



Digitized Automation for a Changing World

Delta Barcode Scanners **DFS/DAH Series** (Fixed-mount Type / Handheld Type)



www.deltaww.com

 **DELTA**
Smarter. Greener. Together.

Wide Target Area, Fast, Precise and Reliable Capture

With the advance of technology today, manufacturing industries are facing a huge transformation. Production lines need more precise and high-speed field devices to help achieve smart manufacturing and IoT worldwide.

To meet the growing demand for barcode reading on production lines, Delta provides a variety of barcode scanning products, including fixed and handheld scanners. These products can efficiently decode a variety of 1D and 2D barcodes on the market using self-developed decoding algorithms.

Delta Barcode Scanners not only can read 1D/2D barcodes, but can also read defective, damaged barcodes. Delta scanners are suitable for electronics manufacturing, food packaging, as well as logistic industry applications, including communications and production tracking, achieving automation for a changing world for our customers!



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Delta Fixed-mount Barcode Scanner

DFS131 / DFS150 Series

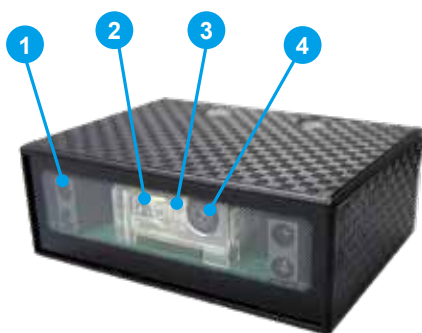
The Delta Fixed-mount Barcode Scanner DFS Series adopts built-in LED indicators and a CMOS Sensor. It ensures product barcodes are effectively detected when passing through a scanning area without manual adjustment, achieving highly accurate barcode reading capability under any lighting conditions. The DFS Series is applicable to industrial conveyors and can easily complete scanning through the operating route during manual handling for fully automatic barcode scanning. In addition, the DFS Series supports various installations for independent and embedded applications, providing a flexible and highly efficient barcode scanner.

Product Features

- Flexible design, suitable for independent, embedded applications and various installations
- Built-in LED indicators and CMOS Sensor to ensure valid reading under any lighting conditions
- Barcodes attached to products or components can be effectively detected when passing through a scanning area, without manual operation
- Manual-free image trigger function is matched with delivery structures and conveyors to achieve fully automatic barcode reading capabilities

Part Names

DFS131



No.	Name
1	IR Sensor
2	LED Light (White)
3	LED Aimer (Red)
4	CMOS Sensor

DFS150



No.	Name
1	LED Light (White)
2	CMOS Sensor
3	Laser Aimer (Red)

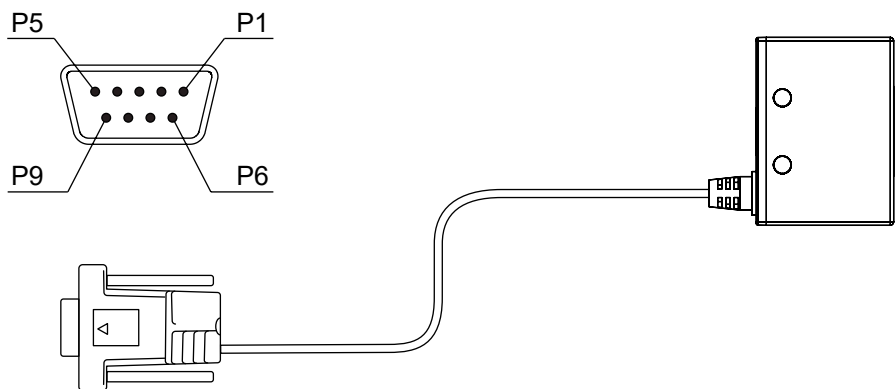
Installation

RS-232 Connection

1. Connect the barcode scanner to a computer
2. Supply power to pin 9, or install a power adapter to a DC terminal

RS-232 (D-Sub 9 female terminal)

