

pivCLASS® R10, R15, R40 Readers

For the following security areas per NIST SP 800-116:

- “Controlled” Areas**
- “Limited” Areas**
- “Exclusion” Areas**



### pivCLASS® READERS FOR “CONTROLLED” AREAS ENABLE HIGH SECURITY, INTEROPERABILITY AND COMPLIANCE

- **Part of an integrated solution from a single, trusted provider** – Enables FIPS 201 compliance per NIST SP 800-116 guidelines and the TWIC Reader Specification.
- **Contactless reader solution for “Controlled” security areas** – Meets NIST’s “Controlled” security area assurance level requirements with a single-factor authentication mode: CHUID + VIS or CAK.
- **Supports multiple card types** – PIV, PIV-I, CAC, CIV (a.k.a., PIV-C), TWIC and FRAC, as well as 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. pivCLASS utilizes the pivCLASS Authentication Module to perform the 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.
- Up to two pivCLASS readers can connect to a pivCLASS Authentication Module via four-wire RS-485 communication to the reader, typically enabling facilities to re-use much of their existing wiring.
- Available in mullion, mini-mullion and wall switch form factors designed 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 Prox support.

HID Global pivCLASS® Government Solutions enable facilities to upgrade their existing physical access control system (PACS) to FIPS 201 compliance.

The pivCLASS R10, R15, R40 readers and their prox enabled versions deliver the “Controlled” assurance level (as defined in NIST SP 800-116) when used with the pivCLASS Authentication Module (PAM) to perform the following single-factor authentication modes:

**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 (it came from a valid issuer) and has integrity (it 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 pivCLASS signature check secures against this threat and identifies cards that have been counterfeited or altered.\*

**CAK Authentication** – pivCLASS readers work with the pivCLASS Authentication Module to perform a PKI challenge-response 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. pivCLASS CAK authentication secures against cards that have been counterfeited, altered, copied or cloned.

