Embedded barcode scanner • 115.2 × 52 × 94 mm • USB / RS232

XL-603 Embedded Barcode Scanner

Full-glass scan window • hands-free presentation • panel-mount

640 × 480 global-shutter CMOS | 4 mil • 2 m/s | Field of view 38° × 28° | USB (HID/CDC) + RS232 | 220 g | 5 V / 1 W

01 Large Window, Hands-Free

A single high-transmission glass window hides the imager and illumination. Product codes or phone payment codes are read as they are swept across the window — 2 m/s motion tolerance, up to 300 mm on screen codes.

02 Hidden Illumination

Red LEDs sit behind the window and switch on automatically in low light. A blue indicator confirms a good read, with no exposed emitter on the front — the panel stays clean and easy to wipe.

03 Dual Interface, Driver-Free

USB in HID keyboard or CDC virtual-COM mode, plus one RS232 channel on a 2 mm 1×8P connector. Plug into the host and data flows — no driver installation.

04 Rear Fixing, Clean Routing

Four mounting holes at 87.6 × 75.4 mm with anti-slip pads. The body is 51.8 mm deep and the connector sits at the lower rear, so wiring stays inside the cabinet.





Front: full glass window with blue status indicator

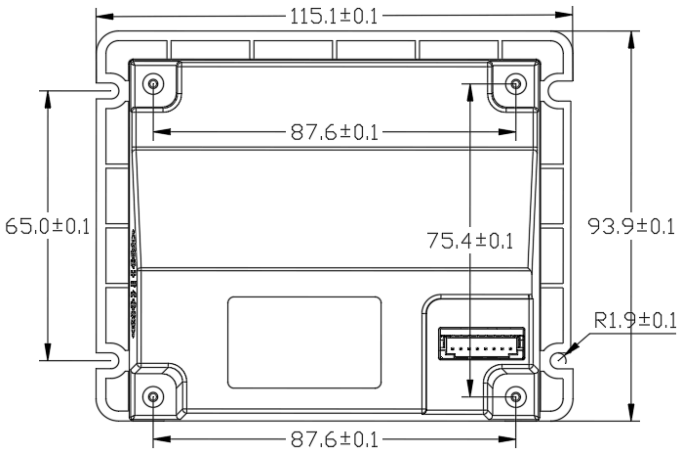


Side: tapered body with beeper port

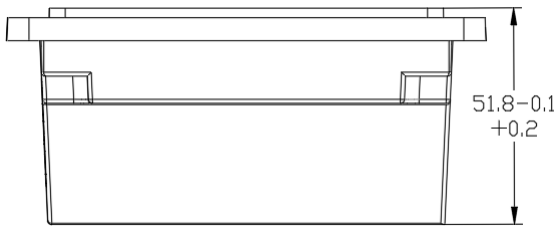
Applications

Self-service checkout, self-ordering kiosks, access gates and turnstiles, parcel lockers and smart cabinets, retail POS, weighing-and-checkout terminals.

Structure & Dimensions Rear view, side view, rear face



Rear view — outline 115.1 × 93.9, hole pitch 87.6 × 75.4, R1.9



Side view — body depth 51.8 (−0.1 / +0.2)



Rear face — four fixing holes, anti-slip pads, bottom connector

Key Dimensions mm

Item	Value
Overall (W × D × H)	115.2 × 52.0 × 94.0 mm (maximum)
Rear outline	115.1 × 93.9 mm (±0.1)
Mounting hole pitch	87.6 mm horizontal × 75.4 mm vertical (±0.1)
Body depth	51.8 mm (−0.1 / +0.2)
Side flange height	65.0 mm (±0.1)
Corner radius	R1.9 mm (±0.1)
Weight	220 g (incl. USB cable)

Installation Notes Panel cut-out and fixing

- Cut the panel to the rear outline of 115.1 × 93.9 mm with 0.3 – 0.5 mm assembly clearance; the glass face should sit flush with the panel front.
- Fix with four M3 screws on the 87.6 × 75.4 mm hole pattern. The anti-slip pads also act as a cushion against the panel.
- The body extends 51.8 mm behind the panel — leave at least 60 mm below the connector for cable routing and plug-in clearance.
- The window is a high-transmission optical panel: keep adhesive and fingerprints off the centre; clean with a neutral cleaner and a lint-free cloth.
- Direct sunlight or spotlights on the window reduce read rate — fit a shading lip or re-angle the window where necessary.

> **Note:** Outline and hole dimensions are taken from the product structure drawing (±0.1 mm tolerance). Use the final cut-out drawing for production; DXF / STEP files are available on request.

Interface 2 mm 1×8P connector

PIN	Signal	I/O	Function
1	DGND	P	Power ground
2	TRI	I	External trigger input
3	VCC_5V	P	5 V power input
4	RS232_TX	O	RS232 transmit
5	RS232_RX	I	RS232 receive
6	DGND	P	Power ground
7	USB_DM	I/O	USB D−
8	USB_DP	I/O	USB D+

Specifications Typical values

Item	Specification
Image sensor	640 × 480 global-shutter CMOS
Resolution	4 mil (1D); print contrast ≥ 20%
Motion tolerance	2 m/s
Field of view	38° horizontal × 28° vertical
Rotation / pitch / skew	360° / ±50° / ±50°
Depth of field	EAN-13 13 mil: 20 – 140 mm; QR 15 mil: 20 – 140 mm; PDF417 6.7 mil: 20 – 90 mm; phone payment code: 0 – 300 mm
Symbologies · 2D	QR Code, MicroQR, PDF417, MicroPDF, Data Matrix, Aztec, MaxiCode, Han Xin Code
Symbologies · 1D	Code 128, EAN-13, EAN-8, Code 39, UPC-A, UPC-E, Codabar, Interleaved 2 of 5, ITF-6, ITF-14, ISBN, Code 93, UCC/EAN-128, GS1 DataBar and 20+ others
Scan mode / feedback	Continuous, presentation, motion-detect; blue LED indicator + beeper
Interface	USB (HID, CDC), RS232
Supply voltage	5 V DC ±10%
Current / power	200 mA typical, 450 mA max @ 5 V; 1 W typical
Operating temperature	−20 ℃ to +60 ℃
Storage temperature	−40 ℃ to +70 ℃
Humidity	5% – 95% RH, non-condensing
Ambient light	0 – 100,000 lux

Ordering Standard and OEM

Model	Configuration	Notes
XL-603	Standard	USB cable included; RS232 cable, bracket and cut-out drawing supplied per project. Cable pin-out, housing colour, window coating and default settings can be customised (XL-603-C, MOQ applies).

Documentation: Settings manual with configuration codes, datasheet and panel cut-out drawing (DXF / STEP) on request. Volume projects include pre-configured pin-out and defaults, sample testing and on-site commissioning.

Note: Depth of field and resolution are typical values at 25 ℃, 200 lux with reference test codes; actual performance depends on print quality, surface and ambient light. Specifications subject to change without notice.

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