

X1 Technical Specification

Thermal Inkjet Technology

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Revision History

Version	Date	Modification
1.6	2021/11/24	Extracted from X1 Product Manual V1.6
1.7	2022/9/20	Updated date format in cover page Added preface and certification Updated Table 1-1, 1-5, 2-1, 2-3 and Figure 1-3, 2-3 Adjusted color of Figure 1-1 Updated title of Figure 1-2 Updated “print head” to “printhead”, and “dpi” to “DPI” Updated M8 port diagrams and headings in Section 1.2 Added HI-Pro printhead specification in Section 1.4

Preface

This document describes technical data of ANSER X1 Thermal Inkjet Printer including controller, printheads (Type H and HI-Pro) and external accessories such as encoder, photocell sensor, and alarm beacon. Specification and dimension of X1 hardware controller, printheads, and support brackets are also described.

Certification



1 X1 Hardware Specification and Dimension

1.1 X1 Controller Specification and Dimension

Table 1-1. X1 Controller Specification

Item	Description
Maximum Number of Printheads	2
Display	7" Color LCD Capacitive Touchscreen (800x480 px) (Compatible with most of the medical and industrial gloves.)
Printing Functions	1. Static Data: Text and Image 2. Dynamic Data: Variables, Shift, Counter, Production Date, Expiration Date, Barcodes
Font Type	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
System Language	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
1D and 2D Barcodes	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
I/O Ports	1. USB 2.0 port x 2 2. RS-485 & RS-232 port x 1 3. RJ-45 port x 1 4. Digital I/O port (1 IN & 4 OUT pins) 5. Encoder port x 1 6. Sensor port x 1
Communication Protocols	TCP IP / UDP, Modbus TCP, and ANSER RS-485 protocols
Dimensions	291mm (L) x 142.5mm (H) x 52.3mm (W) (11.5 inch x 5.6 inch x 2.1 inch)
Weight	2.12kg (4.67lb)
Operating Temperature	0°C ~ 40°C (32°~ 104°F)
Operating Humidity	0% ~ 90% RH, non-condensing
IP Rating	IP66

Printing System Power Specifications	
Item	Description
AC Power Cable	Power Cord: 1.8m 3 pole plug included Earth Adapter: 1.2m Earth Line: 2m
Earth	D class
Power Consumption (with 2 Printheads)	Idle: 10.8 Watts Max.: 76.8 Watts
AC Input	AC 100V ~ 240V \pm 10%, 1.2A (Controller DC Input is 24V.)
AC Power Frequency	47Hz ~ 63Hz
Insulation Resistance	More than 30M Ω (DC 500V)
Inrush Current	110Vac, 50A @0.68ms 220Vac, 115A @0.73ms
Leakage Current	Less than 0.25mA (AC 264/50Hz)
Dielectric Strength (Hi-Pot)	<ul style="list-style-type: none"> Between AC input and secondary applied DC 4242 Volt. Test time 1 minute. Cut off current shall be less than 10mA.
Electrostatic Discharge Immunity	<ul style="list-style-type: none"> Air Discharge: \pm8KV (330Ω, 150pF) Contact Discharge: \pm4KV (330Ω, 150pF) IEC1000-4-2
Electric Fast Transient	\pm 1KV (from AC line) IEC61000-4-4
Line Surge Immunity	AC Power Line: Line to line: \pm 1KV Line to earth: \pm 2KV DC Power Line: Line to earth: \pm 0.5KV Performance Criteria B IEC61000-4-5
High-Frequency Continuous Conducted Immunity	3.0Vrms (0.15 ~ 80Mhz) Performance Criteria A

