

SALIENT FEATURES

- DIN rail / Back panel mounted slim PLC
- Transistor or Relay outputs
- 32 Bit RISC processor
- DC inputs, DC Outputs
- Support for High Speed Counters(Up-to 25KHz) / Quadrature (Up-to 5 KHz) and Timers
- High Speed PWM output (Up-to 10 KHz)
- Up-to 2 Serial Ports, one RS232, one RS485
- 1 USB Device Port
- DC powered units (24 V DC)
- Simple Native Ladder programming using Windows® based software
- CE, UL Class1 Div2 approved



MODEL COMPARISON

Model		FL004-0806P	FL004-0806R
Power Supply	Rated Power	24VDC, 300mA	24VDC, 300mA
	Power Consumption (With Expansions)	300mA, 7.2W, 7.2W	300mA, 7.2W, 7.2W
Digital Inputs	Input Signal	DC Input Bi-directional	DC Input Bi-directional
	Total Channels	8	8
	High Speed Channels	3	3
	Isolation	3.7KV Min	3.7KV Min
	High Speed Inputs	3	3
	Quadrature Inputs	2	2
	Max. HSC frequency	Up-to 25KHz each	Up-to 25KHz each
Digital Outputs	Total Channels	6	6
	Output Type	PNP	Relay
	Maximum Relay Contact current	-	2A at 24VDC, 2A at 230VAC, 5A/common
	Max pulse output frequency	Up-to 10KHz each	-
	Maximum transistor Output current	0.5A/channel at 24VDC	-
Comm. Ports	Serial	2	2
	Type	One 3.81 pitch PBT RS 485 (2-Wire)	One 3.81 pitch PBT RS 485 (2-Wire)
		One RJ45 RS232	One RJ45 RS232
	USB	1	1
	Type	USB Micro (Device)	USB Micro (Device)
Expansion Connectivity		Up-to 8	Up-to 8
Dimensions		Fig. A	Fig. A
Approvals		CE, RoHS	CE, RoHS

MODEL DESCRIPTION

RS485 Serial Port

1 communication port supports 2 - wire RS485 serial interface.

RS232 Serial Port

1 RJ45 connector for RS232 serial interface with other devices.

USB Port

1 micro USB device for upload, Download and monitor of application / logic.

Digital Inputs

24VDC inputs includes 3 high speed / 2 quadrature inputs which supports 25KHz.

Digital Outputs

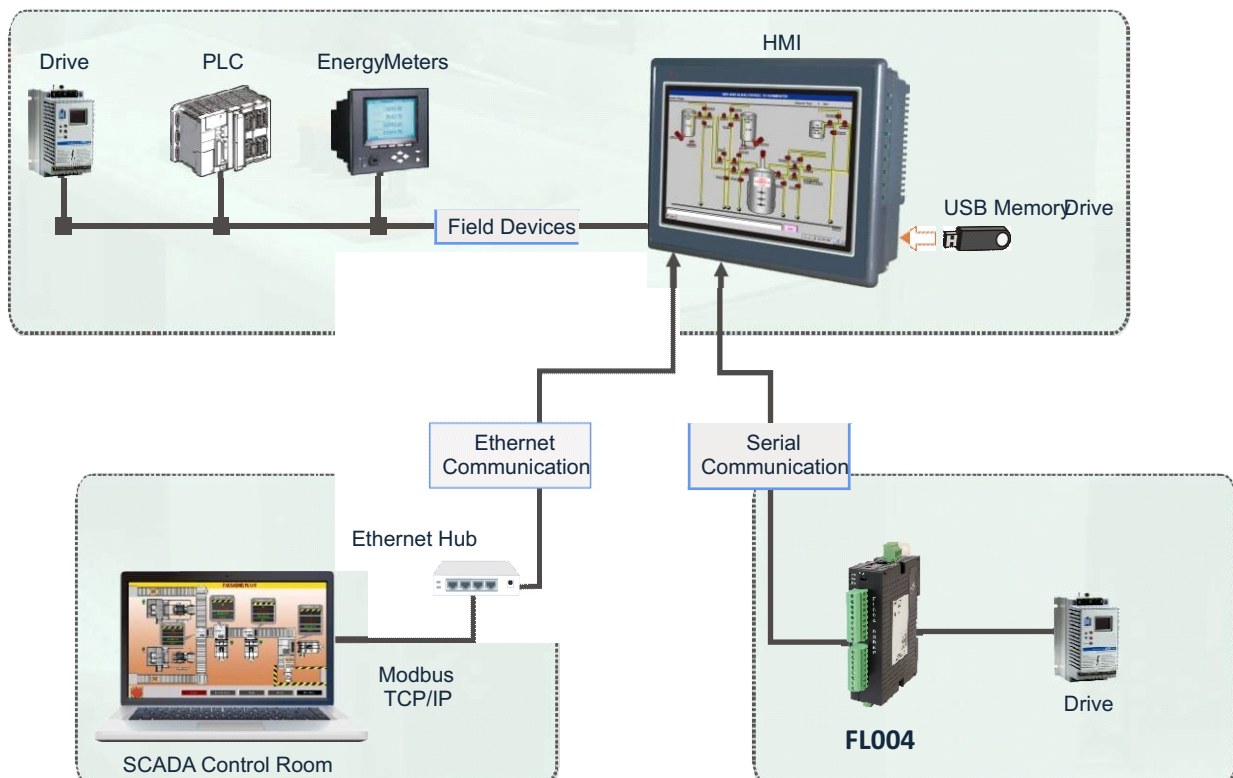
Digital outputs includes relay & PNP transistorized pulse output of 10KHz frequency.

