



AUTOMATIC FARE COLLECTION (AFC) READER

# ACR350

## Secure Validator with QR code Scanner (PCI PTS POI v5.1 with SRED Certified)

The ACR350 Secure Validator is an advanced version of ACR330 Validator. It is designed specifically for Automatic Fare Collection (AFC) systems to offer the convenience of cashless and secure payment in buses, ferries, trams, railways and other transportation modes.

This validator enables high-speed transaction processing through 13.56 MHz contactless (RFID) technology. It supports ISO 14443 Type A and B cards, MIFARE®, and FeliCa. Being certified with **PCI PTS 5.1 with SRED**, major payment standards such as PBOC Level 1 (Contactless) and EMV™ Levels 1 and 2 (Contactless) including MasterCard® Contactless and Visa PayWave®, this Validator offers flexibility and security to open-loop payment systems. The embedded barcode scanner enables transactions through the use of print or mobile barcodes or other QR payment applications.

It has advanced wireless connectivity options for data transfer such as GSM/GPRS, 3G/4G, and Wi-Fi. With an optional GNSS feature, it can be used to locate vehicles, manage fleets and set flexible distance-based fares. Protecting the bus validator from harsh environments is its IK08 rating for mechanical impact, IP65 rating for dust and water protection and the additional Military Standard MIL-STD-810 for Shock and Vibration.

Control Signals, Ignition sense and Bluetooth 5.1 are featured in this brand-new validator. With these new features, ACR350 could be a perfect choice for transit operators.

### KEY FEATURES

- ✓ **Support various type of card type**
  - ISO 14443 Type A & B (T=CL), MIFARE®, FeliCa, Calypso, CTS512, SRT512
- ✓ **Improved Security**
  - 4 x ISO 7816 Standard SAM Slots
- ✓ **Connectivity**
  - GSM/GPRS, 3G/4G, Wi-Fi, Bluetooth, GNSS
  - USB, Serial Port (RS-232 & 485), Ethernet
  - GPIO Isolated ports, CAN BUS, Ignition sense port
- ✓ **Accessibility and convenience**
  - 4.3 Inch Capacitive Type Touch TFT Screen
  - Embedded Barcode Scanner (Linear/2D)
  - Support Micro SD card and Firmware Upgrade
- ✓ **Reliable**
  - Certified for international compliances and certifications
    - PCI PTS POI v5.1 with SRED, EMV® Level 1 (Contactless), PBOC Level 1 (Contactless), MasterCard® Contactless, Visa payWave®
    - CE, FCC, REACH, RoHS
    - IK08, IP65 and MIL-STD-810G military grade certified (Shock and vibration)



### Common Applications

- e-Banking
- e-Payment
- Transportation
- Access Control





## TECHNICAL SPECIFICATION

Contactless Smart Card Interface	
Supported Card Types	ISO 14443 Type A & B, MIFARE®, FeliCa, Calypso, CTS512, SRT512
Operating Frequency	13.56 MHz
Reading Distance	Up to 50 mm
Read/Write Speed	Up to 424 kbps
Anti-Collision	Yes
Connectivity	
USB Host	2.0 High Speed
Serial Port	RS-232 x 1, RS-485 x 1
Wi-Fi	2.4 GHz, IEEE 802.11 b/g/n
Bluetooth	Bluetooth® 5.1 Dual Mode
Cellular <sup>1</sup>	GPRS/GSM/3G/4G
GNSS <sup>2</sup>	GPS/Glonass/Beidou/Galileo, Supported with internal antenna (external antenna port available)
Ethernet	Built-in 10/100/1000 Ethernet
Control Signals	2 x input + 2 x output
Ignition Sense	Supported
CAN Bus	Supported
SAM Card Interface	
Standard	4 x ISO 7816 Standard SAM size card slot (Support Class A, B and C [5V, 3V, 1.8V] card), ID-000
SIM Card Interface	
Number of slot	1 x Standard SIM size card slot, ID-000
Standard	GPRS/GSM/3G/4G
Processor	
Processor	Arm® Cortex®-A9 Quad-Core Processor 1.0 GHz
Operating System	
Operating System	Linux
Memory	
Flash	32 GB (25 GB available for user)
RAM	1 GB
Tamper Protected Memory	32 KB (for sensitive data storage with API provided)
Built-in Peripherals	
LCD Display	4.3 Inch Capacitive Type Touch TFT Screen
Audio Speaker	3W (Around 80 dB in 1 m distance)
LED Indicators	Front: Blue, Orange, Green, Red Back: Green, Red
Memory Card Slot	Yes (Support MicroSD Card up to 128 GB)
Temperature Sensor	Yes

Barcode Scanner <sup>3</sup>	
Linear	Code 128, EAN, Code 39, UPC, Code 2 of 5, Interleaved 2 of 5, Codabar, etc
2D	PDF417, Data Matrix, QR Code
Illumination	White LED
Supported Materials	Paper, Mobile phones and Tablets
Physical Characteristics	
Dimension (H x W x T)	245 x 135 x 91 mm [Main Body] 245 x 135 x 159 mm [With Back Mount]
Weight	1.01 kg [Main Body] 1.81 kg [With Back Mount]
Colour	Grey and Black
Pole Support	31, 32, 35 mm (Support Vertical or Horizontal Pole)
Power	
Power Source	External Power Adapter (9 - 36 V)
SuperCap UPS	Yes (5 seconds)
Environment	
Operating Temperature	-20 - 60°C
Storage Temperature	-30 - 80°C
Humidity	90% (Non-condensing)
MTBF	500,000 Hours
Other Features	
Security	Tamper Switch (Internal anti-intrusion detection and protection)
Key Management Supported	Fixed Key, MK/SK, DUKPT
Real-time Clock	Supported (With independent backup battery)
Firmware Upgrade	Supported
Certifications and Compliances	
Certifications and Compliances	PCI PTS POI v5.1 with SRED, EMV® Levels 1 (Contactless), PBOC Level 1 (Contactless), MasterCard® Contactless, Visa payWave®, CE, FCC, REACH, RoHS, IP65, IK08 (Impact protection), MIL-STD-810G (Shock and vibration)
Tools	
Tools	Evaluation Kit (USD 1,200)
Model/Part Number	
Default Validator	ACR350-A4
Default Back Mount	ACR330-STD

