V7000
Fixed Barcode Scanner
Quick Start Guide

Scan the QR code or visit the link to download manuals and configuration software for the scanner.

BradyID.com/V7000

IMPORTANT: Before operating the scanner, be sure to read important safety information in the User Manual.

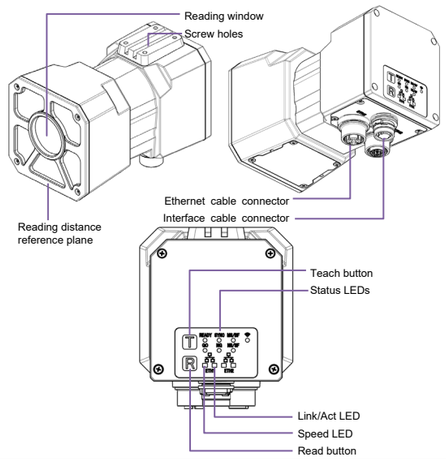
Included Items	Quantity
V7000 barcode scanner	1
Quick Start Guide	1
Calibration Sheet (for tilt correction settings)	1

Optional items to order separately

- AC adapter (DC 24V), part number AKA-24271A1
- Interface and power jack cable, part number MFR-CA05-S99-AC
- LAN cable, part number NBC-MSX/5.0-94F/R4AC SCO

Note: The terms scanner and reader are used interchangeably throughout the documentation.

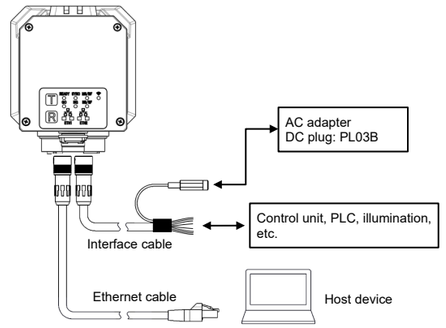
1. Product Description



Component	Description
Reading window	Reading occurs through this window.
Reading distance reference plane	The reading distance (see panel 6. Reading Specifications) is measured from the front edge of the reader.
Screw holes	Holes for mounting (M3, Depth 4 mm, 4 holes)
Teach button	Starts Auto Tuning or resets IP address to default.
Read button	Validates Auto-Tune result, saves Auto Tuning result, and also triggers a barcode read command.
Status LEDs	Indicate the status and result of reading and Auto Tuning.
Link/Act LED	Indicates the Ethernet connection status and the data transfer status. ON: Ethernet connected, Blinking: Transferring data, OFF: Ethernet disconnected
Speed LED	Indicates Ethernet speed. Yellow: 1 Gbps, Green: 100 Mbps, OFF: 10 Mbps
Ethernet cable connector	Connector for the optional Ethernet cable
Interface cable connector	Connector for the optional interface cable

2. Connection Configuration

Connect cables as shown in the example below to supply power to the scanner.



Disconnect the power from the device before connecting or disconnecting cables to avoid damaging the reader.

3. Initial Communication Settings

Item	Value (default)
IP address	192.168.209.10
Subnet mask	/24 (Same as 255.255.255.0)
Port (to send data)	27110
Default gateway	192.168.209.254

Set the host device to use these initial settings to communicate with the reader.

4. Operation Buttons /Status LEDs

Teach button

Pressing this button when powering on the unit will start Auto-Tuning or reset the IP address to default.

Read button

Triggers a barcode read command.

Status LEDs

Reader		Status LEDs
Power on		READY (Orange) ON
Idling		READY (Orange) ON
Receive Sync signal		SYNC (Green) ON -> OFF
Read barcode	Success	GO (Green) blinks once
	Fail	NG (Red) blinks once
Auto-Tuning	Running	(READY,SYNC)-(GO,NG) ON alternately
	Success	(SYNC,GO) ON
	Fail	NG blinks 7 times
	Save	3 types: GO blinks 3 times 1 type: NG blinks once
Send error		NG blinks 7 times
Save settings		SYNC blinks 3 times

Buzzer

Length	Times	Description
Short	3	Completed the scanner start up
Short	1	Succeeded decoding a barcode
Short	7	Canceled or failed Auto-Tuning process.
Middle	3	Saved reader settings to the flash ROM
Long	1	The reader starts booting
Long	3	Auto-Tuning was successful
Long	4	Auto-Tuning configuration saved

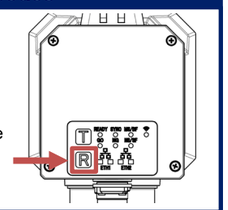
5. Auto Tuning and Reading Barcodes

Auto-Tuning

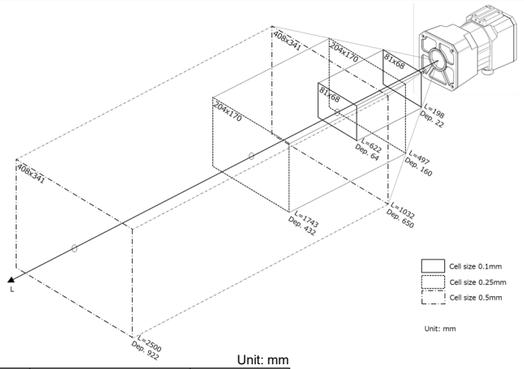
See the FixedConfig7000 Quick Start Guide for instructions on Auto Tuning.

Reading

To read a barcode, press and then release the Read button while the device is in the idle state.



