

## FEATURES

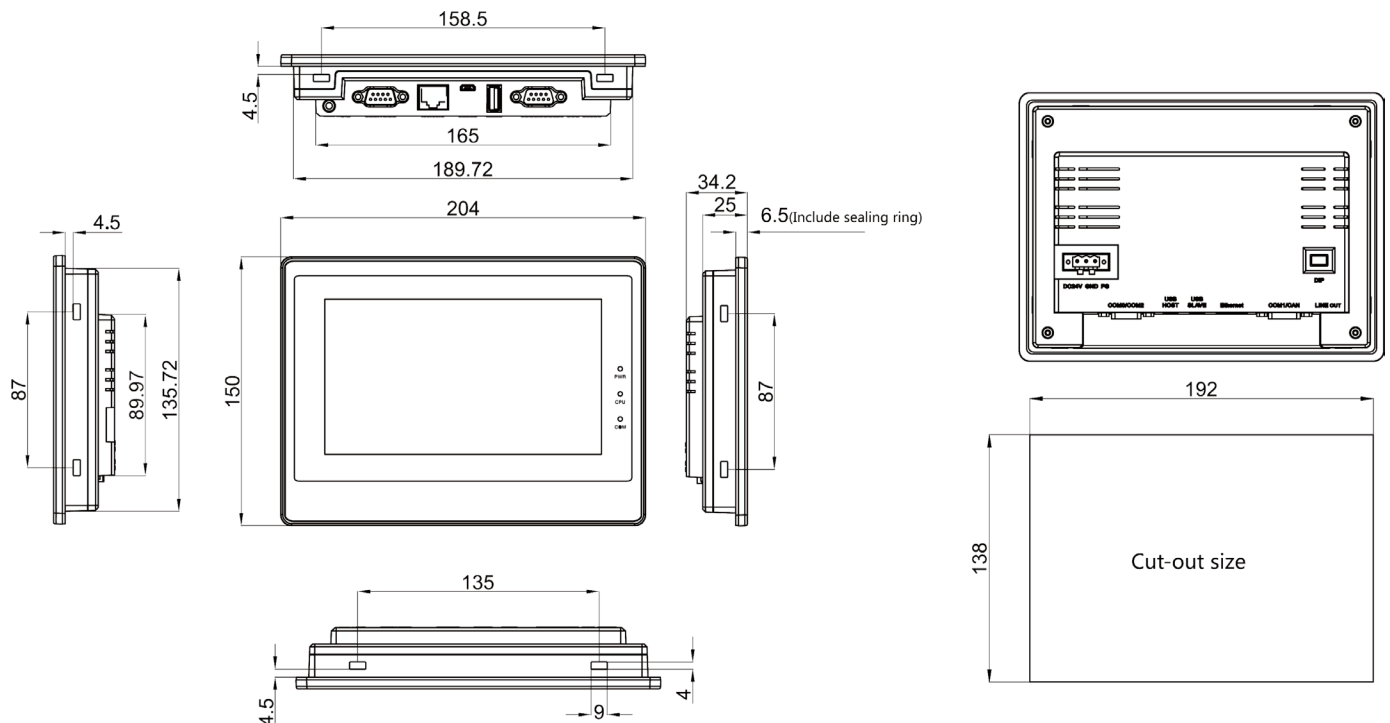
- Ethernet/CAN Open models available
- 16.77m (24 Bits) True Color
- 32-Bit 800 MHz ARM RISC CPU
- Real-Time Clock, Reserve Time for More than 2 Years at Power Off State
- 3 COM Ports, Supports Simultaneous Communications, Supports RS232/RS485/RS422
- 24 VDC Input Voltage
- CE Certified
- 128MB NAND FLASH + 128MB DDR3 Memory



## DESCRIPTION

The Green Series G070 is the most modern and powerful HMI product that will make your application work seamlessly, without missing a step. The G070 Series has a new structure and elegant body, compared to previous HMI's. This HMI line comes with a 16.77 million Color Display mode that gives your touch screen rich color and incomparable resolution. The Green Series products use the most advantageous ARM Cortex-A7 architecture industrial-grade processors, which ensure that the HMI's work efficiently. Each HMI supports simultaneous communications via its multiple serial ports, so that you can connect to different controllers and PLCs at the same time. With the simple, convenient and powerful DTools configuration software, the user can master its design method and create first-class programs efficiently.

