



RD-2023 User Manual

Release v1.0.0

2026-06-27

Contents

1	System Settings	4
1.1	Factory reset/restart device	4
1.2	System information query	4
1.3	Set as default parameters	4
1.4	Buzzer settings	5
2	Device function settings	5
2.1	Decode Indicator Settings	5
2.2	Aimer Settings	6
2.3	Illumination Settings	6
3	Trigger settings	8
3.1	Continuous Trigger Mode	8
3.2	Sensor Trigger Mode	9
3.3	Batch Reading Mode	11
3.4	Serial Trigger Mode	11
4	Communication Interface Settings	12
4.1	Communication Interface Switching	12
4.2	USB Communication Version	12
4.3	Serial Device Discovery	13
4.4	USB Keyboard Output Settings	13
4.5	Serial Port Settings	16
5	Image Parameter Settings	17
5.1	Auto Image Adjustment Settings	17
5.2	Exposure Time Settings	18
5.3	Gain Settings	19
6	Format Configuration	20
6.1	Duplicate Time Filter Settings	20
6.2	Duplicate Count Filter Settings	21
6.3	Duplicate Barcode Filter Settings	23
6.4	Merge Duplicate Barcodes	23
6.5	Barcode Length Limit Commands	23
6.6	Ignore Prefix Settings	23
6.7	Specified Prefix Settings	24
6.8	Specified Suffix Settings	24
6.9	Required Match Settings	24
6.10	Excluded Content Settings	24
6.11	Character Requirement Settings	25
6.12	Barcode End Delimiter	26
7	Symbology Settings	27
7.1	Enable/Disable All Symbologies	27
7.2	Enable/Disable Code 128	27
7.3	Enable/Disable Code 39	27
7.4	Enable/Disable Code 93	28
7.5	Enable/Disable EAN-8	28
7.6	Enable/Disable EAN-13	28

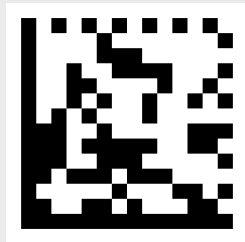
7.7	Enable/Disable ITF25	28
7.8	Enable/Disable UPC-A	29
7.9	Enable/Disable UPC-E	29
7.10	Enable/Disable Codabar	29
7.11	Enable/Disable QR Code	29
7.12	Enable/Disable Data Matrix	30
7.13	Enable/Disable Micro QR	30
7.14	Enable/Disable Aztec Code	30
7.15	Enable/Disable MaxiCode	30
7.16	Number of Barcodes	31
7.17	1D Symbology Algorithm Mode	31
7.18	2D Symbology Algorithm Mode	32
8	Appendix	32
8.1	ASCII Code Table	32

1 System Settings

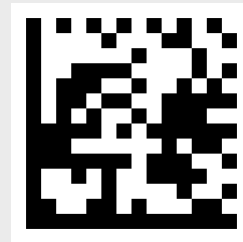
1.1 Factory reset/restart device

Warning

Scanning to restore factory settings will clear the current parameters and restore the factory status; scanning restart settings will immediately restart the device. Please confirm that the current configuration has been recorded before proceeding.

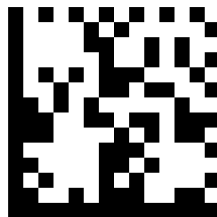


Restore device to factory settings



Device restart settings

1.2 System information query

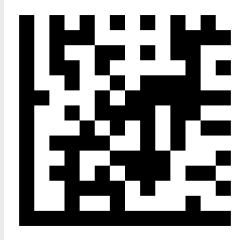


System information query

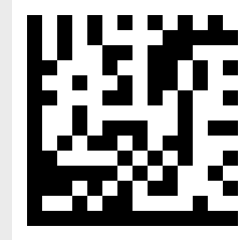
1.3 Set as default parameters

Warning

Scanning the current parameters to change them to the default parameters will write the current configuration into the default parameters; scanning to restore the default parameters will restore the saved default parameters. Please confirm the default parameter policy before proceeding.



Change current parameters to default parameters

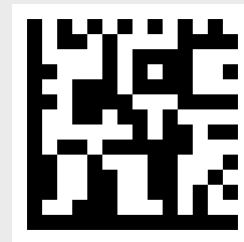


Restore default parameters

1.4 Buzzer settings



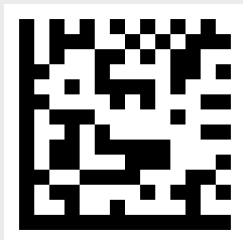
Default: Decoding successful prompt is turned on



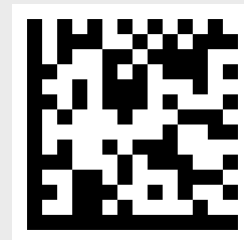
disable buzzer

2 Device function settings

2.1 Decode Indicator Settings

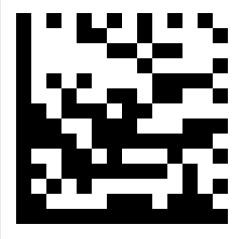
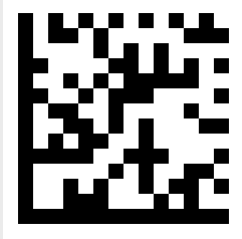
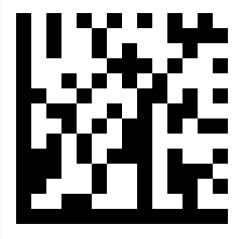


Factory Default: Enable Decode Success Prompt

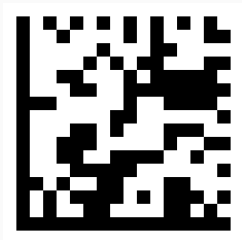


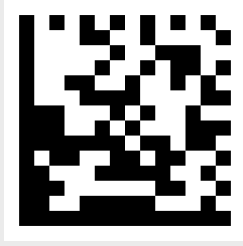
Enable Decode Failure Prompt

2.2 Aimer Settings

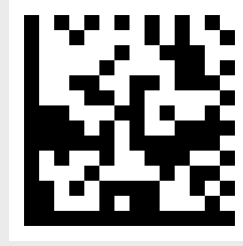
	
Factory Default: Enable Aimer	Disable Aimer
	
Aimer Always On	

2.3 Illumination Settings

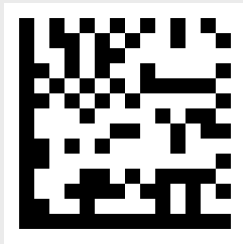
	
Disable Engine Illumination	Factory Default: Enable Engine Illumination
	
Disable External Illumination 1	Enable External Illumination 1



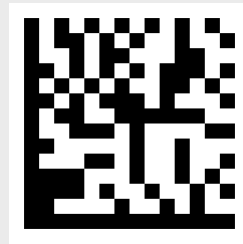
Disable External Illumination 2



Enable External Illumination 2



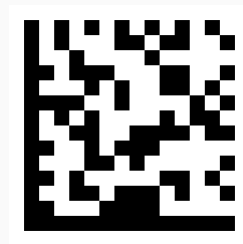
Illumination Switch Time: 1500 ms



Illumination Switch Time: 2000 ms



Factory Default: Illumination Switch Time: 1000 ms

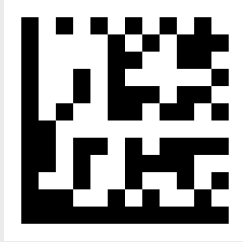


Illumination Switch Time: 500 ms

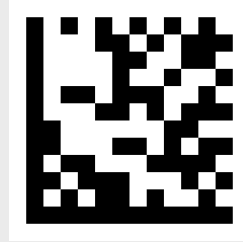
Note

Only the high-performance version supports external illumination control.

