ELECROW

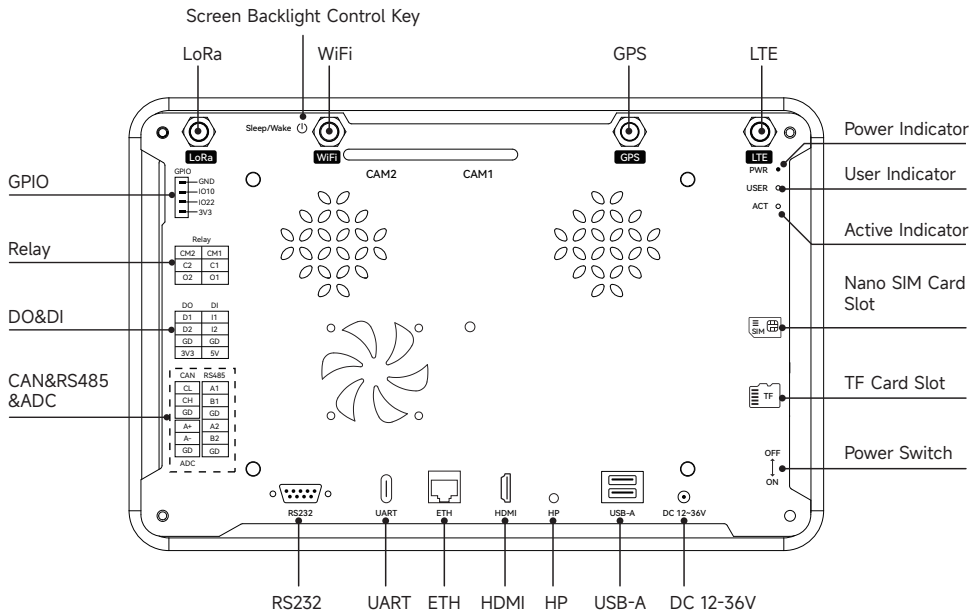## CrowPanel-CM4 Display Pi Terminal

User Manual (V1.0)

Overview

CM4 Display is a multi-functional embedded industrial control device designed based on the Raspberry Pi platform. Equipped with a 7-inch capacitive screen, it has multiple industrial interfaces and supports multiple wireless communication protocols. By using the CM4 as the main controller, it quickly handles real-time control tasks and monitors ongoing operations. Its industrial design allows it to withstand harsh environments.
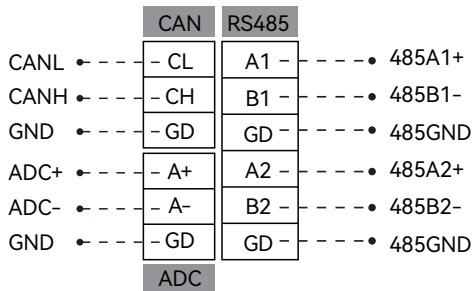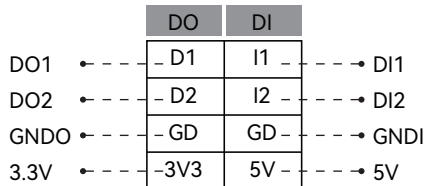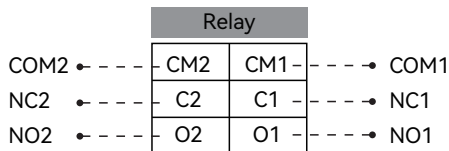
The CM4 Display integrates with Node-RED, which compatible with the software running on the Raspberry Pi and pre-installed Rasbian system. Using an all-in-one design, it boasts a robust open-source ecosystem tailored for various industry applications.