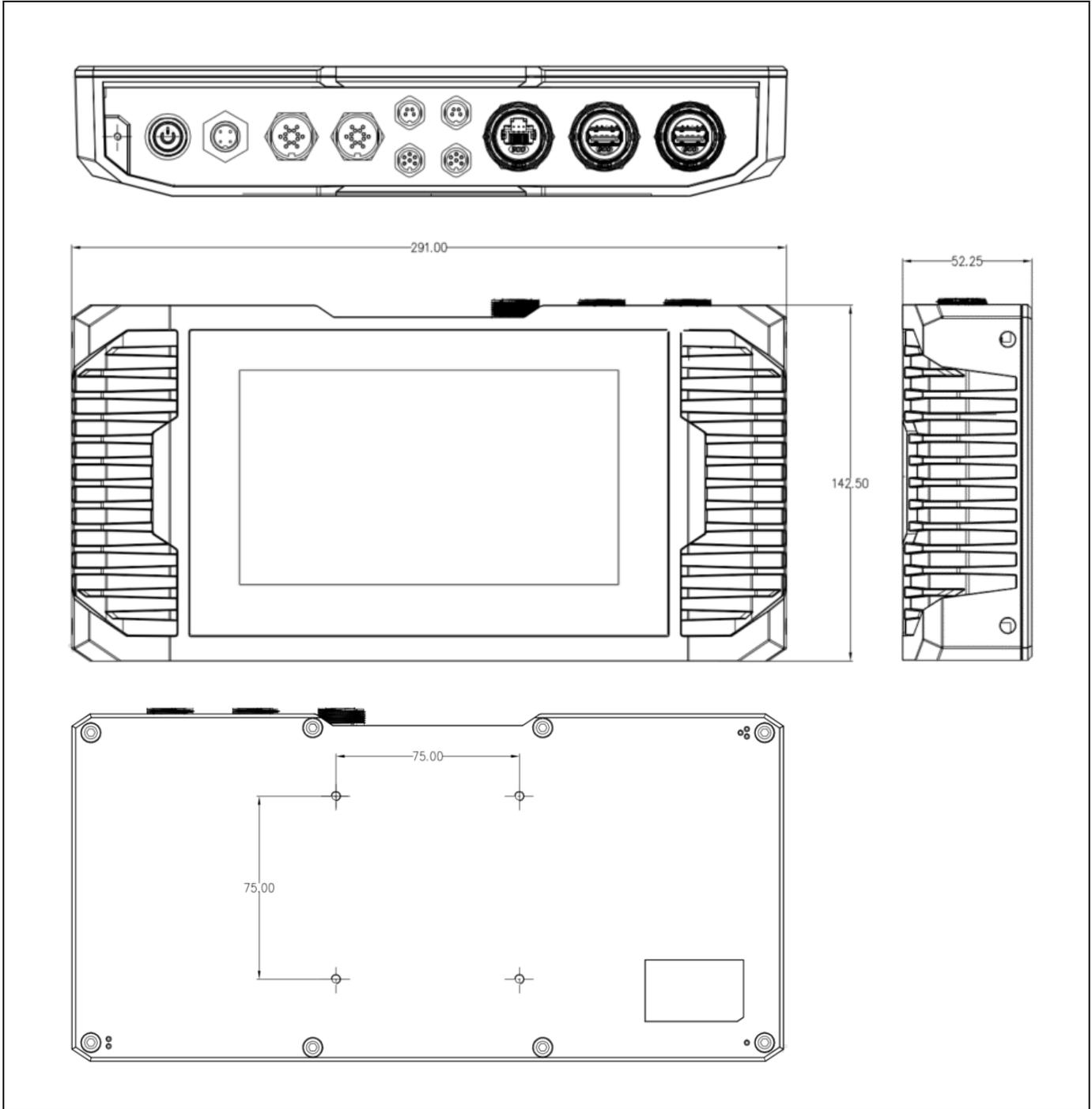


Figure 1-1. X1 Controller Dimension

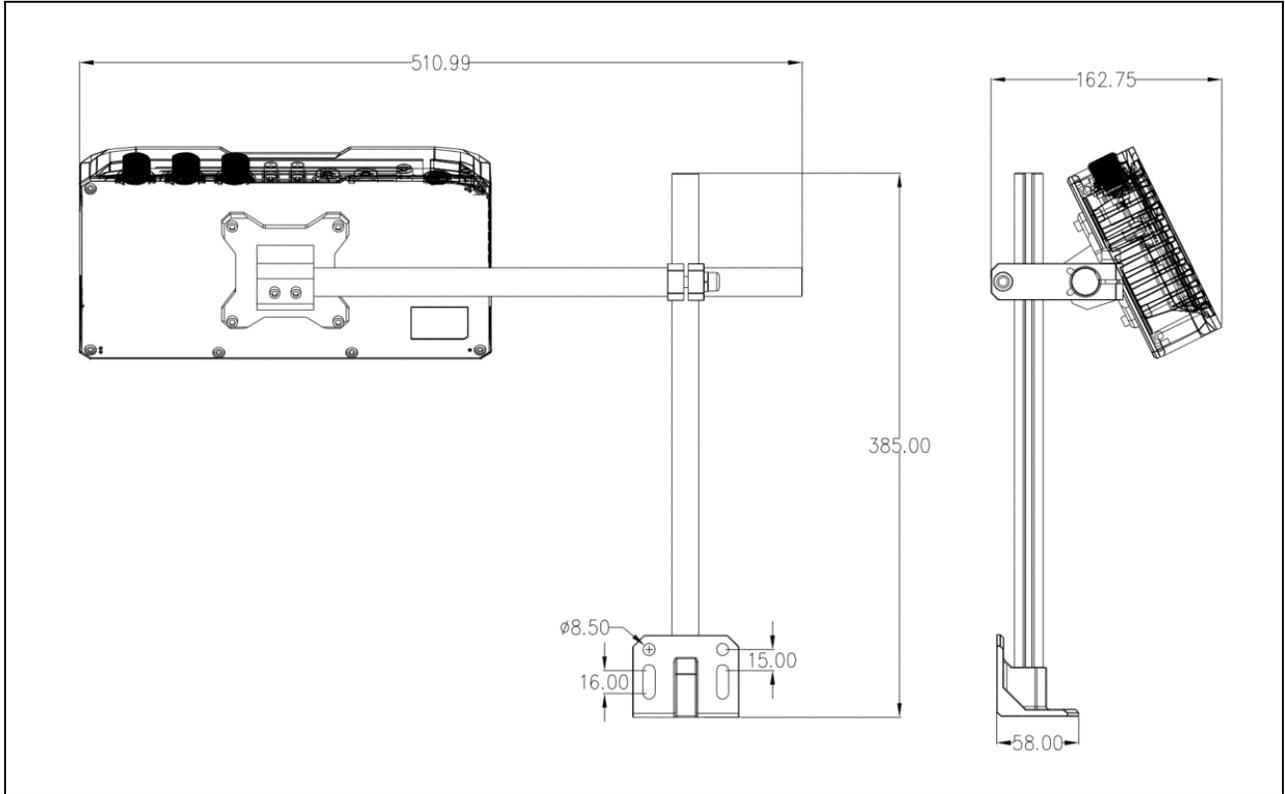
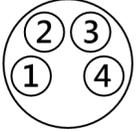


