MT82W
Scan Engine
User's Manual

Version 1.1

DATE: 2023/08/31

Table of Content

Chapter 1 System Setting

Introduction

The MT82W can be configured by scanning programming barcodes. All user programmable features/options are described along with their programming barcodes/commands in the following sections. This programming method is most straightforward. However, it requires manually scanning barcodes. As a result, errors are more likely to occur.

Programming Barcode

The figure above is an example that shows you the programming barcode for the Enter Setup function:

1. The programming barcode.
2. The description of feature/function.

Use of Programming Code

Scanning the Enter Setup barcode can enable the engine to enter the setup mode. Then you can scan a number of

programming barcodes to configure your engine. To exit the setup mode, scan the

Exit Setup barcode or a non-programing barcode, or reboot the engine

Enter Setup（default）

Exit Setup

Restore Factory Default

Restore Factory Default

User Preference

User can set up his/her preference of the scanner.

Save User Preference

Restore to User Preference Default

Reread Timeout

Reread Timeout can avoid undesired rereading of same barcode in a given period of time.

This feature is only applicable to the Sense and Continuous modes.

It's programmable as 500ms, 750ms, 1s and 2s. 500ms is the default value.

500ms（default）

750ms

1s

2s

Beeper

The scanner issues different beeps to indicate status: Good-Read Beep, Error Beep, Startup Beep and Programming Beep.

Beeper Volume

For setting up **Good Read Beep** and **Error Beep** only.

High Volume (default)

Low Volume

Startup Beep

The engine can be programmed to beep when it is powered on. Scan the **Off** barcode if you do not want a power on beep.

On（default)

Off

Beeper On/Off

Setting for "Good Read-Beep" and Error Beep"

On（default)

Off

Beeper Tone-Good Read

Low Tone（default)

Medium Tone

High Tone

Beeper Duration - Good Read and Error

Long Duration（default）

Short Duration

Beeper Tone-Error

Low Tone（default）

Medium Tone

High Tone

LED Illumination

Normal（default）：LED on engine are turned on during image capture；

Always on：Illumination LED on the engine keep on after the engine is powered on.

Always off：Illumination LED on the engine are off all the time

Normal（default）

Always on

Always off

Aimer

Normal（default）：The engine projects an aiming pattern only during barcode scanning/capture.

Always On: Aiming pattern is constantly on after the engine is powered on.

Off: Aiming pattern is off all the time.

Normal（default）

Always on

Always off

Good Read LED

The LED can be programmed to be On or Off to indicate good read.

On（default）

Off

Firmware Upgrade

Please connect the scanner with a USB cable for firmware upgrade.

Firmware Upgrade

Steps to upgrade firmware:

1.Plug the scanner with a USB cable;

2. Scan Firmware Upgrade barcode to enter USB driver mode and wait for USB driver showing up on the computer;

3.Copy the firmware file into the USB driver;

4. Eject the USB driver and replug the usb cable to restart up the scanner and the scanner will start the firmware upgrade procedure.

5.The scanner beeps after firmware upgrading.

If the upgrade is successful, the factory settings will be restored, and users can reset the scanner according to their needs.

If the upgrade fails, you need to re-power on and restart the scanner and perform the above upgrade steps again.

Auto Sleep Mode

Enable/Disable Auto Sleep Mode

The auto sleep mode can be set up only when the scanner is under Level Mode. Auto Sleep allows the engine to automatically enter the sleep mode if no operation or communication is performed for a time period (user programmable). Sending trigger signal can awake the engine. The default setting is 5s.

When the scanner is under USB-keyboard interface and awake from auto sleep mode, it will not transmit any decoded data until it's re powered on.

Disable (default)

Enable

Enter Sleep Mode

Enter Sleep Mode Now

Set Time Period from Idle to Sleep

The following parameter sets how long the engine remains idle (no operation or communication occurs) before it is put into sleep mode. It is programmable in 1s increments from 1s to 3600s.

Time Period from Idle to Sleep

Set Time Period from Idle to Sleep to '10s'(default: 5s)

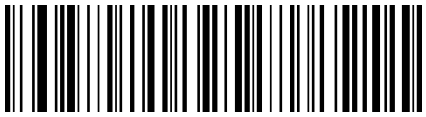
1. Scan Time Period from Idle to Sleep barcode.
2. Scan numeric barcode"1""0"from the "Digital barcodes" section in Appendix 1.
3. Scan Save barcode in Appendix 1

Chapter 2 Scan Mode

Sense Mode (default)

Sense Mode

The engine activates a decode session every time it detects a barcode presented to it. The decode session continues until a barcode is decoded or the decode session timeout expires. Reread Timeout can avoid undesired rereading of same barcode in a given period of time.

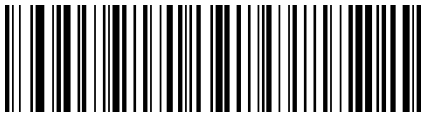


Sense Mode

Decode Session Timeout

This parameter sets the maximum time decode session continues during a scan attempt. It is programmable from 3s to 10s. The default setting is 3s.

Short (default)



Medium

Long

Custom Decode Session Timeout

Set custom decode session timeout

It's programmable in 0.1s increments from 1 to 999. The default setting is 3s.