Pin	Signal
2	TXD (Out)
3	RxD (In)
5	GND
7	CTS (In)
8	RTS (Out)
9	+5VCC



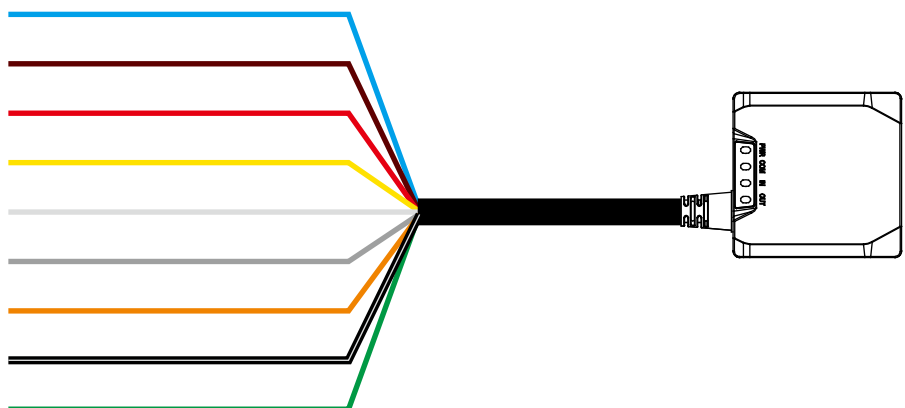
System Interface

1. The default communication format is 9600-8-N-1
2. RS232 interface supports a communication trigger

RS-485 Connection

1. Supply power to pin brown
2. Supply power to pin brown (+24 V_{DC}) and pin blue (0 V)

Pin	Signal
Blue	GND
Brown	DC 24V
Red	485 D+
Yellow	485 D-
White	I/O COM
Gray	IN
Orange	OUT 1
Black & white	OUT 0
Green	FG



System Interface

1. The default communication format is 115200 bps, 8-N-1
2. RS-485 interface supports a communication trigger

Delta Handheld Barcode Scanner

DAH1000S/DAH2000H Series

Delta's latest handheld barcode scanner DAH Series offers high sensing and fast capture capabilities with high-end barcode reading algorithms. With advanced and stable reading ability, it can easily capture 1D and 2D barcodes within the range of 5-20 cm without the need for manual interference to fulfill the application demands for various environments. In addition, the DAH1000S Series is anti-static and provides high-precision and high-speed reading capabilities.

The DAH Series adopts a lightweight and ergonomic design with a comfortable grip, for engaging in prolonged operations. With the built-in centralized aimer, beeper, and indicator lights, it can precisely locate any barcodes and provide real-time operating feedback to users. It is especially suitable for harsh industrial environments such as machining, electronics, and energy industries, as well as in the common service, logistics and medical industries.

Product Features

- Fast code capture speed without aiming precisely
- Easy-to-read barcodes under low contrast, optical noise, uneven exposure or damaged conditions
- Easy commands for users to set up functions such as:
 - Manual illumination adjustment based on various environments
 - Single and multiple trigger modes
 - Selective barcode types based on user requirements
 - Self-defined exported content of the scanning codes for flexible data acquisition
- Stable and reliable operation for high-speed image capturing with no need for manual interference or aiming in precise barcode direction
- No detached components, saving maintenance cost
- Robust design: drop impact resistance at 1 m high
- Lightweight and ergonomic design
- The DAH1000S Series features an anti-static function



