

# Technical Specification

## A1 Thermal Inkjet Printer

Version 1.01, 11 May 2023

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## Revision History

<b>Version</b>	<b>Date</b>	<b>Modification</b>
1.0	2023/4/12	External release
1.01	2023/5/11	Added notes of certification

## Preface

This document describes technical data of ANSER A1 Thermal Inkjet printer and external accessories such as encoder, photocell sensor, and alarm beacon. Specification and dimension of A1 printer and support brackets are also described.

## Certification



**REACH  
RoHS**



This product contains an RTC battery and please avoid following situations from happening:

- replacement of a battery with an incorrect type that can defeat a safeguard (for example, in the case of some lithium battery types);
- disposal of a battery into fire or a hot oven, or mechanically crushing or cutting of a battery, that can result in an explosion;
- leaving a battery in an extremely high temperature surrounding environment that can result in an explosion or the leakage of flammable liquid or gas; and
- a battery subjected to extremely low air pressure that may result in an explosion or the leakage of flammable liquid or gas.

# 1 A1 Printer Hardware Specification and Dimension

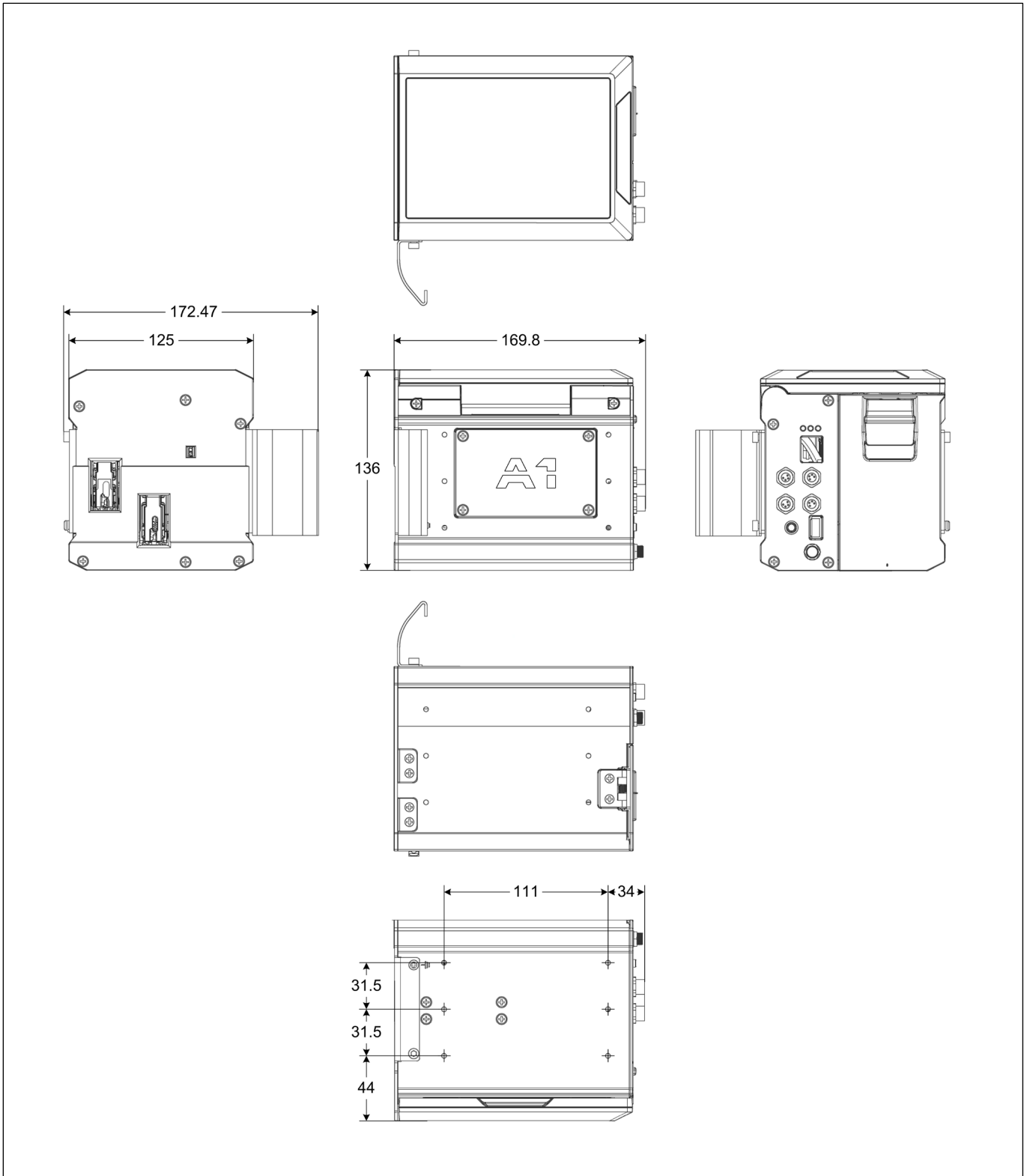
## 1.1 A1 Printer Specification

**Table 1-1. A1 Printer Specification**

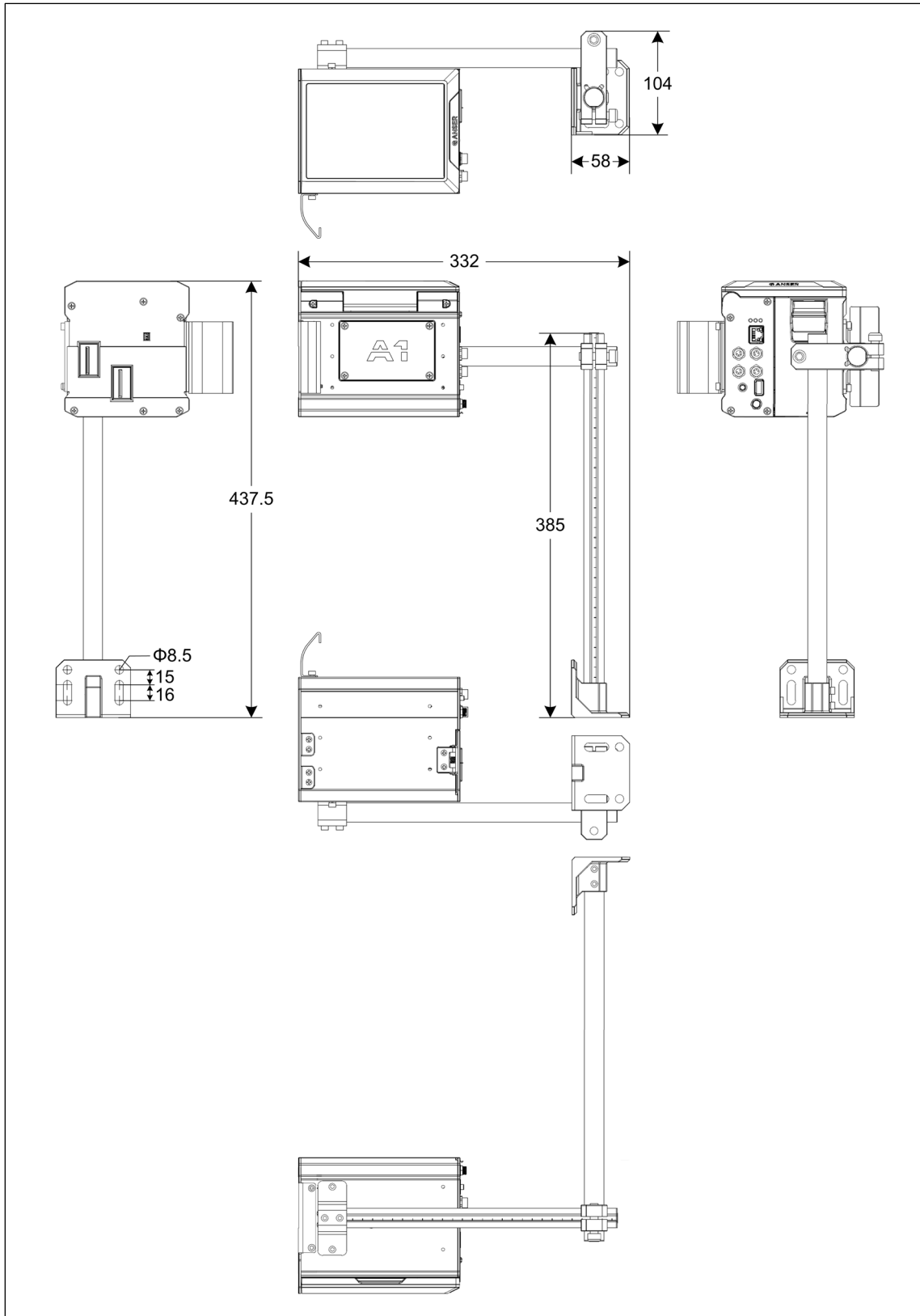
Item	Description
<b>Display</b>	5" Color LCD Capacitive Touchscreen (800x480 px) (Compatible with most of the medical and industrial gloves.)
<b>Printing Function</b>	1. Static Data: Text, Image and Shape 2. Dynamic Data: Variables, Shift, Counter, Production Date, Expiration Date, Barcodes
<b>Font Type</b>	True Type Fonts: Amiri-Regular, Arimo-Regular, DejaVuSans, NotoSans-Regular, OCR-B, OpenSans-Regular, and Sarabun-Regular  Open Type Fonts: NotoSansCJKtc-Medium, NotoSansKR-Regular, NotoSansJP-Regular, and NotoSansTC-Regular
