

ZHD300X Handheld Box Manual

Version 1.0

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ZMC controller software involved in details as well as the introduction and routines of each instruction, please refer to ZBASIC software manual.

Information contained in this manual is only for reference. Due to improvements in design and functions and other aspects, Zmotion Technology reserves the final interpretation! Subject to change without notice!



Pay attention to safety when debug the machine! Be sure to design effective safety devices in the machine, and add the error handling procedures in software. Zmotion has no obligation or responsibility for the loss.

Content

ZHD300X Handheld Box Manual	1
Chapter I Production Introduction	4
1.1 ZHD300X	4
1.2 Physical Key Encoding.....	4
1.3 The coordinate of touch screen port	7
1.4 Development Process.....	7
1.4.1 Connect with controller through DB15 net port.....	7
1.4.2 Power Conduction.....	7
1.4.3 Touch Correction.....	7
1.4.4 Simulator	8
Chapter II Wiring Description	9
2.1 DB Interface Signal	9
2.2 USB Disk Interface.....	9
2.3 USB Interface	9
2.4 Common Problems	10

Chapter I Production Introduction

ZHD300X is a touch screen teach pendant displayed through network. And teach pendant must be used with controller that supports XPLC function. The development of controller software needs zdevelop v.2.6 or above version.

The teaching box has a USB disk, a USB extended port, 24 power supply (can be supplied by USB), a true color display screen with 480*272 resolution, 47 key buttons and an emergency stop switch.

ZHD300X supports touch screen, key buttons and screen-touching can be used together.

1.1 ZHD300X



1.2 Physical Key Encoding

- The code of the keys is composed of rows and columns, the key value = row number (1-10) × 10 + column number (1-5), the start key code is 1, and the emergency stop key code is 5.
- When buttoning the keys, teaching box will automatically send physical keys to

controller, then the controller program can detect physical keys. If you need to use virtual keys, please find key conversion table in the configuration. Zdevelop v.2.6 has standard 300X key conversion table. You can modify the table according to exact occasions or key mask.



For customized key masks or other key masks, the position and key values are different. Please contact the manufacturer to know details.

✧ **Attachment: standard physical key codes:**

Global	Const key_f1 = 11	'function key 1
Global	Const key_f2 = 12	'function key 2
Global	Const key_f3 = 13	'function key 3
Global	Const key_f4 = 14	'function key 4
Global	Const key_f5 = 15	'function key 4
Global	Const key_1 = 51	'numerical key 1, and also is the letter switch key.
Global	Const key_2 = 52	
Global	Const key_3 = 53	
Global	Const key_4 = 61	
Global	Const key_5 = 62	
Global	Const key_6 = 63	
Global	Const key_7 = 71	
Global	Const key_8 = 72	
Global	Const key_9 = 73	
Global	Const key_1 = 51	'numerical key 0
Global	Const key_Add = 51	'plus sign
Global	Const key_Point = 82	'decimal point
Global	Const key_xUp = 25	'JOG axis 1
Global	Const key_yUp = 35	'axis 2
Global	Const key_zUp = 45	'axis 3
Global	Const key_rUp = 55	'axis 4
Global	Const key_xDown = 24	'JOG axis 1
Global	Const key_yDown = 34	
Global	Const key_zDown = 44	
Global	Const key_rDown = 54	
Global	Const key_Jog5L = 64	
Global	Const key_Jog5R = 65	
Global	Const key_Jog6L = 74	

Global	Const key_Jog7R = 75	
Global	Const key_Left = 21	'left shift
Global	Const key_Up = 22	
Global	Const key_Right = 23	
Global	Const key_Down = 32	
Global	Const key_SpeedUp = 41	
Global	Const key_SpeedDown = 43	
Global	Const key_Step = 84	
Global	Const key_Manual = 85	
Global	Const key_Reset = 91	'reset
Global	Const key_Del = 92	'delete
Global	Const key_Inset = 91	'insert
Global	Const key_Switch = 94	'SHIFT switch
Global	Const key_Save = 95	'save
Global	Const key_Esc = 101	'cancel
Global	Const key_Edit = 102	'edit monitor
Global	Const key_File = 103	'file management
Global	Const key_Set = 104	'parameter configuration
Global	Const key_Ent = 105	'input determine

1.3 The coordinate of touch screen port

- The dot matrix of the display screen is 480*272. The coordinate origin is in the upper left corner.



