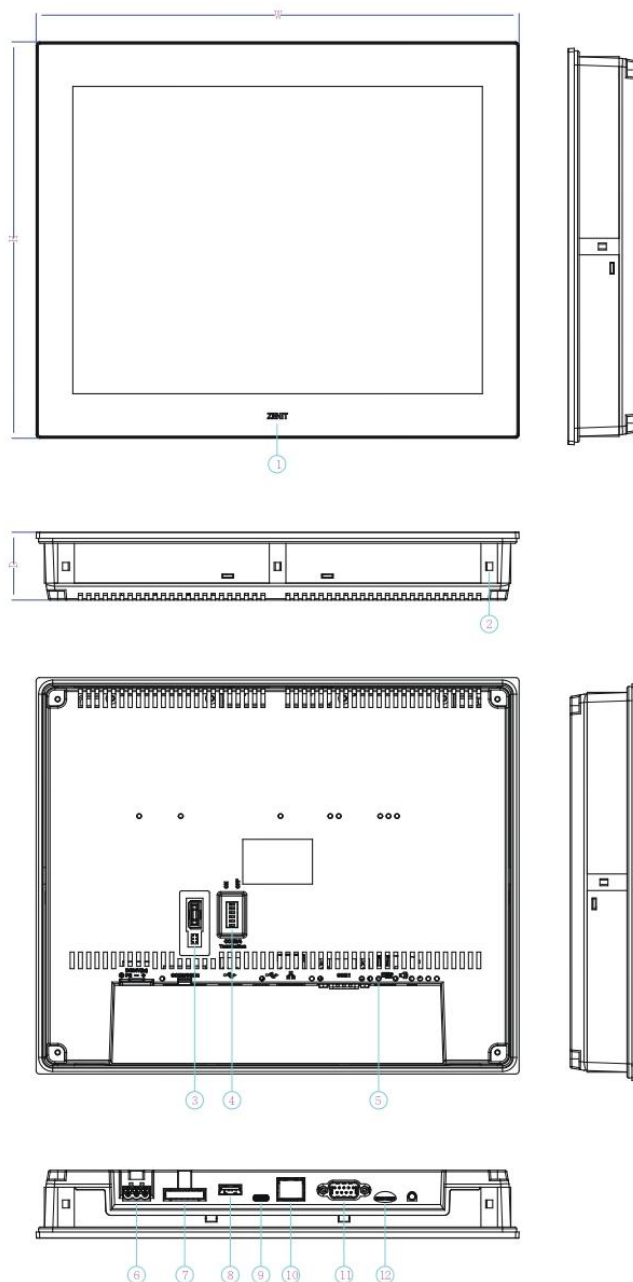# MERITEK
Automation reliable & smart

P5120ZB
HMI with 12.0" TFT LCD display

✧ Cortex 1GHz Processor
✧ Built-in Power Isolation
✧ Built-in PLC Expansion function
✧ PCB coating for Stability in Harsh Environment
✧ Fan-less Design for Cooling Method
✧ High Noise Immunity Design for Industrial Application

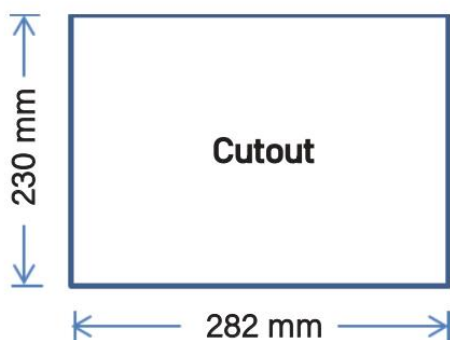| Category	Item	Value	Category	Item	Value
Display	Panel Size	12.0" TFT (4:3)	I/O Port	Serial 1 (DB-9)	RS-232 (2W)
	Panel Resolution	1024 x 768		Serial 2 (Terminal Blocks)	RS-422/485 (4W) RS-485 (2W)
	Brightness	500 (cd/m²)		RS-422/485 Isolation	–
	Contrast Ratio	900		Ethernet	10M / 100M
	Backlight Type	LED		USB HOST	USB2.0 x 1
	Backlight Life Time	30,000 Hrs		USB Device	USB2.0 x 1(USB Type C)
	Colors	16.2M		Micro-SD Slot	Yes
	LCD Viewing Angle	70/70/80/80 (T/B/L/R)		Audio Output	–
Touch	Type	4-wire Resistive Type		Video Input	–
	Accuracy	X axis±2%; Y axis±2%		Termination Switch	Yes
Memory	Flash	256MB	I/O Extension	PLC Extension	Yes
	RAM	256MB		HMI Extension	Yes
System	CPU	32 bit RISC Cortex-A8 1GHz		Wireless Module	Yes
	RTC	Yes	Power	Power Input Range	14 ~ 32VDC
Dimension /Weight	Dimensions W x H x D	291.0 x 239.0 x 40.9 (mm)		Power Isolation	Yes
	Cut-out	282.0 x 230.0 (mm)		Isolation Resistance	Exceed 50MΩ at 500VDC
	Weight	1450 (g)		Power Consumption	15W (@24VDC)
Environment	Protection Structure	Front panel：IP65 / Rear Case：IP20			
	PCB Coating	Yes			
	Operating Temp	0~50℃			
	Storage Temp	-20 ~ 60℃			
	Relative Humidity	10%~90% (40°C Non-condensing)			
	Withstand Voltage	500VAC/20mA/1 Min. (between charger & FG terminals)			
	Vibration Endurance	5 to 9Hz Half-amplitude: 3.5mm ; 9 to 150 Hz Constant acceleration: 19.6m/s2 (2G) ; 3 directions of X, Y, Z : 10times (IEC61131-2 complaints)			
Software		FvDesigner V1.6.45 or later versions			
Certification		CE , UL			

