# FlexiPanels® - FP3 Series
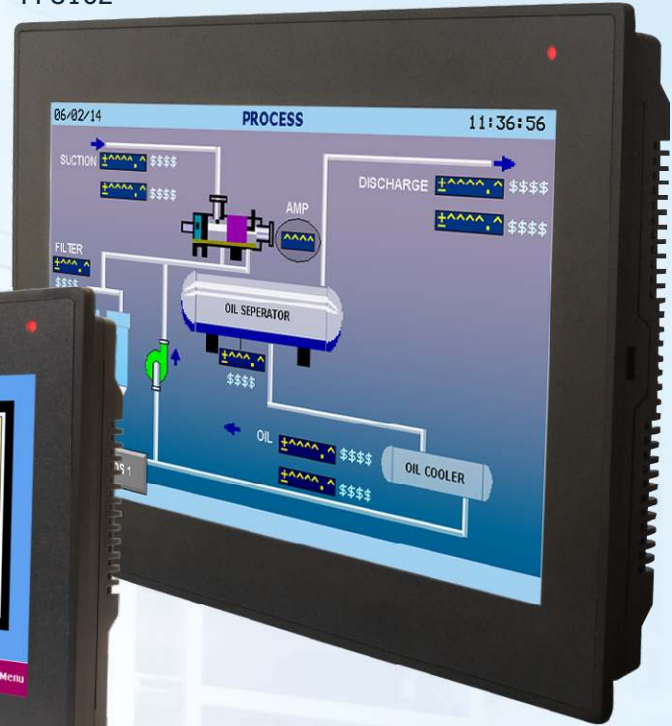
☑ NEW HIGH PERFORMANCE HMI SERIES FROM RENU ELECTRONICS

☑ ATTRACTIVE SLIM HOUSING

☑ SUITABLE FOR VARIETY OF APPLICATIONS

☑ LARGE MEMORY FOR SCREENS AND GRAPHICS

☑ REAL VALUE FOR YOUR MONEY

**RENU** ELECTRONICS PVT. LTD.

FP3102

FP3070

FP3043

## Salient Features

☑ 4.3" to 10.2" TFT Color display with touch screen

☑ Two serial communication ports

☑ One USB programming port

☑ One USB Host port

☑ One Ethernet port

☑ One SD card slot

☑ Supports Horizontal and Vertical display orientation

☑ High quality color display

☑ Front Panel mounting with IP66 rating

☑ Multilanguage support with true type Windows fonts

☑ CE, UL Class I Div 2, RoHS

# Model Comparison

| Models | FP3043T | FP3043TN | FP3070T | FP3070TN | FP3102T | FP3102TN |
|---|---|---|---|---|---|---|
| Display | 4.3" WQVGA Color TFT | 4.3" WQVGA Color TFT | 7" WVGA Color TFT | 7" WVGA Color TFT | 10.2" WVGA Color TFT | 10.2" WVGA Color TFT |
| Brightness | 400 cd/m² | 400 cd/m² | 300 cd/m² | 300 cd/m² | 350 cd/m² | 350 cd/m² |
| Resolution | 480x272 Pixels | 480x272 Pixels | 800x480 Pixels | 800x480 Pixels | 800x480 Pixels | 800x480 Pixels |
| Backlight | LED Backlight | LED Backlight | LED Backlight | LED Backlight | LED Backlight | LED Backlight |
| CPU | 32-bit RISC processor | 32-bit RISC processor | 32-bit RISC processor | 32-bit RISC processor | 32-bit RISC processor | 32-bit RISC processor |
| Memory | Up to 128MB | Up to 128MB | Up to 128MB | Up to 128MB | Up to 128MB | Up to 128MB |
| Screen Memory | Up to 45MB | Up to 45MB | Up to 45MB | Up to 45MB | Up to 45MB | Up to 45MB |
| Historical Alarms | 2700 Alarms | 2700 Alarms | 2700 Alarms | 2700 Alarms | 2700 Alarms | 2700 Alarms |
| Retentive Memory | 22000 Words (EEPROM) | 22000 Words (EEPROM) | 22000 Words (EEPROM) | 22000 Words (EEPROM) | 22000 Words (EEPROM) | 22000 Words (EEPROM) |
| Data Log | Up to 20 MB | Up to 20 MB | Up to 20 MB | Up to 20 MB | Up to 20 MB | Up to 20 MB |