<b>System Language</b>	Arabic, Bulgarian, Serbian, Czech, German, English, Spanish, French, Korean, Italian, Hungarian, Dutch, Japanese, Polish, Portuguese, Russian, Romanian, Slovak, Swedish, Thai, Vietnamese, Turkish, Chinese Traditional, and Chinese Simplified
<b>1D and 2D Barcode</b>	EAN8, EAN13, EAN14, EAN128, UPCA, UPCE, CODE39, CODE128, ITF14 (SCC-14), NVE18 (SSCC-18), INTER25, CODABAR, PDF417, DATAMATRIX, QRCODE, GS1 (DATAMATRIX, DATABAR EXP, DATABAR, QRCODE), D'MATRIX 8x32, DUN14, and Aztec Code
<b>I/O Port</b>	1. RJ-45 port x 1 3. RS-232/485 port x 1 5. I/O port x 1  2. Encoder port x 1 4. Photocell sensor port x 1 6. USB 2.0 port x1
<b>Communication Protocol</b>	Modbus TCP and Modbus 485
<b>Dimension</b>	169.8mm (L) x 136mm (H) x 125mm (W) (6.69 inch x 5.35 inch x 4.92 inch)
<b>Weight (w/o guide plate)</b>	1.8kg (3.97lb)
<b>Operating Temperature</b>	0 ~ 40°C (32 ~ 104°F)
<b>Operating Humidity</b>	0% ~ 90% RH, non-condensing