Set Custom Decode Session Timeout

Set the decode session timeout to 10s:

1, Scan **Set Custom Decode Session Timeout** Barcode

2, Scan the numeric barcodes: "1""0" from the "Digital barcodes" section in Appendix1.

3, Scan the **Save** barocde in Appendix1

Good Read Illumination LED Duration

This parameter sets the amount of time that the Good Read LED to remain on following a good read.

It's programmable as Short, Medium and Long, corresponding to 3s, 7s and 10s. The default setting is 0s.

Short

Medium

Long

Set up Custom Duration

Set Custom Good Read Illumination LED Duration

This parameter sets the amount of custom time that the Good Read LED to remain on following a good read. It is programmable in 0.1s increments from 1 to 999.

Set Custom Good Read Illumination LED Duration

Set the custom duration as 10s:

1, Scan **Set Custom Good Read LED Duration** Barcode.

2, Scan numeric barcode"1""0" from the "Digital Barcodes" section in Appendix1

3, Scan Save barcode in Appendix 1

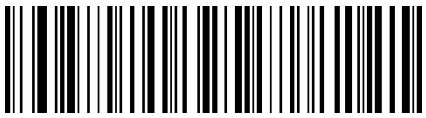
Level Mode

A trigger pull activates a decode session. The decode session continues until a barcode is decoded or you release the trigger

Level Mode

Continuous Mode

The engine automatically starts one decode session after another. To suspend/resume barcode reading, simply press the trigger. Reread Timeout can avoid undesired rereading of same barcode in a given period of time.



Continuous Mode

Chapter 3 Communication Interface

USB Interface

USB HID (default)

When the engine is connected to the USB port on a host device, you can enable the USB HID Keyboard feature by scanning the barcode below. Then engine's transmission will be simulated as USB keyboard input. The Host receives keystrokes on the virtual keyboard. It works on a Plug and Play basis and no driver is required.

USB HID

USB HID Data Upload Method

Before turning on this function, make sure that "USB HID Mode" is turned on.

PC Software

USB-Keyboard (default)

Both PC Software and USB-Keyboard

Function Key Mapping

This setting is aimed for USB-Keyboard Mode. Please Refer to Appendix《ASCII Table》.

Enable

Disable（default）

Function Key GS Replace

Do not replace（default）

Replace as Ç

Replace as |

Replace as ^]

Replace as]

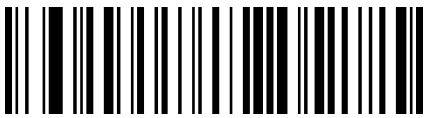
Replace as<GS>

Virtual Keyboard

Virtual keyboard Enable (mode one): The characters between 0x20 ~ 0xFF are output using the virtual keyboard which is not supported under the current keyboard layout, and the characters between 0x00 ~ 0x1F are output according to the definition of control characters.

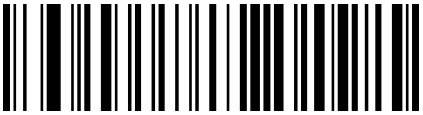
Virtual keyboard Enable (mode two): All characters between 0x20 and 0xFF are output using virtual keyboard, and characters between 0x00 and 0x1F are output according to the definition of control characters.

Virtual keyboard Enable (mode three): All characters used between 0x00 and 0xFF are output using virtual keyboard.



Disable Virtual Keyboard (default)

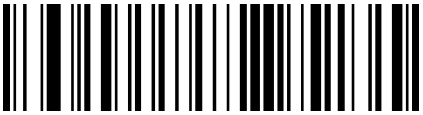
Enable Virtual Keyboard（Mode 1）



Enable Virtual Keyboard（Mode 2）

Enable Virtual Keyboard（Mode 3）

USB-Keyboard Transmit Speed



Low Speed

Medium Speed

High Speed（default）

Set Custom Speed

Set Custom Transmission Speed

The transmission speed can be set up from 2ms to 50ms.

Set Custom Transmission Speed （default 10ms）

Set custom transmission speed to 10ms:

1. Scan Set Custom Transmission Speed barcode.
2. Scan numeric barcode"1""0" from the "Digital Barcodes" section in appendix 1.
3. Scan Save barcode in appendix 1.

Carriage Return and Line Feed

Only 0A wraps: 0D does not output, 0A outputs Line Feed (for barcode data only, it does not affect the prefix and suffix).

Only 0D line feed (default): 0A does not output, 0D output Enter (for barcode data only, does not affect the prefix and suffix).

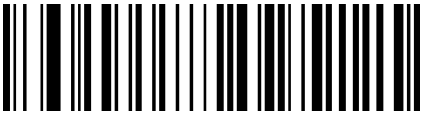
0A and 0D both wrap: 0D and 0A both output Enter (for barcode data only, it does not affect the prefix and suffix).

Only 0A wraps

Only 0D line feed （default）

0A and 0D both wrap

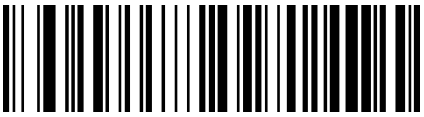
Countries Keyboards



USA-English (default)

Italian

Spanish



Portuguese-Portugal

Portuguese-Brazil

USB CDC

USB CDC

TTL- 232 Interface

Serial communication interface is usually used when connecting the engine to a host device (like PC, POS). However, to ensure smooth communication and accuracy of data, you need to set communication parameters (including baud rate, parity check, data bit and stop bit) to match the host device

TTL-232 Interface

Baud Rate

Baud rate is the number of bits of data transmitted per second. Set the baud rate to match the host requirements. Default is 9600bps.