Part Names and Functions



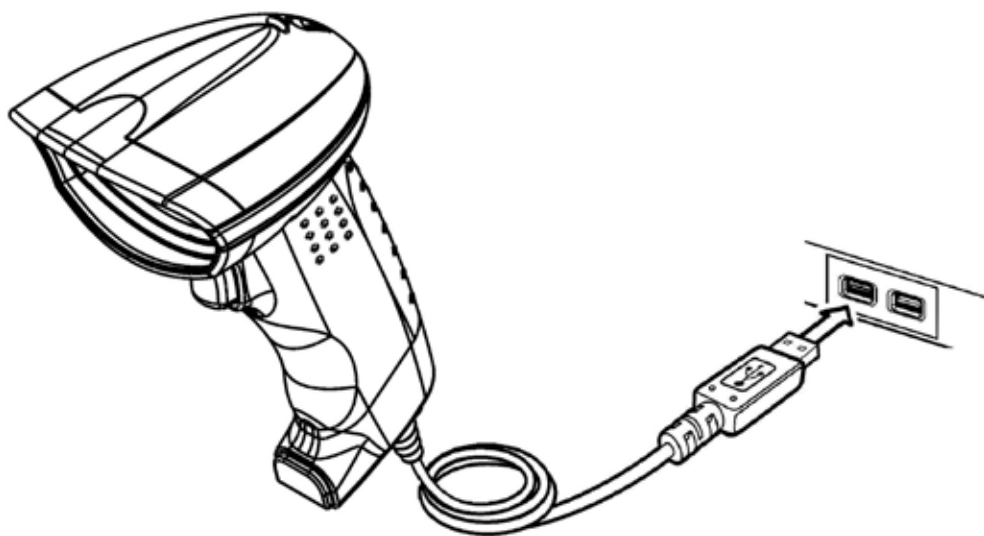
DAH2000H Series

DAH1000S Series

No.	Name	Description
1	Centralized aimer	Barcode reading
2	Trigger	Press and hold to read
3	Handle	Gripping point
4	Cable	USB communication

Installation

Direct USB connection to PCs, no installing configuration required



Applications

- Retail



- Logistics



- Manufacturing



- Medical Services



Specifications

Model	DFS131-232	DFS150-485	
Optics & Performance	Light Source	White LED/LED red dot aiming	White LED/ LED red dot aiming
	Sensor	Area image sensor	Area image sensor
	Resolution	5 mil (1D barcode) / 6.67 mil (2D barcode) 640×480 Pixel	5 mil (1D barcode) / 6.67 mil (2D barcode) 832×640 Pixel
	Scan Rate	30 frame/sec.	60 frame/sec.
	Scan Angle	Horizontal 37.8°/Vertical 28.8°	Horizontal 42.4 ± 3.5°/Vertical 33 ± 3.5°
	Contrast Ratio	30%	20%
Product Spec.	Dimensions (W × H × D)	56×41×20mm	50×25×51.5mm
	Weight	120g	130g
	Material	ABS (housing), PC (back side)	ADC12 (casing), PC (front cover)
	Communication Interface	RS-232	RS-485, Modbus Protocol (ASCII)
	Cable	90cm	2m
	Trigger	Automatic induction; command trigger	Multiple trigger, command trigger, I/O trigger
	Indicators	LED, buzzer	LED, buzzer
Power Supply	Power Operation Voltage	5V _{DC} ± 5%	DC 10.8~26.4V, <3W
	Working Current	<320mA	<130mA
	Standby Current	<130mA	<100mA
Environment	Operating Temperature	-10~55°C	0~50°C
	Storage Temperature	-20~65°C	-40~85°C
	Humidity	0%~95%RH (non-condensing)	30%~90%RH (non-condensing)
Certifications	IP Rating	IP55	IP40
	Ambient Light	30,000Lux (sunlight)	0~100,000Lux
	Regulatory ESD	Functional after 4KV contact, 8KV air discharge	Functional after 4KV contact, 8KV air discharge
		FCC Part 15B Class B, CE EN55024/32	CE EN55024/32
	Safety Certification	EN/IEC62471 (Exempt group)	CE
	Environmental Safety Certification	WEEE, RoHS 2.0	RoHS

Model	DAH1000S Series	DAH2000H Series	
Optics & Performance	Light Source	640nm visible red LED/ 5,000K CCT White LED	White LED/red LED
	Sensor	Area image sensor	Area image sensor
	Resolution	5 mil (Code39/1D barcode)/ 6.67 mil (PDF417/2D barcode) 640×480 Pixel	5 mil (1D barcode)/6.67 mil (2D barcode) 640×480 Pixel
	Scan Rate	30 frames/sec.	30 frames/sec.
	Scan Angle	Horizontal 37.8°/ Vertical 28.8°/Pitch angle ±45°/ Skew angle ±45°/Roll angle 360°	Horizontal 37.8°× Vertical 28.8°
	Print Contrast Ratio	30%	30%
Product Spec.	Dimensions	71×166×84 mm	74×186×91 mm
	Weight	172g	320g
	Color	Black & Gray	Black
	Material	ABS	PC+ABS
	Connector	USB Type A	USB Type A
	Cable	2.1 m	1.5 m
	Trigger	Button trigger	Button trigger
	Indicators	LED, buzzer, vibrator	LED, buzzer
Power Supply	Operation Voltage	5V _{DC} ± 5%	5V _{DC} ± 10%
	Working Current	<210 mA	500mA
	Standby Current	<85mA	<500mA
Connectivity	Interface/Profile	USB HID/USB VCP	USB 2.0
Environment	Operating Temperature	-10~40 °C	0 ~50 °C
	Storage Temperature	-20~65 °C	-40 °C~85 °C
	Humidity	0%~95% RH (non-condensing)	30%~90% RH (non-condensing)
	Drop Durability	1 m	< 2 m
	IP Rating	IP42	IP40
	Ambient Light	100,000 Lux (sunlight)	0~100,000 Lux (sunlight)