pivCLASS readers are guaranteed to meet 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	R15-H	R40-H	RP10-H	RP15-H	RP40-H
<b>Base Part Number</b>	900NHR	910NHR	920NHR	900PHR	910PHR	920PHR
<b>13.56 MHz Card Compatibility</b>	PKI-Based FIPS-201 Credentials including PIV, PIV-I, CIV, CAC, TWIC and FRAQ Secure Identity Object (SIO) on iCLASS SE, SE for MIFARE DESFire EV1 and SE for MIFARE Classic standard iCLASS Access Control Application ISO14443A (MIFARE) CSN					
<b>125 kHz Card Compatibility</b>	N/A			HID, AWID, EM4102		
<b>System Requirements</b>	These readers require HID pivCLASS Authentication Module (M2000) to support FICAM compliance					
<b>Typical Contactless Read Range<sup>1</sup></b>	FIPS 201 type cards can be read using either the contact or contactless card interface					
<b>FIPS-201 Type Cards, Contactless Interface<sup>1</sup> PIV, PIV-I, CIV, CAC, TWIC and FRAQ</b>						
	1" (2.5 cm)	1" (2.5 cm)	1.5" (3.8 cm)	1" (2.5 cm)	1" (2.5 cm)	1.5" (3.8 cm)
<b>13.56 MHz iCLASS, DesFire and MIFARE Cards<sup>2</sup></b>						
iCLASS SE	2.5" (6.4 cm)	2.5" (6.4 cm)	4.5" (11 cm)	2.5" (6.4 cm)	2.5" (6.4 cm)	4.5" (11 cm)
DESFire EV1 SE	1" (2.5 cm)	1" (2.5 cm)	2" (5.1 cm)	1" (2.5 cm)	1" (2.5 cm)	2" (5.1 cm)
MIFARE Classic SE	2.3" (4.0 cm)	2.3" (4.0 cm)	4.5" (11 cm)	2.3" (4.0 cm)	2.3" (4.0 cm)	4.5" (11 cm)
<b>125 kHz Proximity Cards</b>						
HID Prox / AWID	N/A		N/A	2" (5.1 cm)	2" (5.1 cm)	2.5" (6.4 cm)
EM4102	N/A		N/A	3.5" (8.9 cm)	3.5" (8.9 cm)	4.0" (10 cm)
<b>Mounting</b>	Mini-Mullion Size; physically HID's smallest iCLASS readers and are ideally suited for mullion-mounted door installations, U.S. single-gang J-box (with mud ring) or any flat surface	Mullion Size; physically HID's second smallest iCLASS readers and are ideally suited for mullion-mounted door installations, U.S. single-gang J-box (with mud ring) or any flat surface	Wall Switch Size; designed to mount and cover single gang switch boxes primarily used in the Americas and includes a slotted mounting plate for European and Asian back box spacing	Mini-Mullion Size; physically HID's smallest iCLASS readers and are ideally suited for mullion-mounted door installations, U.S. single-gang J-box (with mud ring) or any flat surface	Mullion Size; physically HID's second smallest iCLASS readers and are ideally suited for mullion-mounted door installations, U.S. single-gang J-box (with mud ring) or any flat surface	Wall Switch Size; designed to mount and cover single gang switch boxes primarily used in the Americas and includes a slotted mounting plate for European and Asian back box spacing
<b>Color</b>	Black or Gray					
<b>Dimensions</b>	1.9" x 4.1" x 0.9" (4.8 x 10.3 x 2.3 cm)	1.9" x 6.0" x 0.9" (4.8 x 15.3 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)	1.9" x 6.0" x 0.9" (4.8 x 15.3 x 2.3 cm)	3.3" x 4.8" x 1.0" (8.4 x 12.2 x 2.4 cm)
<b>Product Weight (Pigtail)</b>	3.9 oz. (113 g)	5.3 oz. (151 g)	7.7 oz. (220 g)	4.0 oz. (114 g)	5.2 oz. (149 g)	7.8 oz. (222 g)
<b>Product Weight (Terminal Strip)</b>	2.9 oz. (84 g)	4.2 oz. (120 g)	7.5 oz. (215 g)	3.0 oz. (85 g)	4.3 oz. (124 g)	7.6 oz. (216 g)
<b>Operating Voltage Range</b>	+12VDC					
<b>Current Draw - Normal Standby Current<sup>3</sup></b>	60 mA	60 mA	65 mA	75 mA	75 mA	85 mA
<b>Current Draw - Maximum Average<sup>4</sup></b>	100 mA	100 mA	110 mA	100 mA	100 mA	110 mA
<b>Current Draw - Peak<sup>5</sup></b>	200 mA			200 mA		
<b>Operating Temperature</b>	-30° to 150° F (-35° to 65° C)					
<b>Operating Humidity</b>	5% to 95% relative humidity non-condensing					
<b>Storage Temperature</b>	-67° to 185° F (-55° to 85° C)					
<b>Environmental</b>	Indoor / Outdoor; IP55, IP65 if installed with optional gasket (IP65GSKT)					
<b>Transmit Frequency</b>	13.56 MHz			13.56 MHz & 125 kHz		
<b>Protocol</b>	HID pivCLASS Protocol, CoreStreet Reader Protocol					
<b>Cable Distance<sup>6</sup></b>	Six conductor connection per reader: full duplex four-wire RS485 for communication (500ft (152m), 22AWG), (300ft (91m), 24AWG); two wires for power (500ft (152m), 22AWG)					
<b>Wiring Connection</b>	Pigtail or Terminal Strip					
<b>Certifications</b>	FICAM tested <sup>7</sup> , UL294 (US & Canada), FCC Certification, RoHS2					
<b>Housing Material</b>	UL94 Polycarbonate					
<b>% of recycled content (Pigtail)</b>	10.5%	11.0%	10.5%	10.5%	11.0%	10.5%
<b>% of recycled content (Terminal Strip)</b>	11.0%	11.5%	11.0%	10.5%	11.0%	11.0%
<b>UL Ref Number</b>	R10E	R15E	R40E	RP10E	RP15E	RP40E
<b>Warranty</b>	Limited Lifetime					

<sup>1</sup> Typical read range in air. Different types of metal will cause some degradation (typically up to 20%). Use spacers to space product off metal and improve read range if required. Read ranges for FIPS 201 type cards will vary depending upon the card manufacturer.

<sup>2</sup> Measured using the SIO Data Model

<sup>3</sup> Standby Average - RMS current draw without a card in the RF field

<sup>4</sup> Maximum Average - RMS current draw during continuous PIV card reads

<sup>5</sup> Peak - highest instantaneous current draw during RF communication

<sup>6</sup> For cable lengths when used in Wiegand mode see "pivCLASS Reader Installation Guide" PLT-01134

<sup>7</sup> FICAM tested as part of complete physical access control systems

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