| Serial Communication | | FP3043T | FP3043TN | FP3070T | FP3070TN | FP3102T | FP3102TN |
|---|---|---|---|---|---|---|---|
| | Number of ports | 2# | 2# | 2 | 2 | 2 | 2 |
| | Com1 | RS232 | RS232 | RS232 / RS485 | RS232 / RS485 | RS232 / RS485 | RS232 / RS485 |
| | Com2 | RS485 | RS485 | RS232 / RS485 | RS232 / RS485 | RS232 / RS485 | RS232 / RS485 |

| USB Interfaces | | FP3043T | FP3043TN | FP3070T | FP3070TN | FP3102T | FP3102TN |
|---|---|---|---|---|---|---|---|
| | USB Device | 1 USB Device Type B micro port for programming | 1 USB Device Type B micro port for programming | 1 USB Device Type B micro port for programming | 1 USB Device Type B micro port for programming | 1 USB Device Type B micro port for programming | 1 USB Device Type B micro port for programming |
| | USB Host | 1 USB Host port | 1 USB Host port | 1 USB Host port | 1 USB Host port | 1 USB Host port | 1 USB Host port |

| SD Card Slot | | FP3043T | FP3043TN | FP3070T | FP3070TN | FP3102T | FP3102TN |
|---|---|---|---|---|---|---|---|
| | Type | NA | microSD HC | NA | microSD HC | NA | microSD HC |
| | Capacity | NA | High Capacity (4GB to 32GB) | NA | High Capacity (4GB to 32GB) | NA | High Capacity (4GB to 32GB) |
| | Speed Class | NA | (2 4 6 10) | NA | (2 4 6 10) | NA | (2 4 6 10) |
| | UHS Speed Class | NA | (1) | NA | (1) | NA | (1) |

| | FP3043T | FP3043TN | FP3070T | FP3070TN | FP3102T | FP3102TN |
|---|---|---|---|---|---|---|
| Ethernet Interface | NA | One 10/100 Mbps | NA | One 10/100 Mbps | NA | One 10/100 Mbps |
| RTC | Yes | Yes | Yes | Yes | Yes | Yes |
| Power Supply | 24VDC (±15%) | 24VDC (±15%) | 24VDC (±15%) | 24VDC (±15%) | 24VDC (±15%) | 24VDC (±15%) |
| Power Rating | 4W | 4W | 9W | 9W | 7W | 7W |
| Operating Temperature | 0 to 60° C## | 0 to 60° C## | 0 to 60° C## | 0 to 60° C## | 0 to 60° C## | 0 to 60° C## |
| Storage Temperature | -20 to 85° C | -20 to 85° C | -20 to 85° C | -20 to 85° C | -20 to 85° C | -20 to 85° C |
| Humidity | 10 to 95% non condensing | 10 to 95% non condensing | 10 to 95% non condensing | 10 to 95% non condensing | 10 to 95% non condensing | 10 to 95% non condensing |
| Approvals | CE, UL Class I Div 2 | CE, UL Class I Div 2 | CE, UL Class I Div 2 | CE, UL Class I Div 2 | CE, UL Class I Div 2 | CE, UL Class I Div 2 |
| Mounting | Front Panel Mounting, IP66 rated | Front Panel Mounting, IP66 rated | Front Panel Mounting, IP66 rated | Front Panel Mounting, IP66 rated | Front Panel Mounting, IP66 rated | Front Panel Mounting, IP66 rated |
| Weight (Approximate) | 200 gms. | 200 gms. | 400 gms. | 400 gms. | 900 gms. | 900 gms. |
| Bezel Dimensions (mm) | 120W x 89H x 31.5D (Drawing A) | 120W x 89H x 31.5D (Drawing B) | 186W x138H x 31D (Drawing C) | 186W x138H x 31D (Drawing D) | 268W x190H x 33D (Drawing E) | 268W x190H x 33D (Drawing F) |
| Panel Cutout (mm) | 111W x 80H | 111W x 80H | 175W x 127H | 175W x 127H | 256W x 178H | 256W x 178H |