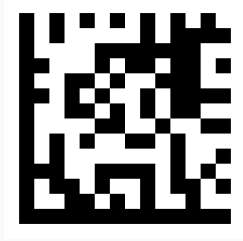
3 Trigger settings



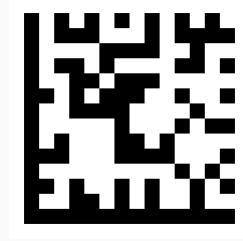
Serial Trigger Mode



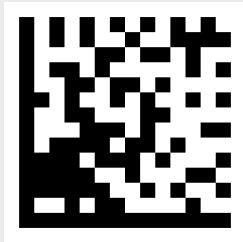
I/O Trigger Mode



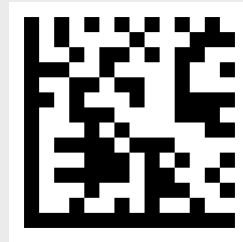
Continuous Decode Mode



Factory Default: Key Trigger Mode



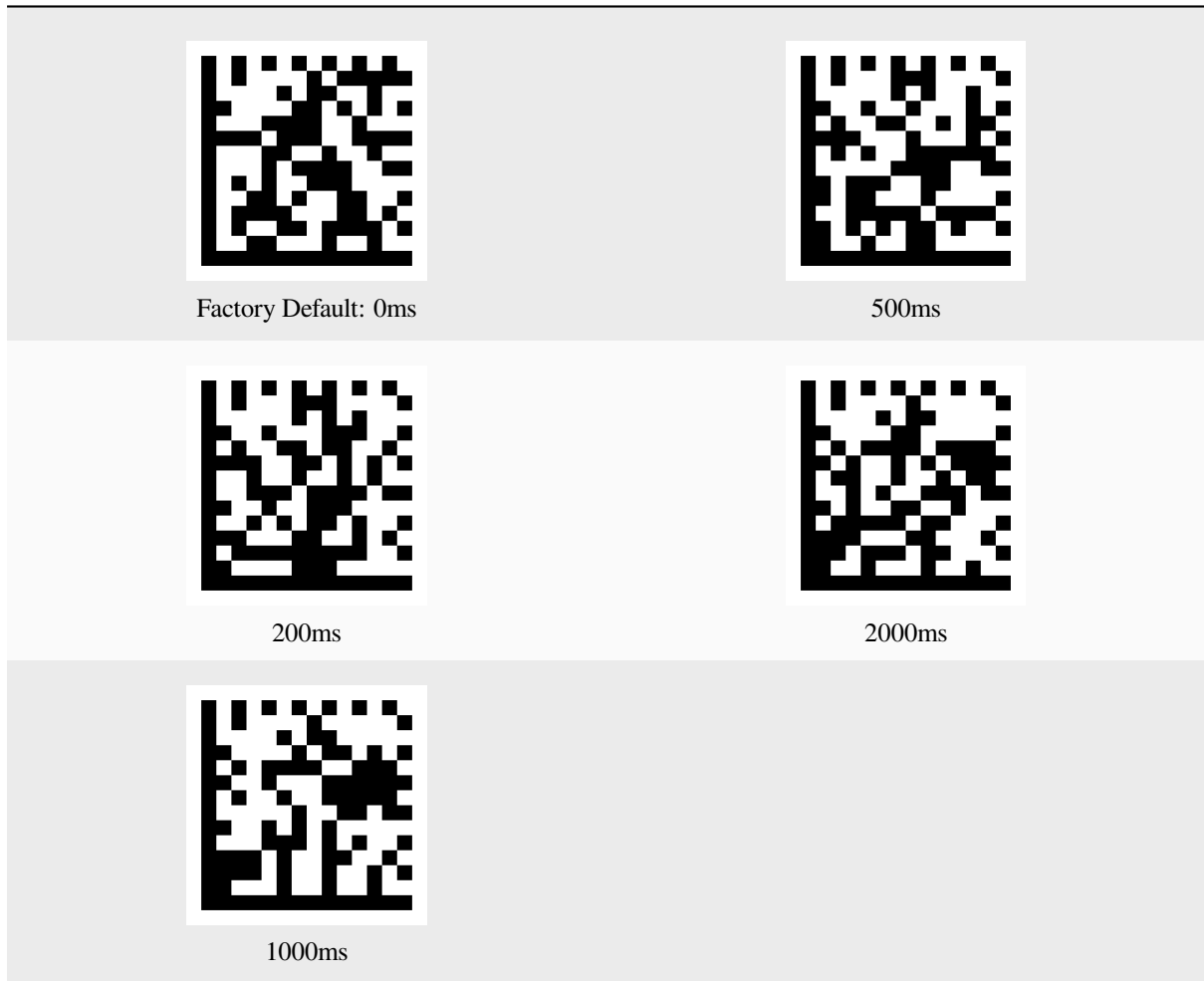
Batch Reading Mode



Auto sensing mode

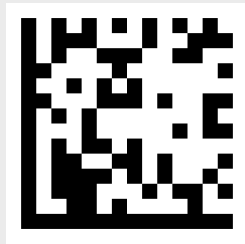
3.1 Continuous Trigger Mode

Decode Interval

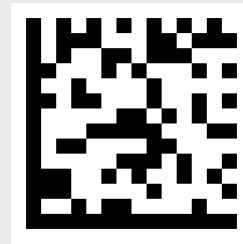


3.2 Sensor Trigger Mode

Trigger Sensitivity



Factory Default: Medium

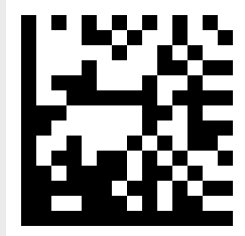


Low

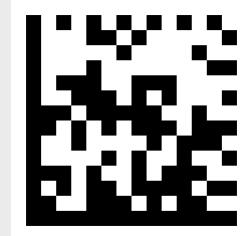


High

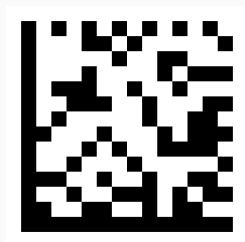
Sensor Interval



Factory Default: 1000ms

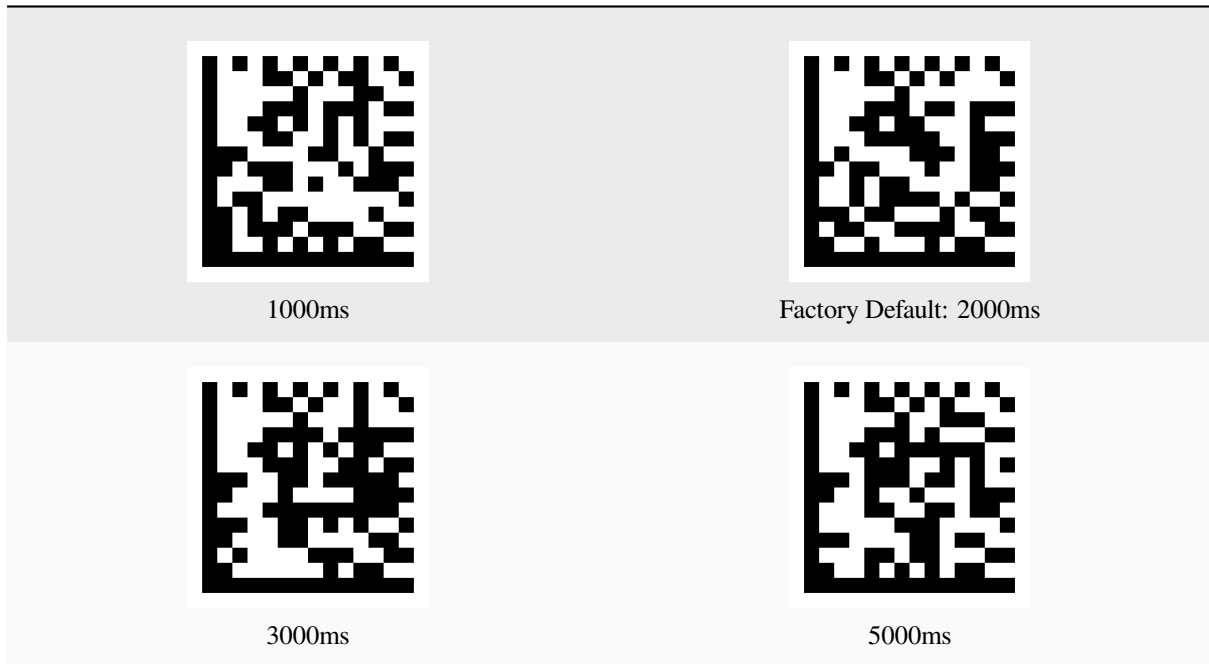


5000ms



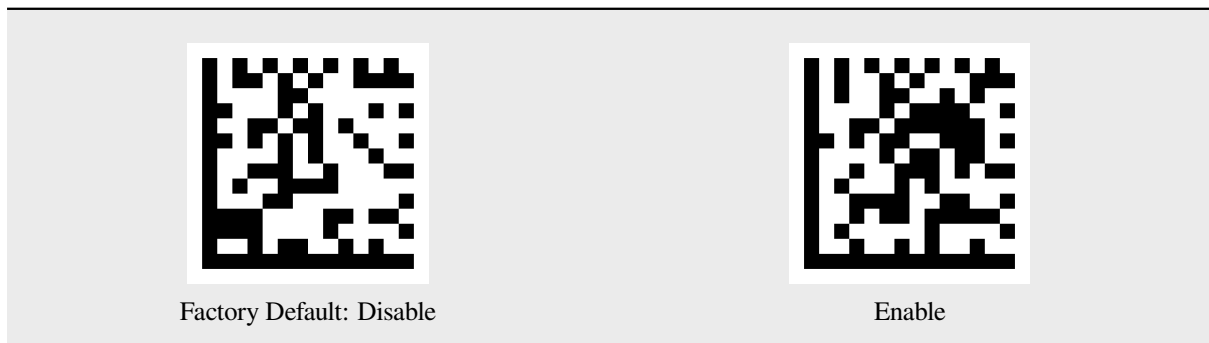
2000ms

Sensor Timeout



3.3 Batch Reading Mode

Unified Output



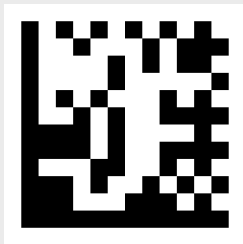
3.4 Serial Trigger Mode

Note

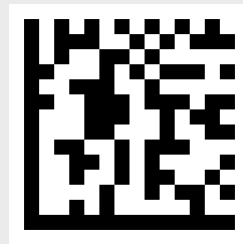
The default start command for serial triggering is `start`, and the default stop command is `stop`. Use `@SETSSX` to set the start trigger command and `@SETESX` to set the end trigger command, where `X` is your custom content. For example, if the start command is set to `A` and the end command is set to `B`, the generated setting barcodes are `@SETSSA` and `@SETESB` respectively.