Printing System Power Specification	
Item	Description
<b>AC Power Cable</b>	Power Cord: 1.8m 3 pole plug included Earth Adapter: 1.2m non-shielded DC cable Earth Line: N/A
<b>Earth</b>	D class
<b>Power Consumption (with 2 Printheads)</b>	No Load: 61 Watts Max. @ AC 100V ~ 240V
<b>AC Input</b>	AC 100V ~ 240V $\pm$ 10%, 1.3A
<b>AC Power Frequency</b>	50 ~ 60Hz
<b>Insulation Resistance</b>	N/A
<b>Inrush Current</b>	N/A
<b>Leakage Current</b>	Less than 0.1mA (AC 240V/50Hz)
<b>Dielectric Strength (Hi-Pot)</b>	<ul style="list-style-type: none"> <li>Between AC input and secondary applied AC 1500 Volt.</li> <li>Test time 1 minute.</li> <li>Cut off current shall be less than 10mA.</li> </ul>
<b>Electrostatic Discharge Immunity</b>	<ul style="list-style-type: none"> <li>Air Discharge: <math>\pm</math>8 kV (330<math>\Omega</math>, 150pF)</li> <li>Contact Discharge: <math>\pm</math>4 kV (330<math>\Omega</math>, 150pF)</li> <li>IEC 61000-4-2</li> </ul>
<b>Electric Fast Transient</b>	$\pm$ 1 kV (from AC line) IEC 61000-4-4
<b>Line Surge Immunity</b>	AC Power Line: Line to line: $\pm$ 1 kV Line to earth: $\pm$ 2 kV  Performance Criteria B
<b>High-Frequency Continuous Conducted Immunity</b>	3.0Vrms (0.15 ~ 80Mhz) Performance Criteria A





**Figure 1-1. A1 Printer Dimensions**



**Figure 1-2. A1 Printer and Brackets Dimension**

## 1.2 Printer I/O Port Pin Description

### 1.2.1 Encoder and Photocell Port — M8 4 Pin

Table 1-2. Encoder and Photocell M8 4 Pin Description



Pin	Function	Open Wire Cable	Specification
1	GND	Black	-
2	Sensor Signal	White	V <sub>IH</sub> : 23V ~ 24V V <sub>IL</sub> : 0V ~ 12V
3	Encoder Signal	Green	V <sub>IH</sub> : 23V ~ 24V V <sub>IL</sub> : 0V ~ 12V
4	DC 24V Encoder/Sensor	Red	Min: 20V Max: 24V, 120mA

### 1.2.2 I/O Port — M8 6 Pin

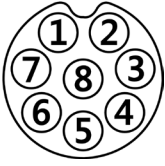
Table 1-3. I/O Port M8 6 Pin Description



Pin	Function	Open Wire Cable	Specification
1	Reserved	Black	-
2	Red LED Signal Output	Brown	V <sub>OH</sub> : 20V ~ 24V V <sub>OL</sub> : 0V ~ 0.3V, 80mA
3	GND	Red	-
4	Yellow LED Signal Output	Orange	V <sub>OH</sub> : 20V ~ 24V V <sub>OL</sub> : 0V ~ 0.3V, 80mA
5	Buzzer Signal Output	Yellow	V <sub>OH</sub> : 20V ~ 24V V <sub>OL</sub> : 0V ~ 0.3V, 80mA
6	Green LED Signal Output	Green	V <sub>OH</sub> : 20V ~ 24V V <sub>OL</sub> : 0V ~ 0.3V, 80mA

1.2.3 COM Port — M8 8 Pin

Table 1-4. COM Port M8 8 Pin Description



Pin	Function	Open Wire Cable	Specification
1	RS232 Tx	Black	Min: -6V Max: 6V
2	RS232 Rx	Blue	-
3	DOUT	Green	VOH: 20V ~ 24V VOL: 0V ~ 0.3V, 80mA
4	RS485 -	Yellow	-
5	RS485 +	Orange	-
6	24V	Red	Min: 20V Max: 24V, 120mA
7	GND	Brown	VOH: 20V ~ 24V
8	DIN	Purple	VIH: 23V ~ 24V VIL: 0V ~ 12V