# FP3043 support One DB9 port that supports RS232 and RS485 levels on different pins. "Y" type cable can be used for separate RS232 and RS485 levels simultaneously.    ##For UL, operating temperature range is 0 to 50°C
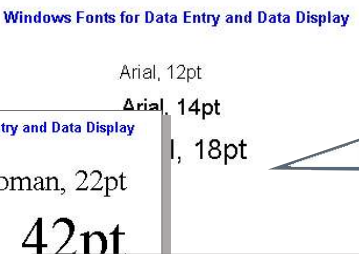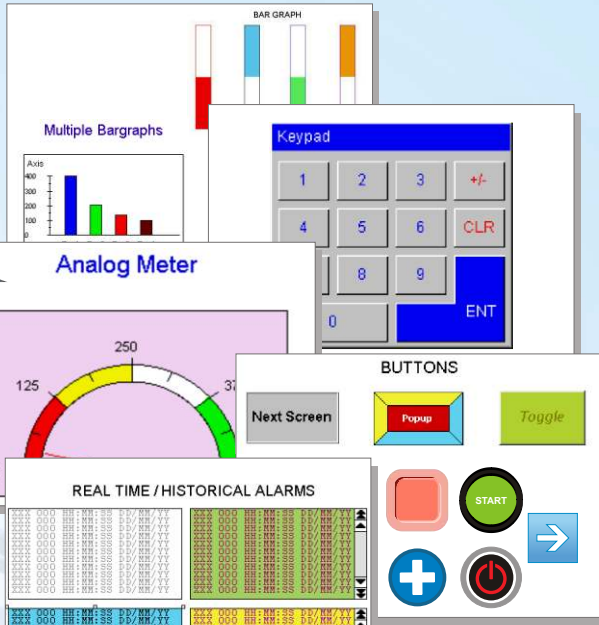
**LINE / RECTANGLE / ROUNDED RECTANGLE / SQUARE / ELLIPSE /**
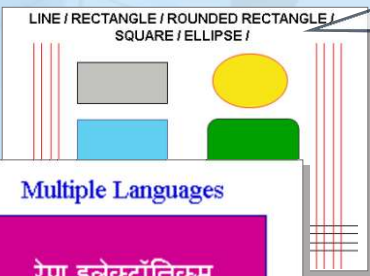
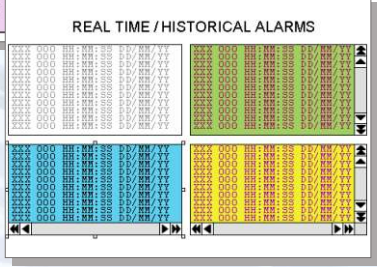**Graphical Objects**
FlexiSoft® supports various graphical objects like Rectangle / Rounded Rectangle / Ellipse / Square and Line.

**Multiple Languages**
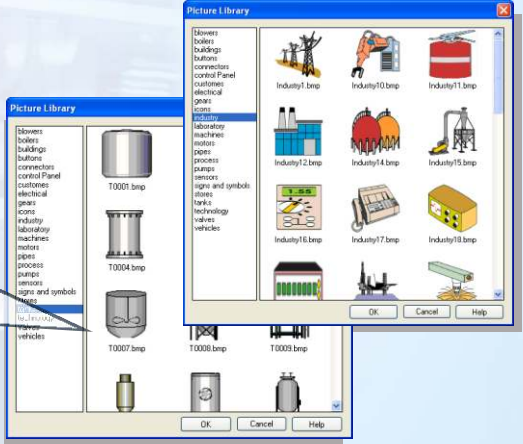
रेणू इलेक्ट्रॉनिक्स

मराठी

**BAR GRAPH**

**Multiple Bargraphs**

Axis
400
300
200
100
0

**Keypad**

| 1 | 2 | 3 | +/- |
| 4 | 5 | 6 | CLR |
| | 8 | 9 | |
| 0 | | | ENT |

**Advanced Objects**
FlexiSoft® supports most popular advanced objects like Bargraphs, Multiple Bargraphs, Analog Meter Real Time / Historical Alarms, Buttons.