Baud Rate = 4800

Baud Rate = 9600 (default)

Baud Rate = 19200

Baud Rate = 38400

Baud Rate = 57600

Baud Rate = 115200

Parity Check

Set the parity type to match the host requirements.

Odd Parity: If the data contains an odd number of 1 bits, the parity bit value is set to 0.

Even Parity: If the data contains an even number of 1 bits, the parity bit value is set to 0.

None: Select this option when no parity bit is required.

Stop Bit: The stop bit(s) at the end of each transmitted character marks the end of transmission of one character and prepares the receiving device for the next character in the serial data stream. Set the number of stop bits to match the host requirements.

Data Bit8, Stop Bit1, No Parity (default)

Data Bit8, Stop Bit1, Odd Parity

Data Bit8, Stop Bit1, Even Parity

Data Bit8, Stop Bit2, No Parity

Data Bit8, Stop Bit2, Odd Parity

Data Bit8, Stop Bit2, Even Parity

Chapter 4 Data Format

Custom Prefix

Enable/Disable Custom Prefix

If custom prefix is enabled, you are allowed to append to the data a user-defined prefix that cannot exceed 10 characters. For example, if the custom prefix is "AB" and the barcode data is "123", the Host will receive "AB123".

Enable Custom Prefix

Disable Custom Prefix (default)

Restore All Custom Prefix

Set Custom Prefix

To set a custom prefix, scan the Set Custom Prefix barcode then the numeric barcodes corresponding to the hexadecimal value of a desired prefix then the Save barcode.

Set Custom Prefix

Set custom prefix "a" (Hex value is 0x61) to all symbologies(CODE ID value is 0x99)

1.. Scan Set Custom Prefix barcode.

2.. Scan numeric barcode"9""9""6""1" from the "Digital Barcodes" section in Appendix 1

3. Scan Save barcode in Appendix 1

4. Scan Enable Custom Prefix barcode.

Custom Suffix

Enable/Disable Custom Suffix

If custom suffix is enabled, you are allowed to append to the data a user-defined suffix that cannot exceed 10 characters. For example, if the custom suffix is "AB" and the barcode data is "123", the Host will receive "123AB".

Enable Custom Suffix

Disable Custom Suffix（default)

Restore All Custom Suffix

Set Custom Suffix

To set a custom prefix, scan the Set Custom Suffix barcode then the numeric barcodes corresponding to the hexadecimal value of a desired prefix then the Save barcode.

Set Custom Suffix

Set custom suffix "a" (Hex value is 0x61) to all symbologies(CODE ID value is 0x99)

1.. Scan Set Custom Suffix barcode.

2.. Scan numeric barcode"9""9""6""1" from the "Digital Barcodes" section in Appendix 1

3. Scan Save barcode in Appendix 1

4. Scan Enable Custom Suffix barcode.

CODE ID

Code ID can also be used to identify barcode type. Unlike AIM ID, Code ID is user programmable. Code ID can only consist of one letters.

CODE ID Selection

CODE ID Prefix: CODE ID before barcode

CODE ID Suffix: CODE ID after barcode

Disable CODE ID (default)

CODE ID Prefix

CODE ID Suffix

Restore All CODE ID

Restore All CODE ID

Set Custom CODE ID

Ser Custom CODE ID

Modify Codabar（CODE ID:0x61）CODE ID to be "Y"（Hex: 0x59）：

1.Scan Set Custom CODE ID barcode

2.Scan numeric barcode"6""1""5""9" from the "Digital Barcodes" section in Appendix 1

3.Scan Save barcode in Appendix 1

AIM ID

AIM (Automatic Identification Manufacturers) ID defines symbology identifier (For the details, see the "AIM ID Table" section in Appendix). If AIM ID prefix is enabled, the engine will add the symbology identifier before or after the scanned data after decoding

AIM ID is not user programmable

Disable AIM ID（default）：Do Not output AIM ID.

AIM ID Prefix：AIM ID before scanned data.

AIM ID Suffix：AIM ID after scanned data.

Disable AIM ID (default)

AIM ID Prefix

AIM ID Suffix

Start Character

Disable Start Character (default)

Start Character = STX

Terminating Character Suffix

A terminating character such as carriage return (CR) or carriage return/line feed pair (CRLF) can only be used to mark the end of data, which means nothing can be added after it.

Terminating Character = CR (default)

Terminating Character = LF

Terminating Character = CR LF

Terminating Character = TAB

Terminating Character = ETX

Terminating Character = None

Prefix/Suffix Sequence

Prefix Sequence

Start Character+CODE ID+AIM ID+Custom Prefix (default)

Start Character+Custom Prefix+CODE ID+AIM ID

Suffix Sequence

Custom Suffix+CODE ID+AIM ID+Terminating Character (default)

CODE ID+AIM ID+Custom Suffix+Terminating Character

Convert Case

As Is (default)

Invert Case

All Upper Case

All Lower Case

Data Formatter

Prefix or suffix will be outputted regularly.

Data output selection

Transmit Original data (default): The barcode data will not be modified.

Transmit Start-Field: Only transmit the start-Field data and the length will be set up by Set Length for Start Field barcode. If the set length is greater than the length of the read character string, the original data will be transmitted. For example: if the string "1234567890" is read and the length is set to 3, the final output data is "123".

