

Front view  
5.7" TFT Color LCD



Back view of HMI with expansion  
(Up-to 5 expansions)



Back view of HMI



## Salient Features :-

- 5.7" TFT Color Touchscreen Graphical Display
- Only HMI or Pluggable Digital I/O options available
- Pluggable Digital Inputs and Outputs
- Support for Digital I/O (OC / Relays)
- High Speed Counters and Timers
- Ladder editor with powerful instruction set
- Support for Recipes and 32K color Bitmaps
- Communication Ports:
  - Two serial ports to connect PLC at RS232 / 422 / 485 levels / Printer / Programming Port
  - One USB (device) port as Programming Port
  - One USB (host) port to connect USB memory drive
- Dual Port communication supported
- User defined Function keys to support various tasks
- Data Logging, Transfer logged data on USB memory
- Trending (Real Time & Historical), Alarms (Real Time & Historical)
- Multilanguage (Unicode) support with true type Windows® fonts
- IP65 design. CE approved
- Common Programming software for the entire FlexiPanels family.....FREE!!



# Operations :-

The FlexiPanels support Operator interface as well as Programmable Logic Controller features. The user can implement logic, specific to application using standard Ladder programming. A PLC logic block can be executed at power up, during every scan, upon receiving an interrupt on specific I/O pins or upon a timer interrupt. The FlexiPanels operator interface functions revolve around Screens and Tasks that can be assigned to screens and application.

## Pluggable I/O (Digital)

FlexiPanels have facility to expand I/O using pluggable I/O modules. The I/O modules can be selected based on the application requirement. User can select and plug different Digital I/O modules to meet application I/O requirements. Maximum 5 I/O modules can be connected to one FP4057.

## Digital I/O

FP4057 can have up-to 80 digital I/O on the unit through the expansion modules. Digital inputs are high impedance 24 VDC and outputs are relay (NO), transistor outputs or a combination of both.

## Function Keys

FP4057 has 06 function keys with built-in LEDs besides Touch Screen. The function keys are independent of Touch Screen. These function keys are screen dependent Function Keys. User can assign any application related task / actions to these function keys.

## Touch Keys Task

Touch Keys in FlexiPanels can be assigned Tasks for three instances: when the screen is touched, while the screen is touched and when the screen is released. Multiple tasks can be assigned to a touch key. In addition to above, tasks for data entry, alarm management etc. can be defined. These definitions allow Complete flexibility in cursor control and key operations when changing data.

## Alarms

Real time and historical Alarms can be defined in FlexiPanels. User-friendly Alarm object can be defined on the display. Alarms can be real time or historical. Keys can be assigned to acknowledge Alarm, view and scroll.

## Recipes

Recipes data is stored in the FlexiPanels memory. With one button stroke, a set of data can be downloaded to the PLC. Once in the local memory, the recipes data can be edited using simple data entry objects.

## Bitmaps / Wizards

Different bitmaps can be embedded on the FlexiPanels screen. Transparent buttons can be used for data entry and set points on bitmap images. Bitmaps can be imported into the application and displayed on the FlexiPanels screens. In addition, several wizards are supported to create commonly used objects such as Analog meters, Lamps, Buttons and Bar graphs. 32K colors are supported for bitmaps.

## High Speed Counters

FlexiPanels with I/O support High Speed Counter inputs up-to 25 KHz. These High Speed Counter inputs can be used for applications such as Rate Measurement, Speed Measurement, Totalizer, etc. The user can define up-to 2 High Speed inputs.

## Easy events logging and trend tracking

FlexiPanels support data logging feature. A part of FlexiPanels memory can be allotted for data logging. Real time as well as Historical Trending is also supported. The user can also display multiple trends with different pen color on one screen.

## Ladder Support

FlexiPanels support ladder functionality. User can define logic in the unit using FlexiSoft software. The execution of ladder could be through communication port or through I/O. Only HMI version of FP4057 also supports ladder functionality. It is used for critical applications where data is processed before sending it to controller. The FlexiPanels support following different types of instructions :

## I/O Instructions -

NO contact	NC contact	Output
Falling Edge	Rising Edge	Inverter
Inverter Coil	Positive Pulse Contact	Negative Pulse Contact
Positive pulse coil	Negative Pulse Coil	

## Data Transfer -

MOV word	MOV DWORD	Invert Transfer
Table Initialize	Table Block Transfer	Table Invert Transfer
Data Exchange	Multiplexer	Demultiplexer

## Math -

Addition	Subtraction	Multiplication
Division	Addition with Carry	Subtraction with Carry
Increment	Decrement	

## Compare -

Greater than	Greater than or equal	Equal
Not Equal	Less Than	Less than or Equal

## Logic -

AND	OR	XOR
Shift	Rotate	

## Data Conversion -

Hex to Ascii	Ascii to Hex	Absolute Value
7 segment decode	Ascii conversion	Binary Conversion
BCD conversion	2's complement word	2's complement Double word

