

EMBEDDED 2D SCAN MODULE · 1 MP · SOFT-LIGHT ILLUMINATION · 21.6 MM

XL-F42-YL Embedded 2D Scan Module

Soft-light illumination for close-range code reading on compact equipment

Soft-Light Illumination

21.6 mm Thin

1 MP CMOS

1D / 2D Symbolologies

USB / RS-232 / TTL-232

NFC Optional



01 Soft-Light Illumination

No glare at close range

A soft-light illumination system spreads light evenly across the code surface, with no glare or hot spot when the window sits close to the label.

Intended for compact devices that read codes a few centimetres from the window.

02 1 MP Sensor, Paper and Screen

Printed labels and mobile codes

A one-megapixel sensor reads printed labels and mobile phone screens, covering mainstream 1D and 2D symbolologies.

No separate screen-reading model is required for kiosk and self-service terminals.

03 21.6 mm Thin, Highly Integrated

Decoder board and camera in one body

At 21.6 mm thick with the decoder board and camera integrated, the module fits slim terminals, handheld devices and embedded front panels.

Reduces the mechanical envelope required inside the enclosure.

04 Full Interfaces, NFC Optional

USB, RS-232, TTL-232

USB, RS-232 and TTL-232 are available as standard; an optional NFC reader and glass window support access cards and membership cards.

One module covers barcode reading and card reading in the same opening.

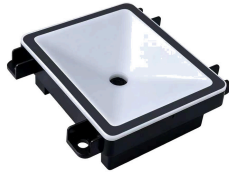
Key Specifications Summary

- Image sensor: 1 MP CMOS
Monochrome CMOS
- Illumination: soft-light LED
Diffused, low glare at close range
- Interface: USB / RS-232 / TTL-232
USB HID and virtual COM port
- Options: NFC reader, glass window
NFC supports MIFARE cards
- Symbolologies: 1D / 2D
Mainstream symbolologies
- Reading distance: close range
Confirmed per project selection
- Thickness: 21.6 mm
Decoder board integrated
- Tools: ImageTool, OtaToolV
Configuration and firmware upgrade

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Multiple Views Product angles



Three-quarter view



Front window



Side profile

Typical Applications Where the module is used

Medical analysers

Tubes, reagent bottles and consumables

Self-service terminals

Registration, payment and report printing

Retail counters

Desktop, vertical and wall-mounted POS

Identity verification

ID and ticket data capture

Smart lockers

Door and parcel barcode reading

Parcel pickup cabinets

Pickup codes and shipping labels

Specifications Subject to project selection

Optical and Reading Performance

Image sensor	1 MP CMOS
Symbologies	1D and 2D mainstream symbologies
Print media	Paper labels, mobile phone screens
Illumination	Soft-light LED, diffused
Depth of field	Project-specific
Print contrast (PCS)	Project-specific
Pitch / skew / tilt	Project-specific

Electrical and Mechanical

Interface	USB (HID / VCP), RS-232, TTL-232
Input voltage	Project-specific
Power consumption	Project-specific
Dimensions (W x H x D)	Project-specific
Thickness	21.6 mm
Operating temperature	Project-specific
Options	NFC reader (MIFARE), glass window

Values marked project-specific (input voltage, power consumption, depth of field, PCS, dimensions, operating temperature) are confirmed at selection. NFC reader and glass window are optional.

Interfaces and Setup Integration notes

USB - HID keyboard or virtual COM port | **RS-232** - long cable runs to industrial hosts | **TTL-232** - board-level serial to the host MCU

ImageTool - parameter setup and image preview | **OtaToolV** - firmware upgrade utility | **NFC option** - MIFARE access and membership cards