6. Reading Specifications (Unit: mm)



Unit: mm

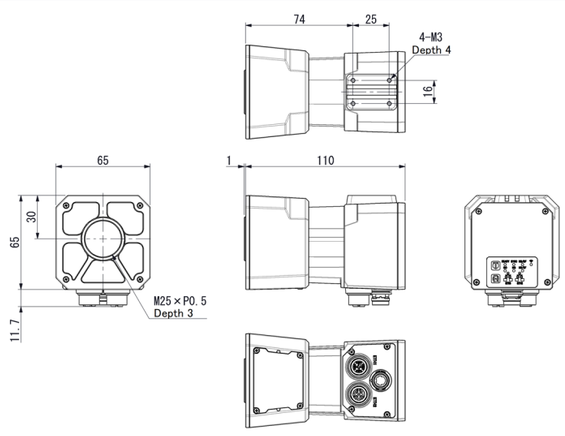
Cell size [mm]	Focus adjustment range (Reading depth is in parentheses*)		Field of view	
	Near end	Far end	X	Y
0.1†	198‡ (22)	622 (64)	81	68
0.125	245‡ (44)	854 (112)	102	85
0.167	325‡ (74)	1166 (216)	136	114
0.19	373‡ (100)	1337 (266)	155	129
0.25	497‡ (160)	1743 (432)	204	170
0.33	670‡ (250)	2293 (588)	269	225
0.5	1032‡ (650)	2500 (922)	408	341

*Reading depths (in paratheses) are not guaranteed.
†All values at 0.1 mm cell size are not guaranteed.
‡.To focus closer, increase the number of image-forming pixels on the FixedConfig7000 settings screen. (Shortest distance is 150mm.) This narrows the field of view.

If the reading distance exceeds 400 mm, external lighting may be needed for a successful scan.

The built in distance sensor operates from 100mm to 1000mm.

7. Dimensions (Unit: mm)



Mounting: The maximum tightening torque of the M3 mounting screws is 0.7 Nm. To avoid damage, DO NOT use screws longer than the screw holes.

8. General Specifications

Item		V7000
Barcodes	1D	Code39, Code128/GS1-128(EAN128), ITF (Interleaved 2 of 5), Codabar (NW7), UPC/EAN(JAN), GS1 DataBar, Code93
	2D	Data Matrix (ECC200), Composite Code, AztecCode, QR Code / Micro QR Code, PDF417 / MicroPDF417
Angle of reading		PITCH ±35 deg, SKEW ±35 deg, TILT 360 deg.
Minimum resolution		0.1 mm
Optical system	Sensor	2/3-inch CMOS image sensor, Monochrome
	Pixels	2448(X) x 2048(Y) (Approx. 5 million pixels)
	Focus adjustment	Auto (Adjusted automatically during installation and tuning)
	Magnification adjustment	Semi-auto (Set manually only for cell size and number of imaging pixels of the barcode being read)
Light emitting part	Illumination	High brightness white LED (Risk group 1 of IEC 62471)
	Ranging sensor	Infrared laser 940nm class 1
Power rating	Power-supply voltage	DC supply: DC24 V ± 10 %
	Current consumption	1 A
Digital input		Photocoupler insulation x 2 points Input resistance: 2.2 kΩ ON voltage: 10.8 to 28 V OFF voltage: 0 to 0.8 V
Digital output		Photo-coupler insulation x 3 points (Select 2 from Ready, GO, NG, Select 1, External Illumination) Maximum rating DC30V 50 mA
Buzzer		Electromagnetic buzzer
Interface		Ethernet (1000BASE-T,100BASE-TX,10BASE-Te)
Supported protocols		TCP/IP, UDP, FTP, Ethernet/IP
Certification		CE, MIC, FCC
Environ-mental tolerance	Operating temperature	32 – 104 °F (0 – 40 °C)
	Operating humidity	35 to 85 %R.H. (No condensation)
	Storage temperature	-4 – 140 °F (-20 – 60 °C)
	Storage humidity	35 to 85 %R.H. (No condensation)
	Vibration resistant	10 to 150Hz amplitude 0.15 mm (Full width) X, Y, Z 2 hour in each direction *1
	Protective structure	IP67
	Ambient illuminance	Less than 10000 lx
Dimension		65(H) mm × 65(W) mm × 110(D) mm (Not including protrusions)
Weight		Approx. 420 g (Cable not included)

*1 Test value, not a guaranteed spec.

9. Safety Precautions

DO NOT disassemble. Disassembly will void the warranty and could cause damage or personal injury.

Follow all warnings or notices displayed by the host computer.

If smoke or odors begin to emit from the device, stop using it immediately. Continued use may cause fire or electric shock.

This product is classified as Class I as specified in IEC60825-1. Avoid prolonged viewing into viewing window during operation.

Handle with care

- DO NOT use this product at temperature or humidity ranges beyond the product specifications, or in direct sunlight.
- DO NOT expose the unit to water, moisture, oil, etc.
- This product may be damaged in environments containing corrosive gas.
- This is a high-precision optical device; avoid applying excessive force or dropping.
- If there are any dust particles on the reading window, please clean it as follows:
  1. Wipe lightly with cloth or swab (may be damp with alcohol).
  2. Wipe off any residual alcohol using a dry cloth.
- If the housing of the product gets dirty, clean it off using a cloth soaked in water-diluted neutral detergent.

Brady Worldwide Inc.
6555 W. Good Hope Rd.
Milwaukee, WI 53223
UNITED STATES
Support: bradyid.com/techsupport

Revision A