Figure 1-2. X1 Controller and Brackets Dimension

1.2 Controller Port Pin Description

1.2.1 Encoder and Photocell M8 4-Pin Connector

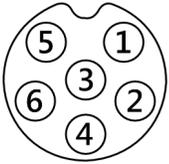
Table 1-2. Encoder and Photocell M8 4-Pin Description



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

1.2.2 I/O Port M8 6-Pin Connector

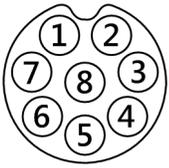
Table 1-3. I/O Port M8 6-Pin Description



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

1.2.3 COM Port M8 8-Pin Connector

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

1.3 Type H Printhead Specification and Dimension

Table 1-5. Type H Printhead Specification

Item	Description
Printing Technology	High Resolution Thermal Inkjet
Print Height	<p>Type H-0.5: Single Printhead: 12.7mm (0.5 inch) Stitch Printheads: 12.7mm x 2 @ 24.75mm (0.98 inch)</p> <p>Type H-1.0: Single Printhead: 25.4mm (1.0 inch) Stitch Printheads: 25.4mm x 2 @ 48.7mm (1.92 inch)</p>
Maximum Printing Resolution	600 DPI
Maximum Printing Speed	30m/min @ 600 DPI 300m/min @ 60 DPI
Maximum Print Distance	6mm
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)
Operating Humidity	0% ~ 90% RH, non-condensing
Dimensions	214.9mm (L) x 82.4mm (H) x 30.2mm (W) (8.5 inch x 3.2 inch x 1.2 inch)
Weight	0.46kg (1.01lb)
I/O Port * M8-4 pins	NPN sensor input Encoder signal input
Printhead Cable * M16-14 pins	Standard: 2m Optional: 5m, 10m or 15m

