EMBEDDED SCAN ENGINE · 640 × 480 CMOS · USB / TTL / RS232 · WIDE-VOLTAGE OPTION

XL-F25

Embedded Barcode Scan Engine

640 × 480 CMOS | 1D ≥ 6 mil · 2D ≥ 10 mil | 6500 K white LED | 4–6 V DC (5–16 V optional) | USB · TTL | RS232 · RS485 optional

High Scan Performance 01

Fast on printed and on-screen codes: 10–200 cm on Alipay payment codes and 20–120 cm on 13 mil EAN-13 labels.

Rich Interfaces 02

USB and TTL_3.3 V as standard, RS232 or RS485 on request, on an RJ45 10-pin connector plus TypeC-USB for power and data.

Wide Voltage Option 03

Standard 4–6 V DC (5 V default) with an optional 5–16 V wide-voltage input that matches a wider range of host supplies.

Full Symbologies & OCR 04

Compatible with mainstream 1D and 2D codes, plus optional OCRA and OCRB character-set recognition for documents and receipts.





Front view



Connector and housing

TYPICAL VERTICALS

Small **self-service cashier terminals** and **in-line paper barcode scanning on production lines** where an engine is built into the host device rather than used as a handheld.

PRODUCT FEATURES

- **Independently developed core technology** — 1D / 2D decoding in one engine
- **Host interfaces** — USB and TTL_3.3 V by default; RS232 / RS485 optional
- **Full symbologies** — mainstream 1D and 2D code sets
- **Fast on printed and screen codes** — 10–200 cm on Alipay payment codes
- **Wide-voltage option** — 5–16 V DC input on request
- **Optional OCR** — OCRA and OCRB character-set recognition

SCAN PERFORMANCE

Image Sensor	640 × 480 CMOS
Illumination	White LED 6500 K
Resolution	1D ≥ 6 mil / 2D ≥ 10 mil
Field of View (FOV)	66° (H) × 50° (V)
Print Contrast Signal (PCS)	≥ 20%
Pitch / Skew / Tilt	±55° / ±55° / 360°
Depth of Field (DOF)	Alipay payment code: 10–200 cm EAN-13 13 mil: 20–120 cm

SUPPORTED SYMBOLOGIES

2D	PDF417, Data Matrix, QR Code, Aztec
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

ELECTRICAL & MECHANICAL

Host System Interfaces	USB (HID, virtual COM), TTL serial RS232 / RS485 optional
Input Voltage	4–6 V DC 5 V default; 5–16 V optional
TypeC-USB Supply	4.5–6.5 V Do not exceed this range
Dimensions	77.8 × 66.4 × 44.7 mm D × W × H

CONNECTOR (RJ45, 10 PIN)

Pinout	1 NC · 2 VCC · 3/4 D– / D+ · 5 GND · 6/7 IO-Y / IO-X (TTL TX / RX) · 8 NC / reset · 9 nTrig · 10 NC

ENVIRONMENTAL

Thermal Shock	30 min high + 30 min low temperature 24 cycles
Test Conditions	23 °C ambient, 300 lux incandescent Custom test code
Warranty	2 years

HOST INTERFACE

USB (HID, virtual COM) and TTL_3.3 V are standard; RS232 and RS485 are available on request. RJ45 10-pin connector plus TypeC-USB for power and data.

MOUNTING

A device component for integration into your own housing and mainboard; 77.8 × 66.4 × 44.7 mm, fixed with the host enclosure design.

POWER

4–6 V DC standard with 5 V default; 5–16 V wide-voltage version on request. Over TypeC-USB keep the supply within 4.5–6.5 V.

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