**Multi-technology Access Reader Specification**

**Manufacturer - Matrix Research Limited**

**Product Brand - ACX**

1. Contactless Smart Card smart Reader (RFID Card)
2. Supports 13.56MHz NXP Mifare Class, Mifare Plus, Mifare DESFire, LEGIC Prime and LEGIC Advent card technology.
3. 13.56MHz card read range: 5cm+;
4. Programmable reader buzzer beep sound interval and times for access granted and access denied
5. Programmable reader LED color (7 colors) interval and times for access granted and access denied
6. Reader configuration can be updated through the network by ACX proprietary software
7. Reader firmware can be upgraded through the network by ACX proprietary software
8. Reader outputs Wiegand, OSDP V2, and ACX proprietary scramble encryption RS485 format
9. Reader Tamper: Optical sensor
10. Reader size shall be no larger than 80mm(W) x 115mm(H) x 20mm(D)
11. Waterproof, IP65 rated.
12. 2-in-1 Multi-technology Smart Card smart Reader (Bluetooth + RFID Card)
13. Supports 13.56MHz NXP Mifare Class, Mifare Plus, Mifare DESFire, LEGIC Prime and LEGIC Advant card technology.
14. 13.56MHz card read range: 5cm+; Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
15. Programmable reader buzzer beep sound interval and times for access granted and access denied
16. Programmable reader LED color (7 colors) interval and times for access granted and access denied
17. Reader configuration can be updated through the network by ACX proprietary software
18. Reader firmware can be upgraded through the network by ACX proprietary software
19. Reader outputs Wiegand, OSDP V2, and ACX proprietary scramble encryption RS485 format
20. Reader Tamper: Optical sensor
21. Reader size shall be no larger than 80mm(W) x 115mm(H) x 20mm(D)