**Analog Meter**

250
125    37
0

**BUTTONS**

Next Screen     Popup     Toggle

START

**REAL TIME / HISTORICAL ALARMS**

**Windows Fonts for Data Entry and Data Display**

Arial, 12pt

Arial, 14pt

l, 18pt

**Windows Fonts for Data Entry and Data Display**

Times New Roman, 22pt

30pt     42pt

50pt 62    Tahoma

72pt

90pt

**Windows Font for Display Data and Data Entry**
FlexiSoft® supports True type Windows font for Data Entry and Data Display objects. Supported fonts are 'Arial', 'Times New Roman' and 'Tahoma'.

**Picture Library**

blowers
boilers
buildings
buttons
connectors
control Panel
customers
electrical
gears
icons
industry
laboratory
machines
motors
pipes
process
pumps
sensors
signs and symbols
stores
tanks
technology
valves
vehicles

Industry1.bmp    Industry10.bmp    Industry11.bmp
Industry12.bmp   Industry14.bmp    Industry15.bmp
Industry16.bmp   Industry17.bmp    Industry18.bmp

OK    Cancel    Help

T0001.bmp
T0004.bmp
T0007.bmp    T0008.bmp    T0009.bmp

OK    Cancel    Help

**Picture Library**
FlexiSoft® provides rich picture library. It includes many popular image categories widely used for industrial application development.

**Real Time Clock**

Date:    30/08/13

Time:    16:44:46

Day of Week:  XXX:30/08/13

**Real Time Clock**
Real Time Clock object helps user to display date, time and day of week.
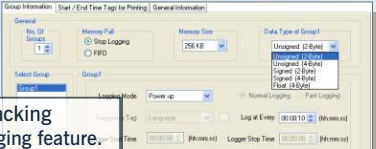
**Data Logging & Trend Tracking**
FlexiSoft® support data logging feature. Real time as well as Historical Trending is also supported. The user can also display multiple trends with different pen color on one screen.

**TREND OVERVIEW**    17:12:03

HOME    TREND 1    TREND 2    DATA LOG    CALIBRATION
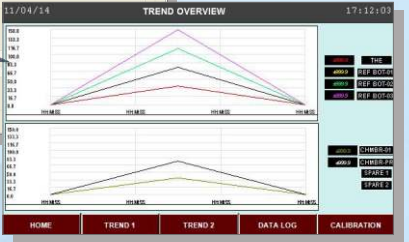
## Supported Objects        ## Supported Tasks        ## Supported Printers

### Drawing Tools
- Line, Rectangle, Ellipse
- Rounded Rectangle
- Text, Multilingual text
- Picture

### Data Entry / Data Display
- Numeric data
- Bit data

### Clock objects
- Time
- Date

### Advance Objects
- Buttons
- Lamps
- Bargraph
- Multiple Bargraph
- Analog Meter
- Alarm
- Numeric Keypad
- ASCII Keypad
- Custom Keypad

### Supported tasks
- Button specific tasks
- Global tasks
- Screen specific tasks
- Data exchange tasks

FlexiPanels® support following Dot Matrix serial printers:
- EPSON
- SAMSUNG
- TVS

## Protocols Supported Include

| Serial Driver | FP3 Series |
| --- | --- |
| ABB PLCs | ✓ |
| Allen Bradley DF1 | ✓ |
| Panasonic FP Series | ✓ |
| Baldor | ✓ |
| Danfoss Drive | ✓ |
| Delta PLCs | ✓ |
| Fatek PLCs | ✓ |
| Renu FlexiLogics* | ✓ |
| FlexiLogics Slave Driver* | ✓ |
| G9SP Safety Controller | ✓ |
| GE SNP | ✓ |
| GE SNP-X | ✓ |
| Idec PLCs | ✓ |
| LG Master K Series PLC | ✓ |
| LG Master-K 300S | ✓ |
| Mitsubishi FX | ✓ |

| Serial Driver | FP3 Series |
| --- | --- |
| Mitsubishi Q series PLCs (Serial) | ✓ |
| Modbus ASCII (Unit as Master) | ✓ |
| Modbus RTU (Unit as Master) | ✓ |
| Modbus RTU (Unit as Slave) | ✓ |
| Omron Host Link | ✓ |
| Omron Inverter Memobus | ✓ |
| Siemens Micromaster Driver (USS) | ✓ |
| Siemens Step-7 Micro | ✓ |
| Toshiba (Link Port) Series PLCs | ✓ |
| Toshiba Inverters PLC | ✓ |
| Toshiba T Series | ✓ |
| TriPLC | ✓ |
| Twido PLCs | ✓ |
| Unitelway PLCs | ✓ |
| Universal Serial Driver (ASCII) | ✓ |

