

# FP2070 SERIES QUICK START GUIDE



## Product Code

FP2070T-V2: 800 x 480, WVGA, 7" color TFT with 4-wire analog resistive touch screen with 2 serial ports, one USB Type C port & 1 USB Host port.

FP2070TN-V2: 800 x 480, WVGA, 7" color TFT with 4-wire analog resistive touch screen with 2 serial ports, one USB Type C port, one USB Host port & 1 Ethernet Port.

FP2070T-E: 800 x 480, WVGA, 7" color TFT with 4-wire analog resistive touch screen with 2 serial ports, one USB Type C port & 1 USB Host port. It supports upto 3 expansions.

FP2070TN-E: 800 x 480, WVGA, 7" color TFT with 4-wire analog resistive touch screen with 2 serial ports, one USB Type C port, one USB Host port & 1 Ethernet Port. It supports upto 3 expansions.

## GETTING STARTED

User should follow the given sequence to configure and use any FlexiPanels series unit:

1. Install FlexiSoft Software.
2. Create a PZM application using FlexiSoft software.
3. Connect programming cable.
4. Download Firmware i.e. driver for the HMI.
5. Download application.
6. Now FP unit is ready to use in the system.



For More Information, Visit  
<https://www.renuelectronics.com>

## SPECIFICATIONS

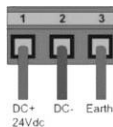
<b>Power (Base)</b>	24VDC (+20%) @200mA, 4.8W (T-V2 module) 24VDC (+20%, -15%) @230mA, 5.52W (TN-V2 module)
<b>Power (With 3 Expansions)</b>	24VDC (+20%) @220mA, 5.28W (T-E type module) 24VDC (+20%) @250mA, 6W (TN-E type module)
<b>Display</b>	7", 800 x 480 pixels, WVGA color TFT with 4-wire analog resistive touch screen
<b>LEDs</b>	1
<b>RAM</b>	32MB max.
<b>User Application</b>	8MB
<b>Ladder Memory</b>	2MB
<b>Alarm Memory</b>	1350 Alarms
<b>Retentive Memory</b>	8000 Words
<b>Data Log</b>	4MB
<b>Keep Memory Registers</b>	1000 Words
<b>Panel Cutout</b>	127.00(H) x 175.00(W)mm
<b>Dimensions</b>	138(H) x 186.0(W) x 31.0(D)mm
<b>Weight</b>	Approx. 400gm
<b>Communication</b>	
<b>Serial Ports</b>	2 x RS232 /RS485
<b>USB Ports</b>	1 USB Type C & 1 USB Host
<b>SD card #</b>	Micro SD card supported (4 to 32 GB)
<b>Ethernet</b>	1 Ethernet Port
<b>Expansions*</b>	Supports 3 Expansion slot
<b>Environment &amp; Approvals</b>	
<b>Operating Temperature</b>	0°C to 50°C
<b>Storage Temperature</b>	-30°C to 85°C
<b>Humidity</b>	10 to 90% (Noncondensing)
<b>Shock</b>	25g, 11ms, 6 shocks per axis, Total 18 shocks (X, Y, Z)
<b>Vibration</b>	5~150Hz, 3g peak, (X, Y, Z)
<b>Protection</b>	Front panel-IP66, Rare panel-IP20
<b>APPROVALS</b>	CE, UL (Class 1 DIV 2), UKCA, REACH& RoHS

[\*Note: Applicable only for FP2070Tx-E models.

\*Note –Applied for FP2070TN-V2 and FP2070TN-E model]

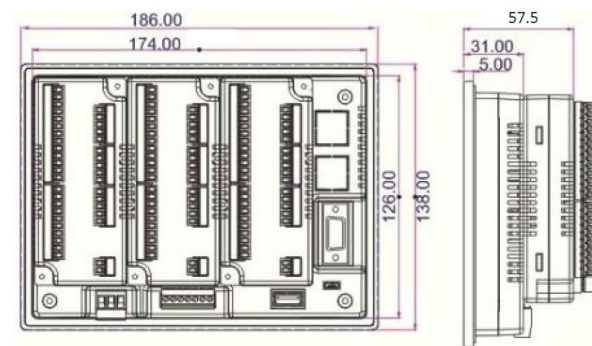
## Earthing

The optimum method for Earthing electronic equipment is to earth it separately from other high-power systems, to earth more than one unit of electronic equipment with a single-point earth. The Earthing marked terminal (see below) is provided on the unit.

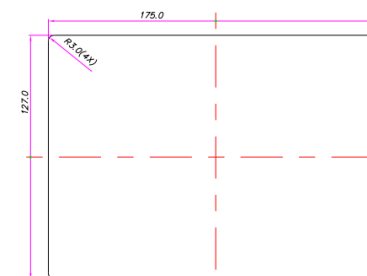


[Note: Do not use an earth that has an unstable impedance, such as painted screws or earth subject to vibration.]

## PRODUCT DIMENSIONS



## PANEL CUTOUT DIMENSIONS



Panel Cutout Dimensions: 127(H) x 175.00(W)mm

Panel Thickness: Maximum 6mm

Mounting Clamps: 4

Tighten the mounting screws evenly to a torque between 0.4N/m to maintain water and dust resistance.

