Multi-technology Access Reader Specification
Manufacturer - Matrix Research Limited
Product Brand - ACX

1.   Contactless Smart Card smart Reader (RFID Card)

   a) Supports 13.56MHz NXP Mifare Class, Mifare Plus, Mifare DESFire, LEGIC Prime and LEGIC Advant card technology
   b) 13.56MHz card read range: 5cm+;
   c) Programmable reader buzzer beep sound interval and times for access granted and access denied
   d) Programmable reader LED color (7 colors) interval and times for access granted and access denied
   e) Reader configuration can be updated through the network by ACX proprietary software
   f) Reader firmware can be upgraded through the network by ACX proprietary software
   g) Reader outputs Wiegand, OSDP or ACX proprietary scramble encryption RS485 format
   h) Reader Tamper: Optical sensor
   i) Reader size shall be no larger than 80mm(W) x 110mm(H) x 20mm(D)
   j) Waterproof, IP65 rated.

2.   2-in-1 Multi-technology Smart Card smart Reader (Bluetooth + RFID Card)

a) Supports 13.56MHz NXP Mifare Class, Mifare Plus, Mifare DESFire, LEGIC Prime and LEGIC Advant card technology.
b) 13.56MHz card read range: 5cm+; Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
c) Programmable reader buzzer beep sound interval and times for access granted and access denied
d) Programmable reader LED color (7 colors) interval and times for access granted and access denied
e) Reader configuration can be updated through the network by ACX proprietary software
f) Reader firmware can be upgraded through the network by ACX proprietary software
g) Reader outputs Wiegand, OSDP or ACX proprietary scramble encryption RS485 format
h) Reader Tamper: Optical sensor
i) Reader size shall be no larger than 80mm(W) x 110mm(H) x 20mm(D)
1. Waterproof, IP65 rated

3.   3-in-1 Multi-technology Smart Card smart Reader (Bluetooth + Keypad + RFID Card)

a) Supports 13.56MHz NXP Mifare Class, Mifare Plus, Mifare DESFire, LEGIC Prime, and LEGIC Advant card technology
b) 13.56MHz card read range: 5cm+; Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
c) 12 capacitance touch keypads, 0~9,*,#. Keypad has blacklight in 7 different colors.
d) Programmable reader buzzer beep sound interval and times for access granted and access denied
e) Programmable reader LED color (7 colors) interval and times for access granted and access denied
f) Reader configuration can be updated through the network by ACX proprietary software
g) Reader firmware can be upgraded through the network by ACX proprietary software
h) Reader outputs Wiegand, OSDP or ACX proprietary scramble encryption RS485 format
i) Reader Tamper: Optical sensor
j) Reader size shall be no larger than 80mm(W) x 110mm(H) x 20mm(D)
k) Waterproof, IP65 rated

4. 3-in-1 Multi-technology Smart Card smart Reader (Bluetooth + Scramble QR Code + RFID Card)

a) Supports 13.56MHz NXP Mifare Class, Mifare Plus, Mifare DESFire, LEGIC Prime, and LEGIC Advant card technology.
b) Supports Bluetooth 5.0, 2.4GHz
c) QR code camera minimum resolution is 5 mil (1mil = 0.0254mm, 0.01 inch)
d) QR code resolution 640 x 480
e) QR code camera scanning range, ± 60° for left & right, ± 40° for front and back, 360° rotation.
f) 13.56MHz card read range: 5cm+; Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
g) Programmable reader buzzer beep sound interval and times for access granted and access denied
h) Programmable reader LED color (7 colors) interval and times for access granted and access denied
i) Reader configuration can be updated through the network by ACX proprietary software
j) Reader firmware can be upgraded through the network by ACX proprietary software
k) Reader outputs OSDP or ACX proprietary scramble encryption RS485 format
l) Reader Tamper: Optical sensor
m) Reader size shall be no larger than 80mm(W) x 130mm(H) x 20mm(D)
n) Waterproof, IP65 rated

5. 4-in-1 Multi-technology Smart Card Keypad Reader (Keypad + Bluetooth + Scramble QR Code + RFID Card)

   a) Supports 13.56MHz NXP Mifare Class, Mifare Plus, Mifare DESFire, LEGIC Prime, and LEGIC Advant card technology.
   b) Supports Bluetooth 5.0, 2.4GHz
   c) QR code camera minimum resolution is 5 mil (1mil = 0.0254mm, 0.01 inch)
   d) QR code resolution 640 x 480
   e) QR code camera scanning range, ± 60° for left & right, ± 40° for front and back, 360° rotation.
   f) 12 capacitance touch keypads, 0~9,*,#. Keypad has blacklight in 7 different colors.
   g) 13.56MHz card read range: 5cm+; Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
   h) Programmable reader buzzer beep sound interval and times for access granted and access denied
   i) Programmable reader LED color (7 colors) interval and times for access granted and access denied
   j) Reader configuration can be updated through the network by ACX proprietary software
   k) Reader firmware can be upgraded through the network by ACX proprietary software
   l) Reader outputs OSDP or ACX proprietary scramble encryption RS485 format
   m) Reader Tamper: Optical sensor
   n) Reader size shall be no larger than 80mm(W) x 130mm(H) x 20mm(D)
   o) Waterproof IP65 rated.

