

Barcode Reader Instructions for Use

Accessory



EN

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Indication of the Introduced Modifications

If it's the first time that you use the Barcode Reader, please read the entire document carefully.

If it's not the first time that you use the Barcode Reader, you can read the indication of the introduced modifications in the table below.

The reader has been updated, and as a result, all related instructions, specifications, and operational guidelines have been revised to reflect these changes. Please read the entire document carefully.

Revision	Description of change
05	Update section 4.1 Configuration codes

1. INTRODUCTION

Thank you for choosing the IUL Barcode Reader. We are confident this instrument will help you enhance efficiency, improve accuracy, and streamline your workflow.

Before installing and using the Barcode Reader, it is essential that you read these Instructions for Use carefully. Following the instructions and safety information in this document will ensure the safe operation and maintenance of the instrument.

1.1. Intended Use of the Barcode Reader

The IUL Barcode Reader (Cat. 90005701) is a sophisticated device designed to streamline your data entry processes. This high-performance scanning and decoding device is designed exclusively for seamless integration with some IUL S.A. instruments, including the Smart Dilutor W, Spin Air and Eddy Jet 2W. It features a 6-pin Modified Modular Jack (MMJ6) terminal for optimal connectivity.

Featuring cutting-edge technology and exceptional versatility, the IUL Barcode Reader delivers excellent performance. It efficiently decodes both mainstream 1D and 2D barcodes, such as QR Codes and Data Matrix, whether printed on paper, including poorly printed ones, or displayed on electronic screens.

Its white LED illumination ensures optimal lighting for barcode reading and can be easily programmed to turn on or off.

Compact, lightweight, and engineered for superior performance, the IUL Barcode Reader is an ideal solution for industries that require reliable, fast, and efficient barcode scanning.

2. SAFETY INFORMATION

Before using the Barcode Reader, it is essential that you read these Instructions for Use carefully. Following the instructions and safety information in this Instructions for Use will ensure safe operation and maintain the system in a safe condition.

The following types of safety information appear throughout the Barcode Reader Instructions for Use.

WARNING 	The term WARNING is used to inform you about situations that could result in personal injury to you or other persons. Details about these circumstances are given in a box like this one.
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CAUTION 	The term CAUTION is used to inform you about situations that could result in damage to the device or other equipment. Details about these circumstances are given in a box like this one.
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The advice given in this Instructions for Use is intended to supplement, not supersede, the normal safety requirements prevailing in the user's country.

2.1. Proper Use

WARNING/ CAUTION 	Risk of personal injury and material damage Improper use of the Barcode Reader instrument may cause personal injury or damage to the instrument. The instrument must only be operated by qualified personnel.
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CAUTION 	Damage to the instrument Avoid spilling water or chemicals onto the Barcode Reader instrument. Damage caused by water or chemical spillage will void your warranty.
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In case of emergency, switch off the device where the Barcode Reader is connected and then unplug it.

2.2. Electrical Safety

If the operation of the Barcode Reader is interrupted in any way, switch off the device where the Barcode Reader is connected. Contact IUL SA or IUL's Partner Technical Service after such an incident.

To ensure the satisfactory and safe operation of the Barcode Reader:

- The instrument must not be operated with the enclosure removed.
- If you suspect any instrument damage, contact IUL SA Technical Services or your local distributor.

If the Barcode Reader becomes electrically unsafe, prevent other personnel from operating it, and contact IUL SA Technical Service.

The instrument may be electrically unsafe if:

- The instrument is shown to be damaged.
- The instrument has been stored under unfavorable conditions for a prolonged period.

2.3. Environment

Operating conditions

CAUTION 	Explosive atmosphere The Barcode Reader is not designed for use in an explosive atmosphere.
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2.4. Biological Safety

Use safe laboratory procedures as outlined in publications such as Biosafety in Microbiological and Biomedical Laboratories, HHS:

<https://www.cdc.gov/labs/pdf/CDC-BiosafetyMicrobiologicalBiomedicalLaboratories-2009-P.PDF>

See: Section III—Principles of Biosafety

Laboratory Practices and Techniques

The most important element of containment is strict adherence to standard microbiological practices and techniques. Persons working with infectious agents or potentially infected materials must be aware of potential hazards and must be trained and proficient in the practices and techniques required for handling such material safely. The director or person in charge of the laboratory is responsible for providing or arranging the appropriate training of personnel.