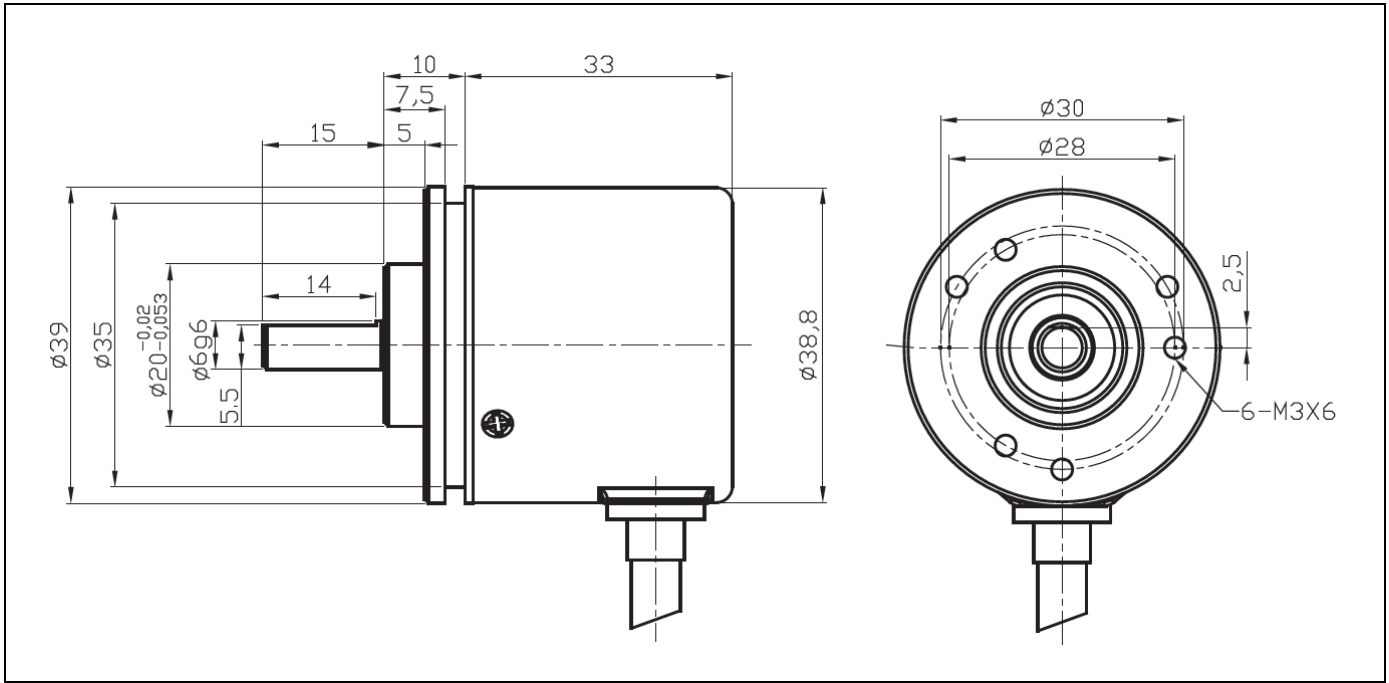
## 2 External Accessories Specification and Dimension

This chapter contains ANSER A1 external accessories specification including descriptions and dimensions of encoder, photocell sensor and alarm beacon.

### 2.1 Encoder Specification and Dimension

**Table 2-1. Encoder Specification**

Item	Description
Pulses Per Revolution	Max. 2500PPR
Power Consumption	10 ~ 30 VDC, ≤80mA
Pulse Frequency	Max. 300kHz
Signal Type	NPN
Protection Rating	IP54
Weight	83g
Operating Temperature	-20 ~ +80°C