4 Communication Interface Settings

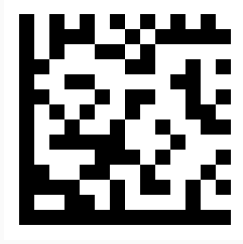
4.1 Communication Interface Switching



Serial Communication Mode

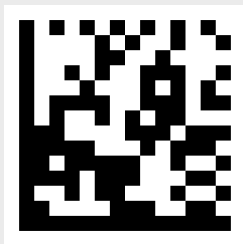


Factory Default: USB HID Communication Mode

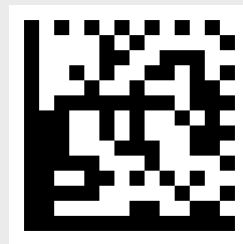


USB CDC Communication Mode

4.2 USB Communication Version

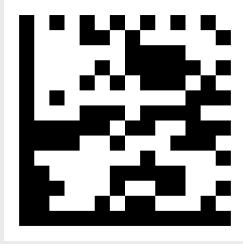


Factory Default: USB 1.1

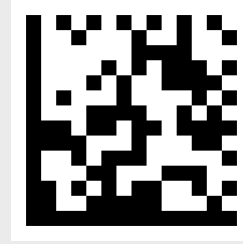


USB 2.0

4.3 Serial Device Discovery



Factory Default: Do Not Use Serial Device for
Discovery

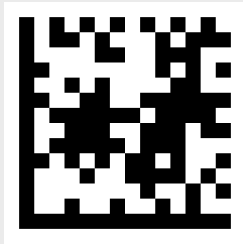


Use Serial Device for Discovery

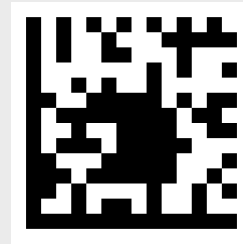
Note

This function can be used when the device is connected to the host through the serial port for debugging, but image transfer is not supported.

4.4 USB Keyboard Output Settings



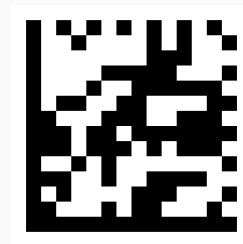
Factory Default: Disable Ignore Caps Lock



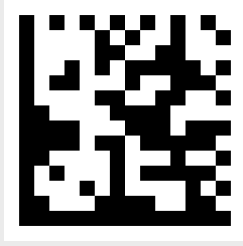
Enable Ignore Caps Lock



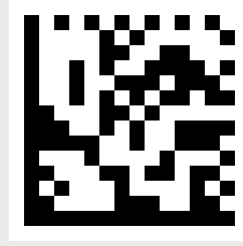
Factory Default: Disable Character Inversion



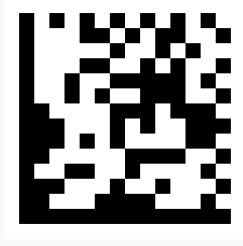
Enable Character Inversion



Case Conversion (Lowercase)



Case Conversion (Uppercase)



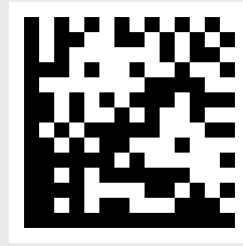
Factory Default: Disable Case Conversion