Non-isolated Power Supply

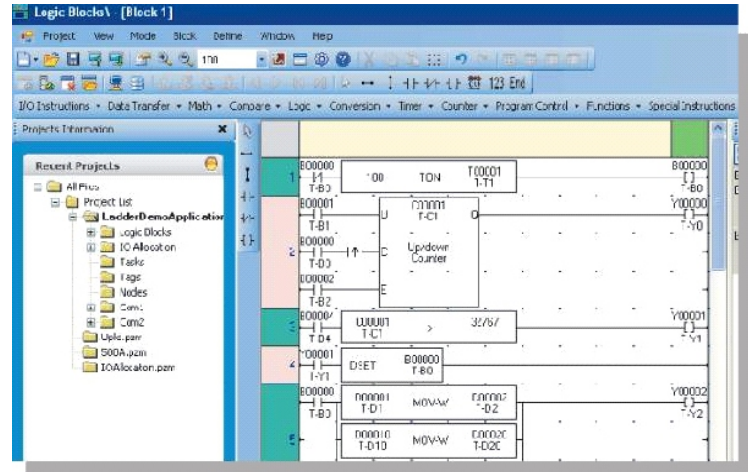
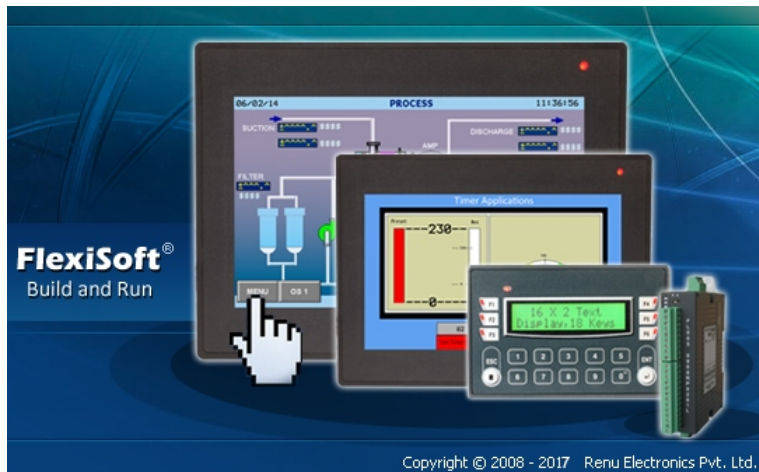
24VDC

* Recommended to use Isolated External power supply

PLC BASED CONTROL APPLICATION



SOFTWARE OVERVIEW



Configuration Software

FlexiSoft® is a compact, Windows® based software to configure the PLC. This image from FlexiSoft® shows the snap shot of ladder configuration window.

SOFTWARE FEATURES

Comprehensive Instructions supported in FlexiLogics®:

Native Ladder Instructions -

Some of the supported Instructions in FlexiLogics® are listed below :

1. Math

Instructions such as ADD, Subtract, Multiply and Divide. These instructions could be Single word or Double word, signed or unsigned format.

2. Data compare

Instructions such as Less than, Greater than, Equal to, Less than or Equal to, Greater than or Equal to etc. are supported.

3. Data Transfer Instructions

Data transfer instruction supports word and double word operands, Multiplexer / demultiplexer instructions.

4. Data conversion

Data conversion such as hex to ASCII, ASCII to hex, Binary, BCD, 2's Compliment, 7 segment etc. are possible.

5. Shift / Rotate

Rotate left, Rotate Right, Shift Left, Shift Right for word / double word.

6. I/O Instructions

Normally Open / Normally Closed contacts, positive pulse contact, negative pulse contact, Leading / Falling edge etc. are implemented.

7. Immediate I/O instruction

This instruction can be used to sample instantaneous physical inputs and outputs in PLC ladder.

8. Set / Reset

Coil / Bit / Register Set / Reset Instructions are supported.

9. Program Control

FlexiLogics® also support subroutine call, MCS / MCR, JCS / JCR, Enable / Disable Interrupts and step sequence instructions.

10. Functions

The function instructions like Moving average, Digital filter, Function generator, PID, Encode / Decode, Min / Max / Average Value, Lower / Upper Limit, Flip Flop are also supported.

11. High speed input and PWM Output

FlexiLogics® base module supports 3 high speed inputs up-to 25KHz. User can define 3 inputs of the base module for High speed application. The base module also supports 3 PWM output up-to 10KHz.