Transmit Middle Field: Only transmit the Middle Field and the length will be set up by Set length for Start Field barcode and Set Length for End Field barcode. If the sum of the two length values is greater than the length of the read character string, the output is empty. For example: if the character string "1234567890" is read, and the start/end field lengths are set to 3 and 4 respectively, the final output data is "456".

Transmit End Field: Only transmit the End-Field data and the length will be set up by Set Length for End Field barcode.. If the set length is greater than the length of the read character string, the original data will be output. For example: if the character string "1234567890" is read and the length is set to 3, the final output data is "890".

Transmit Start Field and End Field: The transmitted data is limited according to the data of "Set Length for Start-Field" and "Set Length for End-Field". If the sum of the two

length values is greater than the length of the read character string, the original data will be transmitted. For example: if the character string "1234567890" is read, and the start/end field lengths are set to 3 and 4 respectively, the final transmitted data is "1237890"..

Transmit Original Data (default)

Transmit Start-Field

Transmit Middle Field

Transmit End Field

Transmit Start Field and End Field

Set Length Range for Start/End Field

Default value is 1, Range: 1 ~ 7900. When it is set up to be 0, this function will be invalid.

Example: Set Start Field Length as 12

1. Scan Set Length Range for Start Field barcode.

2. Scan numeric barcode "1""2" from the Digital Barcodes section in Appendix 1.

3. Scan Save barcode in Appendix 1.

Set Length Range for Start Field

Set Length Range for End Field

Chapter 5 Symbologies

Introduction

Every symbology (barcode type) has its own unique attributes. This chapter provides programming barcodes for configuring the engine so that it can identify various symbologies. It is recommended to disable those that are rarely used to increase the efficiency of the engine.

Enable/Disable All Symbologies

If the Disable All Symbologies feature is enabled, the engine will not be able to read any non-programming barcodes except the programming barcodes.

Enable All Symbologies

Disable All Symbologies

Enable/Disable All 1D Symbologies

Enable All 1D Symbologies

Disable All 1D Symbologies

Enable/Disable All 2D Symbologies

Enable All 2D Symbologies

Disable All 2D Symbologies

Inverse Barcode

Decode Normal Barcode (default)

Decode Normal Barcode & Inverse Barcode

Codabar

Enable/Disable Codabar

Enable (default)

Disable

Codabar Start/Ending Character

Enable Start/Ending Character

Disable Start/Ending Character

Set Length Range for Codabar

Any 1D barcode length can not exceed 127 characters. If minimum length is set to be greater than maximum length, the engine only decodes Codabar barcodes with either the minimum or maximum length. If minimum length is same as maximum length, only Codabar barcodes with that length are to be decoded.

Set the Minimum Length (1~127)

Set the Maximum Length (1~127)

Set the scanner to decode Codabar barcodes containing between 8 and 12 characters:

1. Scan the **Set the Minimum Length** barcode.
2. Scan the numeric barcode "8" from the "Digit Barcodes"

section in Appendix.

3. Scan the Save barcode from the "Save/Cancel Barcodes" section in Appendix.

4. Scan the Set the Maximum Length barcode.

5. Scan the numeric barcodes "1" and "2" from the "Digit Barcodes" section in Appendix.

6. Scan the Save barcode from the "Save/Cancel Barcodes" section in Appendix.

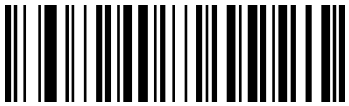
Code 39

Enable/Disable Codo 39

Enable（default)

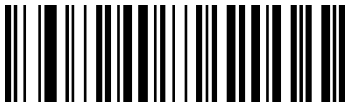
Disable

Code 39 Check Digit



Disable Check Digit（default)

Enable and do not transmit check digit



Enable and transmit check digit

Code 39 Full ASCII

Disable（default)

Enable

Set Length Range for Code 39

Set the Minimum Length (1~127)

Set the Maximum Length (1~127)

Set the scanner to decode Code39 barcodes containing between 8 and 12 characters:

1. Scan the **Set the Minimum Length** barcode.
2. Scan the numeric barcode "8" from the "Digit Barcodes" section in Appendix.
3. Scan the **Save** barcode from the "Save/Cancel Barcodes" section in Appendix.
4. Scan the **Set the Maximum Length** barcode.
5. Scan the numeric barcodes "1" and "2" from the "Digit Barcodes" section in Appendix.
6. Scan the **Save** barcode from the "Save/Cancel Barcodes" section in Appendix.

Code 32

To enable code32, code39 need to be enabled first.