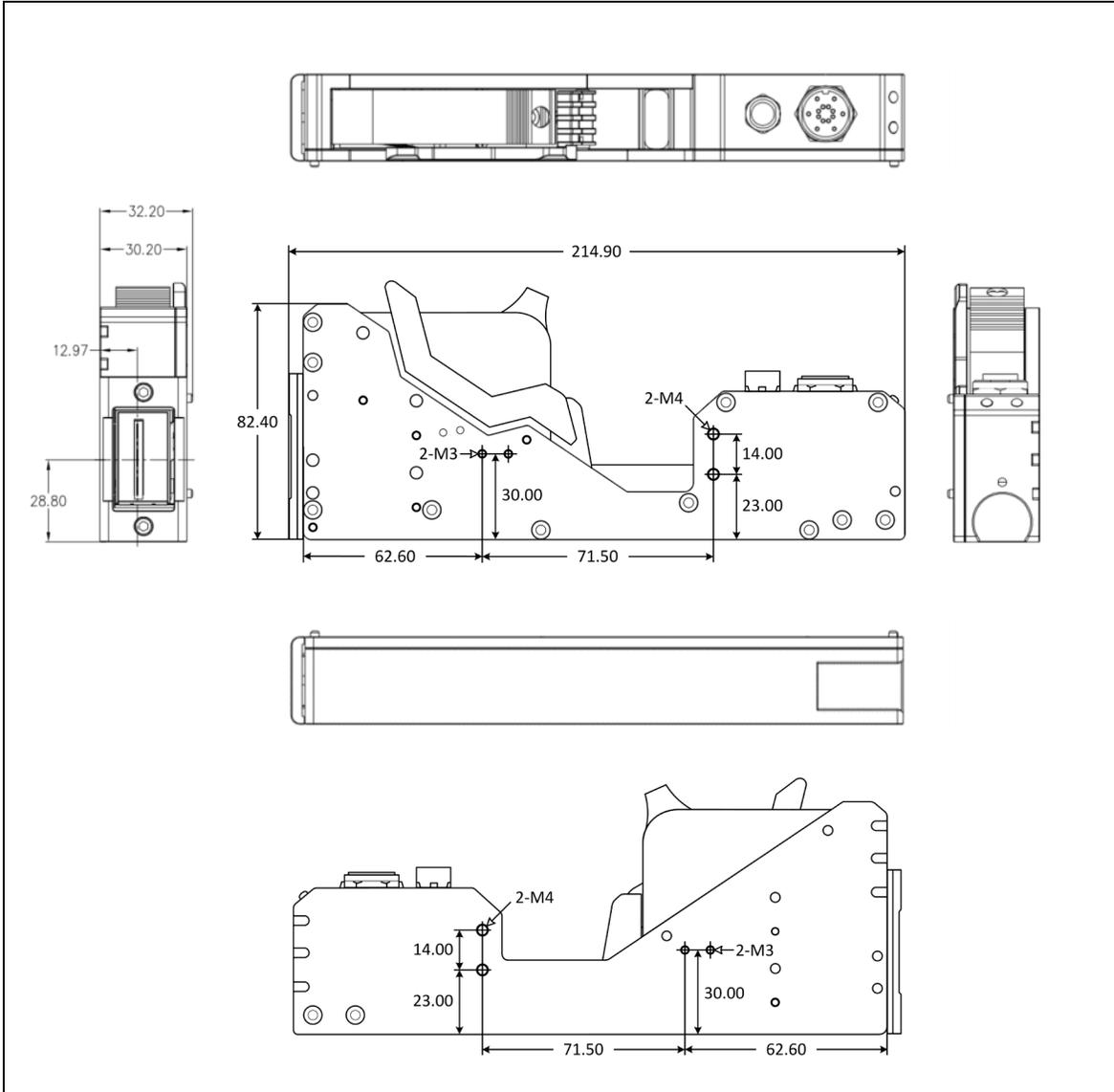


Figure 1-3. Printhead Type H Dimension

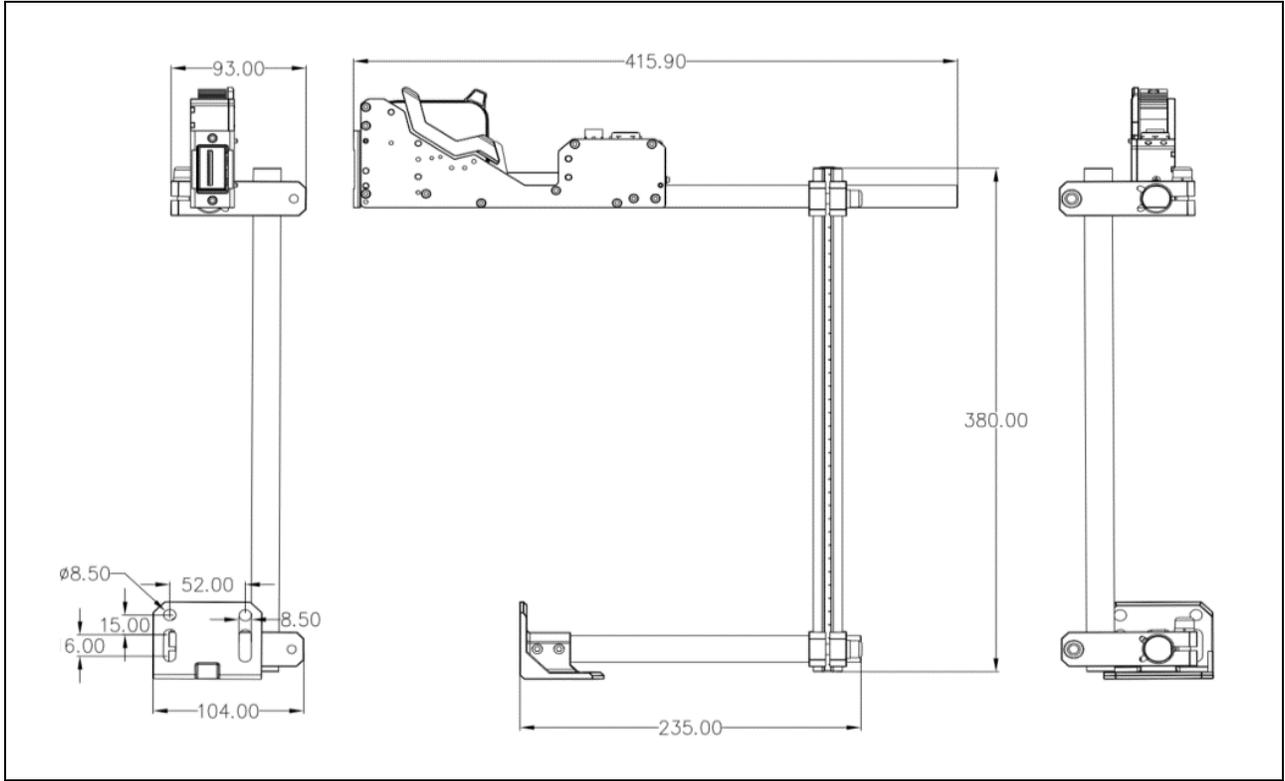


Figure 1-4. X1 Printhead Type H and Brackets Dimension

1.4 HI-Pro Printhead Specification and Dimension

Table 1-6. HI-Pro Printhead Specification

Item	Description
Printing Technology	High Resolution Thermal Inkjet
Print Height	<p>HI-Pro-0.5: Single Printhead: 12.7mm (0.5 inch) Stitch Printheads: 12.7mm x 2 @ 24.75mm (0.98 inch)</p> <p>HI-Pro-1.0: Single Printhead: 25.4mm (1.0 inch) Stitch Printheads: 25.4mm x 2 @ 48.7mm (1.92 inch)</p>
Maximum Printing Resolution	600 DPI
Maximum Printing Speed	30m/min @ 600 DPI 300m/min @ 60 DPI
Maximum Print Distance	6mm
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)
Operating Humidity	0% ~ 90% RH, non-condensing
Dimensions	<p>I/O Panel at the back: 152.8mm (L) x 92.7mm (H) x 37.6mm (W) (6 inch x 3.6 inch x 1.5 inch)</p> <p>I/O Panel at the bottom: 140.4mm (L) x 107.2mm (H) x 37.6mm (W) (5.5 inch x 4.2 inch x 1.5 inch)</p>
Weight	0.55kg (1.21lb)
I/O Port * M8-4 pins	NPN sensor input Encoder signal input
Printhead Cable * M16-14 pins	Standard: 2m Optional: 5m, 10m or 15m