Reading Range

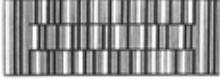
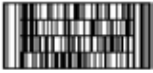








Model	Type	Operating Distance
DFS131	5 mil Code 39	45 mm ~ 154 mm
	10 mil Code 39	65 mm ~ 270 mm
	13 mil EAN/UPC	64 mm ~ 313 mm
	6.67 mil PDF 417	52 mm ~ 136 mm
	10 mil Data matrix	45 mm ~ 125 mm
	20 mil QR Code	47 mm ~ 246 mm
DFS150	5 mil Code 39	50 mm ~ 140 mm
	20 mil Code 39	45 mm ~ 480 mm
	13 mil EAN/UPC	50 mm ~ 400 mm
	6.67 mil PDF 417	40 mm ~ 180 mm
	10 mil Data matrix	45 mm ~ 140 mm
	20 mil QR code	45 mm ~ 245 mm
DAH1000S	5 mil Code 39	50 mm ~ 120 mm
	20 mil Code 39	55 mm ~ 370 mm
	13 mil UPC	55 mm ~ 270 mm
	6.67 mil PDF417	50 mm ~ 115 mm
	10 mil Data matrix	50 mm ~ 120 mm
	20 mil QR code	40 mm ~ 220 mm
DAH2000H	5 mil Code 39	40 mm ~ 120 mm
	20 mil Code 39	50 mm ~ 320 mm
	13 mil UPC	65 mm ~ 205 mm
	6.67 mil PDF417	40 mm ~ 130 mm
	10 mil Data matrix	40 mm ~ 120 mm
	20 mil QR code	40 mm ~ 190 mm

Symbologies - 1D Barcodes

Application	Barcode Type	Barcode	DAH1000S	DAH2000H	DFS131	DFS150
Industrial Automation & Manufacturing	General industrial manufacturing	Code93 	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	General industrial manufacturing/internal management system	Full ASCII Code39 	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	General industrial manufacturing/package exterior labeling	Interleaved 2 of 5 	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Logistics/packaging industries	Code 128 	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	General industrial manufacturing/logistics management	Industrial 2 of 5 	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Retail Market	International retail markets	EAN-13 	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		EAN/JAN-13 	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	General merchandise retailers in the United States & Canada	UPC-A 	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Small packaged merchandise in retail markets in the United States & Canada	UPC-E 	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	International retail markets/ small packaged merchandise	EAN-8 	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		EAN/JAN-8 	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Merchandisers with additional information (e.g. serial numbers, expiry dates, batch numbers, and more)	GS1 Databar 	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

Application	Barcode Type	Barcode	DAH1000S	DAH2000H	DFS131	DFS150
Warehousing & Logistics	Dispatching, product tracking, and distribution point receiving	EAN/UCC128 	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Air cargo management	IATA Code 2 of 5 	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Aeronautic industry & warehouse equipment for inventory	Matrix 2 of 5 	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Warehousing for inventory	MSI 	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Medical/Services Books / Telephones	Italian pharmaceuticals	Code 32 	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Libraries, blood banks, small parcel delivery	Codabar 	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Telephone	Code 11 	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Symbologies - 2D Barcodes

Application	Barcode Type	Barcode	DAH1000S	DAH2000H	DFS131	DFS150
Industrial automation, blood banks	Codablock A		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Small labels	Codablock F		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Industrial automation, electronics	PDF 417		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Objects of small site area	MicroPDF 417		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hospital (e.g. patient identification, medicine labels, IV, specimens, and more)	Aztec Code		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Occasions that can damage barcode easily (e.g. special environment of high temperature or parts contacted with chemical cleaners)	Data matrix		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
United States postal tracking services	Maxi Code		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Media	QR Code		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Micro QR Code		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Encrypted data & information	Chinese Sensible (Han Xin) Code		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