## DIMENSIONS



L011771

All units are in mm

# KNC-HMI-G070 Series



SPECIFICATIONS

| MODEL                            | G070  | G070E  | G070E-CAN                                    |
|----------------------------------|---|--|--|
| <b>Performance Specification</b> |   |  |  |
| Display                          | 7" TFT  |  |  |
| Display Area                     | 154.08 (W) x 85.92 (H) (mm)                               |  |  |
| Resolution                       | 800x480 pixel   |  |  |
| Display Color                    | 16.77 Million True Color                                  |  |  |
| Backlight                        | LED   |  |  |
| Brightness                       | 400cd/m2  |  |  |
| Backlight Life                   | More than 30000 Hours                                     |  |  |
| Touch Panel                      | 4 Wire Precision Resistance Network (Surface Hardness 4H) |  |  |
| CPU                              | ARM RISC 32Bit 800MHz                                     |  |  |
| Storage                          | 128MB NAND Flash Memory + 128MB DDR3 Memory               |  |  |
| RTC                              | Built-in  |  |  |
| Expandable Memory                | 1 USB Host  |  |  |
| Print Port                       | USB Host/Serial Port                                      |  |  |
| Ethernet                         | None  | 10/100MHz Adaptable Ethernet Interface       | 10/100MHz Adaptable Ethernet Interface       |
| Bus Interface                    | None  | None   | 1*CANopen                                    |
| Program Download                 | USB Slave Micro / USB Flash Drive                         | USB Slave Micro / USB Flash Drive / Ethernet | USB Slave Micro / USB Flash Drive / Ethernet |
| Communication Port               | COM0:RS232/RS485/RS422;<br>COM1:RS485; COM2:RS232         |  |  |
| <b>Electrical Specification</b>  |   |  |  |
| Input Power Supply               | DC12V ~ DC28V, Built-in Isolation Power Supply            |  |  |
| Power Input                      | 3.8W  |  |  |
| Allowable Loss of Power          | <3ms  |  |  |
| Insulation Resistance            | Over 50MΩ@500VDC  |  |  |
| Hi-pot Test                      | 500 VAC 1 Minute  |  |  |
| <b>Structure Specification</b>   |   |  |  |
| Shell Material                   | Engineering Plastic                                       |  |  |
| Shape Size                       | 204 x 150 x 34 (mm)                                       |  |  |
| Installation Hole Size           | 192 x 138 (mm)  |  |  |
| Weight                           | 1.1 lbs   |  |  |
| <b>Environment Specification</b> |   |  |  |
| Working Temperature              | 0 ~ 50°C  |  |  |
| Working Humidity                 | 10 ~ 90%RH (non-condensing)                               |  |  |
| Storage Temperature              | -20 ~ 60°C  |  |  |
| Storage Humidity                 | 10 ~ 90%RH (non-condensing)                               |  |  |
| Vibration Test                   | 10 ~ 500Hz (X, Y, Z direction 2G/30 minute)               |  |  |
| Cooling Mode                     | Natural Air Cooling                                       |  |  |
| <b>Certification</b>             |   |  |  |
| Panel Protection Grade           | Conforming to IP65 Certification(4208-93)                 |  |  |
| CE Certification                 | EN6100-6-4:2007,EN61000-6-2:2005                          |  |  |
| <b>Software</b>                  |   |  |  |
| Configuration Software           | Kinco DTools V3.2 and Above                               |  |  |

## 1. Installation Note

### 1.1 Environment Requirement

Operating temperature: G070/G070E/G070E-CAN HMI can work stably in most industrial environments when the temperature is between 32°F to 122°F (0~50°C).

NEMA rating: HMI front panel is NEMA1 rated.

#### Do not install this HMI in the following environments:

- Areas with direct sunlight
- Environments where the surrounding temperature or humidity exceed specifications
- Areas with high condensation. Avoid areas where temperature changes dramatically or sharply, as these changes can cause condensation
- Areas with corrosive or combustible gas
- Environments where dust, dirt, salt, or iron powder are present
- Avoid water, oil, and vapor
- Areas in which the HMI will be subject to vibration or shock

#### Take shielding measures in the following locations:

- Anywhere electrostatic noise or electromagnetic noise is present
- Any location where X-rays or microwaves are present
- Near power sources

