Quick Start Manual for FP5070 Models

Chemical Mixing Plant

Product Codes:

FP5070T:	Flexi Panels, 800x480 7", WVGA Color TFT, with no expansion slot & no Ethernet.
FP5070T-E:	Flexi Panels, 800x480 7", WVGA Color TFT, with 5 expansion slots & no Ehternet.
FP5070TN:	Flexi Panels, 800x480 7", WVGA Color TFT, with Ethernet & no expansion slot.
FP5070TN-E:	Flexi Panels, 800x480 7", WVGA Color TFT, with Ethernet & 5 expansion slots.

Panel Mounting and Panel cut-out:
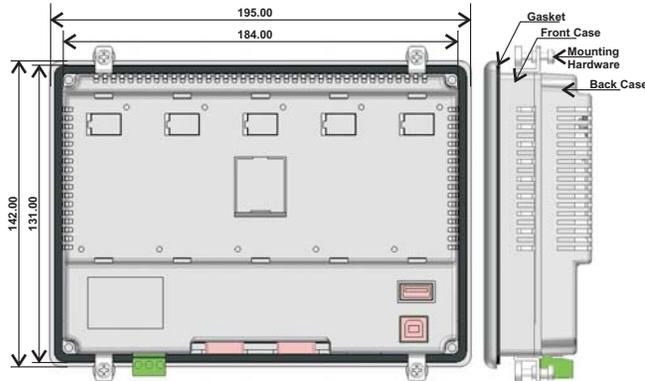
Tighten the mounting screws evenly to a torque between 0.6 and 0.7 Nm to maintain water and dust resistance. Make sure the panel is not dirty and warped and that it is strong enough to hold the unit.

Note: Maximum Panel thickness (On which unit is to be mounted) should be 6.0mm (Tolerance: +0.00mm and -0.50mm).
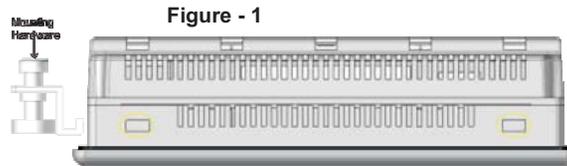

Figure - 1
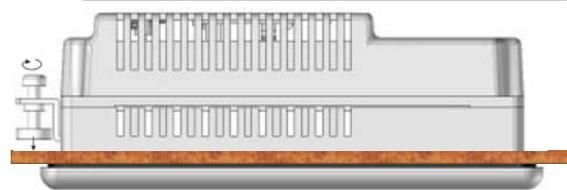
Figure - 2
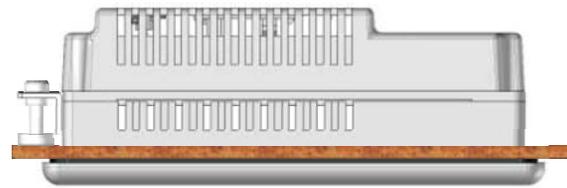
Figure - 3

Procedure to mount the unit:

FIGURE - 1 There are four (4) slots provided on the unit case to mount the unit. Also a set of four (4) mounting hardware is provided with each FP5 unit. (It is consist of single cap nut, screw and clamp)

FIGURE - 2 Insert the clamp into the slot provided on the unit case. hold the unit straight. Tighten the mounting screws evenly to a torque between 0.6 and 0.7 Nm.

FIGURE - 3 Thus this mounting hardware will hold the unit with the surface.

Grounding:

The optimum method for grounding electronic equipment is to ground it separately from other high-power systems, and to ground more than one unit of electronic equipment with a single-point ground.

The grounding marked terminal (see below) is provided on the unit.
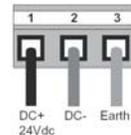
Note: Do not use a ground that has an unstable impedance, such as painted screws, or ground subject to vibration.

System Components:
- FP5070Txx unit with LCD, Touch Screen and RTC
- Power Supply Connector
- Installation Kit: Gasket, Four Mounting hardware (each mounting hardware set consists of single cap nut, screw and clamp).
- *FlexiSoft Software Installer CD

FlexiSoft: Please check the latest version each time.
Note: User should order PLC / programming cable separately.

FP5070Tx-x Specifications

FP5070Txx are Flexi Panel series product with high speed processor.