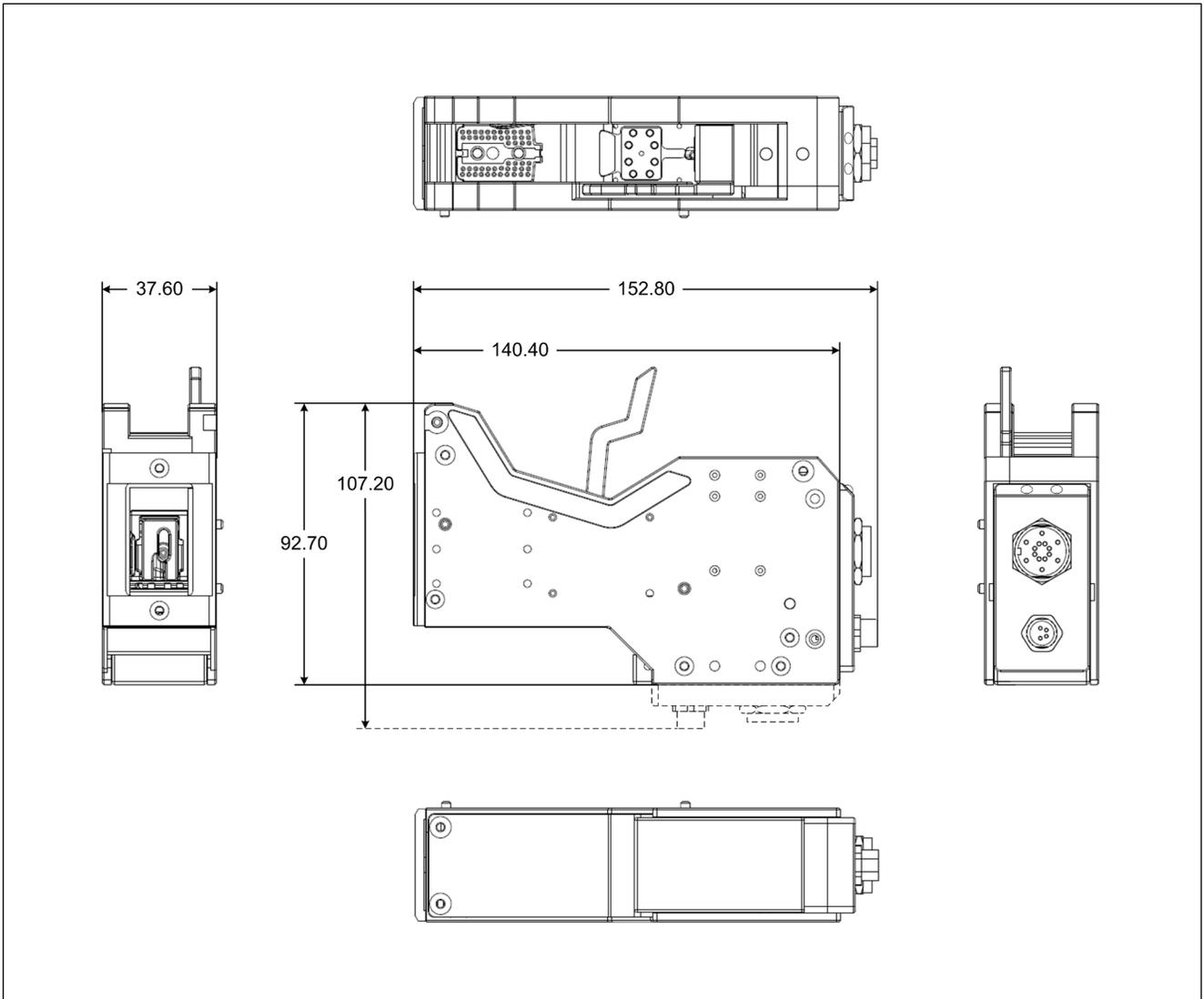


Figure 1-5. HI-Pro Printhead Dimension

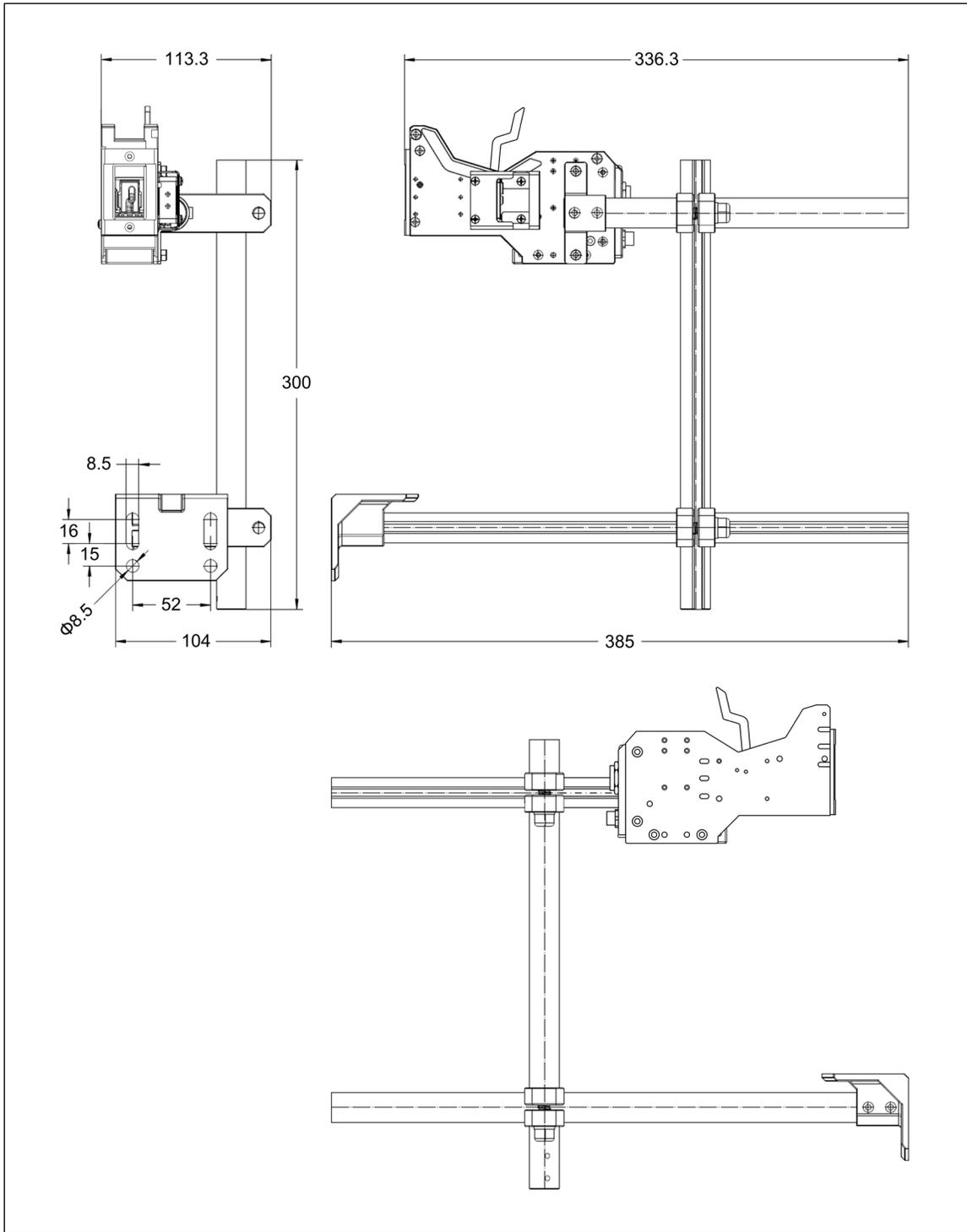


Figure 1-6. HI-Pro Printhead and Brackets Dimension

2 External Accessories Specification and Dimension

This chapter contains ANSER X1 external accessories specifications including descriptions and dimensions of encoder, photocell sensor and alarm beacon.

2.1 Encoder Specification and Dimension

Table 2-1. Encoder Specification

Item	Description
Resolution	0.02mm / pulse
Pulses Per Revolution	10000PPR
Measuring Wheel	200mm Circumference
Power Supply	10 ~ 30Vdc, maximum 100mA
Open Circuit	HTL
Load	Maximum 40mA / channel
Weight	Approximately 1.1kg (2.43lb)
Protection Rating	IP67
Operating Temperature	-10°C ~ 50°C (14°F ~ 122°F)