Enable（default)

Disable

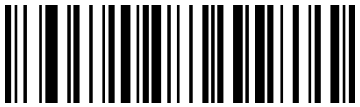
Interleaved 2 of 5 （ITF5)

Enable/Disable Interleaved 2 of 5（ITF5)

Enable（default)

Disable

Interleaved 2 of 5（ITF5）Check Digit



Disable Check Digit（default)

Enable and do not transmit check digit

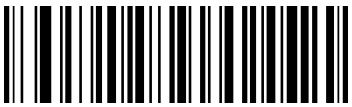
Enable and Transmit Check Digit

Set Fixed Length for Interleaved 2 of 5 (ITF5)

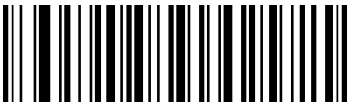
Any Length (4-128) (default)

6 Characters

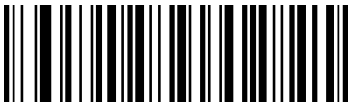
8 Characters



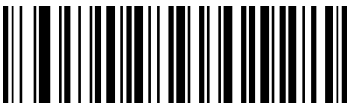
10 Characters



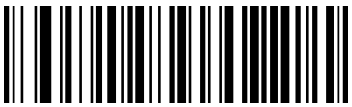
12 Characters



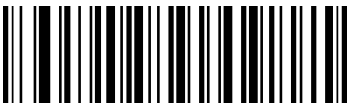
14 Characters



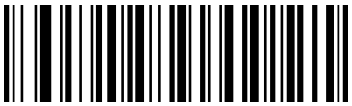
16 Characters



18 Characters



20 Characters



22 Characters

24 Characters

Set Custom Length for ITF5

Set Length Range for Interleaved 2 of 5

Need to scan **Set Custom Length for ITF5** barcode first

Set the Minimum Length（4~128）

Set the Maximum Length（4~128 ）

Set the scanner to decode ITF25 barcodes containing between 8 and 12 characters:

1.Scan the **Set the Minimum Length** barcode.

2.Scan the numeric barcode "8" from the "Digit Barcodes" section in Appendix.

3.Scan the **Save** barcode from the "Save/Cancel Barcodes" section in Appendix.

4.Scan the Set the Maximum Length barcode.

5.Scan the numeric barcodes "1" and "2" from the "Digit Barcodes" section in Appendix.

6.Scan the Save barcode from the "Save/Cancel Barcodes" section in Appendix.

Industrial 2 of 5

Enable/DisableIndustrial 2 of 5

Enable (default)

Disable

Set Length Range for Industrial 2 of 5

Set the Minimum Length (4~128)

Set the Maximum Length (4~128)

Set the scanner to decode Industrial 2 of 5 barcodes containing between 8 and 12 characters:

1.Scan the Set the Minimum Length barcode.

2.Scan the numeric barcode "8" from the "Digit Barcodes" section in Appendix.

3.Scan the Save barcode from the "Save/Cancel Barcodes" section in Appendix.

4.Scan the Set the Maximum Length barcode.

5.Scan the numeric barcodes "1" and "2" from the "Digit Barcodes" section in Appendix.

6.Scan the Save barcode from the "Save/Cancel Barcodes" section in Appendix.

Matrix 2 of 5

Enable/DisableMatrix 2 of 5

Enable (default)

Disable

Set Length Range for Matrix 2 of 5

Set the Minimum Length（4~128 ）

Set the Maximum Length（4~128）

Set the scanner to decode Matrix 2 of 5 barcodes containing between 8 and 12 characters:

1.Scan the Set the Minimum Length barcode.

2.Scan the numeric barcode "8" from the "Digit Barcodes" section in Appendix.

3.Scan the Save barcode from the "Save/Cancel Barcodes" section in Appendix.

4.Scan the Set the Maximum Length barcode.

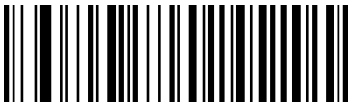
5.Scan the numeric barcodes "1" and "2" from the "Digit Barcodes" section in Appendix.

6.Scan the Save barcode from the "Save/Cancel Barcodes" section in Appendix.

Code 93

Enable/DisableCode 93

Enable（default)



Disable

Set Length for Code 93

Set the Minimum Length (1~127)

Set the Maximum Length (1~127)

Set the scanner to decode Code93 barcodes containing between 8 and 12 characters:

1.Scan the Set the Minimum Length barcode.

2.Scan the numeric barcode "8" from the "Digit Barcodes" section in Appendix.

3.Scan the Save barcode from the "Save/Cancel Barcodes" section in Appendix.

4.Scan the Set the Maximum Length barcode.

5.Scan the numeric barcodes "1" and "2" from the "Digit Barcodes" section in Appendix.

6.Scan the Save barcode from the "Save/Cancel Barcodes" section in Appendix.

Code 11

Enable/Disablt Code 11

Enable

Disable（default)

Code 11 Check Digit Transmission

Transmit Code 11 Check Digit

Do not Transmit Code11 Check Digit（default)

Code 11 Check Digit

Disable Check Digit（default)

One Check Digit

Two Check Digit

Set Length Range for Code 11

Set the Minimum Length (1~127)

Set the Maximum Length (1~127)

Set the scanner to decode Code 11 barcodes containing between 8 and 12 characters:

1.Scan the **Set the Minimum Length** barcode.

2.Scan the numeric barcode "8" from the "Digit Barcodes" section in Appendix.

3.Scan the **Save** barcode from the "Save/Cancel Barcodes" section in Appendix.

4.Scan the **Set the Maximum Length** barcode.

5.Scan the numeric barcodes "1" and "2" from the "Digit Barcodes" section in Appendix.

6.Scan the **Save** barcode from the "Save/Cancel Barcodes" section in Appendix.

Code 128

Enable/Disable Code 128

Enable (default)

Disable

Set Length Range for Code 128

Set the Minimum Length (1~127)

Set the Maximum Length (1~127)

Set the scanner to decode Code 129 barcodes containing between 8 and 12 characters:

1.Scan the **Set the Minimum Length** barcode.