Enable Case Conversion



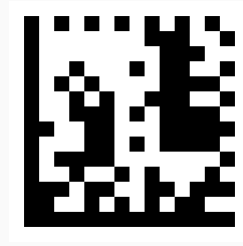
Character Interval: 100



Character Interval: 50



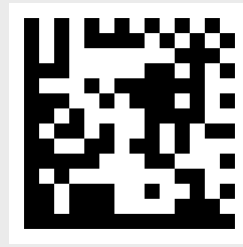
Factory Default: Character Interval: 10



Character Interval: 0



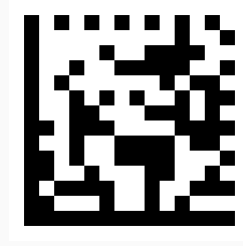
Barcode Interval: 100



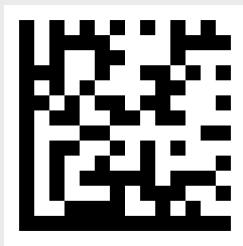
Barcode Interval: 50



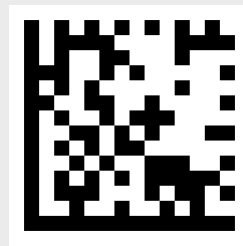
Barcode Interval: 10



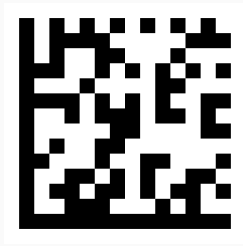
Factory Default: Barcode Interval: 0



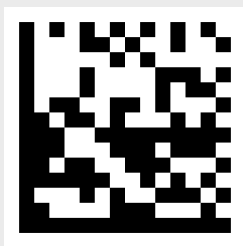
Characters per Transmission: 20



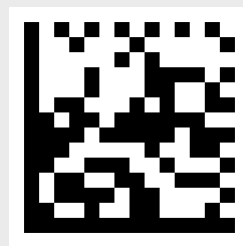
Characters per Transmission: 10



Factory Default: Characters per Transmission: 1



Factory Default: Disable Ignore Chinese Input Method



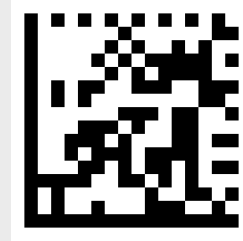
Enable Ignore Chinese Input Method

4.5 Serial Port Settings

Baud Rate Settings



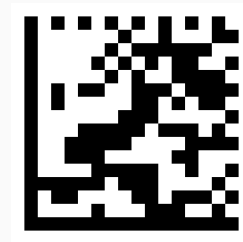
19200



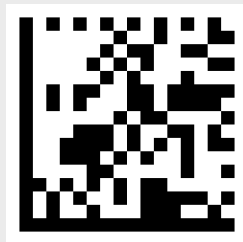
38400



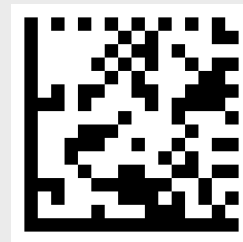
4800



Factory Default: 9600



115200



57600

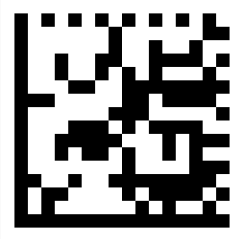
Parity Settings



Even

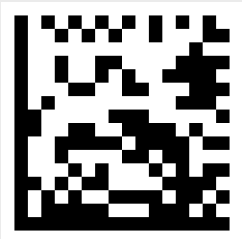


Odd



Factory Default: None

stop bit



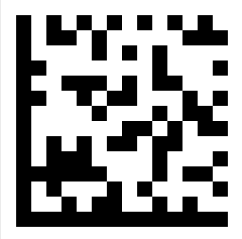
2



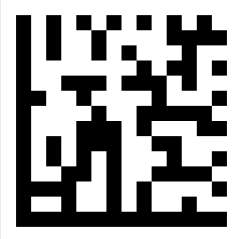
Factory Default: 1

5 Image Parameter Settings

5.1 Auto Image Adjustment Settings

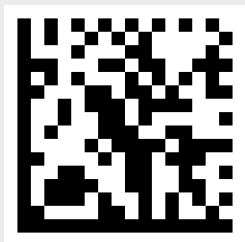


Disable Auto Image Adjustment

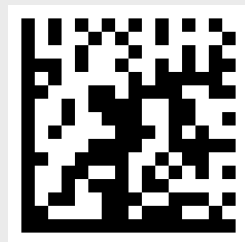


Factory Default: Enable Auto Image Adjustment

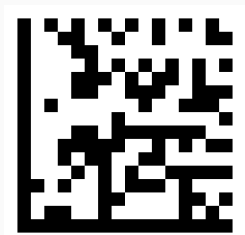
5.2 Exposure Time Settings



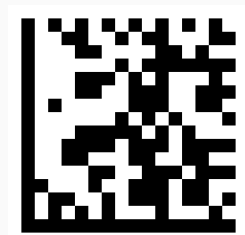
Exposure Time: 1000



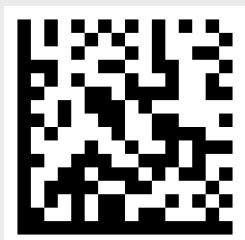
Exposure Time: 3000



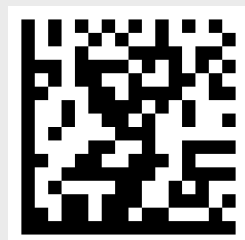
Exposure Time: 500



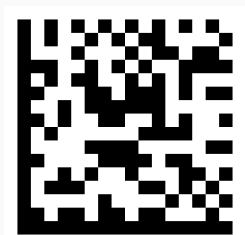
Exposure Time: 100



Exposure Time: 10000



Exposure Time: 6000



Exposure Time: 20000

Note

Unit: us

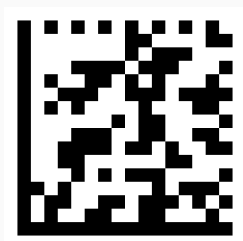
5.3 Gain Settings



Gain: 144



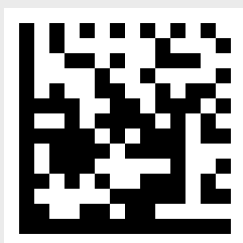
Gain: 32



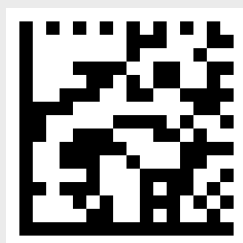
Gain: 96



Gain: 1



Gain: 255



Gain: 192

Note

Exposure time and gain settings take effect only after Auto Image Adjustment is disabled.