Interface

Screen Backlight Control Key

LoRa

WiFi

GPS

LTE

Sleep/Wake ⏻

WiFi

CAM2 CAM1

GPS

LTE

Power Indicator

PWR

User Indicator

USER

Active Indicator

ACT

GPIO

GND
IO10
IO22
3V3

Relay

CM2	CM1
C2	C1
O2	O1

DO&DI

DO		DI	
D1		I1	
D2		I2	
GD		GD	
3V3		5V	

CAN&RS485
&ADC

CAN		RS485	
CL		A1	
CH		B1	
GD		GD	
A+		A2	
A-		B2	
GD		GD	

ADC

Nano SIM Card Slot

SIM

TF Card Slot

TF

Power Switch

OFF
ON

RS232 UART ETH HDMI HP USB-A DC 12~36V

RS232 UART ETH HDMI HP USB-A DC 12~36V

2

Pin and Indicator Definition

	Relay		
COM2 •----	CM2	CM1	----• COM1
NC2 •----	C2	C1	----• NC1
NO2 •----	O2	O1	----• NO1

	DO	DI	
DO1 •----	D1	I1	----• DI1
DO2 •----	D2	I2	----• DI2
GNDO •----	GD	GD	----• GNDI
3.3V •----	3V3	5V	----• 5V

	CAN	RS485	
CANL •----	CL	A1	----• 485A1+
CANH •----	CH	B1	----• 485B1-
GND •----	GD	GD	----• 485GND
ADC+ •----	A+	A2	----• 485A2+
ADC- •----	A-	B2	----• 485B2-
GND •----	GD	GD	----• 485GND
	ADC		

PWR ● CM4 Power Indicator

USER ○ User-defined Function Indicator

ACT ○ CM4 Status Indicator

Specification-1

CM4 Processor

CPU	Broadcom BCM2711, quad core Cortex-A72 (ARM v8) 64-bit SoC @ 1.5GHz
Flash	4GB
Storage	64GB TF Card or SSD (Optional)
System	Raspbian (Compatible with Node-RED)

Display

Size	7"
Resolution	1024*600
Luminance	450 cd/m^2
Touch Type	5-point capacitive touch

Wireless Communication

WiFi	2.4/5.0 GHz on CM4
Bluetooth	BLE 5.0 on CM4
LoRa	Mini-PCIe socket (Optional)
LTE	Mini-PCIe socket (Optional)

Specification-2

Edge Interfaces

2*20Pin Header	Before referencing CM4 resources, please confirm whether the resources have been reused
CAM*2	MIPI CSI camera interface, compatible with all camera specifications of Raspberry Pi
GPIO	GND/GPIO10/GPIO22/3.3V, extend custom functions and connect to the button board to use custom functions
Relay	2*3Pin, control the relay switch through high and low voltage levels
DO&DI	2*4Pin, support two digital input and two digital output channels
CAN&RS485&ADC	2*6Pin, RS485 occupies six pins, CAN occupies three pins, and ADC occupies three pins
RS232	DB9 interface, reserve external industrial non-isolated serial port
UART (Type-C)	USB2.0. USB to UART. Connect to USB device
ETH	RJ45 interface. 10/100/1000Mbps. Used for connecting to Ethernet or other local area networks

Specification-3

Edge Interfaces

HDMI	HDMI2.0. Used for video output. Support video output up to 4K @ 60 fps
HP	3.5mm audio jack. Used for connecting headphone or microphone
USB-A*2	USB-A 2.0. Used for connecting USB devices
DC 12-36V	Used for powering the device
TF Card Slot	64GB TF card. Press the card to insert or eject it from the slot
Nano SIM Card Slot	Insert a Nano SIM card and pair it with a 4G module to provide 4G cellular data communication for the device
2*4Pin Header	Used for expanding the USB interface

Other Interfaces

PoE	Power CM4
Fan	Connect the fan to dissipate heat
SPK*2	Connect the speakers for sound output

Specification-4

Environmental Spec

Front Panel IP Rating	IP65
Operating Temperature	-10~60°C
Storage Temperature	-20-70°C
Relative Humidity	10~90%

Parameters

Front Glass Thickness	1.8mm
With acrylic case	
Dimension	192*125*46mm
Net Weight	676g
Without acrylic case	
Dimension	182*115*29mm
Net Weight	389g

Installation-1

LoRaWAN Gateway Module -------- SSD
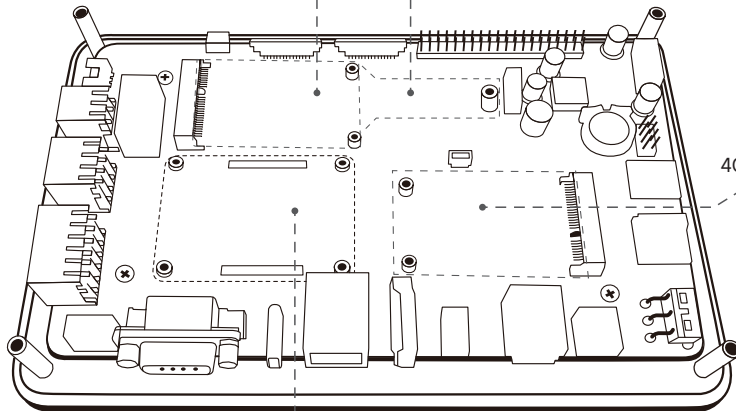
4G Module