2.Scan the numeric barcode "8" from the "Digit Barcodes" section in Appendix.

3.Scan the **Save** barcode from the "Save/Cancel Barcodes" section in Appendix.

4.Scan the **Set the Maximum Length** barcode.

5.Scan the numeric barcodes "1" and "2" from the "Digit Barcodes" section in Appendix.

6.Scan the **Save** barcode from the "Save/Cancel Barcodes" section in Appendix.

GS1-128

Enable（default）

Disable

UPC-A

Enable/Disable UPC-A

Enable（default）

Disable

UPC-A Check Digit

Transmit UPC-A Check Digit（default）

Do not Transmit UPC-A Check Digit

UPC-E

Enable/DisableUPC-E

Enable（default)

Disable

UPC-E Check Digit

Transmit Check Digit（default)

Do not Transmit Check Digit

Convert UPC-E to UPC-A

Convert UPC-E to UPC-A

Do not Convert UPC-E to UPC-A（default)

EAN/JAN-8

Enable（default)

Disable

EAN/JAN-13

Enable/DisableEAN/JAN-13

Enable（default)

Disable

Convert EAN13 to ISBN

Convert ISBN to ISBN

Do not Convert ISBN to ISBN（default)

Convert EAN13 to ISSN

Convert ISBN to ISSN

Do not Convert ISBN to ISBN（default)

UPC/EAN/JAN Supplemental

Ignore UPC/EAN/JAN Supplemental（default)

Decode UPC/EAN/JAN Supplemental

Autodiscriminate UPC/EAN/JAN with Supplemental

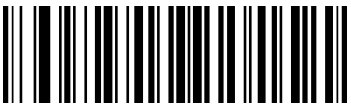
GS1 DataBar（RSS14）(Stacked)

Enable/DisableGS1 DataBar

Enable（default)

Disable

Enable/DisableGS1 DataBar Limited

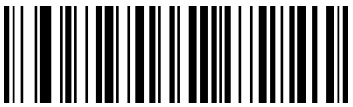


Enable （default)

Disable

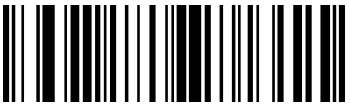
Enable/DisableGS1 DataBar Expanded

Enable（default)



Disable

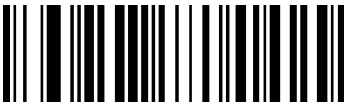
PDF417



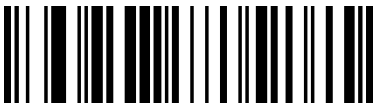
Enable（default)

Disable

Micro PDF417



Enable（default)



Disable

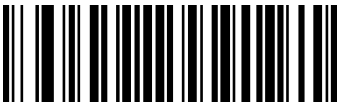
QR

QR Enable/Disable

Enable（default)

Disable

QR with URL



Enable

Disable（default）

Micro QR

Enable（default）

Disable

Data Matrix

Enable（default）

Disable

Aztec

Enable（default）

Disable

MSI Plessey

Enable/Disable MSI Plessey

Enable（default)

Disable

MSI Plessey Check Digit

Disable Check Digit

One Check Digit MOD10（default)

Two Check Digit MOD10/MOD10

Two Check Digit MOD10/MOD11

Set Length Range for MSI Plessey

Set the Minimum Length (1~127)

Set the Maximum Length (1~127)

Set the scanner to decode MSI Plessey barcodes containing between 8 and 12 characters:

1.Scan the **Set the Minimum Length** barcode.

2.Scan the numeric barcode "8" from the "Digit Barcodes" section in Appendix.

3.Scan the **Save** barcode from the "Save/Cancel Barcodes" section in Appendix.

4.Scan the **Set the Maximum Length** barcode.

5.Scan the numeric barcodes "1" and "2" from the "Digit Barcodes" section in Appendix.

6.Scan the **Save** barcode from the "Save/Cancel Barcodes" section in Appendix.

Hanxin code

Enable（default）

Disable

Appendix

Appendix1 Data and Digital Barcodes

	
	0
	
1	
	
	2
	
3	
	
	4
	
5	
	
	6

	
7	
	
	8
	
9	
	
	A
	
B	
	
	C
	
D	
	
	E
	
F	

	
	Cancel Last String
	
Cancel Current Setting	
	
	Cancel Last Digit
	
Save	

Appendix2 Symbology Table

Symbology	CODE ID		AIM ID
	HEX	Code ID	ID
All Symbology	0x99		
Codabar	0x61	a	]F0
Code 11	0x68	h	]H1
Code 128(Including GS1 128), GS1-128	0x6A	j	]C0
ISBT 128	0x6A	j	]C0
Code 32	0x3C	<	]X0
Code 39	0x62	b	]A0
Code 93	0x69	i	]G0
EAN			
EAN-13(including ISBN)	0x64	d	]E0
EAN-8	0x44	D	]E4
GS1			
GS1 DataBar	0x79	y	]e0
GS1 DataBar Limited	0x7B	{	]e0
GS1 DataBar Expanded	0x7D	}	]e0
2 of 5			
Interleaved 2 of 5	0x65	e	]I0

