**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 Advant 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 or ACX proprietary scramble encryption RS485 format
9. Reader Tamper: Optical sensor
10. Reader size shall be no larger than 80mm(W) x 110mm(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 or ACX proprietary scramble encryption RS485 format
20. Reader Tamper: Optical sensor
21. Reader size shall be no larger than 80mm(W) x 110mm(H) x 20mm(D)
	* + 1. Waterproof, IP65 rated
22. 3-in-1 Multi-technology Smart Card smart Reader (Bluetooth + Keypad + RFID Card)
23. Supports 13.56MHz NXP Mifare Class, Mifare Plus, Mifare DESFire, LEGIC Prime, and LEGIC Advant card technology
24. 13.56MHz card read range: 5cm+; Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
25. 12 capacitance touch keypads, 0~9,\*,#. Keypad has blacklight in 7 different colors.
26. Programmable reader buzzer beep sound interval and times for access granted and access denied
27. Programmable reader LED color (7 colors) interval and times for access granted and access denied
28. Reader configuration can be updated through the network by ACX proprietary software
29. Reader firmware can be upgraded through the network by ACX proprietary software
30. Reader outputs Wiegand, OSDP or ACX proprietary scramble encryption RS485 format
31. Reader Tamper: Optical sensor
32. Reader size shall be no larger than 80mm(W) x 110mm(H) x 20mm(D)
33. Waterproof, IP65 rated
34. 3-in-1 Multi-technology Smart Card smart Reader (Bluetooth + Scramble QR Code + RFID Card)
35. Supports 13.56MHz NXP Mifare Class, Mifare Plus, Mifare DESFire, LEGIC Prime, and LEGIC Advant card technology.
36. Supports Bluetooth 5.0, 2.4GHz
37. QR code camera minimum resolution is 5 mil (1mil = 0.0254mm, 0.01 inch)
38. QR code resolution 640 x 480
39. QR code camera scanning range, ± 60∘for left & right, ± 40∘for front and back, 360∘rotation.
40. 13.56MHz card read range: 5cm+; Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
41. Programmable reader buzzer beep sound interval and times for access granted and access denied
42. Programmable reader LED color (7 colors) interval and times for access granted and access denied
43. Reader configuration can be updated through the network by ACX proprietary software
44. Reader firmware can be upgraded through the network by ACX proprietary software
45. Reader outputs OSDP or ACX proprietary scramble encryption RS485 format
46. Reader Tamper: Optical sensor
47. Reader size shall be no larger than 80mm(W) x 130mm(H) x 20mm(D)
48. Waterproof, IP65 rated
49. 4-in-1 Multi-technology Smart Card Keypad Reader (Keypad + Bluetooth + Scramble QR Code + RFID Card)
50. Supports 13.56MHz NXP Mifare Class, Mifare Plus, Mifare DESFire, LEGIC Prime, and LEGIC Advant card technology.
51. Supports Bluetooth 5.0, 2.4GHz
52. QR code camera minimum resolution is 5 mil (1mil = 0.0254mm, 0.01 inch)
53. QR code resolution 640 x 480
54. QR code camera scanning range, ± 60∘for left & right, ± 40∘for front and back, 360∘rotation.
55. 12 capacitance touch keypads, 0~9,\*,#. Keypad has blacklight in 7 different colors.
56. 13.56MHz card read range: 5cm+; Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
57. Programmable reader buzzer beep sound interval and times for access granted and access denied
58. Programmable reader LED color (7 colors) interval and times for access granted and access denied
59. Reader configuration can be updated through the network by ACX proprietary software
60. Reader firmware can be upgraded through the network by ACX proprietary software
61. Reader outputs OSDP or ACX proprietary scramble encryption RS485 format
62. Reader Tamper: Optical sensor
63. Reader size shall be no larger than 80mm(W) x 130mm(H) x 20mm(D)
64. Waterproof IP65 rated.
65. 4-in-1 Multi-technology Palm Vein Smart Card Reader (Palm Vein + Bluetooth + Scramble QR Code + RFID Card)
66. Palm Vein recognition technology should be provided by the Fujitsu PalmSecure-F Pro sensor
67. Palm Vein Sensor supports binocular infrared live detection
68. Palm Vein recognition can be completed in one second for 2,000 palm vein users. Each user can register 2 palm vein templates
