

800 × 600 IMAGE SENSOR · 1D ≥ 3.3 mil / 2D ≥ 5 mil · USB / TTL-232 / RS-232 · 30 g

F4100

Embedded Barcode Scan Engine

800 × 600 CMOS

1D ≥ 3.3 mil / 2D ≥ 5 mil

4000 K warm white

5 V / 120 mA

30 g

−20 °C to +60 °C

High Scan Performance

01

Reads printed and on-screen codes fast: 30–250 mm on Alipay payment codes and 40–200 mm on 13 mil EAN-13.

Rich Interfaces

02

USB, TTL-232 and RS-232 on a 10-pin SH-1.0 mm connector, with a TRIG input and 3.3–5 V power on the same header.

High Integration

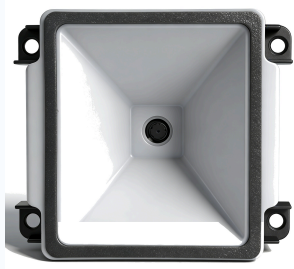
03

65 × 61.2 × 37.5 mm and 30 g, running on 5 V at 120 mA — compact enough for slim self-service enclosures.

Full Symbolologies and Tools

04

PDF417, Data Matrix, QR Code, Han Xin, Aztec and MaxiCode, with ImageTool for tuning and OtaToolV for upgrades.



Front scan window



Rear and interface

TYPICAL VERTICALS

Small self-service cashier terminals and **in-line paper barcode scanning on production lines** — anywhere a compact engine must decode printed and screen codes from a host enclosure.

F4100 Embedded Barcode Scan Engine

PRODUCT FEATURES

- In-house core technology** — developed and supported by Xinlong IoT
- Printed and screen codes** — fast decoding of both media types
- Three interfaces** — USB, TTL-232 and RS-232 on one 10-pin header
- Custom development** — cooperative development for OEM projects
- High integration** — 65 × 61.2 × 37.5 mm, 30 g, 5 V / 120 mA
- Two utilities** — ImageTool for tuning, OtaToolV for OTA upgrade

SCAN PERFORMANCE

Image Sensor	800 × 600 CMOS
Illumination	Warm white LED (4000 K)
Resolution	1D ≥ 3.3 mil / 2D ≥ 5 mil
Depth of Field (DOF)	30–250 mm (Alipay codes) 40–200 mm (EAN-13 13 mil)
Print Contrast Signal (PCS)	≥ 20%
Field of View (FOV)	±65° / ±50°
Pitch / Skew / Tilt	±60° / ±60° / ±360°
Ambient Light Immunity	0–100,000 lux

PHYSICAL & INTERFACE

Dimensions	65 (D) × 61.2 (W) × 37.5 max. (H) mm
Weight	30 g
Connector	10-pin SH-1.0 mm
Trigger Input	TRIG signal input (pin 3)

SUPPORTED SYMBOLOGIES

2D	PDF417, Data Matrix, QR Code, Han Xin, Aztec, MaxiCode
1D	EAN-13, EAN-8, UPC-A, UPC-E, Code 39, Code 128, ISBN, Code 93, Code 11, UCC/EAN-128, GS1 DataBar, Interleaved 2 of 5, Matrix 2 of 5, Industrial 2 of 5, Codabar, Standard 2 of 5, MSI-Plessey, GS1 Composite

INTERFACES & ELECTRICAL

Host System Interfaces	USB / TTL-232 / RS-232
Input Voltage	5 V (3.3–5 V on the header)
Operating Current	120 mA
Start-up Current	> 240 mA at 5 V input

ENVIRONMENTAL

Operating / Storage Temperature	–20 °C to +60 °C / –40 °C to +70 °C
Humidity	5–95% RH, non-condensing
Thermal Shock	+60 °C / –20 °C 30 min hot + 30 min cold, 24 cycles
Warranty	2 years

HOST INTERFACE

10-pin SH-1.0 mm header: pin 1 VCC (3.3–5 V), pin 2 GND, pin 3 TRIG, pins 5/6 USB D+/D–, 7/8 RS-232 TX/RX, 9/10 TTL-232 TX/RX.

MOUNTING

65 (D) × 61.2 (W) × 37.5 max. (H) mm and 30 g — supplied as an engine to build into your own housing.

POWER

5 V input at 120 mA operating; allow headroom above the > 240 mA start-up surge.