640 × 480 IMAGE SENSOR · ≥ 5 MIL · 21.6 × 14.7 × 14 mm · 12-PIN FPC

XL-108

Barcode Scan Module

In-House Decoding Core | 640 × 480 CMOS | Resolution ≥ 5 mil | DC 3.3 V · 200 mA | 21.6 × 14.7 × 14 mm | TTL-232 / USB

01 In-House Decoding Core

A proprietary barcode decoding core reads all common symbologies quickly.

02 High Integration, Small Size

Decoder board and camera integrated into a 21.6 × 14.7 × 14 mm module that embeds easily into any housing.

03 Full Symbology Coverage

Reads all mainstream 1D and 2D symbologies, with custom decoding available on request.

04 Heartbeat Monitoring

Continuous module health monitoring suits high-intensity, harsh working conditions.





Optical window



12-pin FPC



Mounting holes

TYPICAL VERTICALS

As a **device accessory**, XL-108 is embedded into **handheld scanners, POS terminals and other equipment**. Its small size and high integration let OEMs integrate quickly and carry out further development of their own.

PRODUCT FEATURES

- **In-house decoding core** — fast reading of all common barcode symbologies
- **Full symbology coverage** — mainstream 1D and 2D codes, custom decoding on request
- **Clear aimer** — green LED line for precise positioning
- **High integration** — decode board and camera in one compact module
- **Fast start-up** — short start-up time, ready as soon as power is applied
- **Heartbeat monitoring** — continuous health check for harsh, high-intensity duty

READING PERFORMANCE	
Image Sensor	640 × 480 CMOS
Illumination	White LED
Aimer	Green LED line
Resolution	≥ 5 mil
Print Contrast Signal (PCS)	≥ 25%
Pitch / Skew / Tilt	±55° / ±55° / 360°
Field of View (FOV)	34° (H) × 28° (V)
Ambient Light Immunity	0–100,000 lux

DEPTH OF FIELD (DOF)	
EAN-13 (13 mil)	50–200 mm
Code 39 (5 mil / 10 bytes)	40–90 mm
QR Code (20 mil / 16 bytes)	25–240 mm
Data Matrix (10 mil / 20 bytes)	50–90 mm
PDF417 (6.67 mil / 7 bytes)	30–130 mm

MECHANICAL & ELECTRICAL	
Dimensions	21.6 (W) × 14.7 (D) × 14 (H) mm
Mounting Holes	2 × Ø1.3 mm Hole pitch 14.6 mm
Connector	12-pin FPC, double-sided contact
Host System Interfaces	TTL-232; USB (HID-KBW, virtual COM)
Input Voltage	DC 3.3 V
Operating Current	200 mA
Standby Current	70 mA
Trigger Mode	TRIG, weak pull-up, low-level trigger

SUPPORTED SYMBOLOGIES	
1D	EAN, UPC, Code 39, Code 93, Code 128, UCC/EAN 128, Codabar, Interleaved 2 of 5, ITF-6, ITF-14, ISBN, ISSN, MSI-Plessey, GS1 Databar, Code 11, Industrial 25, Standard 25, Plessey, Matrix 2 of 5
2D	QR Code, Micro QR, Data Matrix, PDF417, MicroPDF417, Aztec

ENVIRONMENTAL	
Operating Temperature	−20 °C to +50 °C
Storage Temperature	−40 °C to +70 °C
Humidity	5–95% RH, non-condensing
Warranty	2 years

HOST INTERFACE

TTL-232 and USB (HID-KBW, virtual COM) on a 12-pin FPC with double-sided contact; PIN 12 TRIG is a weak pull-up.

MOUNTING

A 21.6 × 14.7 × 14 mm module with two Ø1.3 mm holes on a 14.6 mm pitch.

POWER

DC 3.3 V at 200 mA operating and 70 mA standby, low enough for bus-powered handheld terminals.

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