

MT8051iP

MT8051iP HMI User Manual

Model: MT8051iP | Brand: Generic

INTRODUCTION

This manual provides comprehensive instructions for the installation, operation, and maintenance of the Generic MT8051iP Human Machine Interface (HMI). The MT8051iP is a 4.3-inch TFT color touch panel display designed for industrial applications, featuring Ethernet connectivity and serving as a replacement for models like Weintek MT8050iP and MT6050iP. It is equipped with a 32-bit RISC Cortex-A8 600MHz processor and offers a resolution of 480 x 272 pixels, making it suitable for various control system interfaces.



Figure 1: The MT8051iP HMI unit displaying a simulated industrial boiler control system interface. The screen shows various parameters such as water pump status, fuel pump status, air mixer, steam flow rate, steam temperature, and burner status, indicating its capability for complex process visualization.

SETUP AND INSTALLATION

Proper installation is crucial for the reliable operation of the MT8051iP HMI. Follow these steps carefully:

- Panel Cutout:** Prepare an opening in your control panel with dimensions of 119 mm (W) x 93 mm (H). Ensure the cutout is precise to allow for a secure fit and proper sealing.
- Mounting:** Insert the HMI unit into the prepared cutout. Use the provided mounting clips or screws to secure the unit firmly to the panel. Ensure the unit is flush with the panel surface to maintain its NEMA4 / IP65 protection rating.
- Power Connection:** Connect the power supply to the HMI's power input terminals. The required input power is 24VDC with a tolerance of $\pm 20\%$. Ensure the power source is stable and meets the specified voltage range. The power consumption is 400mA at 24VDC.
- Ethernet Connection:** For network communication, connect an Ethernet cable to the 1 RJ45 port (10/100 Base-T). This port allows for data exchange with PLCs, industrial PCs, or other network devices.

5. **Serial Communication:** Utilize the COM Port for serial communication. Com1 supports RS-232/RS-485 2-wire/4-wire configurations. Refer to your system's wiring diagrams for correct pin assignments.
6. **USB Host:** If needed, connect USB devices such as a USB flash drive or keyboard to the USB 2.0 x 1 host port for data transfer or input.

Before powering on, double-check all connections to prevent damage to the unit or connected equipment.

OPERATING INSTRUCTIONS

The MT8051iP HMI operates using the EaBuilder Pro software for project development and runtime. Once the HMI is powered on, the configured application will load automatically.

- **Touch Panel Interaction:** The HMI features a 4-wire Resistive Type touch panel. Interact with the display by gently pressing the screen with your finger or a stylus. Avoid using sharp objects that could damage the screen.
- **Application Navigation:** Navigate through the HMI application screens by touching the designated buttons or areas on the display. The layout and functionality are determined by the project designed in EaBuilder Pro.
- **Data Input:** For data entry, virtual keypads or numeric input fields will appear on the screen when required. Use the touch panel to input values.
- **Ethernet Communication:** Ensure the HMI's Ethernet settings (IP address, subnet mask, gateway) are correctly configured within the EaBuilder Pro project to match your network environment. This enables communication with connected devices.
- **Serial Communication:** Verify the serial port settings (baud rate, data bits, parity, stop bits) in the HMI project match those of the connected serial device.
- **Real-Time Clock (RTC):** The built-in RTC maintains accurate time and date, which can be used for logging data or scheduling events within the HMI application.

For detailed operation of specific HMI applications, refer to the project documentation created using EaBuilder Pro.

MAINTENANCE

Regular maintenance helps ensure the longevity and optimal performance of your MT8051iP HMI.

- **Cleaning the Display:** Use a soft, lint-free cloth dampened with a mild, non-abrasive cleaner (e.g., screen cleaner) to wipe the touch screen. Do not spray cleaner directly onto the display. Avoid harsh chemicals, alcohol, or ammonia-based cleaners, as they can damage the screen surface.
- **Environmental Conditions:** Ensure the operating environment adheres to the specified temperature (0° ~ 50°C / 32° ~ 122°F) and humidity (10% ~ 90% @ 40°C non-condensing) ranges. Extreme conditions can affect performance and lifespan.
- **Backlight Life:** The LED backlight has a life expectancy of over 30,000 hours. While not user-replaceable, monitoring its performance can help anticipate end-of-life.
- **Firmware Updates:** Periodically check the manufacturer's website for any available firmware updates for the MT8051iP. Follow the provided instructions carefully for any update procedures.
- **Connection Integrity:** Periodically inspect all cable connections (power, Ethernet, serial) to ensure they are secure and free from damage.

