



High Color • Wide Screen •
User-Friendly HMI Products

DOP-B10VS511

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Taoyuan City 33068, Taiwan

Instruction Sheet

(1) Preface

Thank you for purchasing DOP-B10VS511. The related information of DOP-B series is provided in this instruction sheet. Before using the product, please read through this instruction sheet carefully in order to ensure the correct use of the product. In addition, please place this instruction sheet safely for quick reference whenever is needed. Please observe the following precautions before you read through the instruction sheet:

- No water, corrosive gas and inflammable gas are allowed in installation environment.
- Please follow the wiring instructions when wiring.
- Ensure that the product is correctly connected to the ground. The grounding method must comply with the electrical standard of the country. (Please refer to NFPA 70: National Electrical Code, 2005 Ed.).
- Do not disassemble the product, modify or remove the wiring when the product still applies to the power.
- Do not touch the power supply during operation. Or it may cause electric shock.

If you have any questions during operation, please contact the local distributors or Delta sales representative. Due to the quality improvement, the content of this instruction sheet may be revised without prior notice. When there is any revision of the content, please contact with distributors or visit Delta's website <http://www.delta.com.tw/ia> for the latest version.

(2) Safety Precautions

Pay special attention to the following safety precautions during installation, wiring, operation and maintenance and inspection.

Installation

- Comply with quick start for installation. Otherwise it may cause equipment damage.
- Do not expose the product with the environment which containing water, corrosive gas, inflammable gas, etc. Or it may result in electric shock, fire, or explosion.
- Do not install the product in a location where temperatures exceed the specification of HMI. Or it may result in abnormal operation or damage the product.
- This is KCC Class A product and has obtained the registration. It is for commercial or industrial use. If it is purchased or sold by mistake, please exchange it for home use which meets the requirement of KCC Class B.
- Do not use this product as an alarm device. Or it may result in personal injury, equipment damage, or system emergency stop.

Wiring

- Connect the ground terminal to class-3 ground system (Ground resistance should not exceed 100Ω). Improper grounding may result in communication error, electric shock or fire.

Operation

- When designing HMI programs, if the interface is not programmed well, it may cause the abnormal operation. Therefore, in order to prevent personal injury or equipment damage, be ensured the communication error caused by the interface, controller or equipments would not lead to the malfunction of the product.
- Please backup the screen data and HMI programs in case the data is lost.



Maintenance and Inspection

- Do not touch any internal or exposed parts of the HMI as electrical shock may result.
- Do not remove the operation panel while power is on. Or it may cause electrical shock.
- Within 10 minutes after the power has been turning off, do not touch any HMI terminals or performing any wiring and/or inspection as an electrical charge may still remain and cause electric shock.
- Turn the power off before changing backup battery and check the system settings after finishing change.
- Ensure the ventilation holes are not obstructed during operation. Or it may cause malfunction due to bad ventilation or overheating troubles.

Wiring Method

- Do not use the voltage that exceeds the specification for HMI. Or in may cause electric shock or fire.
- Remove the quick connector from HMI before wiring.
- One terminal of the terminal socket for one electric wire only.
- Please check the wiring again before restart the product if the power line is forced to take out.

Communication Wiring

- Comply with communication wiring specification for wiring.
- Wiring length should meet the requirement of specification.
- Proper grounding to avoid poor communication quality.
- To avoid noise and interference, the communication cable, all power cables, and motor power cable should be placed in separate conduits.



DOP-B10VS511 COM1 Definition

COM Port Sketch Map	Pin	MODE1
		RS-232
	1	
	2	RXD
	3	TXD
	4	
	5	GND
	6	
	7	RTS
	8	CTS
	9	

Note: Blank = No wiring to avoid malfunction.

DOP-B10VS511 COM2 Definition

COM Port Sketch Map	Pin	MODE1		MODE2	
		COM2	COM3	COM2	COM3
		RS-232	RS-485	RS-232	RS-422
	1		D+		TXD+
	2	RXD		RXD	
	3	TXD		TXD	
	4				RXD+
	5	GND		GND	
	6		D-		TXD-
	7	RTS		RTS	
	8	CTS		CTS	
	9				RXD-

Note 1: Blank = No wiring to avoid malfunction.