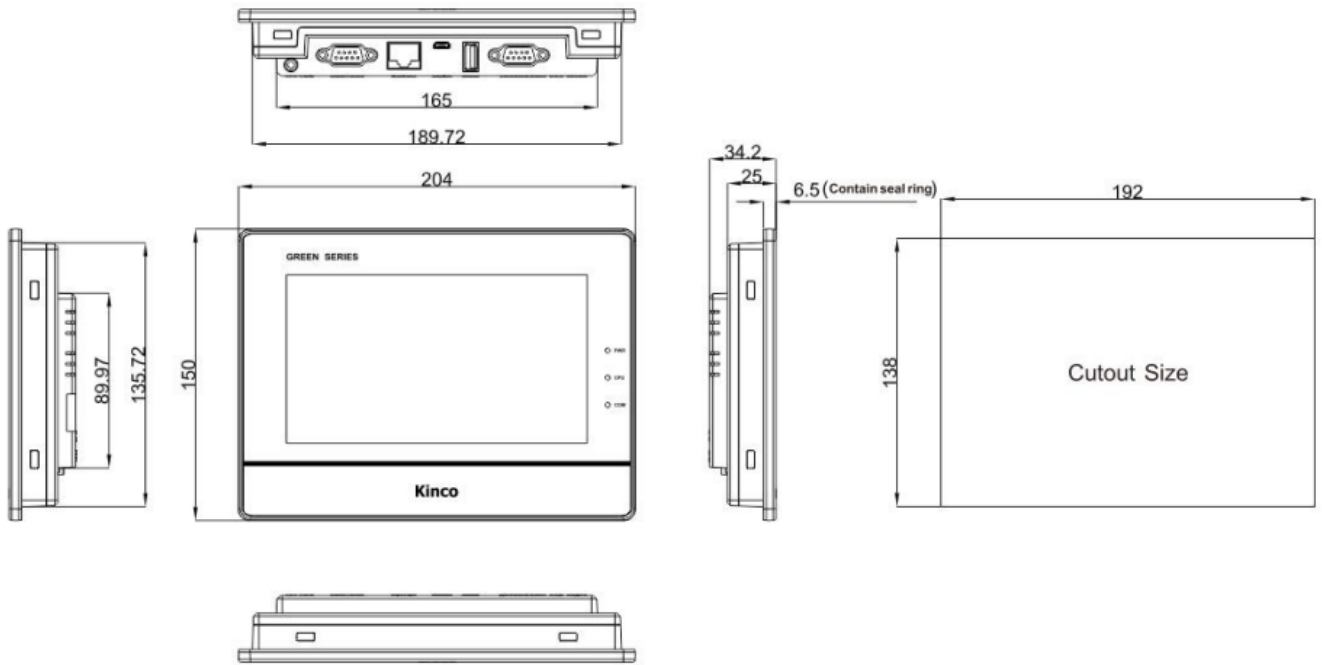
### 1.2 Power Requirement

- Input Voltage: DC12V~DC28V
- Maintain sufficient distance between the HMI and any converters or switching mode power supplies. Ensure that the input and output cables of such equipment are shielded cables, and that the shielding network is properly connected to ground.
- Ensure that the DC power and AC power are isolated

**Note:** An internal fuse will prevent damage for over-voltage, but does not guarantee protection against damage of internal electronic components.