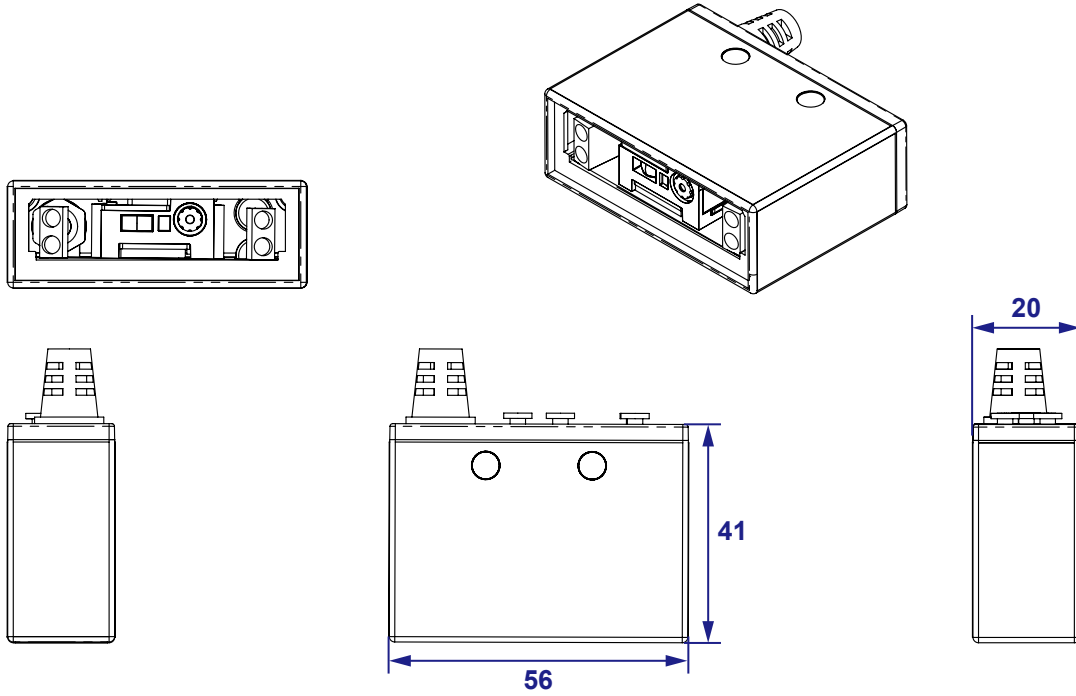
Symbologies - Postal Codes

Country		Barcode Type
Australia		1112345678 26 44 19 15 
United Kingdom		050LU178XE2B 
Canada		 0100,S,40,S kGjsrbXBB
China		 554668
Japan		 1234567
Korea		654-321 
Netherlands		1230AA12X 
United States	PLANET Code	4 0 1 2 3 4 5 6 7 8 9 1 
	POSTNET Code	982957 