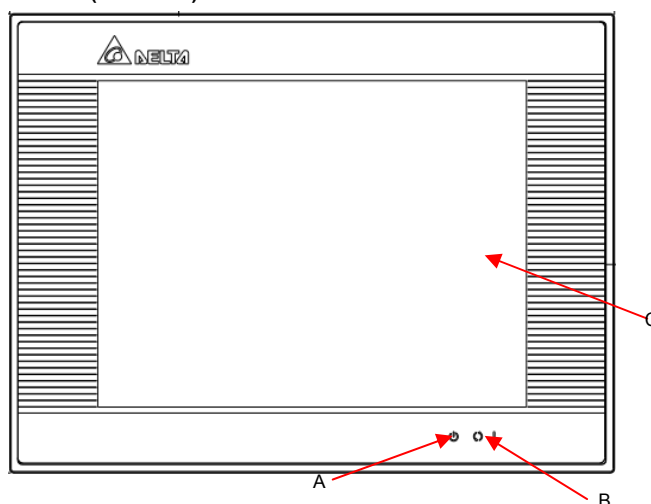
Note2: COM3 is the extension port (COM2 and COM3 share one physical port)

DOP-B10VS511 VGA In Port Definition

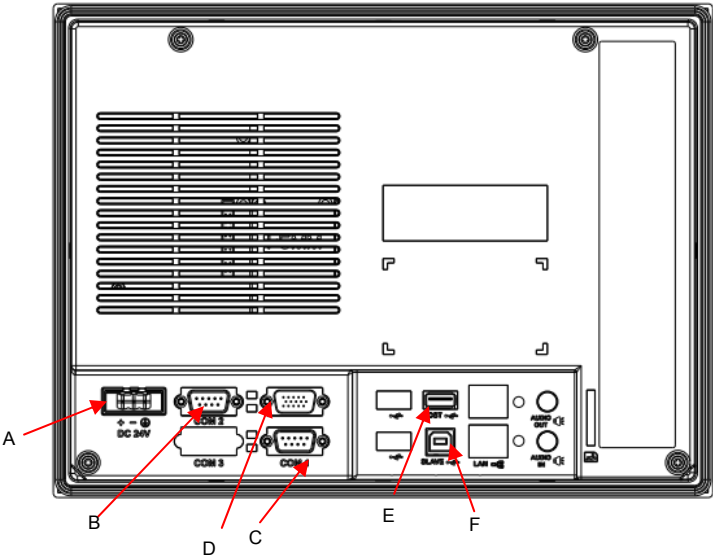
RGB Video In Port Sketch Map	Pin	Direction	Pin Description
	1	Input	Red
	2	Input	Green
	3	Input	Blue
	4		-
	5	---	GND
	6	---	GND(R)
	7	---	GND(G)
	8	---	GND(B)
	9		-
	10	---	SGND
	11		-
	12		-
	13	Input	Hsync
	14	Input	Vsync
	15		-

(4) Parts Name

DOP-B10VS511 (Front View)



A	Power Indicator ()	When green light is lit : Normal Operation
B	Operation Indicator () / Alarm Indicator ()	When blue light is flashing : during communication / saving the data (note)
		When red light is flashing : An alarm occurs
C	Operation / Display Area	Note: Users could self-define the blue light