WARNING 	Samples containing infectious agents Some samples used with the Barcode Reader may contain infectious agents. Handle such samples following the required safety regulations. The responsible person(s) (e.g., laboratory manager) must take the necessary precautions to ensure that the workplace is safe and that the instrument operators are suitably trained and not exposed to hazardous levels of infectious agents, as defined in the applicable Safety Data Sheets (SDSs) or OSHA ¹ ACGIH ² or COSHH ³ documents. Venting of fumes and disposal of wastes must be following all national, state, and local health and safety regulations and laws.
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¹ OSHA: Occupational Safety and Health Administration (United States of America).

² ACGIH: American Conference of Government Industrial Hygienists (United States of America).

³ COSHH: Control of Substances Hazardous to Health (United Kingdom).

2.5. Chemicals

WARNING 	Hazardous chemicals Some chemicals used with the Barcode Reader may be hazardous. Always wear safety glasses, gloves, and a lab coat. The responsible person(s) (e.g., laboratory manager) must take the necessary precautions to ensure that the workplace is safe and that the instrument operators are suitably trained and not exposed to hazardous levels of toxic substances (chemical or biological), as defined in the applicable Safety Data Sheets (SDSs) or OSHA, ACGIH or COSHH documents. Venting of fumes and disposal of wastes must be following all national, state, and local health and safety regulations and laws.
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2.6. Maintenance Safety

CAUTION 	Damage to the instrument Do not use spray bottles containing alcohol or disinfectant to clean the surface of the Barcode Reader instrument. Do not use products containing alcohol or other corrosive solvents to clean the Barcode Reader instrument.
WARNING 	Risk of electric shock Do not open the enclosure on the instruments. Risk of personal injury and material damage Only perform maintenance that is specifically described in this Instructions for Use.

2.7. Waste Disposal

Used consumables, such as sample dishes, may contain hazardous chemicals or infectious agents. Such waste must be collected and disposed of properly following local safety regulations.

For disposal of waste electrical and electronic equipment (WEEE) see section "Waste Electrical and Electronic Equipment (WEEE)".

3. GENERAL DESCRIPTION

3.1. Device Overview

1. Scanning engine window
2. Connector MMJ6



3.2. General Requirements

The following guidelines are fundamental to ensure optimal performance and longevity of the device:

- **ESD (Electrostatic Discharge):** Always handle the engine with care once it is out of its outer case, ensuring the use of grounded wrist straps and properly grounded workstations, to prevent static discharge damage.
- **Dust and Dirt:** The Barcode Reader should be sufficiently enclosed to avoid dust or contaminants accumulating on the imager, lens, or circuit board, which could degrade performance.
- **Ambient Environment:** The operational temperature range is from -20°C to 60°C, and storage temperature from -40°C to 70°C, with non-condensing humidity levels between 5% and 95%.
- **Thermal Considerations:** The device generates heat during operation, and precautions should be taken to avoid overheating, especially when used for extended periods in high-temperature environments.

4. OPERATING PROCEDURES

This Barcode Reader can be used with the following IUL's instruments: Smart Dilutor W, Spin Air or Eddy Jet 2W.

To operate the Barcode Reader, connect it to the instrument, and the scanning will initiate automatically when required.

Activation of the Barcode Reader illumination indicates that the device is operating in scanning mode. The illumination will turn off once a barcode has been successfully read or after 10 seconds if no barcode is detected (timeout).

NOTE: If the barcode data is not successfully transmitted to the host instrument, reconfigure the device and try again by scanning the configuration barcodes provided below.