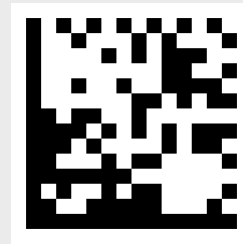
6 Format Configuration

6.1 Duplicate Time Filter Settings

Enable/Disable Duplicate Time Filtering

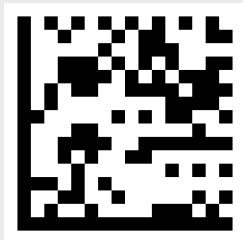


Factory Default: Disable

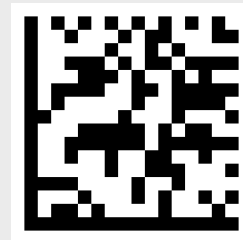


Enable

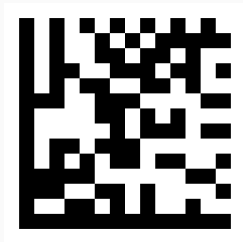
Filter Time Settings



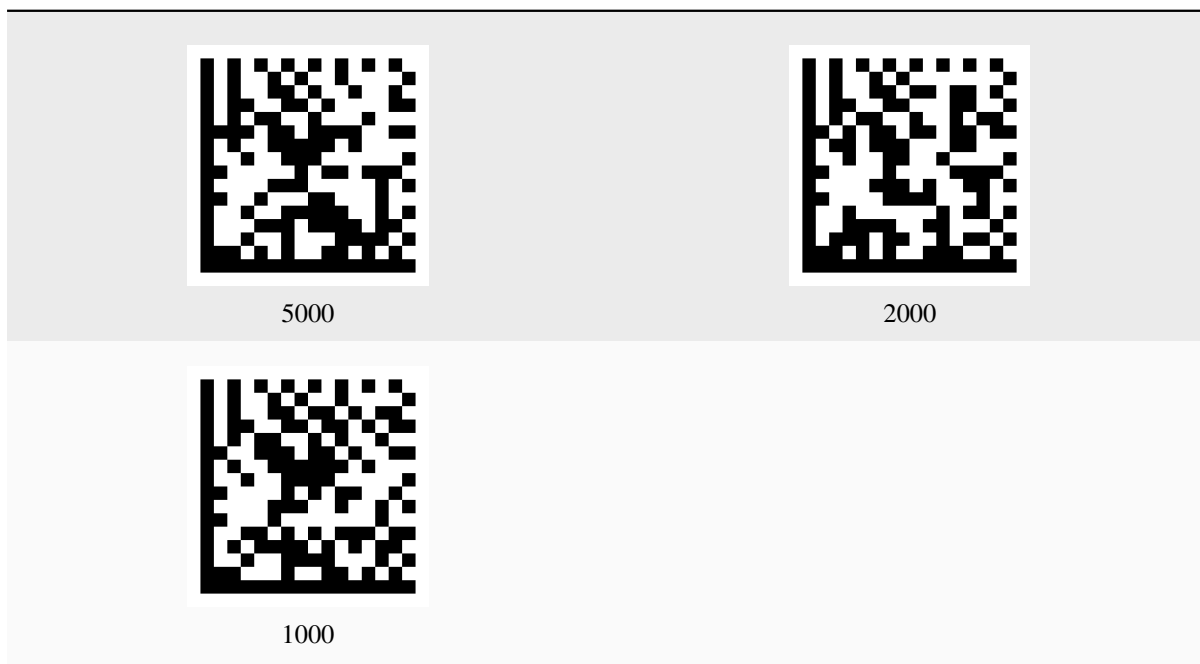
600



300

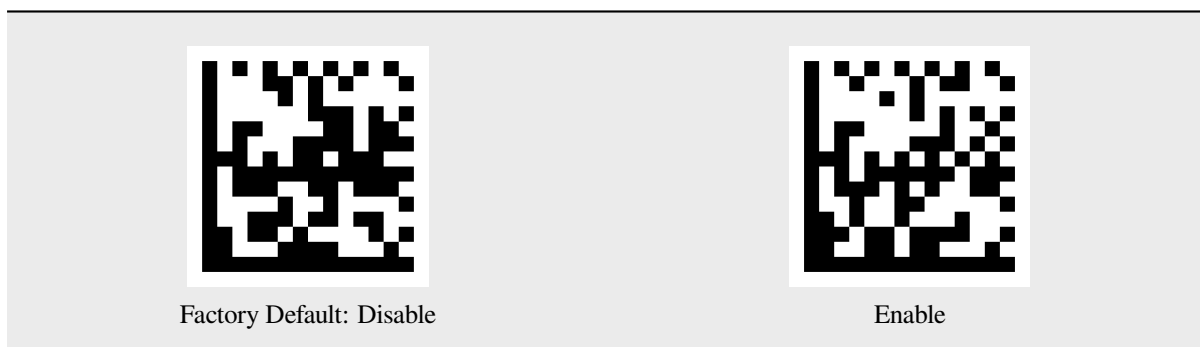


Factory Default: 30

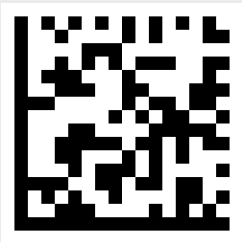


6.2 Duplicate Count Filter Settings

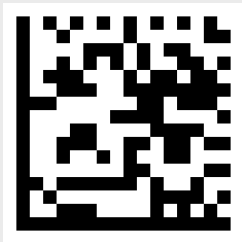
Enable/Disable Duplicate Count Filtering