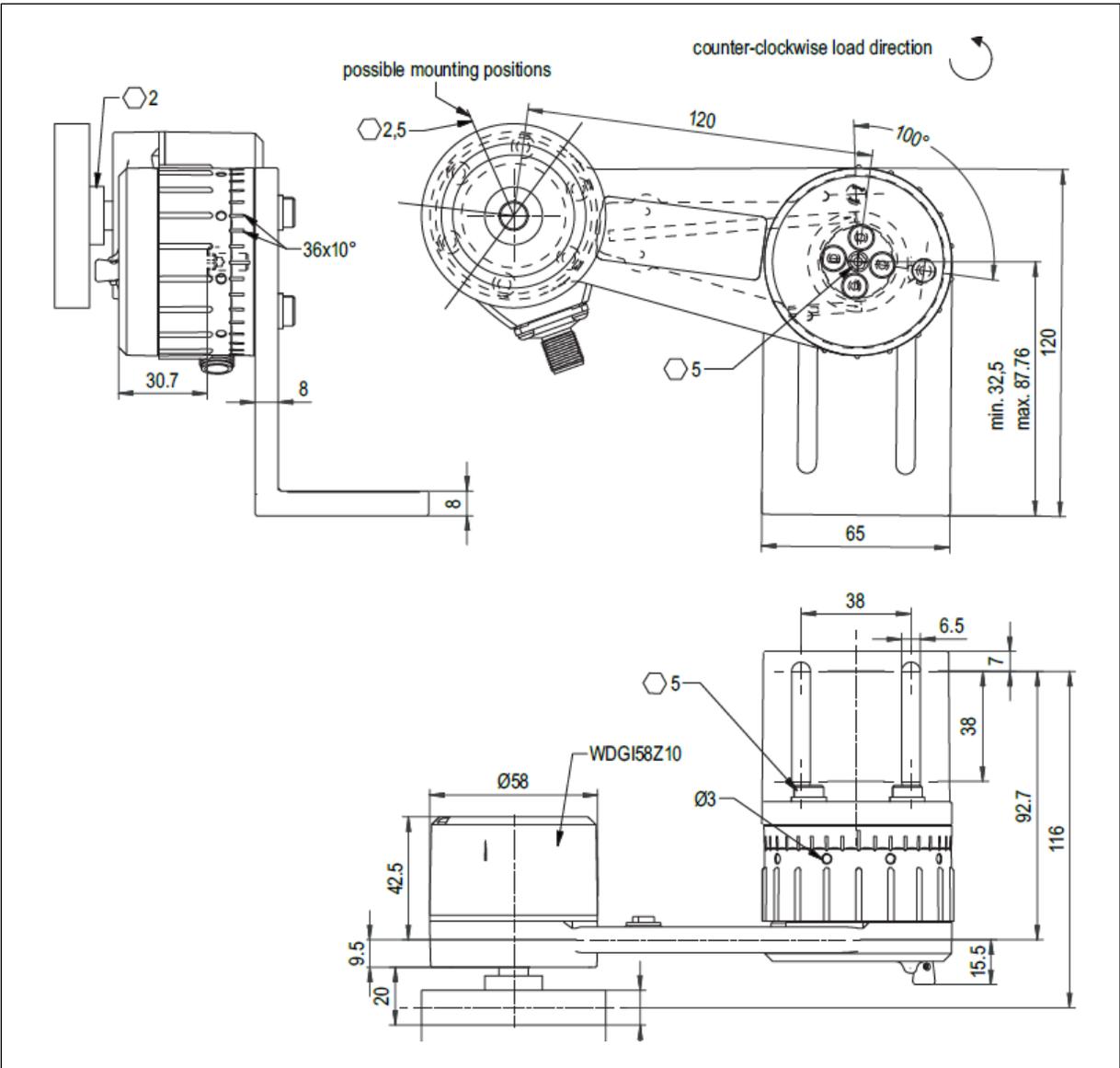


Figure 2-1. Encoder Dimension

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 10cm x 10cm 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 ~ 30VDC, 34mA or less
Enclosure Rating	IEC: IP67 NEMA: 4A, 6, 12 DIN: IP69K
Temperature	-20°C ~ 55°C (-4°F ~ 131°F), non-freezing
Humidity	35% ~ 85% RH, non-condensing