Flexi Panel Series operator interfaces provide human-machine interface for PLCs / Inverters. It communicates with PLCs / Inverters over serial communication port to fetch the information. Information can be displayed over LCD or can be used to build a logic.

Specifications of FP5070Tx-x:

Power Supply:	24VDC; 9W
Display:	7"TFT (800 x 480 Pixels) Color Graphical Display
Bezel:	IP 66
LEDs:	1
Memory:	Up to 10MB Application Memory
Communication:	
2 COM Ports:	COM1 & COM2: RS232/RS485/RS422
USB Device:	For Upload and Download
USB Host:	For mass storage interface
Ethernet:	For connecting to a PLC, programming of HMI, a third party device or drive (10/100Mbps)
Operating Temp.:	0 to 50 °C
Humidity:	10% to 90% (Non condensing)
Panel cutout:	184.00 mm x 131.00 mm
Weight:	For FP5070Tx-x: approx. 620gm For FP5070Tx: approx. 610gm

WARNING:

WARNING: DO NOT REMOVE OR REPLACE WHILE CIRCUIT IS LIVE UNLESS THE AREA IS KNOWN TO 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.

WARNING - CAUTION, Battery May Explode If Mistreated. Do Not Recharge, Disassemble Or Dispose Of In Fire.

WARNING - Replace Battery With type CR1225FH-LF, manufactured by Renata SA, only. Use of Another Battery May Present A Risk Of Fire Or Explosion. See Owner's Manual For Safety Instructions"

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

Port Details (COM1/COM2):
Pin description of communication port for FP models is as follows:

RX- (RS422/RS485)
TX- (RS422/RS485)
NC
NC

GND
RX+ (RS422/RS485)
RXD (RS232C)
TXD (RS232C)
TX+ (RS422/RS485)

DB9 Female
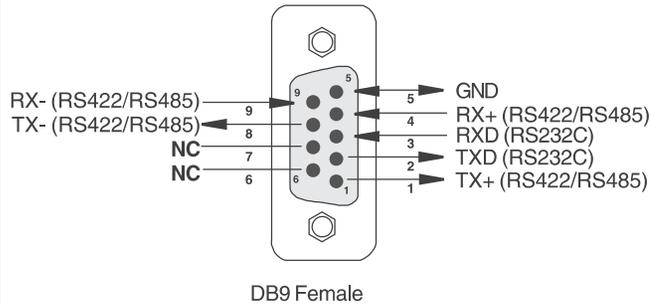
Getting Started:

User should follow the given sequence to configure and use any Flexi Panel 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 PLC if PLC is being used. FP unit cannot communicate with PLC till the required driver is downloaded to the unit.
5.   Download application.
6.   Now FP unit is ready to use in the system.

Install the software:

The minimum system requirements for running the FlexiSoft software are:

Processor	800MHz Pentium processor OR euivalent processor
Operating System	Microsoft Windows 2000 Microsoft Windows XP Professional / Home Edition with SP2 / Vista
RAM	256MB
Hard Disk Space	800MB (including 200MB for the .NET Framework Redistributable)
Display	1024 x 768 High Color 16-bit
Mouse/ Keyboard	Required

(i) Insert the CD in the PC drive and follow the instructions given.

(ii) In case the software does not autoexecute, please run the \DISK1\SETUP.EXE file from CD.

(iii) In case software has been downloaded from the Web site, first Extract the software installation files, then run the Setup.exe file.

Cable Diagrams:
4 Wire RS422/RS485 Cable connections:

PLC SIDE or 4 Wire Network Side

FP unit SIDE

DB9 MALE (4 Wire RS422/485)
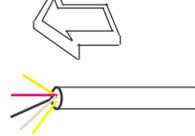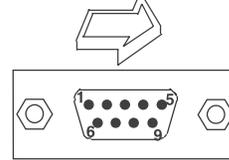
| SIGNALS	Pin #		Pin #	SIGNALS
RX+	YELLOW		1	TX+
TX+	GREEN		4	RX+
SG	BLACK		5	SG &Shield
RX-	WHITE		8	TX-
TX-	BLUE		9	RX-

Cable Diagrams:
2 Wire RS485 Cable connections:

PLC SIDE or 2 Wire Network side

FP unit SIDE

2 meter

DB9 MALE (4 Wire RS422/485)
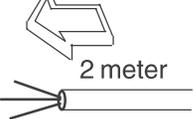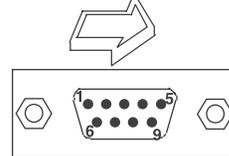
SIGNAL		Pin #	SIGNALS
A		1	TX+
B		4	RX+
SG		5	SG & Shield
		8	TX-
		9	RX-

PC to unit programming cable:

PC SIDE

FP unit SIDE

DB9 FEMALE (RS232)   **DB9 MALE RS232)**
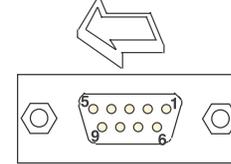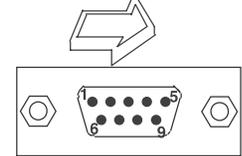
| SIGNALS	Pin #		Pin #	SIGNALS
RXD	2		2	TXD
TXD	3		3	RXD
SG	5		5	SG

Technical Support

For Technical support please contact factory along with the unit serial number and revision number written on the address sticker of the unit. Also provide information of the PLC if used in application.

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CONTRL DRAWING – FP SERIES

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

Non-Hazardous Location

FP5070 Series

USB Port

USB Device JP21

USB Host JP24

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
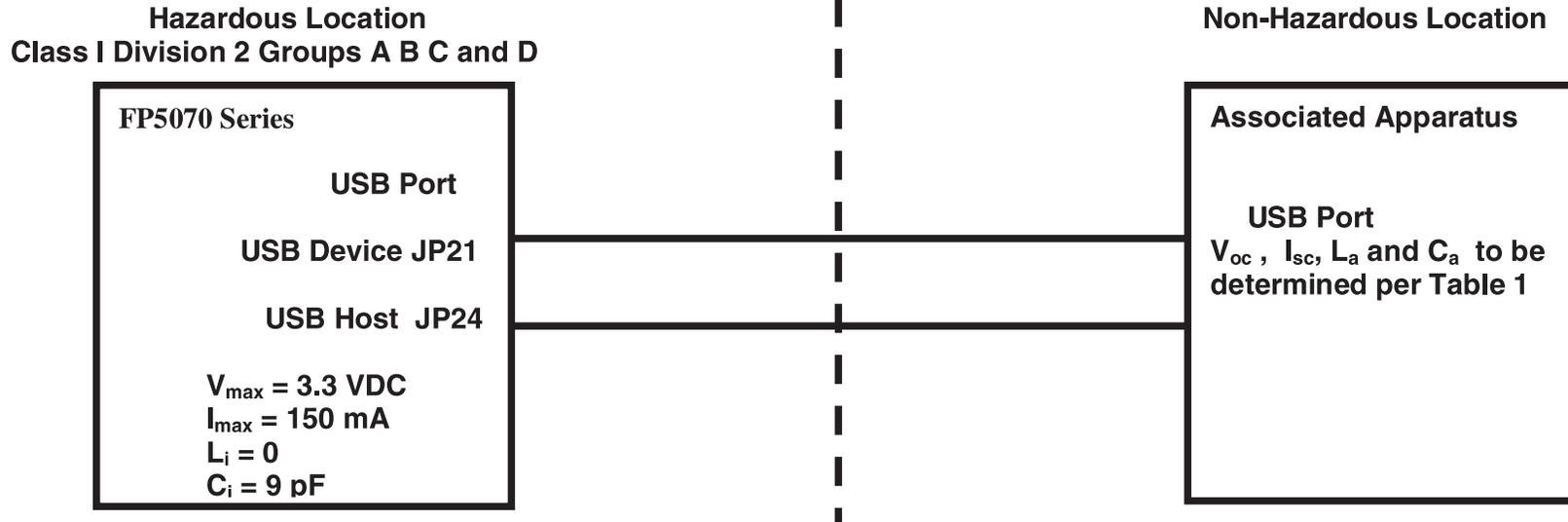
Capacitance and inductance of the field wiring from the nonincendive
equipment to the associated apparatus shall be calculated and must be
included in the system calculations as shown in Table 1.
Where the cable capacitance and inductance per foot are not known,
the following values shall be used: Ccable = 60 pF/ft., Lcable = 0.2 µH/ft.

Wiring method must be in accordance with ANSI/NFPA70

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)