FP4070 Series
QUICK START GUIDE

Product Code:

FP4070T: 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.

FP4070TN: 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.

FP4070T-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 up to 3 expansions.

FP4070TN-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 up to 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.

RENU
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SPECIFICATIONS

|	
Power(Base)	24VDC (+20%, -15%), 200mA, 4.8W (T-E module)
	24VDC (+20%,-15%), 220mA, 5.28W (TN-E module)
Power (With 3 Expansions)	24VDC (+20%, -15%), 350mA, 8.4W (T-E module)
	24VDC (+20%,-15%), 370mA, 8.88W (TN-E module)
Display	7", 800 x 480, WVGA color TFT with 4-wire analog resistive touch screen
LEDs	1
RAM Memory	512MB
User Application	Up to 1GB that includes user application, data log, alarms, retentive memory and logic memory
eMMC	4GB
RTC	Built-in, Date and Time Function
Expansions	It supports 3 Expansion slots*
Weight	Approx. 400gm
Product Dimensions	186.0(W) x 138.0(H) x 35.3(D)mm
Panel Cut-out	175.00(W) x 127.00(H)mm
Communication Interfaces	
Serial Ports	2 x RS232 / RS485
USB Ports	1 USB Type C port and 1 USB Host port
Ethernet	1 Ethernet Port
SD Card	Micro SD [High Capacity (4GB to 32GB)] Speed Class: ⓒⓒⓒⓒⓤ *[While inserting and removing SD card, please make sure to TURNOFF the power to the unit.]*
Environment & Approvals	
Operating Temperature	-10° to 60°C**
Storage Temperature	-20° to 85°C
Humidity	10 to 90% (Non-Condensing)
Shock	IEC 60068-2-27 25g, 11ms, 6 shocks per axis, total 18 shocks (X, Y, Z)
Vibration	IEC 60068-2-6 5 to 150Hz, 3g peak (X, Y, Z)
EMC	EN 55011 : 2009/A1 : 2010 EN 61131-2 : 2007 EN 61000-6-2 : 2005/AC : 2005 EN 61000-6-4 : 2007/A1 : 2011
Protection	IP66 for front panel mounting
APPROVALS	CE, UL(Class1 Div2) & RoHS

[*** Note**: Applicable for FP4070Tx-E modules.]

[**** Note**: For UL, operating temperature range is 0° to 50°C.]

PRODUCT DIMENSIONS
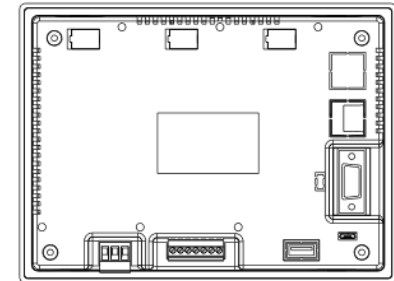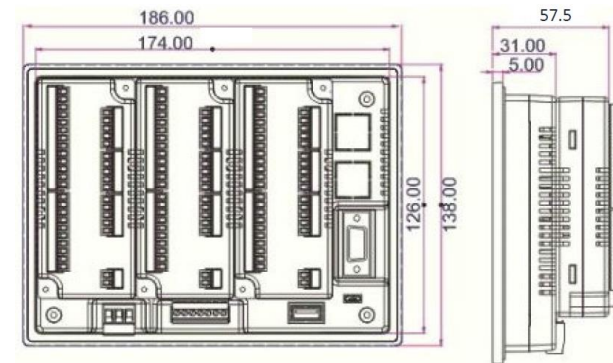
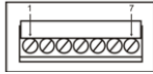

PANEL CUTOUT DIMENSIONS
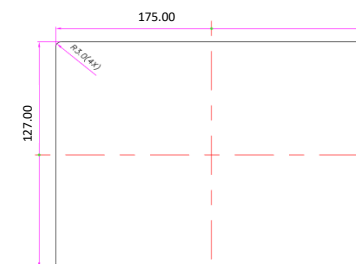
Panel Cutout Dimensions: 175.00 x 127.00mm,
Panel Thickness: Maximum 6mm and
Mounting Clamps: 4
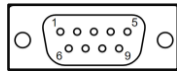
COMMUNICATION INTERFACES

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

COM1: FP4 series 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: FP4 series has one DB9 female port (COM2) which support RS232 / RS485 signal levels.

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

Cable Diagrams:

PC to unit programming cable (RS232):

Driver end
(PLC side or 2 wire network side)

FP Unit side (COM2)

Pin number	Signal		Pin number	Signal
2	TXD		2	RXD
3	RXD		3	TXD
5	GND		5	GND

2 Wire RS485 connections

Driver end
(PLC side or 2 wire network side)

FP Unit side (COM2)

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 connections

Driver end
(PLC side or 2 wire network side)

FP Unit side (COM2)

Signal		Pin number	Signal
RX+		1	TX+
TX+		4	RX+
GND		5	GND and Shield
RX-		8	TX-
TX-		9	RX-

USB Host Port

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

USB Type C Port

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

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.

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

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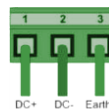
[Note: Do not use an earth that has an unstable impedance, such as painted screws or earth subject to vibration.]

UL APPROVAL

CONTROL DRAWING - FP SERIES

Hazardous Location
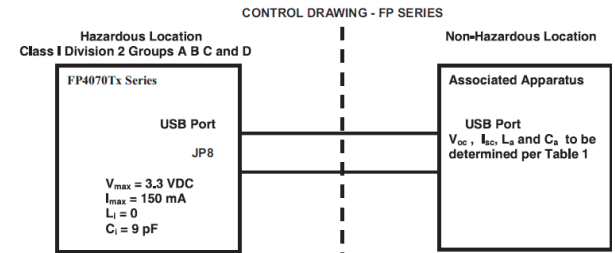Class I Division 2 Groups A B C and D

Non-Hazardous Location

FP4070Tx Series

USB Port

JP8

$V_{max} = 3.3$ VDC
$I_{max} = 150$ mA
$L_i = 0$
$C_i = 9$ pF

Associated Apparatus

USB Port
V_{oc} , I_{sc}, L_a and C_a to be determined per Table 1

TABLE 1:

Nonincendive. Equipment		Associated Apparatus
V max (or Ui)	$\geq$	Voc or Vt (or Uo)
I max (or Ii)	$\geq$	Isc or It (or Io)
Ci + Ccable	$\leq$	Ca (or Co)
Li + Lcable	$\leq$	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

WARNING:
-> 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.
-> WARNING - CAUTION, Battery May Explode If Mistreated. Do Not Recharge, Disassemble or Dispose of in Fire.
-> The list of materials used in the construction of these devices with name of sealed device - generic name of the material and the supplier's name and type designation.
-> It is recommended that the user periodically inspect the sealed devices used, for any degradation of properties and Replace the device if any degradation is found.

REVISION HISTORY

Rev.	Description	Date
1.0	First Draft	24/03/2020
1.1	Replaced USB type from Micro to Type C	21/07/2021

RENU Electronics Pvt. Ltd® reserves the right to change or discontinue specifications and features without prior notice.

To view the latest and updated datasheets/manuals please visit **www.renuelectronics.com.**