA | 75 mA | 85 mA |
| Current Draw - Maximum Average³ | 100 mA | 110 mA | 100 mA | 110 mA |
| Current Draw - Peak⁴ | 200 mA | | 200 mA | |
| Operating Temperature | -30° to 150° F (-35° to 65° C) | | | |
| Operating Humidity | 5% to 95% relative humidity non-condensing | | | |
| Storage Temperature | -67° to 185° F (-55° to 85° C) | | | |
| Environmental | Indoor / Outdoor; IP55, IP65 if installed with optional gasket (IP65GSKT) | | | |
| Transmit Frequency | 13.56 MHz | | 13.56 MHz & 125 kHz | |
| Protocol | Full duplex supports HID pivCLASS Protocol, CoreStreet Reader Protocol Half duplex supports OSDP protocol | | | |
| Cable Distance⁵ | RS485 for communication (500 ft [152m], 22AWG), (300 ft [91m], 24AWG); two wires for power (500 ft [152m], 22AWG) | | | |
| Wiring Connection | Pigtail or Terminal Strip | | | |
| Certifications | FICAM tested ⁶ , UL294 (U.S. & Canada), FCC Certification (U.S.), RoHS2 | | | |
| Housing Material | UL94 Polycarbonate | | | |
| % of recycled content (Pigtail) | 10.5% | 10.5% | 10.5% | 10.5% |
| % of recycled content (Terminal Strip) | 11.0% | 11.0% | 10.5% | 11.0% |
| UL Ref Number | R10E | R40E | RP10E | RP40E |
| Warranty | Limited Lifetime | | | |

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¹ Read range listed is statistical mean rounded to nearest whole centimeter. HID Global testing occurs in open air. Some environmental conditions, including metallic mounting surface, can significantly degrade read range and performance; plastic or ferrite spacers are recommended to improve performance on metallic mounting surfaces. Read ranges for FIPS 201 type cards will vary depending on the card manufacturer.
² Standby Average - RMS current draw without a card in the RF field.
³ Maximum Average - RMS current draw during continuous PIV card reads.
⁴ Peak - highest instantaneous current draw during RF communication.
⁵ For cable lengths when used in Wiegand mode see "pivCLASS Reader Installation Guide" PLT-01134.
⁶ FICAM tested as part of complete physical access control systems.