Matrix 2 of 5	0x6D	m	]X0
Straight 2 of 5 Industrial	0x66	f	]S0
MSI	0x67	g	]M1
UPC			
UPC-A	0x63	c	]E0
UPC-E	0x45	E	]E0
Aztec Code	0x7A	z	]z0
Han Xin	0x48	H	]X0
Codablock F	0x6A	j	]C0
Data Matrix	0x77	w	]d1
PDF417, Micro PDF417	0x72	r	]L0
QR, Micro QR	0x73	s	]Q1

Appendix3 Command Format Description

<table>
<tr><th>Head</th><th>DEV ID</th><th>CMD</th><th>Status</th><th>Package No.</th><th>Data Length</th><th>Data</th><th>CRC16</th><th>End</th></tr>
<tr><td>2byte</td><td>1 byte</td><td>3 byte</td><td>1 byte</td><td>2 byte</td><td>2 byte</td><td>N byte</td><td>2 byte</td><td>2 byte</td></tr>
<tr><td>0x0057</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0x4150</td></tr>
<tr><td rowspan="11">Description</td><td colspan="8">1.For multi-byte data types, the low byte is before the high byte (little endian mode), (for example, the data length of 2 bytes is 0x0001, and the actual sending order is 01 00 instead of 00 01). The maximum length of the command is 64byte. If a command with a length greater than 64byte is sent, it will be sent in packets.</td></tr>
<tr><td colspan="8">2.head: The Master is 0x57 0x00, and the Slave is 0x31 0x00.</td></tr>
<tr><td colspan="8">3.DEV ID: The default value is 0x00, which is used to distinguish different devices in the 485 serial port multi-machine communication</td></tr>
<tr><td rowspan="3">CMD</td><td>[23:16]</td><td colspan="6">As per MT82W Serial Commands Manual.</td></tr>
<tr><td>[15:8]</td><td colspan="6">As per MT82W Serial Commands Manual.</td></tr>
<tr><td>[7:0]</td><td colspan="6">As per MT82W Serial Commands Manual.</td></tr>
<tr><td rowspan="4">CMD Status:</td><td rowspan="2">[7:4]</td><td colspan="6">When the value is 0x0, the Command is a Programming Command.</td></tr>
<tr><td colspan="6">When the value is 0x1, the Command is a Inquiry Command.</td></tr>
<tr><td rowspan="2">[3:0]</td><td colspan="6">When the value is 0x0, Command is normal.</td></tr>
<tr><td colspan="6">When the value is 0x1, Command is abnormal.</td></tr>
<tr><td colspan="8">6.Package No.: Initial value is 0x00, and it will increase with the number of packets sent during</td></tr>
</table>

	sub-packet transmission.
	7. Data length: the length of the data segment in the current command. If the total length of the last command is set to 64byte, the packet label needs to be increased by 1 and then a supplementary command with a data length of 0byte is used to determine that the communication has ended. . If the get status command gets 64bytes, the packet label number needs to be increased by 1 and then another get command is issued to determine whether the communication has ended.
	8.Data: The data content is determined by the corresponding instruction number. When the data length is 0byte, there is no need to fill in the content of this section.
	9.CRC16： CRC16 check is to perform CRC16 check on all data between the beginning of the packet header and before the CRC16 check. The verification is carried out in byte order starting from the packet header. Online calculation of CRC check: https://www.lammertbies.nl/comm/info/crc-calculation, check data type is Hex, parameter model select CRC-16/IBM
	10.End of packet: 0x50 0x41, used to determine the end of the command transmission.

Appendix4 ASCII Character and Keystroke Table

Char	HEX	ASCII Character	Value	Keystroke
NUL (Null char.)	0x00	Null	0x00	Ctrl+2
SOH (Start of Header)	0x01	Keypad Enter	0x58	Ctrl+A
STX (Start of Text)	0x02	Caps Lock	0x39	Ctrl+B
ETX (End of Text)	0x03	Null	0x00	Ctrl+C
EOT (End of Transmission)	0x04	Null	0x00	Ctrl+D
ENQ (Enquiry)	0x05	Null	0x00	Ctrl+E
ACK (Acknowledgment)	0x06	Null	0x00	Ctrl+F
BEL (Bell)	0x07	Enter	0x28	Ctrl+G
BS (Backspace)	0x08	Left Arrow	0x50	Ctrl+H
HT (Horizontal Tab)	0x09	Horizontal Tab	0x2b	Ctrl+I
LF (Line Feed)	0x0a	Down Arrow	0x51	Ctrl+J
VT (Vertical Tab)	0x0b	Vertical Tab	0x2b	Ctrl+K
FF (Form Feed)	0x0c	Backspace	0x2a	Ctrl+L
CR (Carriage Return)	0x0d	Enter	0x28	Ctrl+M
SO (Shift Out)	0x0e	Insert	0x49	Ctrl+N
SI (Shift In)	0x0f	Esc	0x29	Ctrl+O
DLE (Data Link Escape)	0x10	F11	0x44	Ctrl+P
DC1 (XON) (Device Control 1)	0x11	Home	0x4a	Ctrl+Q