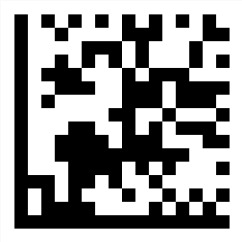
Filter Count Settings



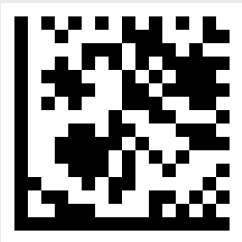
3



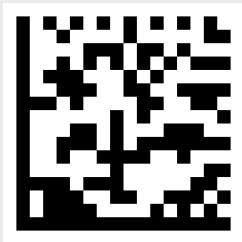
Factory Default: 1



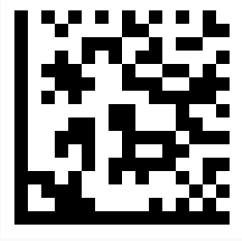
2



6



5

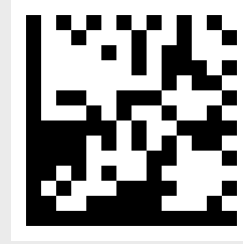


4

6.3 Duplicate Barcode Filter Settings

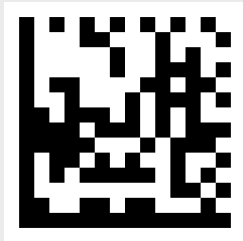


Factory Default: Disable

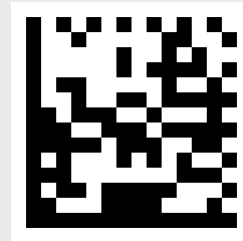


Enable

6.4 Merge Duplicate Barcodes

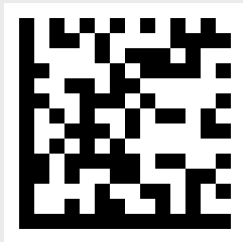


Factory Default: Disable

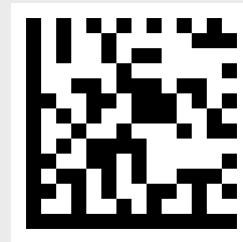


Enable

6.5 Barcode Length Limit Commands

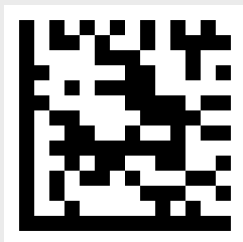


Factory Default: Disable

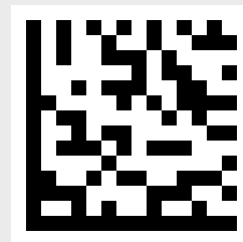


Enable

6.6 Ignore Prefix Settings

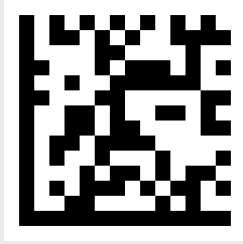


Factory Default: Disable

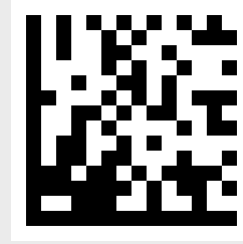


Enable

6.7 Specified Prefix Settings

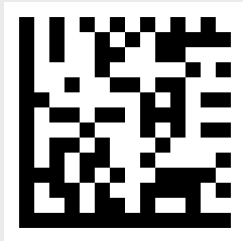


Factory Default: Disable

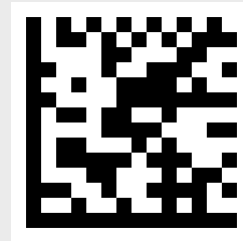


Enable

6.8 Specified Suffix Settings



Enable

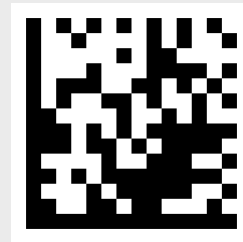


Factory Default: Disable

6.9 Required Match Settings

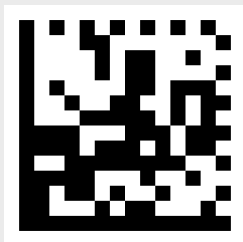


Factory Default: Disable Required Match

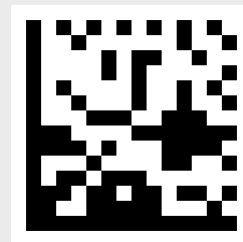


Enable Required Match

6.10 Excluded Content Settings



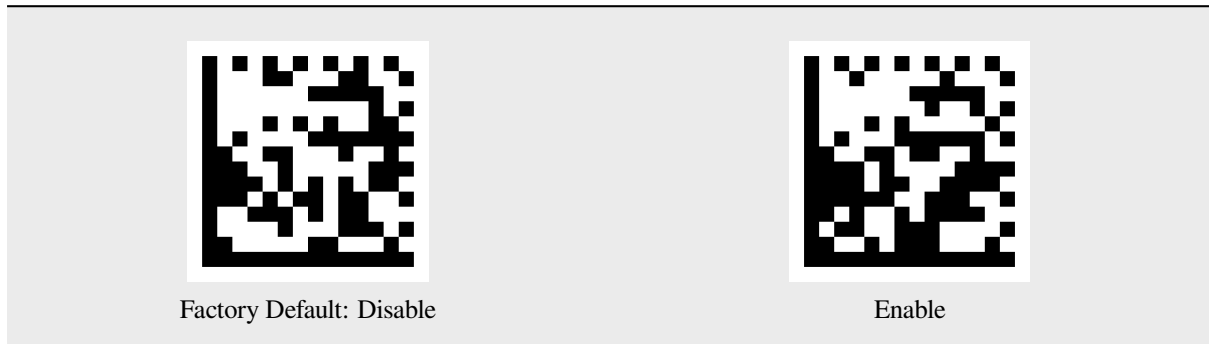
Factory Default: Disable



Enable

6.11 Character Requirement Settings

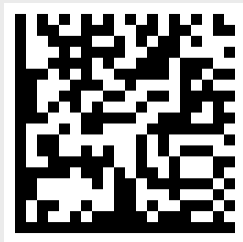
Enable/Disable Character Requirements



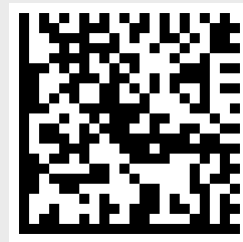
Character Requirement Settings



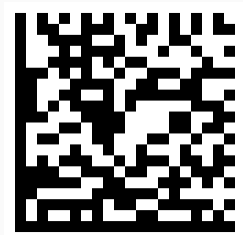
6.12 Barcode End Delimiter



/



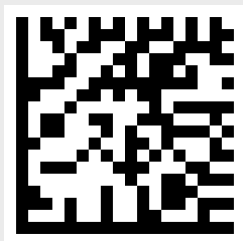
CRLF



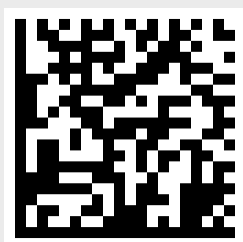
CR



LF



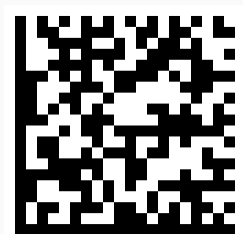
None



\



Tab



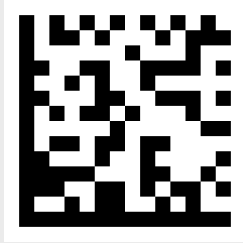
-



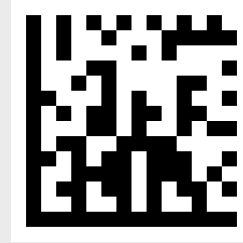
_

7 Symbology Settings

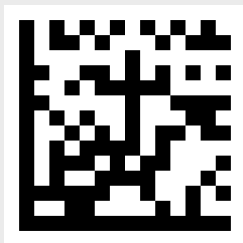
7.1 Enable/Disable All Symbologies



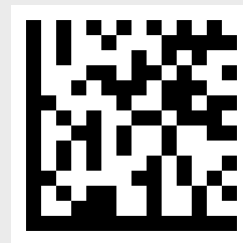
