FL055-0808N-V2 & FL005-0808N-V2



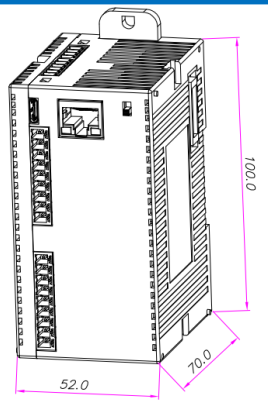
FL055-0808N-V2: Is base PLC model from FlexiLogics family. It has inbuilt 8 digital inputs and 8 digital NPN type outputs with 2 serial ports, one USB Type C, one Ethernet port. The model can be expanded up to 16 I/O modules.

FL005-0808N-V2: This is a base PLC model from FlexiLogics family. It has inbuilt 8 digital inputs and 8 digital NPN type outputs with 2 serial ports, one USB Type C port. This model can be expanded up to 16 I/O modules. **This model does not have an Ethernet port**.

System Components:

- FL055-0808N-V2 or FL005-0808N-V2
- Installation Kit: 2 Locking Connectors, 2 DIN rail sliders.

PRODUCT DIMENSIONS



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SPECIFICATIONS

Power Supply	24VDC (±15%), 110mA
Isolation	Non-Isolated
Memory	
Total Program Memory	8 MB + 2 MB (Application+ Ladder/Logic)
Program Capacity	50K Steps
Keep Memory Registers	10752 WORDS (FRAM)
Communication Ports	
COM1 (RJ45)	RS232, for Programming & Communication
COM2 (Open terminals)	2-wire RS485 for Communication
Ethernet* (FL055 only)	10/100Mbps, for upload/download/Communication
USB	1 x USB Type C
Expansions	
Expansion IO capacity	16 Expansions modules, 256 I/O ports
Local IO Specification	
Number of Inputs	8 Inputs [Bi-directional type]
Input Design	According to the EN 61131-2 type 1
ON Voltage	Minimum : 15VDC, Maximum: 30VDC
OFF Voltage	Minimum : -3VDC, Maximum: 5VDC
Nominal Input	24VDC, 5mA typical
Isolation	Optically isolated from internal circuit High isolation voltage (BV= Greater than 1.5KV)
Input Response Time	ON: 10msec, OFF: 10msec
Input Impedance	4.8KΩ
High Speed Channels Single Phase Counter	High Frequency 200kHz: 4 Pairs (X0-X1, X2-X3, X4-X5 & X6-X7) or Low Frequency 25kHz: 8 (X0-X7)
Quadrature Channels	High Frequency 200kHz: 4 Pairs (X0-X1, X2-X3, X4-X5 & X6-X7)
Max. Input Count	4294967295 (32 Bit)
Number of Outputs	8 (NPN Transistor type), within which 4 Outputs are PWM type
4 PWM Output	Y0(Pulse 200kHz), Y1(for Direction of Y0), Y2(Pulse 200kHz), Y3(for Direction of Y2), Y4(Pulse 200kHz), Y5(for Direction of Y4), Y6(Pulse 200kHz), Y7(for Direction of Y6)
ON Output Voltage	Min ON: 22VDC (Voltage across load) Max. ON: 30VDC (Voltage across load)
Nominal Output Voltage	24VDC
Nominal Output Current	250mA typical per channel
Output Response Time	ON: 10µsec, OFF: 10µsec
Nominal Load Max.	96Ω/6W (resistive) @24VDC 5VA(inductive)

Environment & Approvals	
Operating Temperature	0 to 55°C
Humidity	10 to 90% (Non-Condensing)
Shock Circuit Protection	25g, 11ms, Half Sine wave, 3 mutually perpendicular axes
Vibration	5 to 150Hz, displacement of 0.3mm (peak to peak), 3G, 3 mutually perpendicular axes
Approvals	CE, UL, RoHS

PANEL MOUNTING

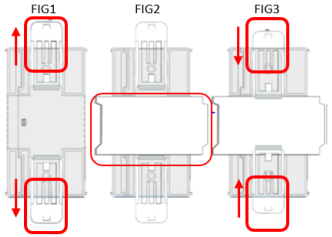


FIG-1: Pull up the sliders (highlighted) provided with the unit towards outward direction as shown.
FIG-2: Rest the unit on the DIN rail plate.
FIG-3: Press the highlighted connector into the downward direction to lock it same connector from the downside of the product press upward direction. Locking connector helps the two units (FL base & expansion) to hold each-other properly on the DIN rail plate.

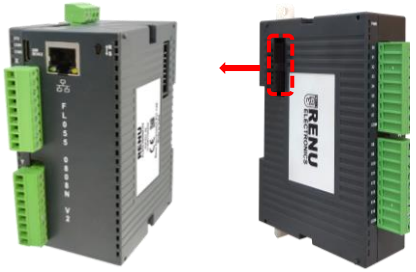


FIG-4

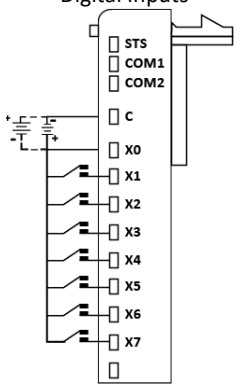
FIG-4: Two slots to grip the locking connector are provided on the case highlighted by RED circle, pulled the connector.
FIG-5: Lock connector provided with base module unit as shown to the Expansion module.