## Timer -

TON	TOFF	TSS
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## Counter -

Up counter	UP Down Counter
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## Program Control -

Subroutine CALL	Subroutine RET	For
Next	Master Control Set	Master Control Reset
Jump Control Set	Jump Control Reset	En Intr
Dis Intr	DT	Step sequence Init
Step sequence Input	Step sequence output	

## Function -

Moving Average	Digital Filter	PID1,4
Upper limit Lower limit	Function generator	
Average Value	Maximum Value	Minimum Value

## Special -

Device Set	Device Reset	Register Set
Register Reset	Set Carry	Reset Carry
Encode Decode	Bit Count	Flip Flop
Direct I/O	Set Calender	Calender Operation

The execution of ladder logic is in microseconds. Ladder monitoring for debugging is also supported in FlexiSoft configuration software.

## Multilanguage / Unicode Support

All the languages are supported in the FP4057. The user can now display messages, alarms in any regional language. All Windows® fonts can also be used in an application.

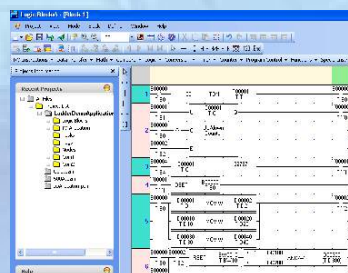
## Communication Ports

FP4057 has two serial communication ports. Both the ports can be used for programming of FlexiPanels, printing screens (only text), connecting to third party serial devices (barcode readers, temp scanners etc.) or to connect to a PLC or drive. Dual port feature is supported for FP4057. User can configure these serial ports to connect 2 different devices supporting different protocols, such as PLC / Drives / DCS / SCADA etc.

It has one USB (Device) port. The USB port can be used as a programming port or for ladder monitoring. The unit also has one USB (Host) port. The USB Host port can be used to connect a memory drive.

## Configuration Software

FlexiSoft is a compact, Windows® based software to configure the FlexiPanels units. User friendly configuration tools and easy approach, helps user create applications quickly and easily.



To get started with FlexiPanels, user needs:

1. FlexiPanels unit
2. FlexiSoft Software
3. IBM Cable (Part codes: IBM 0909-1-00 or IBM 0925-1-00)

OS requirements for FlexiSoft are:

Windows Version : Microsoft Windows® 2000 or above

# Operations :-

Supported Task in FlexiPanels are :

Task	Type	Power up	Global	Screen			Key/button		
				Before showing	While showing	After hiding	Press	While Pressed	Release
Go to screen		✓	✗	✓	✗	✓	✓	✗	✓
Go to next screen		✓	✗	✓	✗	✓	✓	✗	✓
Go to previous screen		✓	✗	✓	✗	✓	✓	✗	✓
Write value to tag		✓	✓	✓	✓	✓	✓	✓	✓
Add constant to tag		✓	✓	✓	✓	✓	✓	✓	✓
Subtract constant from tag		✓	✓	✓	✓	✓	✓	✓	✓
Add tag B to Tag A		✓	✓	✓	✓	✓	✓	✓	✓
Subtract tag B from Tag A		✓	✓	✓	✓	✓	✓	✓	✓
Turn bit ON		✓	✓	✓	✓	✓	✓	✗	✓
Turn bit OFF		✓	✓	✓	✓	✓	✓	✗	✓
Toggle bit		✓	✓	✓	✓	✓	✓	✗	✓
Copy Tag B to Tag A		✓	✓	✓	✓	✓	✓	✗	✓
Swap Tag A and tag B		✓	✓	✓	✓	✓	✓	✗	✓
Print Data		✗	✗	✗	✗	✗	✓	✗	✓
Set RTC		✗	✗	✗	✗	✗	✓	✗	✓
Copy tag to STR		✓	✓	✓	✗	✓	✓	✗	✓
Copy tag To LED		✓	✓	✓	✓	✓	✓	✓	✓
Delay		✗	✗	✗	✓	✗	✗	✗	✗
Wait		✗	✗	✗	✓	✗	✗	✗	✗
Copy HMI block to HMI/PLC block		✓	✓	✓	✓	✓	✓	✓	✓
Copy HMI/PLC block to HMI block		✓	✓	✓	✓	✓	✓	✓	✓
Copy RTC to PLC block		✗	✓	✗	✗	✗	✗	✗	✗
GoTo Popup screen*		✗	✗	✗	✗	✗	✓	✗	✓
Keys Specific Tasks		✗	✗	✗	✗	✗	✗	✗	✗
USB Data Log Upload		✓	✓	✓	✓	✓	✗	✓	✗