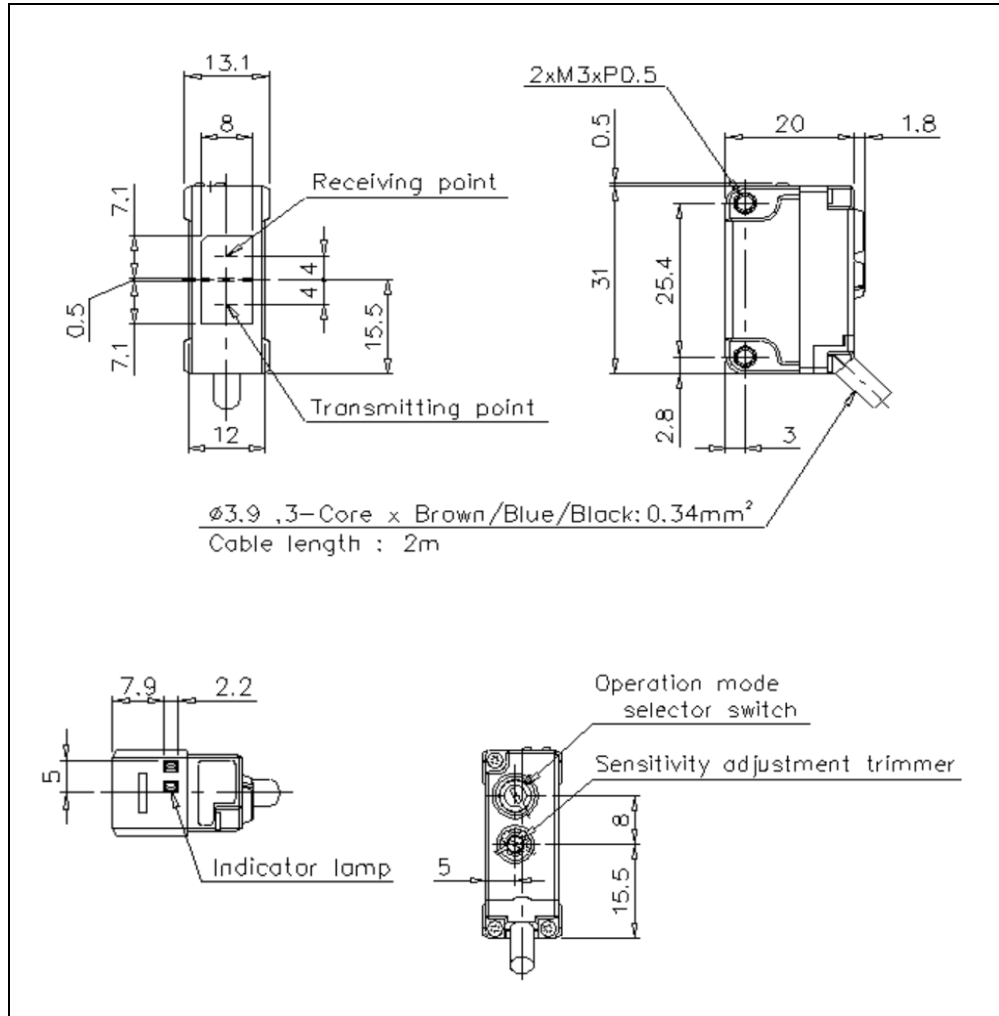
**Figure 2-1. Encoder Dimension**

## 2.2 Photocell Sensor Specification and Dimension

**Table 2-2. Photocell Sensor Specification**

Item	Description
Type	Diffuse Reflective Short-Range
Output	NPN
Cable Connection	Cable (2m)
Detecting Distance	300mm (When detecting 10cmx10cm white paper)
Response Time	500μs
Operation Mode	LIGHT-ON / DARK-ON (switch-selectable)
Control Output	Open Collector Output, 30V max, 100mA max, Residual V: 1V max
Power Voltage & Current Consumption	10~30 VDC, 34mA or less
Enclosure Rating	IEC: IP67 NEMA: 4A, 6, 12 DIN: IP69K
Temperature	-20 ~ +55°C (-4 ~ +131°F), non-freezing
Humidity	35% ~ 85% RH, non-condensing

**Note:** When using internal photocell sensor, the effective triggering distance should be < 50mm, and the background (conveyor) should be > 20mm to the photocell.