System requirements for FlexiSoft® Software are

Windows Version	Microsoft Windows® 2000 or above
Processor	266 MHz PENTIUM or higher
Mouse	Required
RAM	64 MB or more
Display resolution	800 x 600 (VGA) or better
Display colors	256 colors minimum
Serial Port	1 serial port for FlexiPanels® programming
USB Port	1 USB port (Host) for FlexiPanels® programming
Keyboard	Required

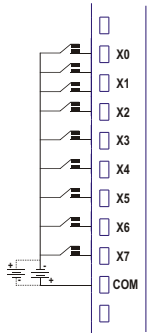
GENERAL SPECIFICATIONS

Environmental	
Temperature	0 to 55 °C (operating), -20 to 85 °C (storage)
Humidity	10 to 90 % non condensing
Vibration immunity	IEC60068-2-6
Shock immunity	IEC60068-2-27
Dimensions (mm)	100mm(H) X 26mm(W) X
Weight (Approx.)	150 gms.

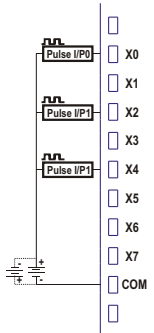
Functional	
Program Capacity	8K Steps
Total Program Memory	190KB (Application + Ladder)
Execution Speed	86 ns / contact
	152 ns /coil
	533 ns/16 bit transfer
	523 ns/16 bit signed addition

WIRING DIAGRAM

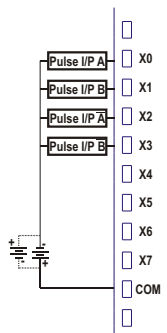
1. Digital Inputs:



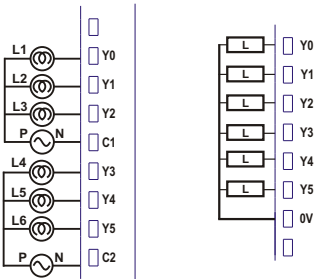
2. HSC Inputs: Single Phase counter



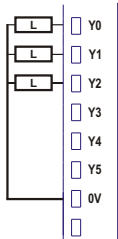
3. Quadrature



Digital Outputs:



PWM Output:



ORDERING INFORMATION

Models	Description
FL004-0806P	8Bi-directional digital inputs(3 single phase HSC up-to 25KHz or 2 Quadrature up-to 5KHz), 6 PNP-transistor type digital outputs, (3high speed outputs up-to 10KHz), 8K Steps Memory
FL004-0806R	8Bi-directional digital inputs(3 single phase HSC up-to 25KHz or 2 Quadrature up-to 5KHz), 6 Relay type digital outputs, 8K Steps Memory

SUPPORTED PROTOCOLS

Driver	FL004
Modbus RTU (Unit as Master)	✓
Modbus RTU (Unit as Slave)	✓

DIGITAL EXPANSION MODULES

Model	Digital I/P	Digital O/P	Digital O/P
FLD1600	16	0	16 Digital Inputs
FLD0016P	0	16	16 Digital Outputs (PNP)
FLD0016N	0	16	16 Digital Outputs (NPN)
FLD0016R	0	16	16 Digital Outputs (Relay)
FLD0808P	8	8	8 Digital Inputs, 8 PNP type Transistor Outputs Digital module
FLD0808N	8	8	8 Digital Inputs, 8 NPN type Transistor Outputs Digital module
FLD0808R	8	8	8 Digital Inputs, 8 Relay type Outputs Digital module
FLD-HS-0808P	8	8	8 Digital Inputs, 8 Digital Outputs (PNP), 4 High Speed Inputs (Single phase & Quadrature counter), 2 PWM Outputs
FLD-HS-0808N	8	8	8 Digital Inputs, 8 Digital Outputs (NPN), 4 High Speed Inputs (Single phase & Quadrature counter), 2 PWM Outputs

ANALOG EXPANSION MODULES

Model	Analog I/P	Analog O/P	Digital O/P
FLA0800L	8	0	8 Analog Inputs (0-10 VDC / 4-20 mA), 16 Bits
FLA0402U	4	2	4 Universal Inputs (0-10 V / 0-100 mV / 0-50 mV / 0-20 mA / 4-20 mA / RTD PT-100 / Thermocouple - B, R, S, E, J, K, N, T) 2 Analog Outputs (0-10 V / 4-20mA), 16 Bits
FLA0004	0	4	4 Analog Outputs (0-10 VDC / 4-20 mA), 16 Bits

DIMENSIONS

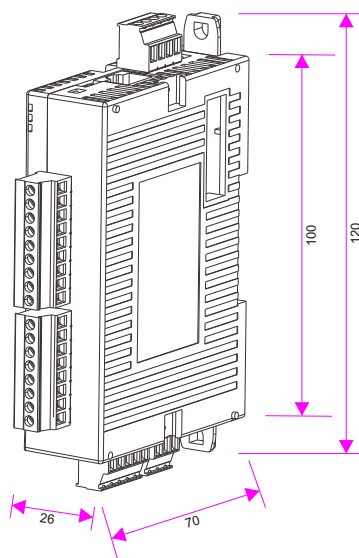


Fig. A

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



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(Preliminary Datasheet. Specifications subject to change without prior notice. DS-FL004-Rev.A)