4.1. Configuration Codes

Use an IUL Instrument to enable the scanning mode of the Barcode Reader to read the following codes in order:

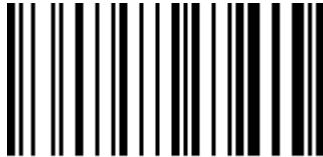


4.2. Test symbols

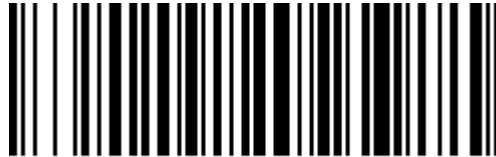
The following barcodes can be used to test each symbology type:

4.2.1. 1D Barcodes Samples

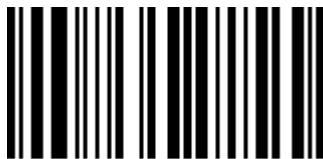
Code 128:



ABCD



c128-xYz



87654321



r2d2

Code 39:



9999



+CODE39+

Interleaved 2 of 5:



3333



00110011

EAN-13 and EAN-8:



1 112223 334448



4433 2211

UPC-A and UPC-E:



9 99666 33300 6



0 222444 6

4.2.2. 2D Barcodes Samples

QR Code:



→ hola



→ aloha123

Data Matrix:



→ Test



→ DTMX1234

PDF417:



→ 4567



→ abcd1234

Han Xin Code:



→ HanX



→ Wo6EQUJ5

5. MAINTENANCE

Clean the scanning engine window periodically to ease the scanning.

Avoid any dirt in the connector pins.

APPENDIX A TECHNICAL DATA

IUL SA reserves the right to change specifications at any time.

PERFORMANCE

Image Sensor	640x480 CMOS	
Illumination	White LED	
Aimer	None	
Symbologies	<i>2D</i>	QR Code, Data Matrix, PDF417, Han Xin Code, etc.
	<i>1D</i>	EAN-13, EAN-8, UPC-A, UPC-E, Code 128, Code 39, Interleaved 2 of 5, Codabar, Code 93, MSI Plessey, Industrial 2 of 5, etc.
Typical Depth of Field*	<i>EAN-13</i>	40mm-110mm (13mil)
	<i>QR Code</i>	30mm-70mm (15mil)
Min. Symbol Contrast*	25%	
Scan Angle**	Roll: 360°, Pitch: ±45°, Skew: ±45°	
Field of View	Horizontal 69.5°, Vertical 54.8°, Diagonal 82.2°	

**Test conditions: T=23 °C; Illumination = 300lux using incandescent lamp; sample barcodes made by Newland.*

***Test conditions: Scan Distance = (min. DOF + max. DOF)/2; T=23 °C; Illumination=300lux using incandescent lamp; 2D: QR Code; 10 Bytes; Resolution=15mil; PCS=0.8.*

MECHANICAL/ELECTRICAL

Interface	TTL-232, USB (HID Keyboard, COM Port Emulation, HID-POS)	
Operating Voltage	3.3VDC ± 5%	
Rated Power Consumption	180.8mW (typical)	
Current (at 3.3VDC)	<i>Operating</i>	55.1mA (typical), 100.5mA (max.)
	<i>Standby</i>	3.5mA
Dimensions (WxDxH)	15.5 x 13.9 x 9.7mm	
Weight	2.2 g	

ENVIRONMENTAL

Operating Temperature	-20°C to 50°C (-4°F to 122°F)
Storage Temperature	-40°C to 70°C (-40°F to 158°F)
Humidity	5% to 95% (non-condensing)
Ambient Light	0~100,000l ux (natural light)

APPENDIX B WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)

This appendix provides information about the disposal of waste electrical and electronic equipment by users.

The crossed-out wheeled bin symbol (see below) indicates that this product must not be disposed of with other waste; it must be taken to an approved treatment facility or to a designated collection point for recycling, according to local laws and regulations.

The separate collection and recycling of waste electronic equipment at the time of disposal helps to conserve natural resources and ensures that the product is recycled in a manner that protects human health and the environment.