Contact: Meritek Electronics Corp. Tel: +1(800) 367- 4835 WEB : www.meritekautomation.com

Fax: +1(626) 214-4075 E-MAIL : sales@meritekautomation.com

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◆ Dimensions Drawing

W	291 mm
H	239 mm
D	40.9 mm

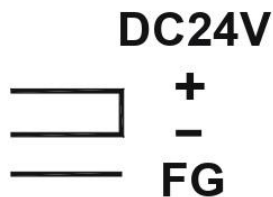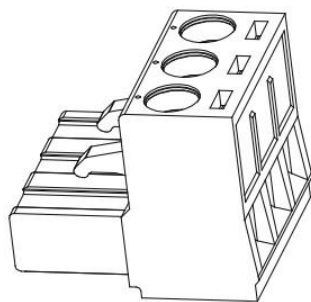| ①	Power Indicator Light
②	Mounting Hole
③	HB1 PLC Connector
④	COM3/COM4 Termination Switch
⑤	HB1 PLC Screw Hole
⑥	Power Connector
⑦	COM3/COM4: Pluggable Terminal Block
⑧	USB Connector
⑨	Type C Connector
⑩	Ethernet RJ45 Connector (for Ethernet /Multifunction model)
⑪	COM1: DB-9 Male Connector*
⑫	Micro-SD Card Slot (for Multifunction model)

*This series HMI do not support COM2.

Cutout

230 mm
282 mm

DB-9 Male Connector

PIN#	COM1 [RS-232]
1	NC*1
2	RX
3	TX
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC

*1 NC: No Connection

Pluggable Terminal Block

PIN#	COM3 [RS-422]	COM3 [RS-485]	COM4 [RS-485]
1	NC	NC	DATA+
2	NC	NC	DATA-
3	GND	GND	GND
4	RX+	NC	NC
5	RX-	NC	NC
6	TX+	DATA+	NC
7	TX-	DATA-	NC

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DC24V
+
−
FG

- Be sure to connect the ground FG terminal to a class-3 ground (Ground resistance should not exceed 100Ω). Try to make the ground wire as short as possible.

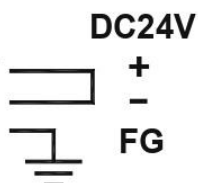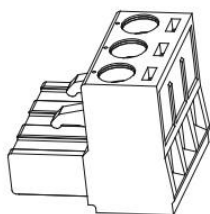- Use 22 – 14 AWG (0.6 – 1.5 mm^2) wire for the power connections.

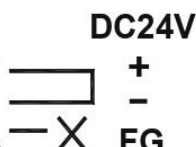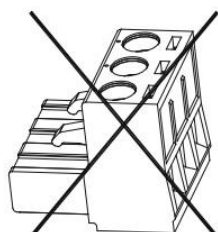| ⚠ **Caution**	Please use solid wires between 22AWG and 14AWG. Maximum 300V and rated temperature to 105°C for input power pins.
⚠ **Caution**	Make sure the HMI is properly grounded to prevent electrical shock, fire or malfunction.

Recommended   **Prohibited**

DC24V   **DC24V**
+   **+**
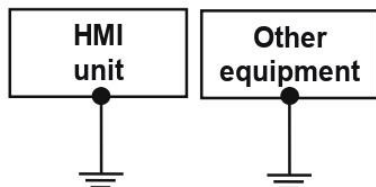**−**   **−**
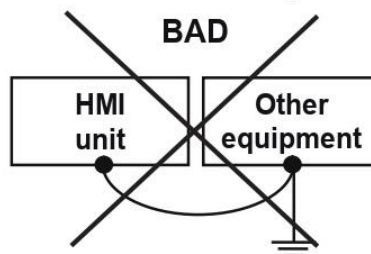**FG**   **FG**

No Connected

- HMI unit and other equipment should have the same electrical grounding (reference voltage level), otherwise communication errors may occur.

GOOD   **BAD**

HMI unit	Other equipment		HMI unit	Other equipment

Operation

- Do not use sharp objects or excessive force to press the touch screen. This may damage the touch screen. Screen protector can be applied to the HMI screen to portect if from damage, for ordering information, please contact our sales department.

- Do not use the output signal of the device as any safety function or system emergency stop. It may result in personal injury or equipment damage if a malfunction of the touch occurs.

Maintenance and Service

- The agreed guarantee applies.
- Only qualified personnel should make repairs and perform maintenance.
- Disconnect the device from the power supply before carrying out cleaning or maintenance.
- Clean the front panel with a soft cloth and mild detergent.
- Please use original replacement spare parts or accessories.