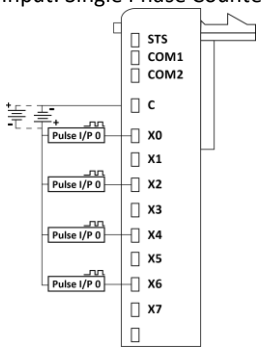
FIG-5

WIRING DIAGRAM

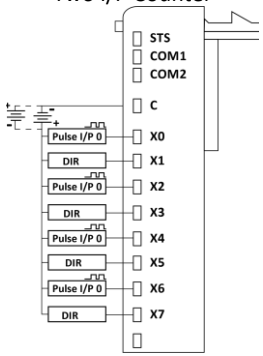
Digital Inputs



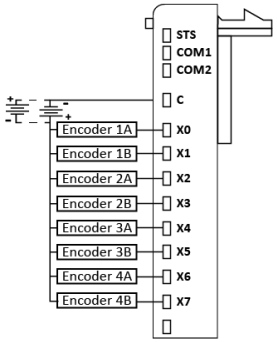
HSC Input: Single Phase Counter



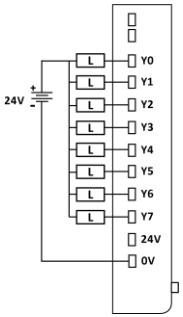
HSC Input: Single Phase Two I/P Counter



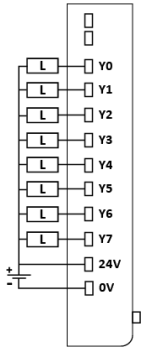
Quadrature Inputs



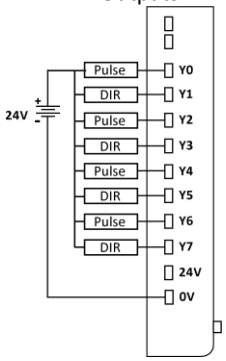
Normal Digital Output (without using Internal Freewheeling Diode)



Digital Outputs: Using Internal Freewheeling Diode



PWM Outputs



STATUS LED (STS)

Firmware	Application	Switch State	Error state	Green LED	Red LED	LED State
Download	Download	X	X	OFF	ON	RED ON
Not Present	X	X	X	Blink	Blink	RED & GREEN alternate
Present	Not Present	X	X	OFF	Blink	RED 1s ON 1s OFF
Present	Present	RUN	No Error	ON	OFF	GREEN ON
Present	Present	RUN	ERROR	OFF	Blink	RED 0.25s ON 0.25s OFF
Present	Present	HALT	No Error	Blink	OFF	GREEN 1s ON 1s OFF
Present	Present	HALT	ERROR	Blink	OFF	GREEN 0.25s ON 0.25s OFF

GETTING STARTED

User should follow the given sequence to configure and use any FlexiLogics series unit:

1. Install FlexiSoft® Software.
2. Create "New" project, select product FL055-0808N-V2 or FL005-0808N-V2.
3. Connect USB or Serial cable to the device.
4. Download Firmware i.e. driver in unit.
5. Download application and ladder.
6. Now FL unit is ready for application.
7. User can configure expansion models attached to FL055-0808N-V2 or FL005-0808N-V2 by FlexiSoft®.

COMMUNICATION

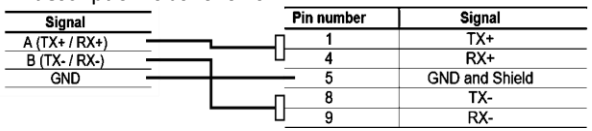
COM1 (RJ45): RS232 for Programming/ Communication

Pin number	Signal
1	232 TXD
2	232 RXD
3	GND
4	NC
5	NC
6	NC
7	NC
8	NC

COM2: 2-wire RS485 for Communication

Pin number	Signal
1	TX+/RX+
2	TX-/RX-
3	GND

For communication between PLC and HMI on COM Port 2, Pin description is as follows:



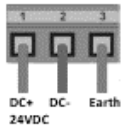
[Note: Short Pin No. 1 & 4 and 8 & 9]

For FL055-V2 model only

Factory set Static IP: 192.168.0.252
Subnet Mask: 255.255.255.0

Grounding

The optimum method for grounding electronic equipment is to ground it separately from other high-power systems, 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.]

WARNINGS

- WARNING: DO NOT REMOVE OR REPLACE WHILE BE FREE OF IGNITABLE CONCENTRATIONS OF FLAMMABLE SUBSTANCES.
- This equipment is suitable for use in Class I, Division 2, Groups A, B, C & 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.
- A recommendation for the user to periodically inspect the sealed devices used, for any degradation of properties and replace if degradation is found.

REVISION HISTORY

Rev.	Description	Date
1.0	First Draft	05/08/2022
1.1	Updated Specifications	14/09/2022
1.2	Updated Wiring Diagrams	04/01/2023
1.3	Updated HSC wiring Diagrams	23/10/2023

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