## SUPPORTED FREQUENCY BANDS

ACR350-A4 Supported Frequency Bands	
4G LTE-FDD	B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28/B66
4G LTE-TDD	B34/B38/B39/B40/B41
3G WCDMA	B1/B2/B4/B5/B6/B8/B19
2G GSM	850/900/1800/1900 MHz

<sup>1</sup> Please refer to the above Supported Frequency Bands table for a more detailed frequency band support;

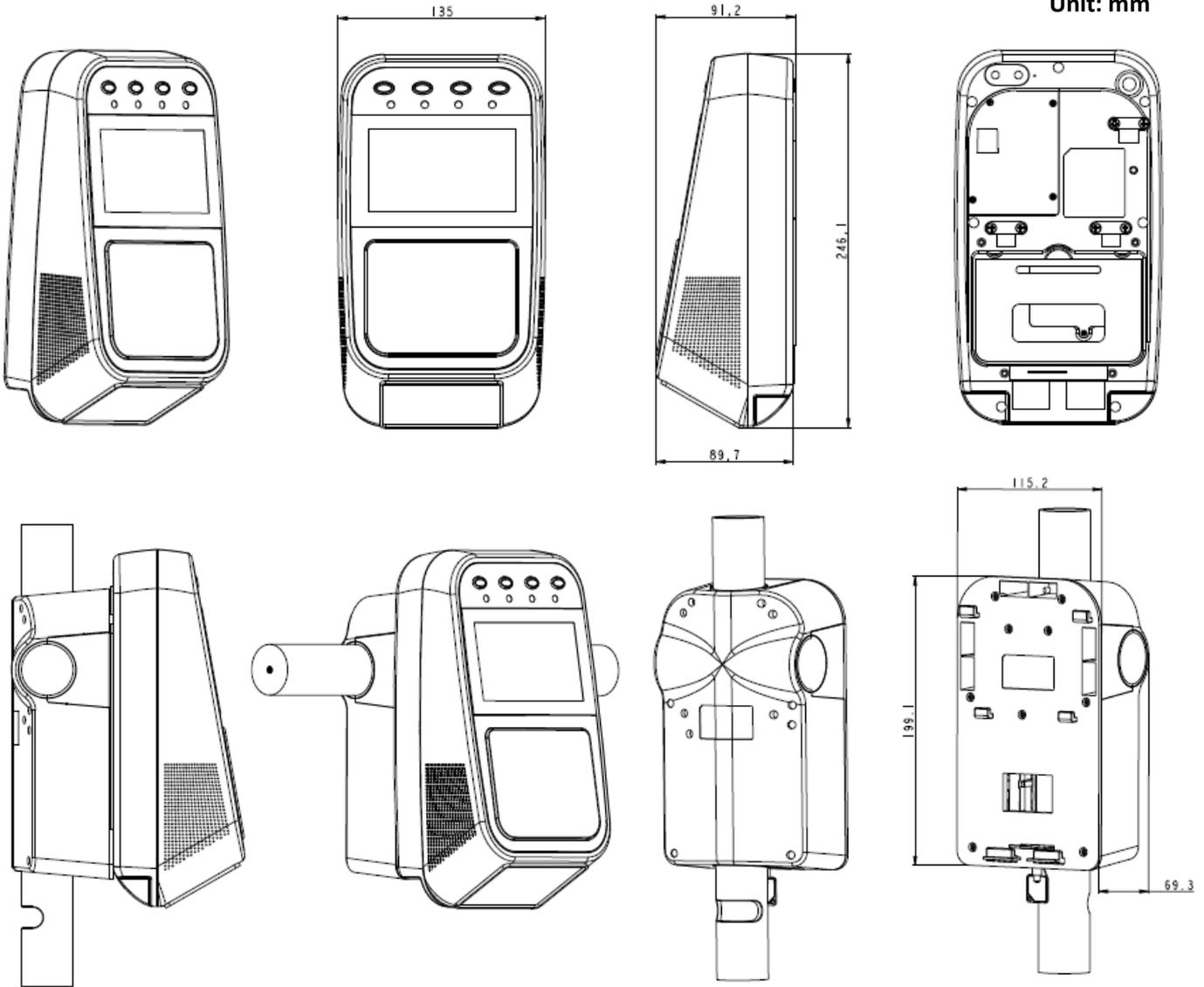
<sup>2,3</sup> Can be optional





**MECHANICAL SPECIFICATION**

Unit: mm



Vertical pole

Horizontal pole

Back side of  
back mount

Mounting hooks  
side of back mount

**About ACS**

Advanced Card Systems Ltd. (ACS), founded in 1995, is Asia Pacific's top supplier and one of the world's top 3 suppliers of PC-linked smart card readers. ACS is the winner of the Product Quality Leadership Award for Smart Card Readers from Frost & Sullivan. In 2010, 2014 and 2015, ACS was listed in Forbes Asia's "Best Under a Billion" list, an inter-industry list comprised of 200 top-performing publicly listed companies in the Asia-Pacific, with sales between US\$5 million and US\$1 billion. ACS develops a wide range of high-quality smart card reading/writing devices, smart cards and related products and distributes them to over 100 countries worldwide.

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