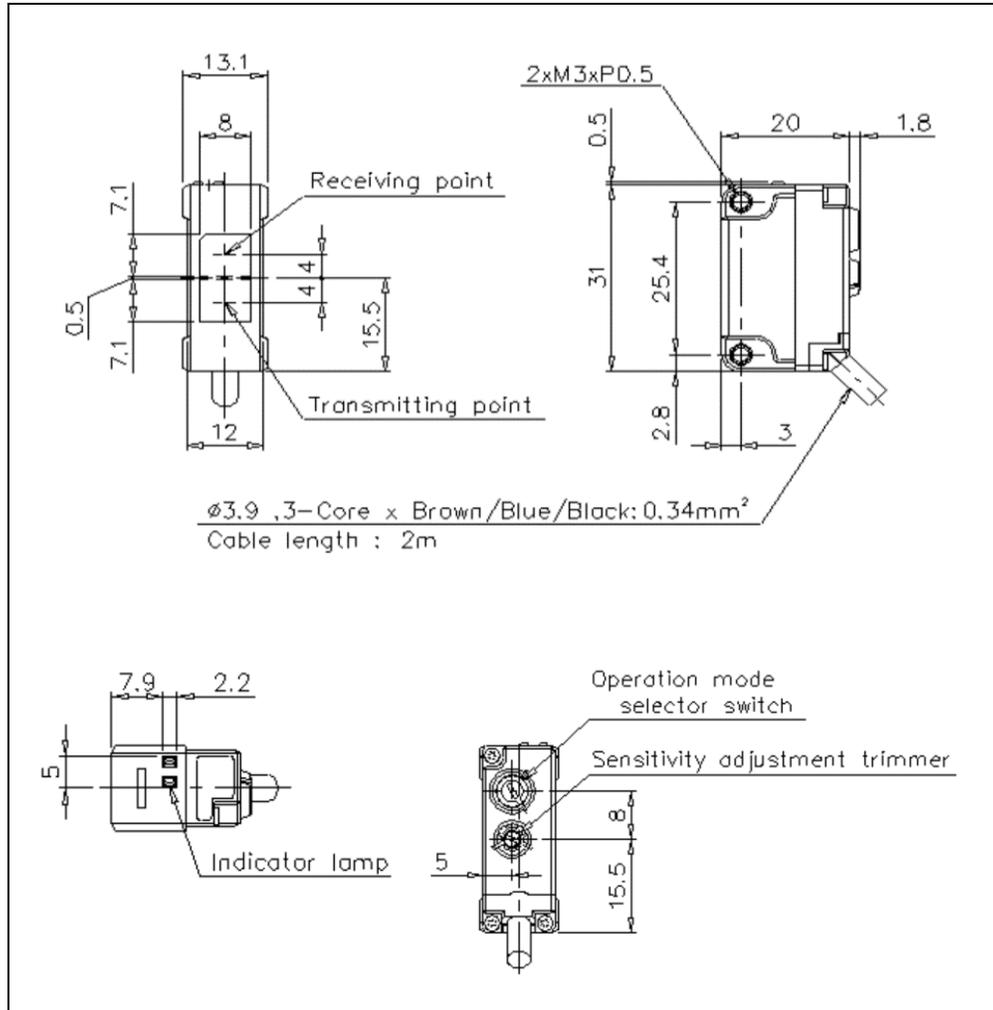


Figure 2-2. Photocell Sensor Dimension

2.3 Alarm Beacon Specification and Dimension

Table 2-3. Alarm Beacon Specification

Item	Description
Height	296mm
Diameter	70mm
Weight	455g (1lb)
Protection Category	IP65
Operating Temperature	-30°C ~ 50°C (-22°F ~ 122°F)
Operating Voltage	24V DC
Operational & Inrush Current	40mA & 250mA
Light Source	LED

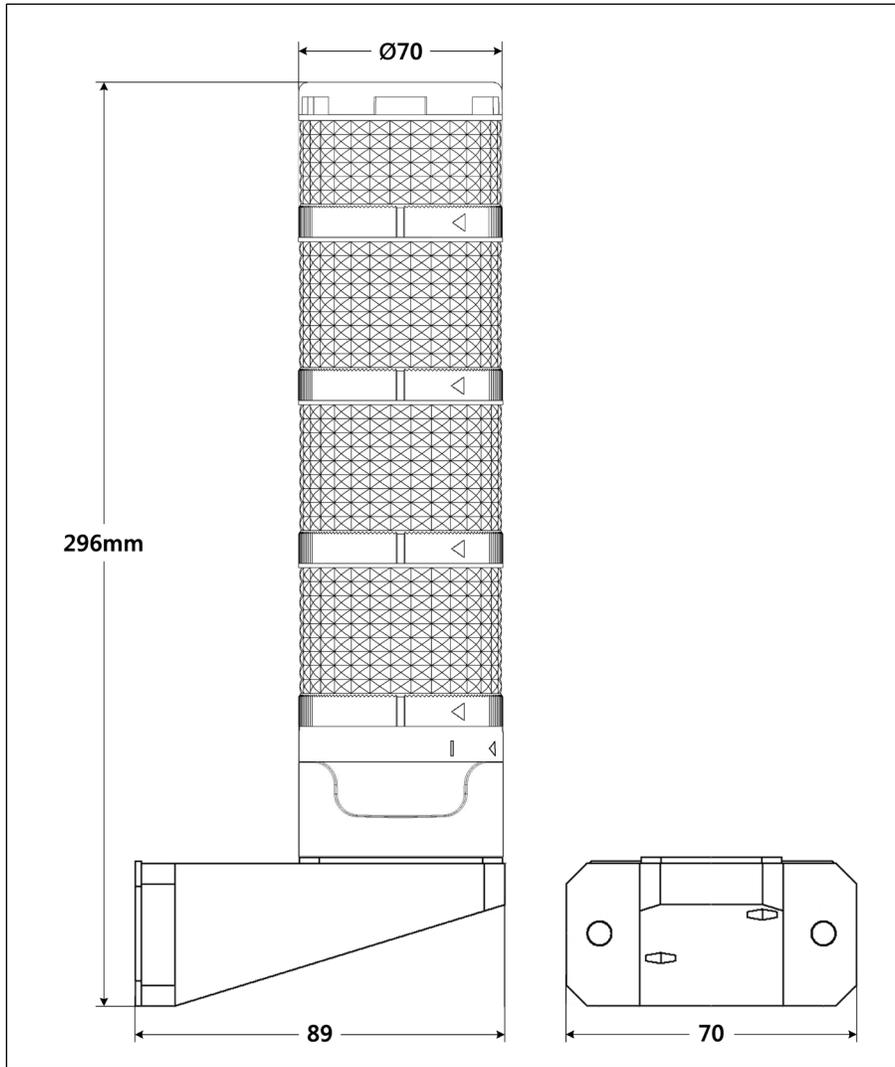


Figure 2-3. Alarm Beacon and Bracket Dimension



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