| Ethernet Driver | FP3 Series |
| --- | --- |
| AB PLC EIP PCCC (Ethernet IP) | ✓ |
| FlexiLogics* | ✓ |
| FlexiLogics Slave Driver* | ✓ |
| Logix 5000 PLCs | ✓ |
| Modbus/TCP Master (Client) | ✓ |
| Modbus/TCP Server (Slave) | ✓ |
| Universal Ethernet Driver (ASCII) | ✓ |

*Supported with native programming environment.

## Application Example        ## Ordering Information

HMI for Control Application



FP3043TN

USB

RS232

Modbus RS485 Network

GSM Network

PLC        PLC        Drive        GSM Gateway
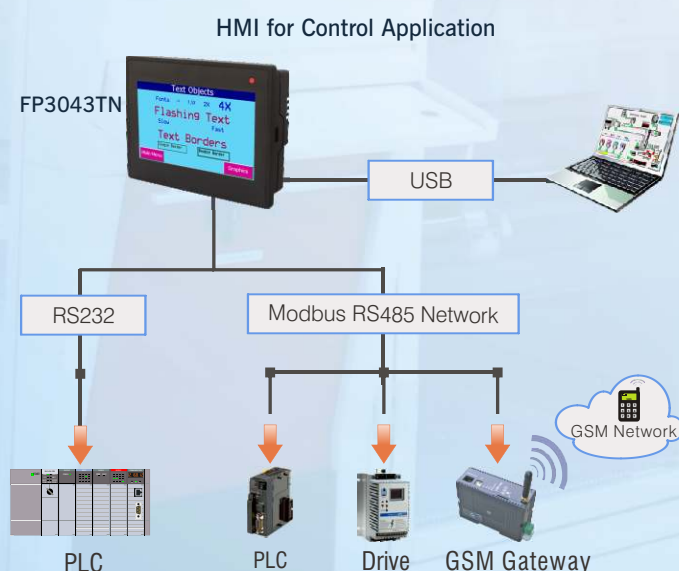
| Models | Description |
| --- | --- |
| FP3043T | 4.3" TFT, 24VDC, 2 Serial ports (1 RS232, 1 RS485), 1 USB device, 1 USB host |
| FP3043TN | 4.3" TFT, 24VDC, 2 Serial ports (1 RS232, 1 RS485), 1 USB device, 1 USB host, 1 Ethernet, 1 SD Card Slot |
| FP3070T | 7" TFT, 24VDC, 2 Serial ports (RS232/RS485), 1 USB device, 1 USB host |
| FP3070TN | 7" TFT, 24VDC, 2 Serial ports (RS232/RS485), 1 USB device, 1 USB host, 1 Ethernet, 1 SD Card Slot |
| FP3102T | 10.2" TFT, 24VDC, 2 Serial ports (RS232/RS485), 1 USB device, 1 USB host |
| FP3102TN | 10.2" TFT, 24VDC, 2 Serial ports (RS232/RS485), 1 USB device, 1 USB host, 1 Ethernet, 1 SD Card Slot |
| Programming SW | FlexiSoft® v2.3 and later (Free) |