Dimensions

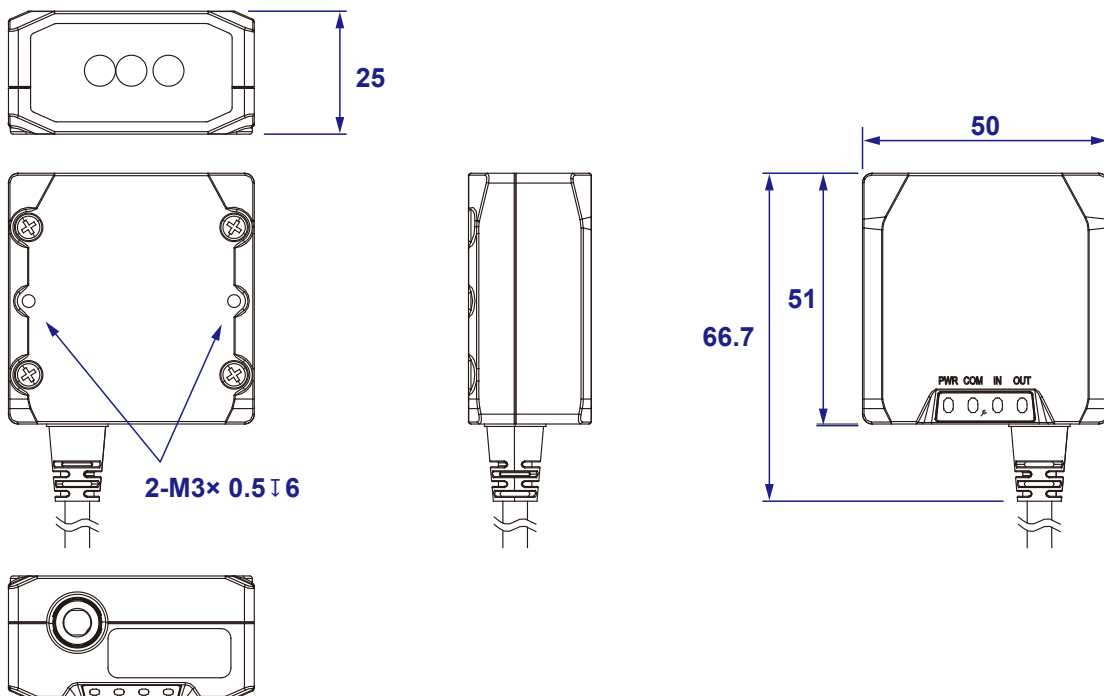
DFS131 Series

Unit: mm



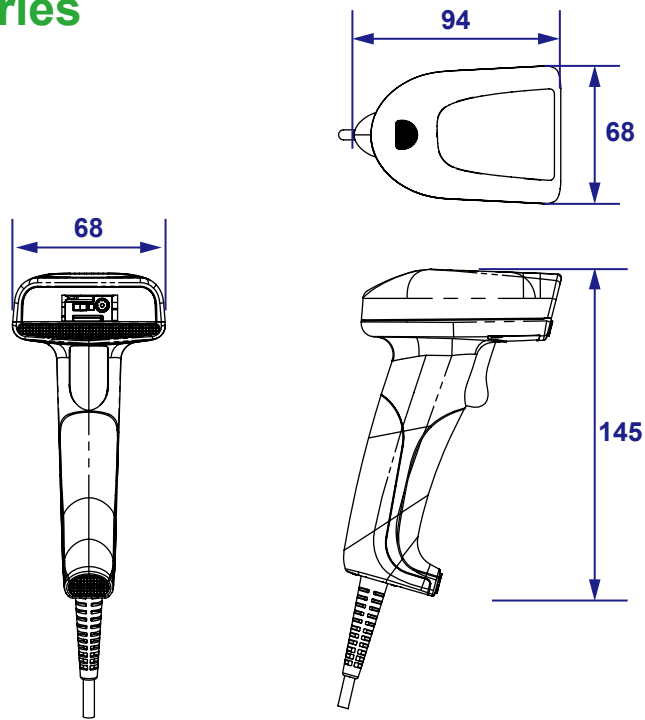
DFS150 Series

Unit: mm



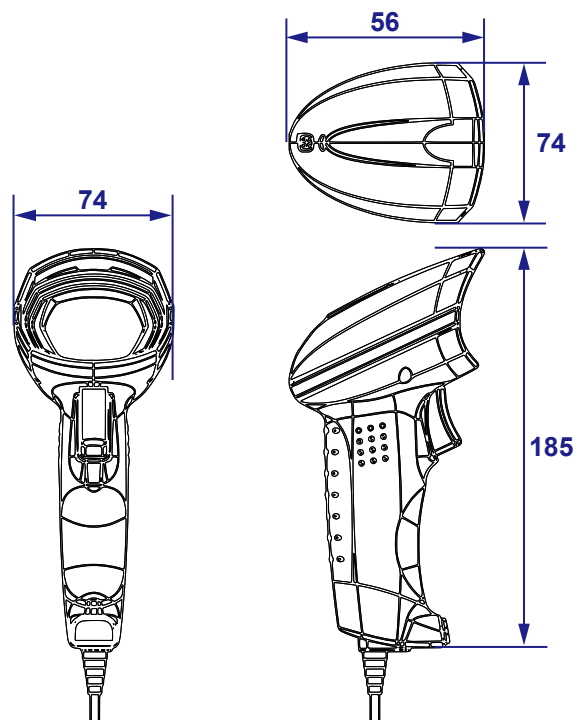
DAH1000S Series

Unit: mm



DAH2000H Series

Unit: mm



Ordering Information

Product Series	Model	Communication Interface
DFS131	DFS131-232	RS-232
DFS150	DFS150-485	RS-485
DAH1000S	DAH1000S-USB	USB
DAH2000H	DAH2000H-USB	USB



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