Disable All 1D Symbologies



Enable All 1D Symbologies

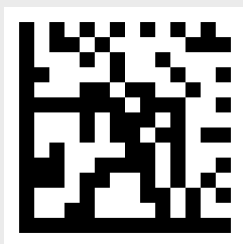


Disable All 2D Symbologies

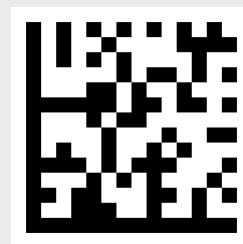


Enable All 2D Symbologies

7.2 Enable/Disable Code 128

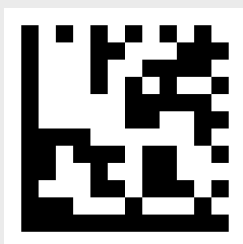


Disable Code 128

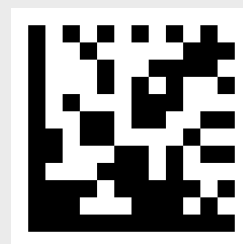


Factory Default: Enable Code 128

7.3 Enable/Disable Code 39

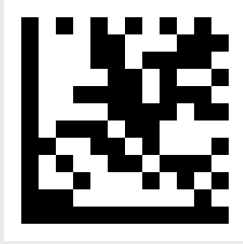


Disable Code 39

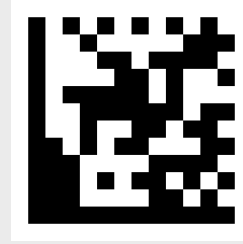


Factory Default: Enable Code 39

7.4 Enable/Disable Code 93

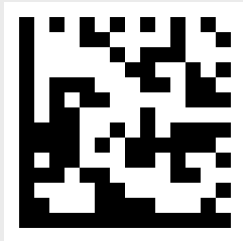


Factory Default: Disable Code 93

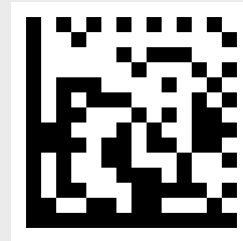


Enable Code 93

7.5 Enable/Disable EAN-8

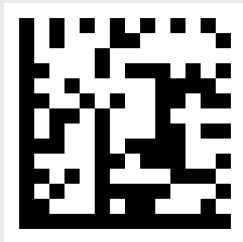


Disable EAN-8

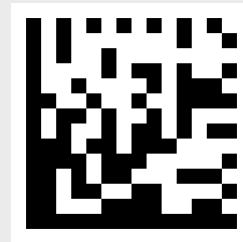


Factory Default: Enable EAN-8

7.6 Enable/Disable EAN-13

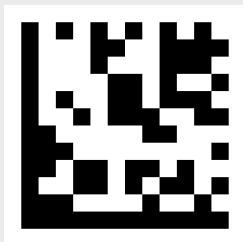


Disable EAN-13

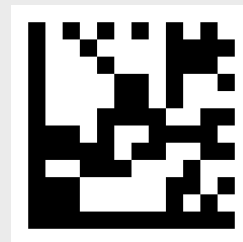


Factory Default: Enable EAN-13

7.7 Enable/Disable ITF25

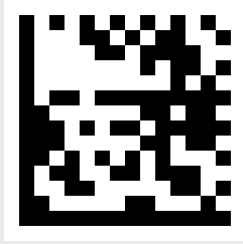


Factory Default: Disable ITF25

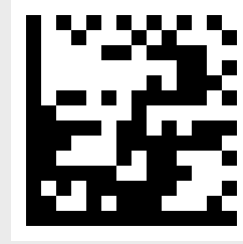


Enable ITF25

7.8 Enable/Disable UPC-A

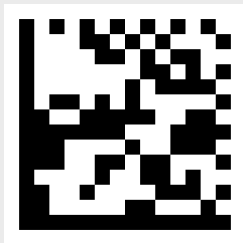


Disable UPC-A

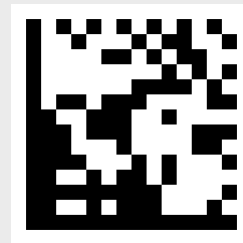


Factory Default: Enable UPC-A

7.9 Enable/Disable UPC-E

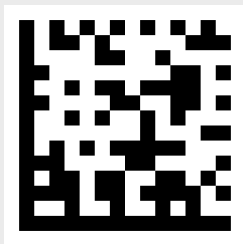


Disable UPC-E

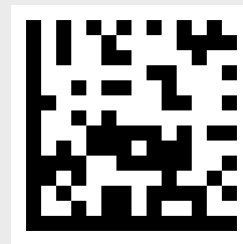


Factory Default: Enable UPC-E

7.10 Enable/Disable Codabar

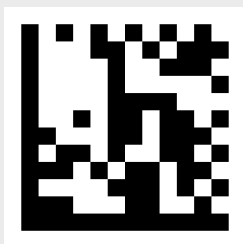


Factory Default: Disable Codabar

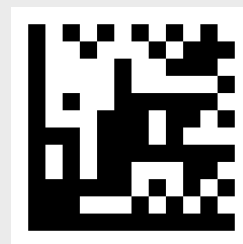


Enable Codabar

7.11 Enable/Disable QR Code

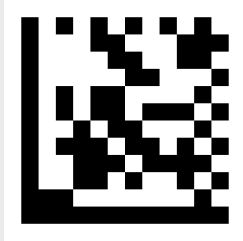


Disable QR Code

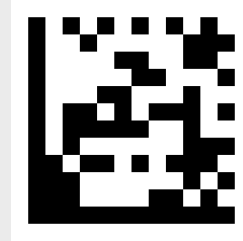


Factory Default: Enable QR Code

7.12 Enable/Disable Data Matrix

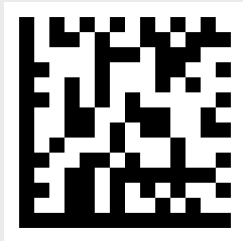


Disable Data Matrix

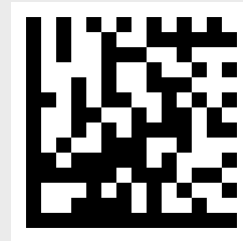


Factory Default: Enable Data Matrix

7.13 Enable/Disable Micro QR

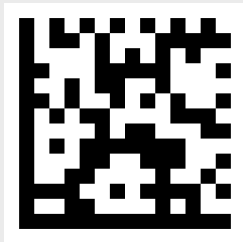


Factory Default: Disable Micro QR