6. 4-in-1 Multi-technology Palm Vein Smart Card Reader (Palm Vein + Bluetooth + Scramble QR Code + RFID Card)

a) Palm Vein recognition technology should be provided by the Fujitsu PalmSecure-F Pro sensor
b) Palm Vein Sensor supports binocular infrared live detection
c) Palm Vein recognition can be completed in one second for 2,000 palm vein users. Each user can register 2 palm vein templates
d) FAR is 0.00001%, Palm Vein detective range of the Palm Vein Sensor is from 30mm to 70mm
e) Supports 5,000 local personnel
f) Supports 13.56MHz HKSTP's LEGIC Prime, and LEGIC Advant card technology.
g) 13.56MHz card read range: 5cm+; Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
h) Supports Bluetooth 5.0, 2.4GHz
i) QR code camera minimum resolution is 5 mil (1mil = 0.0254mm, 0.01 inch)
j) QR code resolution 640 x 480
k) QR code camera scanning range, ± 60° for left & right, ± 40° for front and back, 360° rotation.
l) Programmable reader buzzer beep sound interval and times for access granted and access denied
m) Programmable reader LED color (7 colors) interval and times for access granted and access denied
n) Reader configuration can be updated through the network by ACX proprietary software
o) Reader firmware can be upgraded through the network by ACX proprietary software
p) Reader outputs OSDP or ACX proprietary scramble encryption RS485 format
q) Reader Tamper: Optical sensor
r) Reader size shall be no larger than 80mm(W) x 130mm(H) x 20mm(D)
s) Waterproof IP55 rated

7. 4-in-1 Multi-technology Facial Recognition Smart Card Reader (Facial Recognition + Bluetooth + Scramble QR Code + RFID Card)

a) Facial Recognition Algorithm by SenseTime technology
b) Facial detection supports binocular infrared live detection
c) Face recognition can be completed in 300 milliseconds
d) The recognition accuracy rate is higher than 99% and 0.5m-1.5m recognition distance is supported
e) Supports 20,000 local personnel
f) Real-time detection and tracking of human faces, accurate detection can be carried out in situations such as side faces, half occlusion, and blur
g) Minimum 0.5 lux recognition
h) Effective defense against non-living attacks such as 3D printing, electronic screens, video, pictures, masks, hoods, etc.
i) Supports 13.56MHz HKSTP's LEGIC Prime; and LEGIC Advant card technology.
j) 13.56MHz card read range: 5cm+; Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
k) Supports Bluetooth 5.0, 2.4GHz
l) QR code camera minimum resolution is 5 mil (1mil = 0.0254mm, 0.01 inch)
m) QR code resolution 640 x 480
n) QR code camera scanning range, ± 60° for left & right, ± 40° for front and back, 360° rotation.
o) Programmable reader buzzer beep sound interval and times for access granted and access denied
p) Programmable reader LED color (7 colors) interval and times for access granted and access denied
q) Reader configuration can be updated through the network by ACX proprietary software
r) Reader firmware can be upgraded through the network by ACX proprietary software
s) Reader outputs OSDP or ACX proprietary scramble encryption RS485 format
t) Reader Tamper: Optical sensor
u) Reader size shall be no larger than 80mm(W) x 130mm(H) x 20mm(D)

8.   4-in-1 Multi-technology Facial Recognition Smart Card LCD Reader (Facial Recognition + Bluetooth + Scramble QR Code + RFID Card)

   a) Facial Recognition Algorithm by SenseTime technology
   b) Reader cover material by Aluminum alloy
   c) Reader LCD 5.5"
   d) Facial detection supports binocular infrared live detection
   e) Face recognition can be completed in 300 milliseconds
   f) The recognition accuracy rate is higher than 99% and 0.5m-1.5m recognition distance is supported
   g) Supports 20,000 local personnel
   h) Real-time detection and tracking of human faces, accurate detection can be carried out in situations such as side faces, half occlusion, and blur
   i) Minimum 0.5 lux recognition
   j) Effective defense against non-living attacks such as 3D printing, electronic screens, video, pictures, masks, hoods, etc.
   k) Supports 13.56MHz HKSTP's LEGIC Prime, and LEGIC Advant card technology.
   l) 13.56MHz card read range: 5cm+; Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
   m) Supports Bluetooth 5.0, 2.4GHz
   n) QR code camera minimum resolution is 5 mil (1mil = 0.0254mm, 0.01 inch)
   o) QR code resolution 640 x 480
   p) QR code camera scanning range, $\pm 60°$ for left & right, $\pm 40°$ for front and back, $360°$ rotation.
   q) Programmable reader buzzer beep sound interval and times for access granted and access denied
   r) Programmable reader LED color (7 colors) interval and times for access granted and access denied
   s) Reader configuration can be updated through the network by ACX proprietary software
   t) Reader firmware can be upgraded through the network by ACX proprietary software
   u) Reader outputs OSDP or ACX proprietary scramble encryption RS485 format
   v) Reader Tamper: Optical sensor
   w) Reader size shall be no larger than 96mm(W) x 240mm(H) x 22mm(D)

