

Front view
16x2 Multicolor Backlight LCD



Back view for HMI with built-in I/O



Back view for HMI



Salient Features :-

- 16 x 2 text Multicolor Backlight LCD
- Only HMI or Integrated Digital Inputs and Outputs options available
- Support for Digital I/O (OC / Relays)
- High Speed Counters and Timers
- Ladder editor with powerful instruction set
- Support for RTC, Recipes, Alarms (Real Time & Historical) and Bargraph
- Communication Ports:
One serial port to connect PLC at RS232 / 422 / 485 levels / Printer / Programming Port
One USB (device) port as Programming Port
- User defined Function keys to support various tasks
- Numeric Keypad for easy data entry
- IP66 design. CE, UL approved. RoHS compliant
- 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.

Digital I/O

LBFP774020 model can have up-to 08 digital Inputs integrated to the unit. Digital inputs are high impedance 24 VDC. The unit can also have up-to 08 digital outputs. Outputs could be either relay (NO) or transistor outputs (NPN / PNP).

Function Keys

LBFP774020 has 06 function keys with built-in LEDs. These function keys are screen dependent Function Keys. User can assign any application related task / actions to these function keys. The function keys are independent of Numeric keypad. User can assign tasks to numeric keys also and use them as function keys, if required.

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.

RTC

FlexiPanels™ have built-in RTC support. The user can use RTC for any real time based application.

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.

Ladder Support

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

The FlexiLogics™ 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

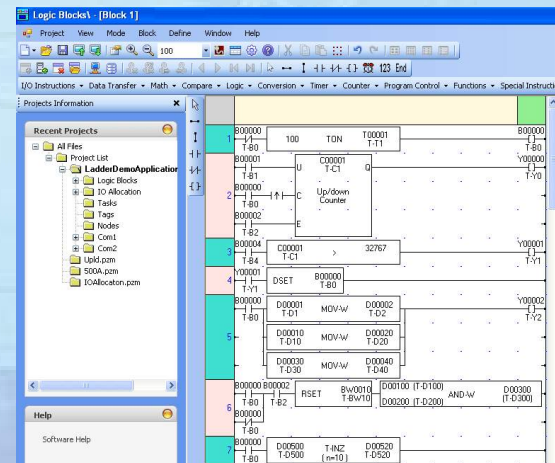
The execution of ladder logic is in microseconds. Ladder monitoring for debugging is also supported in FlexiSoft™ configuration software.

Communication Ports

LBFP774020 has one serial communication port that supports RS232 / 422 / 485 levels. Serial port can be used for programming of FlexiPanels™, printing screens (only text), connecting to third party serial devices (Barcode readers, Temp scanners, Energy meters etc.) or to connect to a PLC or drive. LBFP774020 also has one USB (Device port). The USB port can be used as a programming port or for ladder monitoring.

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

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	✗	✗	✗	✗	✗	✗	✗	✗

Protocols Supported for:-

Driver	LBFP774020
ABB	✓
Allen Bradley DF1	✓
Aromat FP Series	✓
Baldor	✓
Danfoss Drive	✓
Delta	✓
Fatek	✓

Driver	LBFP774020
GE Fanuc	✓
GE SNP-X	✓
Idec	✓
LG Master K series	✓
LG Master-K 300S	✓
Mitsubishi FX	✓
Modbus master	✓

Driver	LBFP774020
Modbus slave	✓
Serial Monitor	✓
Toshiba Inverters	✓
Toshiba T1	✓
Toshiba T2 Link port	✓
Twido	✓
Unitelway	✓
Universal Serial (ASCII)	✓

Specifications :-

Power : + 24V DC \pm 10%, 2 W Max
 Bezel : IP 66 rated Keypad
 Operating Temperature : 0° to 50°C
 Storage Temperature : -20° to 80°C
 Humidity : 10% to 85% (Non condensing)
 Communication Port : One serial port (RS232 / RS422 / RS485 levels supported)
 USB Device Port : As programming and monitoring port
 Type of LCD : Text Multicolor Backlight LCD
 LCD Life : 50000 hrs at 25°C
 Isolation : Isolation between communication ports, power and I/O (if applicable) is 500 V DC for 1 Min.
 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

Model Comparison :-

			Keys	Memory	PLC Steps	Screen Memory	Logging Memory	Local I/O	Expansion	Serial Ports **	USB	RTC	Power Consumption	Dimensions (a x b x c)	Weight
LBFP774020	LBFP774020MR	16x2 Text Multicolor backlight	18	512 k	10 k	84 kB	NA	NA	NA	1	Device	Yes	2 W	Drawing B	172 gms.
	LBFP774020MR-LO808N	16x2 Text Multicolor backlight	18	512 k	10 k	84 kB	NA	8 DC in 8 NPN 0.5A	No	1	Device	Yes	2 W	Drawing A	215 gms.
	LBFP774020MR-LO808P	16x2 Text Multicolor backlight	18	512 k	10 k	84 kB	NA	8 DC in 8 PNP 0.5A	No	1	Device	Yes	2 W	Drawing A	215 gms.
	LBFP774020MR-LO808R	16x2 Text Multicolor backlight	18	512 k	10 k	84 kB	NA	8 DC in 6 Relays 2A 2 NPN 0.5A	No	1	Device	Yes	2 W	Drawing A	220 gms.

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

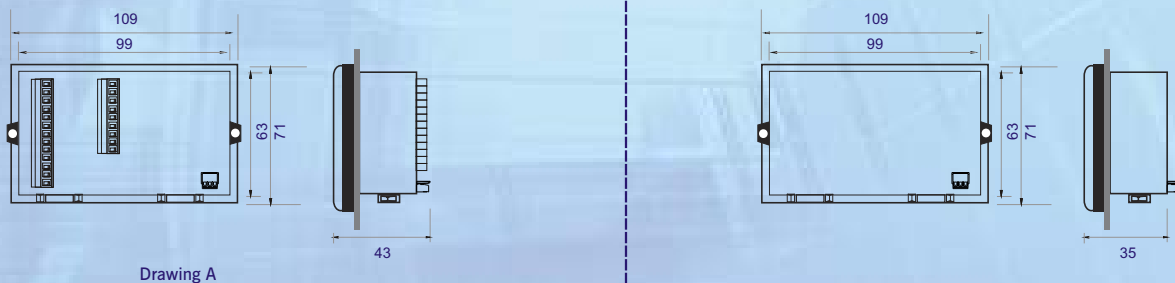
Supported Printers :-

FlexiPanels™ support following Dot matrix serial printers:

- > EPSON
- > SAMSUNG
- > TVS



Dimensions :-



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