TROUBLESHOOTING

This section provides solutions to common issues you might encounter with the MT8051iP HMI.

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
HMI does not power on.	No power supply; incorrect voltage; loose power connection.	Verify 24VDC power supply is connected and active. Check power cable for damage and ensure secure connection. Confirm voltage is within 24VDC \pm 20% range.
Display is blank or dim.	Backlight issue; HMI in sleep mode; application error.	Check power supply. If HMI powers on but display is blank, restart the unit. Ensure the application is running correctly. Backlight life is >30,000 hours, if significantly older, consider replacement.
Touch screen unresponsive or inaccurate.	Screen dirty; calibration needed; physical damage.	Clean the touch screen surface. If issue persists, recalibrate the touch screen (refer to EaBuilder Pro documentation for calibration utility). Inspect for physical damage.
Ethernet communication failure.	Incorrect IP settings; faulty cable; network issue.	Verify HMI's IP address, subnet mask, and gateway settings match the network. Check Ethernet cable for damage and proper connection. Confirm network devices (PLC, switch) are operational.
Serial communication failure.	Incorrect COM port settings; wrong wiring; device not responding.	Confirm baud rate, data bits, parity, and stop bits match the connected device. Verify RS-232/RS-485 wiring is correct. Ensure the connected device is powered on and communicating.

SPECIFICATIONS

Category	Parameter	Value
Display	Type	4.3" TFT
	Brightness	500 cd/m ²
	Contrast Ratio	500:1
	Color	16.7M
	Resolution (W x H)	480 x 272
	Back Light	LED
	Back Light Life Time	>30,000 hrs.
Processor	Type	32 bits RISC Cortex-A8 600MHz
Enclosure	Touch Panel Type	4-wire Resistive Type
Memory	Storage	128 MB
	RAM	128 MB
I/O Ports	SD Card Slot	N/A
	USB Host	USB 2.0 x 1
	USB Client	N/A
	Ethernet Port	1 RJ45 port (10/100 Base-T)
COM Port	Type	Com1: RS-232/RS-485 2w/4w
Audio		N/A
Power	Input Power	24 \pm 20%VDC

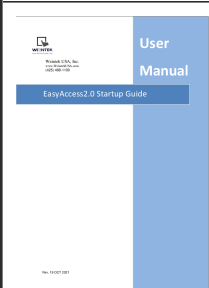
Category	Parameter	Value
	Power Consumption	400mA@24VDC
	RTC	Built-in
Physical & Environmental	Panel Cutout (W x H)	119 x 93 mm
	Weight	Approx. 0.25 kg
	Certification	CE marked
	Voltage Resistance	500VAC (1 min)
	Isolation Resistance	Exceed 50MΩ at 500VDC
	Vibration Endurance	10 to 25Hz (X,Y,Z direction 2G 30 minutes)
	Protection Structure	NEMA4 / IP65
	Storage Temperature	-20° ~ 60°C (-4° ~ 140°F)
	Operating Temperature	0° ~ 50°C (32° ~ 122°F)
Humidity	10% ~ 90% @ 40°C (non-condensing)	
Software	Development Software	EaBuilder Pro

WARRANTY AND SUPPORT

Warranty information for the MT8051iP HMI is typically provided by the seller or manufacturer at the time of purchase. Please refer to your purchase documentation or contact the vendor directly for details regarding warranty coverage, terms, and conditions. For technical support, troubleshooting assistance beyond this manual, or inquiries about replacement parts, please contact the product manufacturer or your authorized distributor. Ensure you have your product model number (MT8051iP) and any relevant purchase details ready when seeking support.

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Related Documents - MT8051iP

	<p>Weintek EasyAccess2.0: Remote HMI Management and Startup Guide</p> <p>This user manual provides comprehensive guidance on Weintek's EasyAccess2.0 software, enabling secure remote access, monitoring, and management of industrial HMIs and PLCs. It covers domain creation, HMI activation, user management, and pass-through functionalities.</p>
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