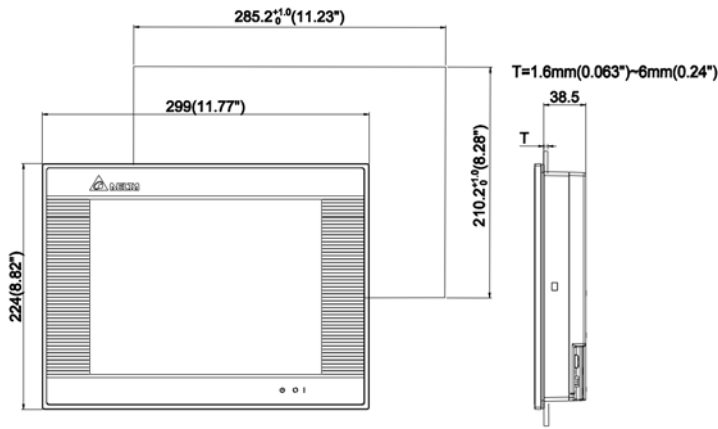
A	Power input Terminal	B	COM2 (can be extended to COM3 (Note1))
C	COM1	D	VGA In Port
E	USB Host	F	USB Slave

NOTE

1. For the setting method, please refer to the pin definition of serial communication.

(5) Dimensions

DOP-B10VS511



(6) Specifications

MODEL		DOP-B10VS511
LCD MODULE	Display Type	10.4" TFT LCD (65536 colors)
	Resolution	800 x 600 pixels
	Backlight	LED Back Light (less than 20,000 hours half-life at 25°C) (Note 1)
	Display Size	211.2 x 158.4mm
Operation System		Delta Real Time OS
MCU		32-bit RISC Micro-controller
Memory ROM		Flash ROM 128 MB
Internal Memory		64Mbytes
EPROM		16Mbytes
Sound Effect Output	Buzzer	Multi-Tone Frequency (2K ~ 4K Hz) / 85dB
	AUX	N/A
Ethernet Interface		N/A
Memory Card		N/A
USB		1 USB Slave Ver 2.0 1 USB Host (Note 2) Ver 1.1

MODEL		DOP-B10VS511
VGA In Port		VESA SVGA(56Hz) Horizontal Frequency 35.2KHz, Vertical Frequency 56.3Hz Resolution 800x600
Serial COM Port	COM1	RS-232 (Support flow control)
	COM2	RS-232 (Support flow control) (built-in isolation circuit (Note 3))
	COM3	RS-422 / RS-485
Perpetual Calendar		Built-in
Cooling Method		Natural air circulation
Safety Approval		CE (Note 5) / UL (Note 5)
Panel Waterproof rating		IP65
Operation Voltage (Note 4)		DC +24V (-15% ~ +15%)
Isolation Endurance		Between DC24V terminal and FG terminal: AC500V, one minute
Power Consumption (Note 4)		8.2 W
Backup Battery		3V lithium battery CR2032
Backup Battery Life		It depends on the temperature and using conditions. Normally, it is about 5 years when the ambient temperature is at 25°C
Operation Temperature		0°C ~ 50°C
Storage Temperature		-20°C ~ +60°C
Environment		10% ~ 90% RH [0 ~ 40°C] · 10% ~ 55% RH [41 ~ 50°C] Pollution Degree 2
Vibration/Shock		IEC 61131-2 compliant 5Hz≤f<8.3Hz = Continuous: 3.5mm, 8.3Hz≤f≤150Hz = Continuous: 1.0g IEC60068-2-27 compliant 15G Peak for 11ms duration, X, Y, Z directions for 6 times
Dimensions (W) x (H) x (D) mm		299 x 224 x 46.8
Panel Cutout (W) x (H) mm		285.2 x 210.2
Weight		Approx.1765g

NOTE

- 1) The half-life of backlight is defined as original luminance being reduced by 50% when the maximum driving current is supplied to HMI. The life of LED backlight shown here is an estimated value under 25°C normal temperature and humidity conditions.
- 2) USB Host port can provide up to 5V/ 500mA of power.
- 3) The withstand voltage of the isolated power circuit is 1500V peak for 1 minute.
- 4) The value of the power consumption indicates the electrical power consumed by HMI only when it has no connection with any peripheral devices. In order to ensure the normal operation, it is recommended to use the power supply which the capacity is 1.5~2 times the value of the power consumption.
- 5) Some models are in the process of application. For further information, please contact the local distributors.
- 6) The content of this instruction sheet may be revised without prior notice. Please contact the distributors or visit Delta's website: <http://www.delta.com.tw/ia> for the latest information.