9. 4-in-1 Multi-technology Octopus smart lock reader (Octopus + Bluetooth + Scramble QR Code)

a) Support HK Octopus Card, Octopus mobile apps, Octopus watch
b) Supports Octopus, Mobile Virtual Card by Bluetooth 4.0+ and Scramble QR Code
c) Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
d) Supports Bluetooth 5.0, 2.4GHz
e) QR code camera minimum resolution is 5 mil (1mil = 0.0254mm, 0.01 inch)
f) QR code resolution 640 x 480
g) QR code camera scanning range, ± 60° for left & right, ± 40° for front and back, 360° rotation.
h) The reader shall have the Octopus Holding Limited Type Approval Certificate
i) Octopus ISO card read range: 7cm+; Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
j) Programmable reader buzzer beep sound interval and times for access granted and access denied
k) Programmable reader LED color (7 colors) interval and times for access granted and access denied
l) Reader configuration can be updated through the network by ACX proprietary software
m) Reader firmware can be upgraded through the network by ACX proprietary software
n) Reader outputs OSDP or ACX proprietary scramble encryption RS485 format Reader size shall be no larger than 94mm(W) x 196mm(H) x 55mm(D)
o) Flush mount design with only 6mm extruded from the wall.

10. 5-in-1 Multi-technology Reader (Facial Recognition + Palm Vein + Bluetooth + Scramble QR Code + RFID Card)

a) This is a flush-mounted reader
b) Facial Recognition Algorithm by SenseTime technology
c) Facial detection supports binocular infrared live detection.
d) Face recognition can be completed in 300 milliseconds.
e) The recognition accuracy rate is higher than 99% and 0.5m-1.5m recognition distance is supported.
f) Supports 20,000 local personnel
g) Real-time detection and tracking of human faces, accurate detection can be carried out in situations such as side faces, half occlusion, and blur
h) Minimum 0.5 lux recognition
i) Effective defense against non-living attacks such as 3D printing, electronic screens, video, pictures, masks, hoods, etc.
j) Palm Vein recognition technology should be provided by Fujitsu PalmSecure-F Pro sensor
k) Palm Vein Sensor supports binocular infrared live detection.
l) Palm Vein recognition can be completed in one second for 2,000 palm vein users. Each user can register 2 palm vein templates.
m) FAR is 0.00001%, Palm Vein detective range of the Palm Vein Sensor from 30mm to 70mm
n) Supports 5,000 local personnel.
o) Supports 13.56MHz HKSTP's LEGIC Prime, and LEGIC Advant card technology.
p) 13.56MHz card read range: 5cm+; Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
q) Supports Bluetooth 5.0, 2.4GHz
r) QR code camera minimum resolution is 5 mil (1mil = 0.0254mm, 0.01 inch)
s) QR code resolution 640 x 480
t) QR code camera scanning range, $\pm 60°$ for left & right, $\pm 40°$ for front and back, $360°$ rotation.
u) Programmable reader buzzer beep sound interval and times for access granted and access denied.
v) programmable reader LED color (7 colors) interval and times for access granted and access denied.
w) Reader configuration can be updated through the network by ACX proprietary software.
x) Reader firmware can be upgraded through the network by ACX proprietary software.
y) Reader outputs OSDP or ACX proprietary scramble encryption RS485 format
z) Reader Tamper: Optical sensor
aa) Reader size shall be no larger than 90mm(W) x 180mm(H) x 30mm(D)

11. Flush-mounted 3-in-1 Multi-technology Smart Card smart Reader (Bluetooth + Scramble QR Code + RFID Card)

a) This is a flush-mounted reader which can be directly mounted on the electric junction box.
b) Reader size is 86mm(W) x 86mm(H) x 5mm(D) with reader cover plate.
c) Reader size is 86mm(W) x 86mm(H) x 3mm(D) without reader cover plate.
d) Supports 13.56MHz HKSTP's LEGIC Prime, and LEGIC Advant card technology.
e) Supports Bluetooth 5.0, 2.4GHz
f) QR code camera minimum resolution is 5 mil (1mil = 0.0254mm, 0.01 inch)
g) QR code resolution 640 x 480
h) QR code camera scanning range, $\pm 60°$ for left & right, $\pm 40°$ for front and back, $360°$ rotation.
i) 13.56MHz card read range: 5cm+; Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
j) Programmable reader buzzer beep sound interval and times for access granted and access denied
k) Programmable reader LED color (7 colors) interval and times for access granted and access denied
l) Reader configuration can be updated through the network by ACX proprietary software
m) Reader firmware can be upgraded through the network by ACX proprietary software
n) Reader outputs OSDP or ACX proprietary scramble encryption RS485 format
o) Reader Tamper: Optical sensor
p) Waterproof, IP55 rated