DC2 (Device Control 2)	0x12	Print Screen	0x46	Ctrl+R
DC3 (XOFF) (Device Control 3)	0x13	Delete	0x4c	Ctrl+S
DC4 (Device Control 4)	0x14	tab+shift	0x2b,0xe1	Ctrl+T
NAK (Negative Acknowledgement)	0x15	F12	0x45	Ctrl+U
SYN (Synchronous Idle)	0x16	F1	0x3a	Ctrl+V
ETB (End of Trans. Block)	0x17	F2	0x3b	Ctrl+W
CAN (Cancel)	0x18	F3	0x3c	Ctrl+X
EM (End of Medium)	0x19	F4	0x3d	Ctrl+Y
SUB (Substitute)	0x1a	F5	0x3e	Ctrl+Z
ESC (Escape)	0x1b	F6	0x3f	Ctrl+[
FS (File Separator)	0x1c	F7	0x40	Ctrl+\
GS (Group Separator)	0x1d	F8	0x41	Ctrl+]
RS (Request to Send)	0x1e	F9	0x42	Ctrl+6
US (Unit Separator)	0x1f	F10	0x43	Ctrl+-

Appendix5 ASCII Table

(Character in yellow ground is Function Character; Character in white ground is Visible Character)

Binary	Dec	Hex	Char
0	0	0	NUL (NULL)
1	1	1	SOH (Start Of Headling)
10	2	2	STX (Start Of Text)
11	3	3	ETX (End Of Text)
100	4	4	EOT (End Of Transmission)
101	5	5	ENQ (Enquiry)
110	6	6	ACK (Acknowledge)
111	7	7	BEL (Bell)
1000	8	8	BS (Backspace)
1001	9	9	HT (Horizontal Tab)
1010	10	0A	LF/NL(Line Feed/New Line)
1011	11	0B	VT (Vertical Tab)
1100	12	0C	FF/NP (Form Feed/New Page)
1101	13	0D	CR (Carriage Return)
1110	14	0E	SO (Shift Out)
1111	15	0F	SI (Shift In)

10000	16	10	DLE (Data Link Escape)
10001	17	11	DC1/XON
			(Device Control 1/Transmission On)
10010	18	12	DC2 (Device Control 2)
10011	19	13	DC3/XOFF
			(Device Control 3/Transmission Off)
10100	20	14	DC4 (Device Control 4)
10101	21	15	NAK (Negative Acknowledge)
10110	22	16	SYN (Synchronous Idle)
10111	23	17	ETB (End of Transmission Block)
11000	24	18	CAN (Cancel)
11001	25	19	EM (End of Medium)
11010	26	1A	SUB (Substitute)
11011	27	1B	ESC (Escape)
11100	28	1C	FS (File Separator)
11101	29	1D	GS (Group Separator)
11110	30	1E	RS (Record Separator)
11111	31	1F	US (Unit Separator)
100000	32	20	(Space)

100001	33	21	!
100010	34	22	"
100011	35	23	#
100100	36	24	$
100101	37	25	%
100110	38	26	&
100111	39	27	'
101000	40	28	(
101001	41	29	)
101010	42	2A	*
101011	43	2B	+
101100	44	2C	,
101101	45	2D	-
101110	46	2E	.
101111	47	2F	/
110000	48	30	0
110001	49	31	1
110010	50	32	2
110011	51	33	3
110100	52	34	4

110101	53	35	5
110110	54	36	6
110111	55	37	7
111000	56	38	8
111001	57	39	9
111010	58	3A	:
111011	59	3B	;
111100	60	3C	<
111101	61	3D	=
111110	62	3E	>
111111	63	3F	?
1000000	64	40	@
1000001	65	41	A
1000010	66	42	B
1000011	67	43	C
1000100	68	44	D
1000101	69	45	E
1000110	70	46	F
1000111	71	47	G
1001000	72	48	H

1001001	73	49	I
1001010	74	4A	J
1001011	75	4B	K
1001100	76	4C	L
1001101	77	4D	M
1001110	78	4E	N
1001111	79	4F	O
1010000	80	50	P
1010001	81	51	Q
1010010	82	52	R
1010011	83	53	S
1010100	84	54	T
1010101	85	55	U
1010110	86	56	V
1010111	87	57	W
1011000	88	58	X
1011001	89	59	Y
1011010	90	5A	Z
1011011	91	5B	[
1011100	92	5C	\

1011101	93	5D	]
1011110	94	5E	^
1011111	95	5F	_
1100000	96	60	`
1100001	97	61	a
1100010	98	62	b
1100011	99	63	c
1100100	100	64	d
1100101	101	65	e
1100110	102	66	f
1100111	103	67	g
1101000	104	68	h
1101001	105	69	i
1101010	106	6A	j
1101011	107	6B	k
1101100	108	6C	l
1101101	109	6D	m
1101110	110	6E	n
1101111	111	6F	o
1110000	112	70	p

1110001	113	71	q
1110010	114	72	r
1110011	115	73	s
1110100	116	74	t
1110101	117	75	u
1110110	118	76	v
1110111	119	77	w
1111000	120	78	x
1111001	121	79	y
1111010	122	7A	z
1111011	123	7B	{
1111100	124	7C	|
1111101	125	7D	}
1111110	126	7E	~
1111111	127	7F	DEL (Delete)

Revision

Version	Description	Date
V1.0	Initial Release	2023.06.08
V1.1	Updated TTL-232 Interface, Baud Rate, Custom Prefix/Suffix, CODE ID, AIM ID, Start Character, Terminating Character Suffix, Prefix/Suffix Sequence, Convert Case, Data Formatter, Enable/Disable All (1D/2D) Symbologies, Inverse Barcode, Codabar, Code 39	2023.08.31