## 2. Installation Description

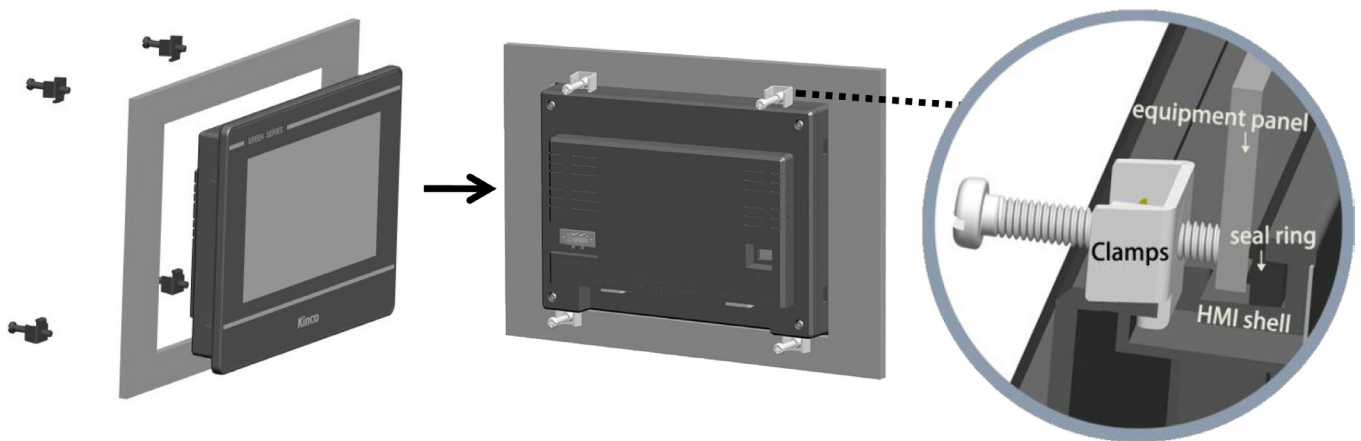
### 2.1 Dimensional Drawing



All units are in mm

## 2.2 Fixed Screw Installation Instructions

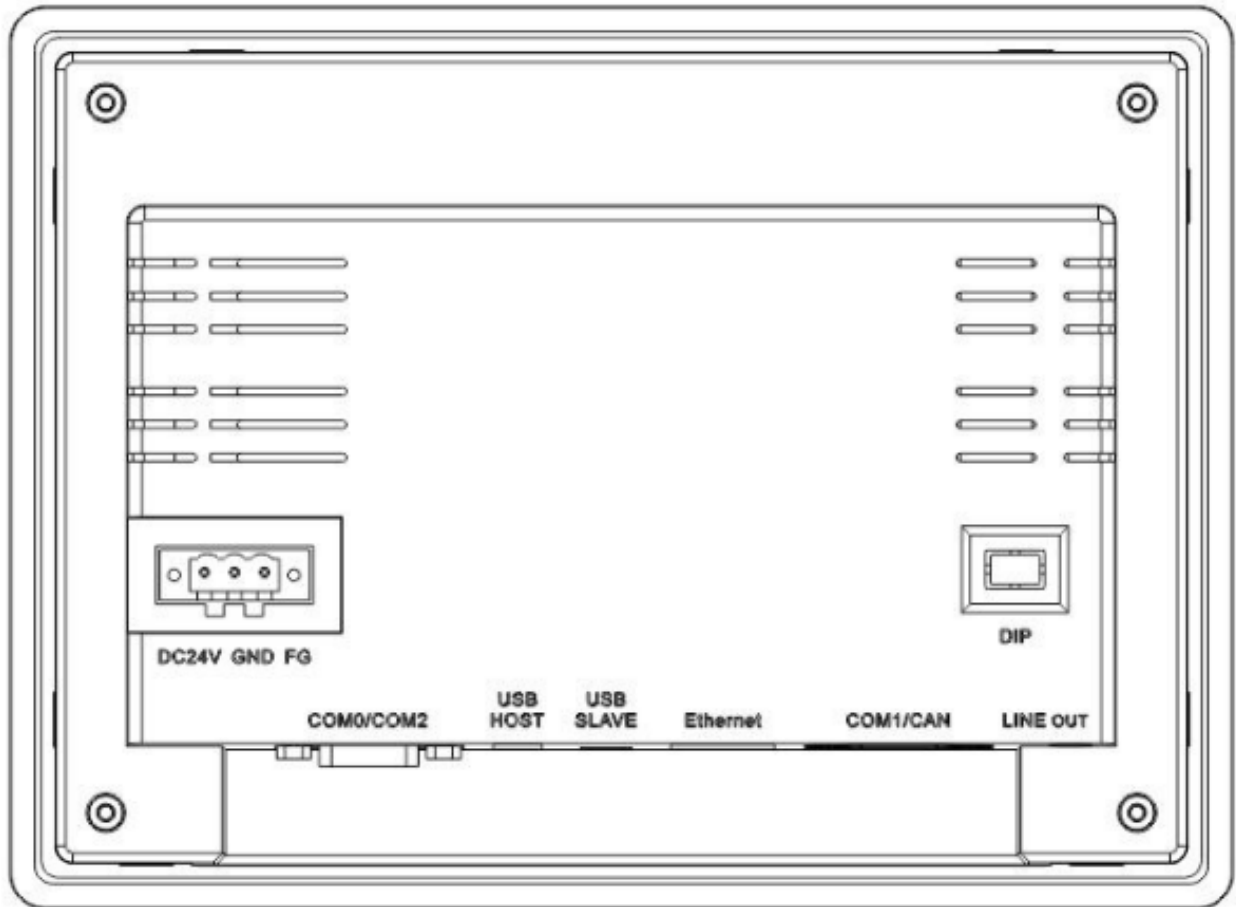
The product is placed into the cut out of the machine control box's panel, and the mounting screws are inserted into the fixing holes around the HMI shell from the back of the control box's panel. Recommended lock torque: 0.5N.m (for waterproof effect and to avoid shell deformation)