Waterproof, IP65 rated

1. 3-in-1 Multi-technology Smart Card smart Reader (Bluetooth + Keypad + RFID Card)
2. Supports 13.56MHz NXP Mifare Class, Mifare Plus, Mifare DESFire, LEGIC Prime, and LEGIC Advant card technology.
3. 13.56MHz card read range: 5cm+; Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
4. 12 capacitance touch keypads, 0~9,\*,#. The keypad has a backlight in 7 different colors.
5. Programmable reader buzzer beep sound interval and times for access granted and access denied
6. Programmable reader LED color (7 colors) interval and times for access granted and access denied
7. Reader configuration can be updated through the network by ACX proprietary software
8. Reader firmware can be upgraded through the network by ACX proprietary software
9. Reader outputs Wiegand, OSDP V2, and ACX proprietary scramble encryption RS485 format
10. Reader Tamper: Optical sensor
11. Reader size shall be no larger than 80mm(W) x 110mm(H) x 20mm(D)
12. Waterproof, IP65 rated
13. 3-in-1 Multi-technology Smart Card smart Reader (Bluetooth + Scramble QR Code + RFID Card)
14. Supports 13.56MHz NXP Mifare Class, Mifare Plus, Mifare DESFire, LEGIC Prime, and LEGIC Advant card technology.
15. Supports Bluetooth 5.0, 2.4GHz
16. QR code camera minimum resolution is 5 mil (1mil = 0.0254mm, 0.01 inch)
17. QR code resolution 640 x 480
18. QR code camera scanning range, ± 60∘for left & right, ± 40∘for front and back, 360∘rotation.
19. 13.56MHz card read range: 5cm+; Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
20. Programmable reader buzzer beep sound interval and times for access granted and access denied
21. Programmable reader LED color (7 colors) interval and times for access granted and access denied
22. Reader configuration can be updated through the network by ACX proprietary software
23. Reader firmware can be upgraded through the network by ACX proprietary software
24. Reader outputs Wiegand, OSDP V2, and ACX proprietary scramble encryption RS485 format
25. Reader Tamper: Optical sensor
26. Reader size shall be no larger than 80mm(W) x 130mm(H) x 20mm(D)
27. Waterproof, IP65 rated
28. 4-in-1 Multi-technology Smart Card Keypad Reader (Keypad + Bluetooth + Scramble QR Code + RFID Card)
29. Supports 13.56MHz NXP Mifare Class, Mifare Plus, Mifare DESFire, LEGIC Prime, and LEGIC Advant card technology.
30. Supports Bluetooth 5.0, 2.4GHz
31. QR code camera minimum resolution is 5 mil (1mil = 0.0254mm, 0.01 inch)
32. QR code resolution 640 x 480
33. QR code camera scanning range, ± 60∘for left & right, ± 40∘for front and back, 360∘rotation.
34. 12 capacitance touch keypads, 0~9,\*,#. The keypad has a backlight in 7 different colors.
35. 13.56MHz card read range: 5cm+; Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
36. Programmable reader buzzer beep sound interval and times for access granted and access denied
37. Programmable reader LED color (7 colors) interval and times for access granted and access denied
38. Reader configuration can be updated through the network by ACX proprietary software
39. Reader firmware can be upgraded through the network by ACX proprietary software
40. Reader outputs Wiegand, OSDP V2, and ACX proprietary scramble encryption RS485 format
41. Reader Tamper: Optical sensor
42. Reader size shall be no larger than 80mm(W) x 130mm(H) x 20mm(D)
43. Waterproof IP65 rated.
44. 4-in-1 Multi-technology Palm Vein Smart Card Reader (Palm Vein + Bluetooth + Scramble QR Code + RFID Card)
45. Palm Vein recognition technology should be provided by the Fujitsu PalmSecure-F Pro sensor
46. Palm Vein Sensor supports binocular infrared live detection
47. Palm Vein recognition can be completed for 2,000 palm vein users in one second. Each user can register two palm vein templates
48. FAR is 0.00001%, Palm Vein detective range of the Palm Vein Sensor is from 30mm to 70mm
49. Supports 5,000 local personnel
50. Supports 13.56MHz NXP Mifare Class, Mifare Plus, Mifare DESFire, LEGIC Prime, and LEGIC Advant card technology.
51. 13.56MHz card read range: 5cm+; Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
52. Supports Bluetooth 5.0, 2.4GHz
53. QR code camera minimum resolution is 5 mil (1mil = 0.0254mm, 0.01 inch)
54. QR code resolution 640 x 480
55. QR code camera scanning range, ± 60∘for left & right, ± 40∘for front and back, 360∘rotation.
56. Programmable reader buzzer beep sound interval and times for access granted and access denied
57. Programmable reader LED color (7 colors) interval and times for access granted and access denied
58. Reader configuration can be updated through the network by ACX proprietary software
59. Reader firmware can be upgraded through the network by ACX proprietary software
60. Reader outputs Wiegand, OSDP V2, and ACX proprietary scramble encryption RS485 format
61. Reader Tamper: Optical sensor
62. Reader size shall be no larger than 80mm(W) x 130mm(H) x 20mm(D)
63. Waterproof IP55 rated
64. 4-in-1 Multi-technology Facial Recognition Smart Card Reader (Facial Recognition + Bluetooth + Scramble QR Code + RFID Card)
65. Facial Recognition Algorithm by Face++ / SenseTime technology
66. Facial detection supports binocular infrared live detection
67. Face recognition can be completed in 300 milliseconds
68. The recognition accuracy rate is higher than 99%, and 0.5m-1.5m recognition distance is supported
69. Supports 20,000 local personnel
70. Real-time detection and tracking of human faces; accurate detection can be carried out in situations such as side faces, half occlusion, and blur
71. Minimum 0.5 lux recognition
72. Effective defense against non-living attacks such as 3D printing, electronic screens, video, pictures, masks, hoods, etc.
73. Supports 13.56MHz NXP Mifare Class, Mifare Plus, Mifare DESFire, LEGIC Prime; and LEGIC Advant card technology.
74. 13.56MHz card read range: 5cm+; Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
75. Supports Bluetooth 5.0, 2.4GHz
76. QR code camera minimum resolution is 5 mil (1mil = 0.0254mm, 0.01 inch)
77. QR code resolution 640 x 480
78. QR code camera scanning range, ± 60∘for left & right, ± 40∘for front and back, 360∘rotation.
79. Programmable reader buzzer beep sound interval and times for access granted and access denied
80. Programmable reader LED color (7 colors) interval and times for access granted and access denied
81. Reader configuration can be updated through the network by ACX proprietary software
82. Reader firmware can be upgraded through the network by ACX proprietary software
83. Reader outputs Wiegand, OSDP V2, and ACX proprietary scramble encryption RS485 format
84. Reader Tamper: Optical sensor
85. Reader size shall be no larger than 80mm(W) x 130mm(H) x 20mm(D)