Raspberry Pi CM4 -----

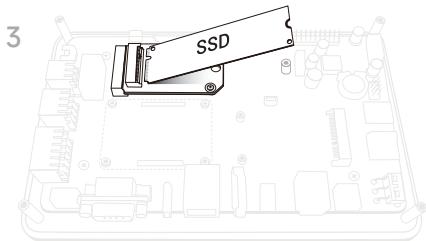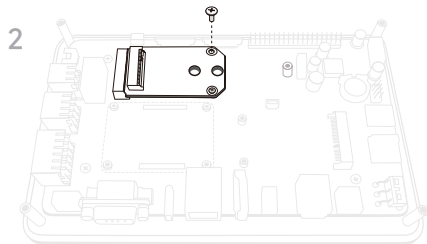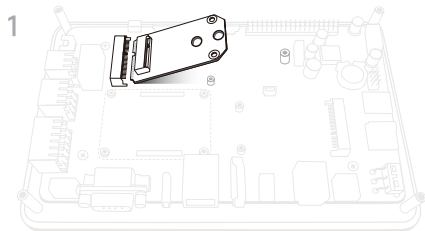# Installation-2

• Installation of LoRaWAN Gateway Module
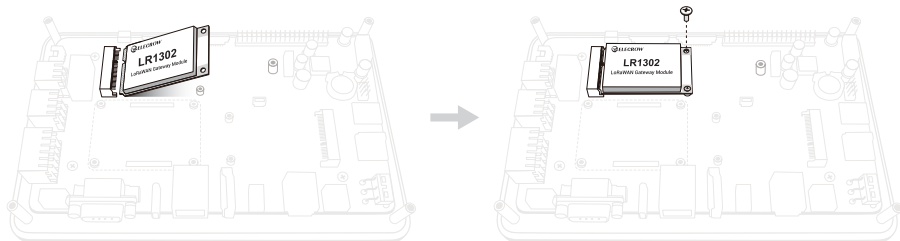
• Installation of 4G Module
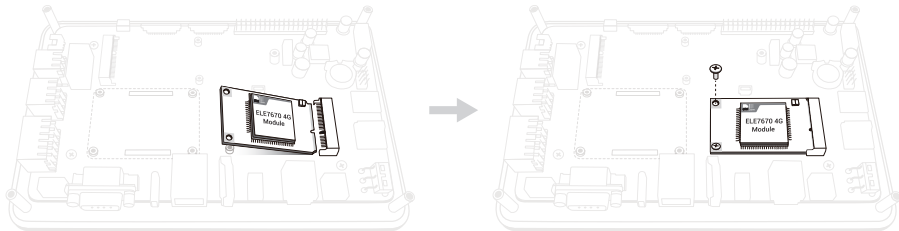
Please insert the module at a 45° angle and then tighten the screws to lock it in place.

Installation-3

• Installation of SSD

1

2

3

4

SSD

SSD
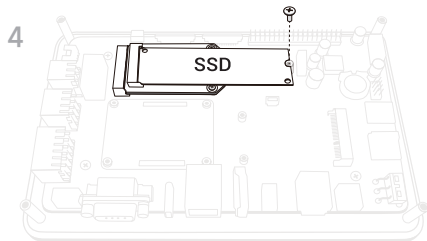
Please insert the module at a 45° angle and tighten the screws to secure it.

Package List *Without Acrylic Case*

- CrowPanel-CM4 Display*1 (Optional Acrylic Case)
- Inserted 64GB TF Card*1 (Image File Loaded)
- IPEX to SMA Female Adapter Cable*1
- 2*3Pin Phoenix Type Connector*1
- 2*4Pin Phoenix Type Connector*1
- 2*6Pin Phoenix Type Connector*1
- WiFi External Antenna*1
- 12V-2A Adapter*1
- User Manual*1

Customer Support

If you have any questions, customer support is always standing by.

info@elecrow.com　　　techsupport@elecrow.com

For more technical details, please visit the relevant webpage.