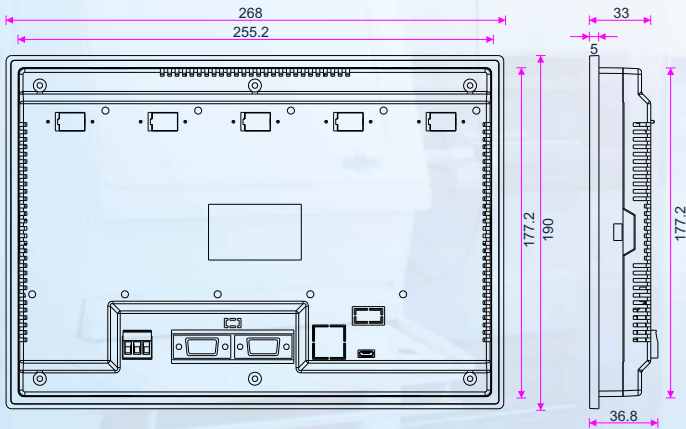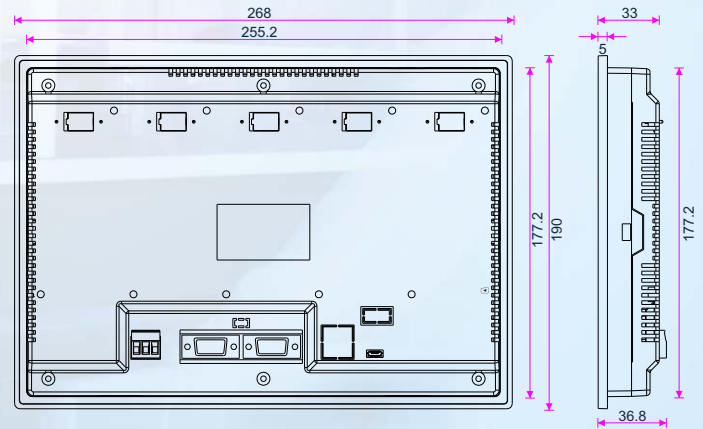# Dimensions
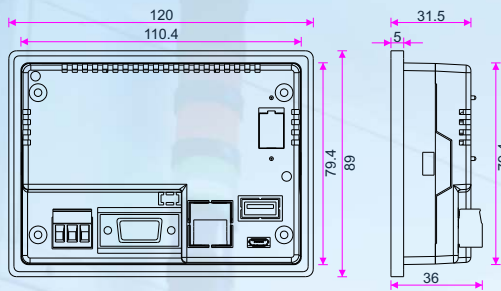

Drawing A
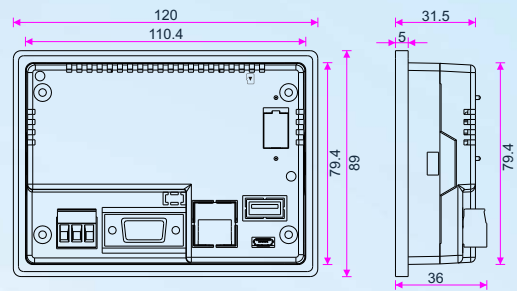

Drawing B
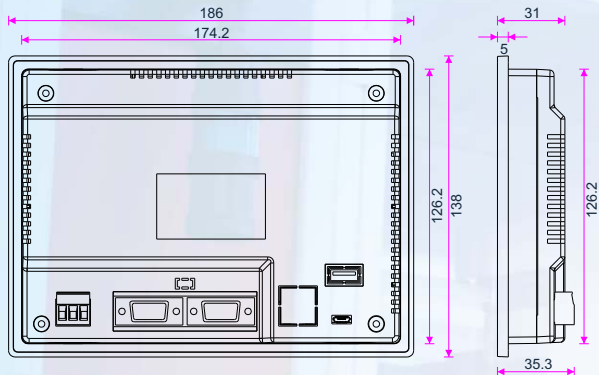

Drawing C
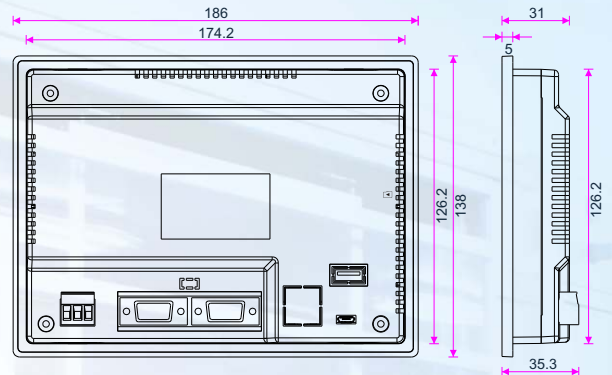

Drawing D


Drawing E


Drawing F

All dimensions are in mm.
Please contact factory for more information. We welcome an opportunity to develop new, custom drivers and customized units.

(Preliminary Datasheet. Specifications subject to change without prior notice. DS-FP3-Series-Rev.K)