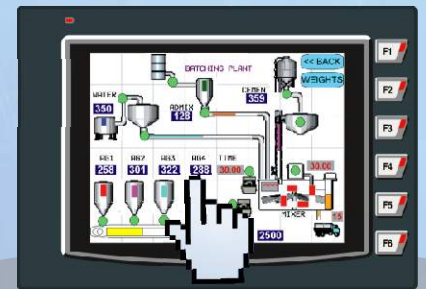
\* Available for Button

## Supported Printers :-



FlexiPanels support following Dot matrix serial printers:

- EPSON
- SAMSUNG
- TVS



# Specifications :-

Power	:	+ 24V DC $\pm$ 10%
Bezel	:	IP 65 rated Keypad and Touch Screen
Operating Temperature	:	0° to 50°C
Storage Temperature	:	-20° to 80°C
Humidity	:	10% to 85% (Non condensing)
Communication Ports	:	Two serial ports (RS232 / RS422 /RS485 levels supported)
USB Device Port	:	As programming and monitoring port
USB Host port	:	Supports USB Memory drive
Type of LCD	:	TFT
LCD Life	:	50000 hrs at 25°C
Supported Colors	:	32K for bitmaps
Immunity to ESD	:	as per IEC61000-4-2
Immunity to Fast Transients	:	as per IEC61000-4-4
Immunity to Radiated electromagnetic field	:	as per IEC61000-4-3
Immunity to Conducted disturbances	:	as per IEC61000-4-6
Surge	:	as per IEC61000-4-5
Radiated emission	:	as per EN55011

## Digital Inputs Rated Input Voltage

Rated Input Voltage	For Normal Input 24 VDC (Max is 28 VDC)	For High Speed 24 VDC (Max is 28 VDC)
Impedance	4.7 k	2.3 k

Logic '0' Voltage	:	0 to 5 V
Logic '1' Voltage	:	14 to 28 V

## Rated Input Current at (24 VDC)

	For Normal Input	For High Speed
Rated Input Current	4.89 mA	10 mA

## Digital Outputs (Open Collector)

Maximum Load current	:	500 mA NPN or PNP. Short circuit protected
Voltage drop at ON	:	0.4 V or less

## Digital Outputs (Relay)

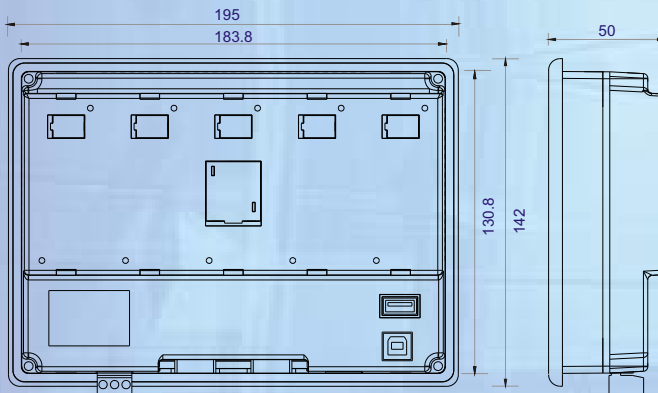
Relay Rating	:	230 V AC, 2 Amp. (Max) 5 Amp per common
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# Model Comparison :-

Product	Model	Display	Keys / TS	Memory	PLC Steps	Screen Memory	Logging Memory	Local I/O	Expansion	Serial Ports **	USB	RTC	Dimensions (a x b x c)
FP4057	FP4057T-E	320x240 QVGA 5.7" Color TFT	6 / Yes	8 MB	160 k	Up-to 6 MB	Yes	None	5	2	Device and Host	Yes	Drawing E
	FP4057T	320x240 QVGA 5.7" Color TFT	6 / Yes	8 MB	NA	Up-to 6 MB	Yes	NA	NA	2	Device and Host	Yes	Drawing E
<b>Pluggable Expansion Modules (Digital I/O)</b>													
FPED0808P	8 Digital inputs (PNP or NPN) and 8 0.5A PNP transistor outputs												Drawing G
FPED0808N	8 Digital inputs (PNP or NPN) and 8 0.5A NPN transistor outputs												Drawing G

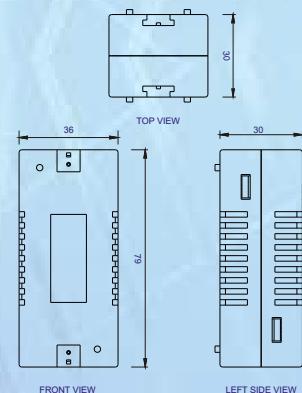
\*\* Universal Serial Port supporting RS232/RS485/RS422.

# Dimensions :-



Drawing E

Depth 80mm with pluggable module



Drawing G

Expansion Module

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



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