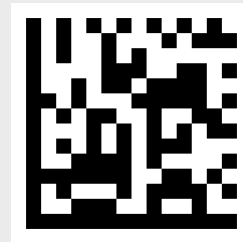


Enable Micro QR

7.14 Enable/Disable Aztec Code

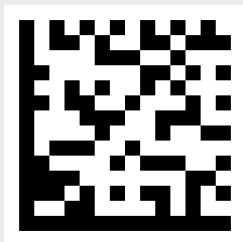


Factory Default: Disable Aztec Code

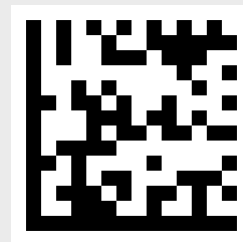


Enable Aztec Code

7.15 Enable/Disable MaxiCode

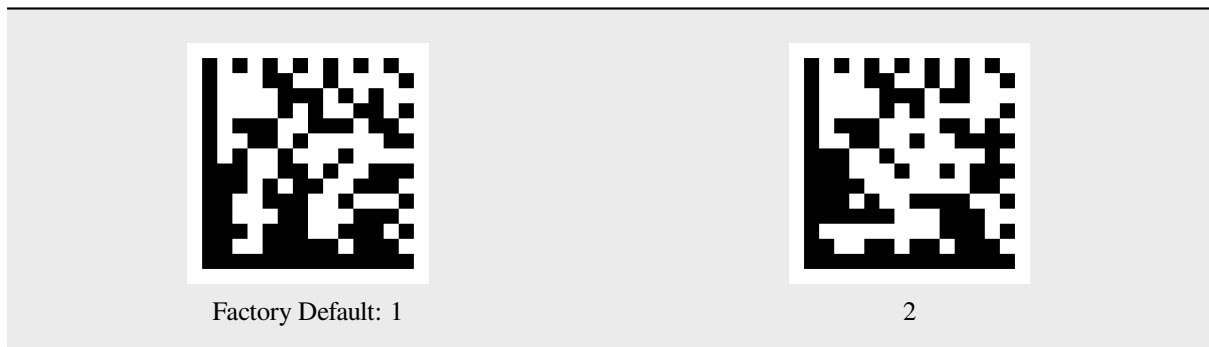


Factory Default: Disable MaxiCode

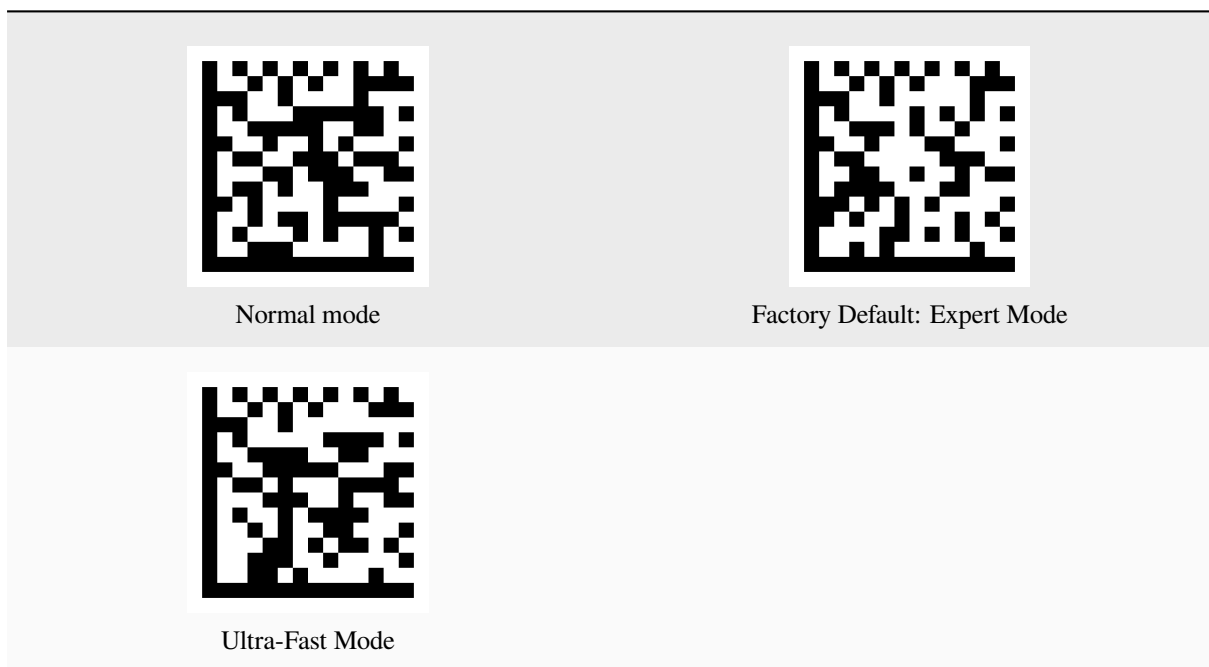


Enable MaxiCode

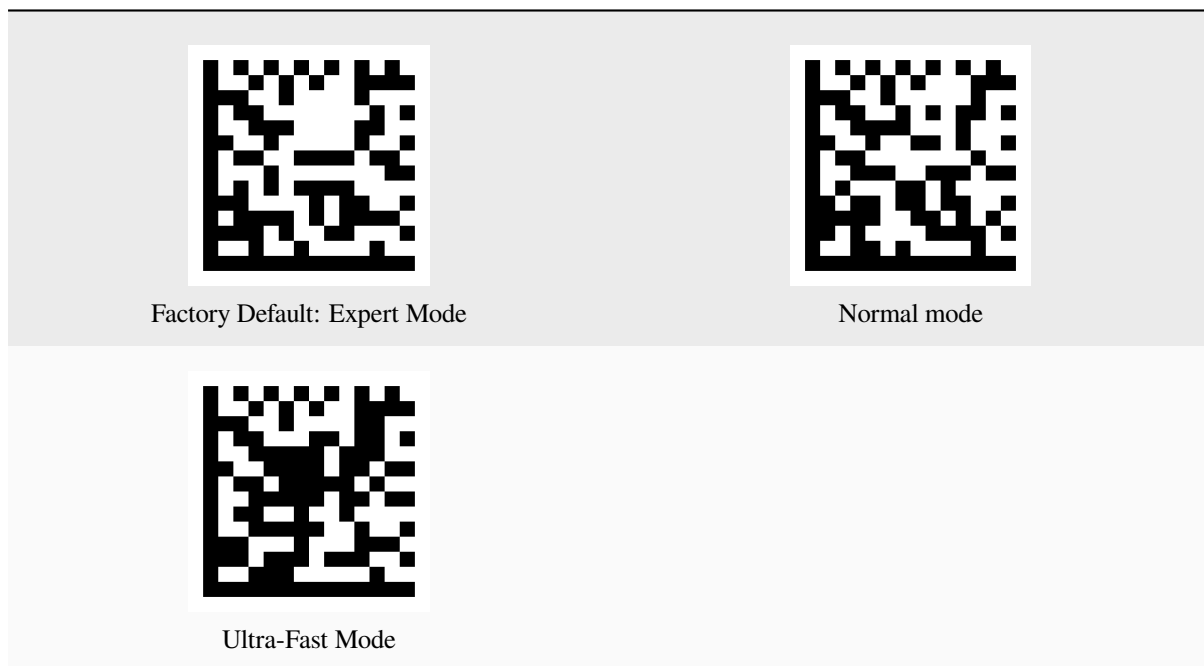
7.16 Number of Barcodes



7.17 1D Symbology Algorithm Mode



7.18 2D Symbology Algorithm Mode



Note

Use Ultra-Fast Mode when the scene is simple and processing time is critical.

8 Appendix

8.1 ASCII Code Table

Hexadecimal	decimal	character
00	0	NUL
01	1	SOH
02	2	STX
03	3	ETX
04	4	EOT
05	5	ENQ
06	6	ACK
07	7	BEL
08	8	BS
09	9	HT
0a	10	LF/NL
0b	11	VT
0c	12	FF/NP
0d	13	CR
0e	14	SO
0f	15	SI

continues on next page

Table 1 – continued from previous page

Hexadecimal	decimal	character
10	16	DLE
11	17	DC1/XON
12	18	DC2
13	19	DC3/XOFF
14	20	DC4
15	21	NAK
16	22	SYN
17	23	ETB
18	24	CAN
19	25	EM
1a	26	SUB
1b	27	ESC
1c	28	FS
1d	29	GS
1e	30	RS
1f	31	US
20	32	(Space)
21	33	!
22	34	“
23	35	#
24	36	\$
25	37	%
26	38	&
27	39	‘
28	40	(
29	41	)
2a	42	*
2b	43	+
2c	44	,
2d	45	-
2e	46	.
2f	47	/
30	48	0
31	49	1
32	50	2
33	51	3
34	52	4
35	53	5
36	54	6
37	55	7
38	56	8
39	57	9
3a	58	:
3b	59	;
3c	60	<
3d	61	=
3e	62	>
3f	63	?

continues on next page

Table 1 – continued from previous page

Hexadecimal	decimal	character
40	64	@
41	65	A
42	66	B
43	67	C
44	68	D
45	69	E
46	70	F
47	71	G
48	72	H
49	73	I
4a	74	J
4b	75	K
4c	76	L
4d	77	M
4e	78	N
4f	79	O
50	80	P
51	81	Q
52	82	R
53	83	S
54	84	T
55	85	U
56	86	V
57	87	W
58	88	X
59	89	Y
5a	90	Z
5b	91	[
5c	92	\
5d	93	]
5e	94	^
5f	95	_
60	96	`
61	97	a
62	98	b
63	99	c
64	100	d
65	101	e
66	102	f
67	103	g
68	104	h
69	105	i
6a	106	j
6b	107	k
6c	108	l
6d	109	m
6e	110	n
6f	111	o

continues on next page

Table 1 – continued from previous page

Hexadecimal	decimal	character
70	112	p
71	113	q
72	114	r
73	115	s
74	116	t
75	117	u
76	118	v
77	119	w
78	120	x
79	121	y
7a	122	z
7b	123	{
7c	124	
7d	125	}
7e	126	~
7f	127	DEL