86. 4-in-1 Multi-technology Facial Recognition Smart Card LCD Reader (Facial Recognition + Bluetooth + Scramble QR Code + RFID Card)
87. Facial Recognition Algorithm by Face++ / SenseTime technology
88. Reader cover material made of Aluminum alloy
89. Reader LCD 5.5”
90. Facial detection supports binocular infrared live detection
91. Face recognition can be completed in 300 milliseconds
92. The recognition accuracy rate is higher than 99%, and 0.5m-1.5m recognition distance is supported
93. Supports 20,000 local personnel
94. Real-time detection and tracking of human faces; accurate detection can be carried out in situations such as side faces, half occlusion, and blur
95. Minimum 0.5 lux recognition
96. Effective defense against non-living attacks such as 3D printing, electronic screens, video, pictures, masks, hoods, etc.
97. Supports 13.56MHz NXP Mifare Class, Mifare Plus, Mifare DESFire, LEGIC Prime, and LEGIC Advant card technology.
98. 13.56MHz card read range: 5cm+; Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
99. Supports Bluetooth 5.0, 2.4GHz
100. QR code camera minimum resolution is 5 mil (1mil = 0.0254mm, 0.01 inch)
101. QR code resolution 640 x 480
102. QR code camera scanning range, ± 60∘for left & right, ± 40∘for front and back, 360∘rotation.
103. Programmable reader buzzer beep sound interval and times for access granted and access denied
104. Programmable reader LED color (7 colors) interval and times for access granted and access denied
105. Reader configuration can be updated through the network by ACX proprietary software
106. Reader firmware can be upgraded through the network by ACX proprietary software
107. Reader outputs Wiegand, OSDP V2, and ACX proprietary scramble encryption RS485 format
108. Reader Tamper: Optical sensor
109. Reader size shall be no larger than 96mm(W) x 240mm(H) x 22mm(D)
110. 4-in-1 Multi-technology Octopus smart lock reader (Octopus + Bluetooth + Scramble QR Code)
111. Support HK Octopus Card, Octopus mobile apps, Octopus watch
112. Supports Octopus, Mobile Virtual Card by Bluetooth 4.0+ and Scramble QR Code
113. Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
114. Supports Bluetooth 5.0, 2.4GHz
115. QR code camera minimum resolution is 5 mil (1mil = 0.0254mm, 0.01 inch)
116. QR code resolution 640 x 480
117. QR code camera scanning range, ± 60∘for left & right, ± 40∘for front and back, 360∘rotation.
118. The reader shall have the Octopus Holding Limited Type Approval Certificate
119. Octopus ISO card read range: 7cm+; Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
120. Programmable reader buzzer beep sound interval and times for access granted and access denied
121. Programmable reader LED color (7 colors) interval and times for access granted and access denied
122. Reader configuration can be updated through the network by ACX proprietary software
123. Reader firmware can be upgraded through the network by ACX proprietary software
124. Reader outputs Wiegand, OSDP V2, and ACX proprietary scramble encryption RS485 format
125. Reader size shall be no larger than 94mm(W) x 196mm(H) x 55mm(D)
126. Flush mount design with only 6mm extruded from the wall.
127. 5-in-1 Multi-technology Reader (Facial Recognition + Palm Vein + Bluetooth + Scramble QR Code + RFID Card)
128. Facial Recognition Algorithm by Face++ / SenseTime technology
129. Facial detection supports binocular infrared live detection.
130. Face recognition can be completed in 300 milliseconds.
131. The recognition accuracy rate is higher than 99% and 0.5m-1.5m recognition distance is supported.
132. Supports 20,000 local personnel
133. Real-time detection and tracking of human faces; accurate detection can be carried out in situations such as side faces, half occlusion, and blur
134. Minimum 0.5 lux recognition
135. Effective defense against non-living attacks such as 3D printing, electronic screens, video, pictures, masks, hoods, etc.
136. Palm Vein recognition technology should be provided by Fujitsu PalmSecure-F Pro sensor
137. Palm Vein Sensor supports binocular infrared live detection.
138. Palm Vein recognition can be completed for 2,000 palm vein users in one second. Each user can register 2 palm vein templates.
139. FAR is 0.00001%, Palm Vein detective range of the Palm Vein Sensor from 30mm to 70mm
140. Supports 5,000 local personnel.
141. Supports 13.56MHz NXP Mifare Class, Mifare Plus, Mifare DESFire, LEGIC Prime, and LEGIC Advant card technology.
142. 13.56MHz card read range: 5cm+; Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
143. Supports Bluetooth 5.0, 2.4GHz
144. QR code camera minimum resolution is 5 mil (1mil = 0.0254mm, 0.01 inch)
145. QR code resolution 640 x 480
146. QR code camera scanning range, ± 60∘for left & right, ± 40∘for front and back, 360∘rotation.
147. Programmable reader buzzer beep sound interval and times for access granted and denied.
148. programmable reader LED color (7 colors) interval and times for access granted and access denied.
149. Reader configuration can be updated through the network by ACX proprietary software.
150. Reader firmware can be upgraded through the network by ACX proprietary software.
151. Reader outputs Wiegand, OSDP V2, and ACX proprietary scramble encryption RS485 format
152. Reader Tamper: Optical sensor
153. The reader is flush-mount design. Reader size shall be no larger than 90mm(W) x 184mm(H) x 30mm(D), 3mm thickness on the wall.
154. Flush-mounted 3-in-1 Multi-technology Smart Card smart Reader (Bluetooth + Scramble QR Code + RFID Card)
155. This flush-mounted reader can be directly mounted on the electric junction box.
156. Reader size is 86mm(W) x 86mm(H) x 5mm(D) with reader cover plate.
157. Supports 13.56MHz NXP Mifare Class, Mifare Plus, Mifare DESFire, LEGIC Prime, and LEGIC Advant card technology.
158. Supports Bluetooth 5.0, 2.4GHz
159. QR code camera minimum resolution is 5 mil (1mil = 0.0254mm, 0.01 inch)
160. QR code resolution 640 x 480
161. QR code camera scanning range, ± 60∘for left & right, ± 40∘for front and back, 360∘rotation.
162. 13.56MHz card read range: 5cm+; Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
163. Programmable reader buzzer beep sound interval and times for access granted and access denied
164. Programmable reader LED color (7 colors) interval and times for access granted and access denied
165. Reader configuration can be updated through the network by ACX proprietary software
166. Reader firmware can be upgraded through the network by ACX proprietary software
167. Reader outputs Wiegand, OSDP V2, and ACX proprietary scramble encryption RS485 format
168. Reader Tamper: Optical sensor
169. Waterproof, IP55 rated