## WARNINGS:

**WARNING: DO NOT REMOVE OR REPLACE WHILE BE FREE OF IGNITIBLE CONCENTRATIONS OF FLAMMABLE SUBSTANCES.**

This equipment is suitable for use in Class I, Division 2, Groups A, B, C and D or non-hazardous locations only.

**WARNING – EXPLOSION HAZARD –Do not disconnect equipment unless power has been removed or the area is known to be non-hazardous.**

**WARNING – EXPLOSION HAZARD - Substitution of components may impair suitability for Class I, Division 2.**

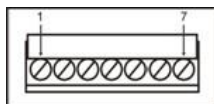
A recommendation for the user to periodically inspect the sealed devices used, for any degradation of properties and replace if degradation is found.

## COMMUNICATION

This section provides information regarding communication interfaces supported by this product.

### COM1

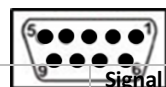
FP2070Tx-E has one terminal block port (COM1) which support RS232 / RS485 signal levels.



Pin number	Signal
1	RX-
2	TX-
3	RX+
4	TX+
5	GND
6	RXD
7	TXD

### COM2

FP2070Tx-E has one DB9 female port (COM2) which support RS232 / RS485 signal levels.



Pin No.	Signal
1	DB9 female (TX-(RS422/RS485))
2	TXD(RS232)
3	RXD(RS232)
4	RX+(RS422/RS485)
5	GND
6	NC
7	NC
8	TX-(RS422/RS485)
9	RX-(RS422/RS485)

### Cables:

RS232 MALE		RS232 pinout		RS232 FEMALE	
Pin number	Signal			Pin number	Signal
2	TXD			2	RXD
3	RXD			3	TXD
5	GND			5	GND

2-wire RS485 pinout

Signal	Pin number	Signal
A (TX+ / RX+)	1	TX+
B (TX- / RX-)	4	RX+
GND	5	GND and Shield
	8	TX-
	9	RX-

4-wire RS485 pinout

Pin number	Signal	Pin number	Signal
YELLOW	RX+	1	TX+
GREEN	TX+	4	RX+
BLACK	GND	5	GND and Shield
WHITE	RX-	8	TX-
BLUE	TX-	9	RX-

### USB Type C Port

1. USB Type C, compliant with USB 2.0 specification, self-powered device.
2. Connector used: Micro USB Type C Female connector.

### USB Host Port

1. USB Host, compliant with USB 2.0 specification.
2. USB Host can handle only USB memory stick devices and can source current up to 150mA only.
3. Connector used: Standard USB Type a Female connector.

Pin number	Signal
1	VCC
2	D-
3	D+
4	GND

### Ethernet Port

1. Fully compliant with IEEE 802.3 / 802.3u standards.
  2. 10 / 100 Mbps support.
  3. Connector used: Standard shielded RJ-45 female jack with in-built speed and link activity indication LEDs.
- Default IP Address: 192.168.0.254  
Default Subnet Activity Mask: 255.255.255.0

Pin number	Signal
1	TX+
2	TX-
3	RX+
4	NC
5	NC
6	RX-
7	NC
8	NC

## UL APPROVAL

CONTROL DRAWING NO# CNTL/DWG/FP2070/0218 VER.NO.: 1.00

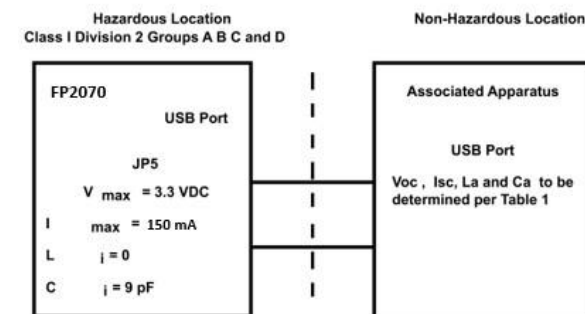


TABLE 1:

Nonincendive. Equipment		Associated Apparatus
V max (or Ui)	≥	Voc or Vt (or Uo)
I max (or Ii)	≥	Isc or It (or Io)
Ca + Ccable	≥	Ca (or Co)
Li + Lcable	≥	La (or Lo)

Capacitance and inductance of the field wiring from the nonincendive equipment to the associated apparatus shall be calculated and must be included in the system calculations as shown in Table 1.

Where the cable capacitance and inductance per foot are not known, the following values shall be used: Ccable = 60 pF/ft., Lcable = 0.2 μH/ft. Wiring method must be in accordance with ANSI/NFPA70

## REVISION HISTORY

Rev.	Description	Date
1.0	First Draft	14/08/2020
1.1	Added Website Information	27/08/2020
1.2	Updated Communication Information	07/09/2020
1.3	Updated IP rating	02/06/2021
1.4	Replaced USB type from Micro to Type C	11/10/2021
1.5	Remove Micro USB Pinout dia	08/12/2021
1.6	Logo Updated	20/09/2022
1.7	Specification updated	09/06/2025

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