69. FAR is 0.00001%, Palm Vein detective range of the Palm Vein Sensor is from 30mm to 70mm
70. Supports 5,000 local personnel
71. Supports 13.56MHz HKSTP’s LEGIC Prime, and LEGIC Advant card technology.
72. 13.56MHz card read range: 5cm+; Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
73. Supports Bluetooth 5.0, 2.4GHz
74. QR code camera minimum resolution is 5 mil (1mil = 0.0254mm, 0.01 inch)
75. QR code resolution 640 x 480
76. QR code camera scanning range, ± 60∘for left & right, ± 40∘for front and back, 360∘rotation.
77. Programmable reader buzzer beep sound interval and times for access granted and access denied
78. Programmable reader LED color (7 colors) interval and times for access granted and access denied
79. Reader configuration can be updated through the network by ACX proprietary software
80. Reader firmware can be upgraded through the network by ACX proprietary software
81. Reader outputs OSDP or ACX proprietary scramble encryption RS485 format
82. Reader Tamper: Optical sensor
83. Reader size shall be no larger than 80mm(W) x 130mm(H) x 20mm(D)
84. Waterproof IP55 rated
85. 4-in-1 Multi-technology Facial Recognition Smart Card Reader (Facial Recognition + Bluetooth + Scramble QR Code + RFID Card)
86. Facial Recognition Algorithm by SenseTime technology
87. Facial detection supports binocular infrared live detection
88. Face recognition can be completed in 300 milliseconds
89. The recognition accuracy rate is higher than 99% and 0.5m-1.5m recognition distance is supported
90. Supports 20,000 local personnel
91. Real-time detection and tracking of human faces, accurate detection can be carried out in situations such as side faces, half occlusion, and blur
92. Minimum 0.5 lux recognition
93. Effective defense against non-living attacks such as 3D printing, electronic screens, video, pictures, masks, hoods, etc.
94. Supports 13.56MHz HKSTP’s LEGIC Prime; and LEGIC Advant card technology.
95. 13.56MHz card read range: 5cm+; Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
96. Supports Bluetooth 5.0, 2.4GHz
97. QR code camera minimum resolution is 5 mil (1mil = 0.0254mm, 0.01 inch)
98. QR code resolution 640 x 480
99. QR code camera scanning range, ± 60∘for left & right, ± 40∘for front and back, 360∘rotation.
100. Programmable reader buzzer beep sound interval and times for access granted and access denied
101. Programmable reader LED color (7 colors) interval and times for access granted and access denied
102. Reader configuration can be updated through the network by ACX proprietary software
103. Reader firmware can be upgraded through the network by ACX proprietary software
104. Reader outputs OSDP or ACX proprietary scramble encryption RS485 format
105. Reader Tamper: Optical sensor
106. Reader size shall be no larger than 80mm(W) x 130mm(H) x 20mm(D)
107. 4-in-1 Multi-technology Facial Recognition Smart Card LCD Reader (Facial Recognition + Bluetooth + Scramble QR Code + RFID Card)
108. Facial Recognition Algorithm by SenseTime technology
109. Reader cover material by Aluminum alloy
110. Reader LCD 5.5”
111. Facial detection supports binocular infrared live detection
112. Face recognition can be completed in 300 milliseconds
113. The recognition accuracy rate is higher than 99% and 0.5m-1.5m recognition distance is supported
114. Supports 20,000 local personnel
115. Real-time detection and tracking of human faces, accurate detection can be carried out in situations such as side faces, half occlusion, and blur
116. Minimum 0.5 lux recognition
117. Effective defense against non-living attacks such as 3D printing, electronic screens, video, pictures, masks, hoods, etc.
118. Supports 13.56MHz HKSTP’s LEGIC Prime, and LEGIC Advant card technology.
119. 13.56MHz card read range: 5cm+; Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
120. Supports Bluetooth 5.0, 2.4GHz
121. QR code camera minimum resolution is 5 mil (1mil = 0.0254mm, 0.01 inch)
122. QR code resolution 640 x 480
123. QR code camera scanning range, ± 60∘for left & right, ± 40∘for front and back, 360∘rotation.
124. Programmable reader buzzer beep sound interval and times for access granted and access denied
125. Programmable reader LED color (7 colors) interval and times for access granted and access denied
126. Reader configuration can be updated through the network by ACX proprietary software
127. Reader firmware can be upgraded through the network by ACX proprietary software
128. Reader outputs OSDP or ACX proprietary scramble encryption RS485 format
129. Reader Tamper: Optical sensor
130. Reader size shall be no larger than 96mm(W) x 240mm(H) x 22mm(D)
131. 4-in-1 Multi-technology Octopus smart lock reader (Octopus + Bluetooth + Scramble QR Code)