1.4 Development Process

1.4.1 Connect with controller through DB15 net port

1.4.2 Power Conduction

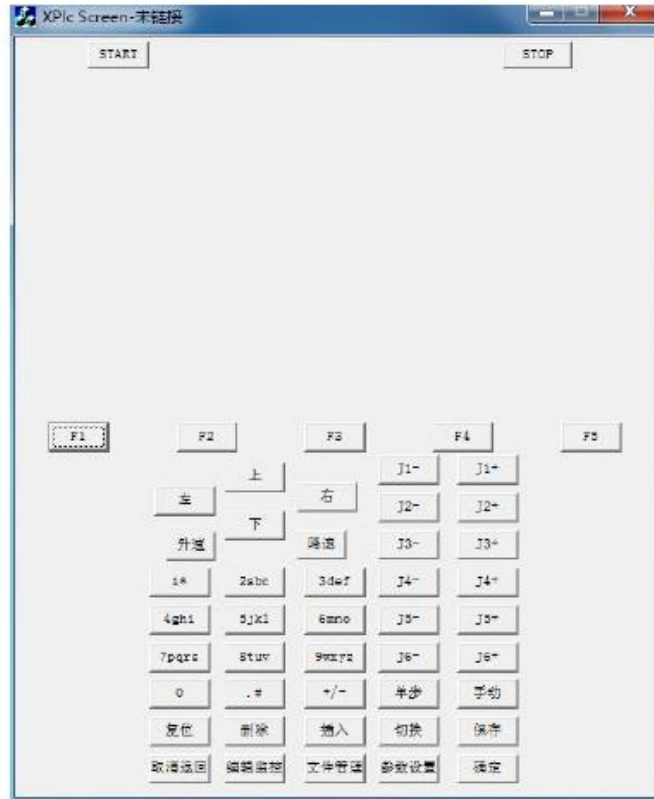
Select 24V power in DB15, or USB.

1.4.3 Touch Correction

- Method 1: By clicking the upper left, upper right, lower left, lower right, upper left, upper right, lower left, and lower right continuously, then the setting window pop up, and you can perform touch correction, controller IP modification, speakers, etc.
- Method 2: After connecting with controller, trigger correction through controller TOUCH_ADJUST instruction.
- Method 3: Not to connect with controller, button the key 103, and continue to buttoning key 11 (don't loosen grip).

1.4.4 Simulator

Specialized xterm version can be used to simulate this teach pendant.



Chapter II Wiring Description

2.1 DB Interface Signal

PIN	Name	Description
1	UDISK 5V	USB Disk Signal
2	UDISK-	USB Disk Signal
3	UDISK+	USB Disk Signal
4	UDISK GND	USB Disk Signal
5	EGND	External Power Ground
6		
7	EMG	Constant close emergency-stop model output
8		
9	DC24V	Power input, be used for supply power
10	EGND	Reserved
11		
12	TX-	ETH orange, 2th of RJ45
13	TX+	ETH gray orange, 1th of RJ45
14	RX-	ETH green, 6th of RJ45
15	RX+	ETH gray green, 45th of RJ45

2.2 USB Disk Interface

Connect to udisk of inside DB15 directly, the U drive interface for controller is extended to the handle.

2.3 USB Interface

Reserve the firing port.

2.4 Common Problems

Problems	Solutions
Touch screen doesn't light, or is dark	Check the power supply of the controller: the USB power supply must use a good quality cable and ensure that the USB port of the computer has sufficient power supply, otherwise, please use the 24V power supply of the serial port; the 24V power supply in the serial port is different from the 5V power supply of the ZHD100.
It can't communicate	Check the net cable.