**Figure 2-2. Photocell Sensor Dimension**

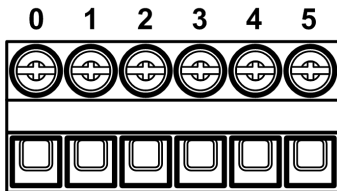


### 2.3 Alarm Beacon Specification and Dimension

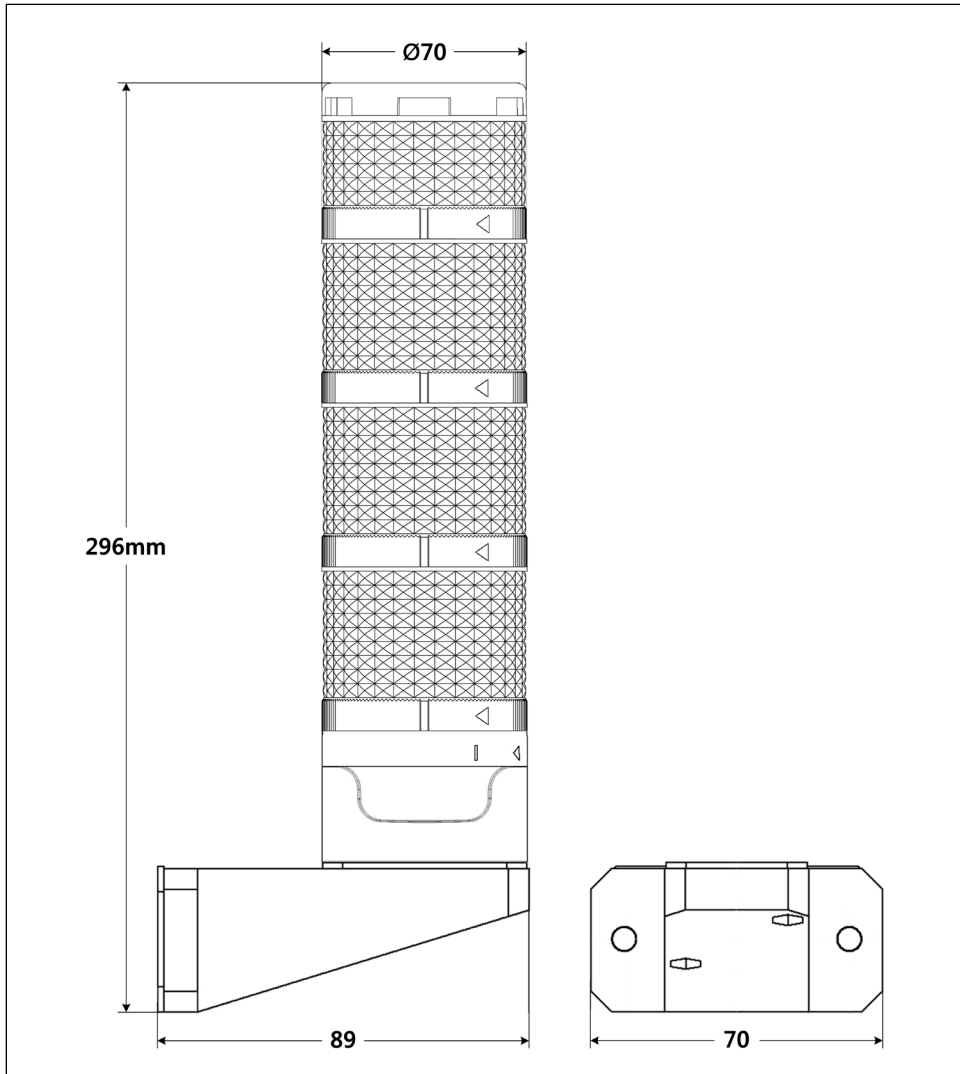
**Table 2-3. Alarm Beacon Specification**

Item	Description
Height & Diameter	65mm x 70mm
Protection Category	IP65
Operating Temperature	-30 ~ +50°C
Product Weight	1g (one level)
Operating Voltage	24VDC
Operational & Inrush Current	40mA & 250mA
Light Source	LED

**Table 2-4. Alarm Beacon Base — Terminal Block Definition**



No.	Function
0	GND, the bottom layer
1	The 1 <sup>st</sup> layer
2	The 2 <sup>nd</sup> layer
3	The 3 <sup>rd</sup> layer
4	The 4 <sup>th</sup> layer
5	Reserved



**Figure 2-3. Alarm Beacon and Bracket Dimension**



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