132. Support HK Octopus Card, Octopus mobile apps, Octopus watch
133. Supports Octopus, Mobile Virtual Card by Bluetooth 4.0+ and Scramble QR Code
134. Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
135. Supports Bluetooth 5.0, 2.4GHz
136. QR code camera minimum resolution is 5 mil (1mil = 0.0254mm, 0.01 inch)
137. QR code resolution 640 x 480
138. QR code camera scanning range, ± 60∘for left & right, ± 40∘for front and back, 360∘ rotation.
139. The reader shall have the Octopus Holding Limited Type Approval Certificate
140. Octopus ISO card read range: 7cm+; Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
141. Programmable reader buzzer beep sound interval and times for access granted and access denied
142. Programmable reader LED color (7 colors) interval and times for access granted and access denied
143. Reader configuration can be updated through the network by ACX proprietary software
144. Reader firmware can be upgraded through the network by ACX proprietary software
145. 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)
146. Flush mount design with only 6mm extruded from the wall.
147. 5-in-1 Multi-technology Reader (Facial Recognition + Palm Vein + Bluetooth + Scramble QR Code + RFID Card)
148. This is a flush-mounted reader
149. Facial Recognition Algorithm by SenseTime technology
150. Facial detection supports binocular infrared live detection.
151. Face recognition can be completed in 300 milliseconds.
152. The recognition accuracy rate is higher than 99% and 0.5m-1.5m recognition distance is supported.
153. Supports 20,000 local personnel
154. Real-time detection and tracking of human faces, accurate detection can be carried out in situations such as side faces, half occlusion, and blur
155. Minimum 0.5 lux recognition
156. Effective defense against non-living attacks such as 3D printing, electronic screens, video, pictures, masks, hoods, etc.
157. Palm Vein recognition technology should be provided by Fujitsu PalmSecure-F Pro sensor
158. Palm Vein Sensor supports binocular infrared live detection.
159. Palm Vein recognition can be completed in one second for 2,000 palm vein users. Each user can register 2 palm vein templates.
160. FAR is 0.00001%, Palm Vein detective range of the Palm Vein Sensor from 30mm to 70mm
161. Supports 5,000 local personnel.
162. Supports 13.56MHz HKSTP’s LEGIC Prime, and LEGIC Advant card technology.
163. 13.56MHz card read range: 5cm+; Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
164. Supports Bluetooth 5.0, 2.4GHz
165. QR code camera minimum resolution is 5 mil (1mil = 0.0254mm, 0.01 inch)
166. QR code resolution 640 x 480
167. QR code camera scanning range, ± 60∘for left & right, ± 40∘for front and back, 360∘rotation.
168. Programmable reader buzzer beep sound interval and times for access granted and access denied.
169. programmable reader LED color (7 colors) interval and times for access granted and access denied.
170. Reader configuration can be updated through the network by ACX proprietary software.
171. Reader firmware can be upgraded through the network by ACX proprietary software.
172. Reader outputs OSDP or ACX proprietary scramble encryption RS485 format
173. Reader Tamper: Optical sensor
174. Reader size shall be no larger than 90mm(W) x 180mm(H) x 30mm(D)
175. Flush-mounted 3-in-1 Multi-technology Smart Card smart Reader (Bluetooth + Scramble QR Code + RFID Card)
176. This is a flush-mounted reader which can be directly mounted on the electric junction box.
177. Reader size is 86mm(W) x 86mm(H) x 5mm(D) with reader cover plate.
178. Reader size is 86mm(W) x 86mm(H) x 3mm(D) without reader cover plate.
179. Supports 13.56MHz HKSTP’s LEGIC Prime, and LEGIC Advant card technology.
180. Supports Bluetooth 5.0, 2.4GHz
181. QR code camera minimum resolution is 5 mil (1mil = 0.0254mm, 0.01 inch)
182. QR code resolution 640 x 480
183. QR code camera scanning range, ± 60∘for left & right, ± 40∘for front and back, 360∘rotation.
184. 13.56MHz card read range: 5cm+; Bluetooth read range: 0.5m to 10m; QR Code read range: 4cm to 22cm
185. Programmable reader buzzer beep sound interval and times for access granted and access denied
186. Programmable reader LED color (7 colors) interval and times for access granted and access denied
187. Reader configuration can be updated through the network by ACX proprietary software
188. Reader firmware can be upgraded through the network by ACX proprietary software
189. Reader outputs OSDP or ACX proprietary scramble encryption RS485 format
190. Reader Tamper: Optical sensor
191. Waterproof, IP55 rated