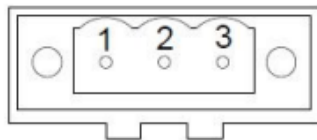
## 2.3 Power Connection

Before connecting the power, please make sure all local and national electrical standards are met. For power cables, please select cables with their dielectric strength values and current values in compliance with the safety specifications. First, find the power terminal at the back of the product and loosen the screw, by turning it counterclockwise. Then, insert the power cables and tighten the screw. Connect positive DC line to the 'DC24V' terminal, the DC ground to the 'GND' terminal and the earth or machine ground line to the 'FG' terminal.

### 3. External Interface

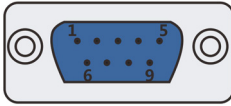


#### 3.1 Power



| Pin | Signal |
|-----|--------|
| 1   | DC24V  |
| 2   | GND    |
| 3   | FG     |

### 3.2 COM0/COM2



Pin assignment of the 9-pin male, D-SUB, COM0/COM2. Note: RS232/485/422 communication functions are supported by COM0. COM2 supports RS232 communication function.

| Pin | Signal  | PLC (COM0)<br>[RS-422] | PLC (COM0)<br>[RS-485] | PLC (COM0)<br>[RS-232] | PC/PLC<br>(COM2)<br>[RS-232] |
|-----|---------|------------------------|------------------------|------------------------|------------------------------|
| 1   | Rx- (B) | RS422 R-               | RS485 B                |                        |                              |
| 2   | RxD_PLC |                        |                        | RS232 RxD              |                              |
| 3   | TxD_PLC |                        |                        | RS232 TxD              |                              |
| 4   | Tx-     | RS422 T-               |                        |                        |                              |
| 5   | GND     | Signal Ground          |                        |                        |                              |
| 6   | Rx+ (A) | RS422 R+               | RS485 A                |                        |                              |
| 7   | RxD_PC  |                        |                        |                        | RS232 RxD                    |
| 8   | TxD_PC  |                        |                        |                        | RS232 TxD                    |
| 9   | Tx+     | RS422 T+               |                        |                        |                              |

### 3.3 USB HOST

|                      |   |
|----------------------|---|
| <b>Connection</b>    | Connect with USB interface devices or USB Flash Drives.   |
| <b>Port Function</b> | This interface can be connected with USB keyboard, mouse and printers, and the USB Flash Drives can be used for user's configuration uploading/downloading as well as data storage. |

### 3.4 USB SLAVE

The interface type is MicroUSB

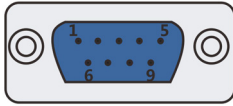
|                      |   |
|----------------------|---|
| <b>Connection</b>    | USB Slave port can be connected with a PC.  |
| <b>Port Function</b> | The port is only used to download the user configuration program to the HMI and to set HMI system parameters. |

### 3.5 Ethernet (G070E/G070E-CAN support)

10M/100M adaptive Ethernet RJ45 port

|                      |   |
|----------------------|---|
| <b>Connection</b>    | With CAT5 UTP cable connected to the Ethernet device.   |
| <b>Port Function</b> | The port can be used for upload/download of HMI configuration, setting of system parameters and online simulations of configurations. It can connect multiple HMIs via the Ethernet to form an HMI network. Furthermore, it can implement communications between the HMI and PLC via the Ethernet, as well as communications with a PC via the Ethernet port. |

### 3.6 COM1/CANbus (CANbus port Only G070E-CAN support)



Pin assignment of the 9-pin male, D-SUB, COM1/CANbus. Note: COM1 supports RS485 communication function. HMI can be connected to CANbus network and exchange data with other equipment.

| Pin | Signal  | COM1 [RS-485] | CANbus (Built-in isolation) |
|-----|---------|---------------|-----------------------------|
| 1   | Rx- (B) | RS485 B       |                             |
| 2   | CAN1_L  |               | CAN1_L                      |
| 3   | CAN_GND |               | Signal Ground (CAN)         |
| 5   | GND     | Signal Ground |                             |
| 6   | Rx+ (A) | RS485 A       |                             |
| 7   | CAN1_H  |               | CAN1_H                      |