SOFTWARE DETAILS

- User needs to configure I/O cards in Programming software (SELPRO)
- For details of the software and configuration method, please refer to the software user manual.

4. FL-RL-LG-X-X-X ORDER CODE

FL — RL — LG — X — X — X

PLC Series	Product name	Card	Master RS485	Proprietary Expansion	RTC
Flexys	Rail	CPU card	0 : Absent	0 : Absent	0 : Absent
			1 : Present	1 : Present	1 : Present

5. SAFETY SUMMARY

- Conductors must not come in contact with the internal circuitry of the controller or else it may lead to a safety hazard that may cause electrical shock to operator.

NOTE : For safety precautions, refer FL-RL-BS-6 operating instruction.

DISCLAIMER LIABILITY

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However the information in this publication is reviewed and any necessary corrections are included in subsequent editions.

? SERVICE DETAILS

This device contains no user serviceable parts and requires special equipment and specialized engineers for repair.
Please contact service center for repair on the following numbers :
Tel. No. : + 91-7498077172 ; **Email :** service@selec.com
NO WARRANTY ON UNIT DAMAGED DUE TO WRONG POWER SUPPLY.

(Specifications are subject to change, since development is a continuous process.)

Selec Controls Pvt. Ltd., India

Factory Address :
EL-27/1, Electronic Zone, TTC Industrial Area, MIDC, Mahape, Navi Mumbai - 400 710, INDIA.
Tel. No. : +91-22-41 418 419/430 I Fax No. : +91-22-28471733 I Toll free : 1800 227 353(BSNL/MTNL Subscribers only)
Website : www.selec.com I Email : sales@selec.com

1. PRODUCT PROFILE

Figure 1.1 : Front view

2. DESCRIPTION

- FL-RL-LG-X-X-X as shown in Figure 1.1 is used as a plug-in module in Flexys Rail and not as an independent module.
- RTC with time switch function (Optional)
- RS485 based communication with modbus RTU protocol (Optional)
- Proprietary based communication with proprietary protocol (Optional)

NOTE : For installation procedure, refer FL-RL-BS-6 operating instruction.

3. ELECTRICAL SPECIFICATIONS

Display	1. One 7-segment display
	2. 12 LED's bank
Number of Key	One Function key
Operating Temperature	0 to 55°C
Storage Temperature	-20 to 70°C
Humidity	95%
Weight (g)	40

FUNCTIONAL SPECIFICATIONS (CPU)

Programming Language	Windows based user friendly software for ladder logic programming [SELPRO]
Memory	Program Memory : 351 kB
	Data Memory : 20 kB
	Upload Memory : 96 kB
	EEPROM Memory : 4 kB
Scan Time	1 ms (Typical 400 µs) (Depends on ladder scan time)
Function Blocks	Timer On delay, Timer Off delay, Pulse Timer, Special Timer, Up/Down Counter, Time Switch, PID control etc.
RTC	Yes (optional)
Memory Retention	10 Years
Battery Life	10 Years (for RTC only)

7-Segment Display

INDICATION TYPE	DESCRIPTION
Not Flashing	card detected
Flashing	Slot error / card not detected / card mismatch
Absent	card not configured in Ladder program

Internal Pinout description for 6 pin jack (port 1)

PIN	DESCRIPTION
1	RS485 Slave +ve
2	RS485 Master +ve
3	RS485 Master -ve
4	Proprietary Expansion +ve
5	Proprietary Expansion -ve
6	RS485 Slave -ve

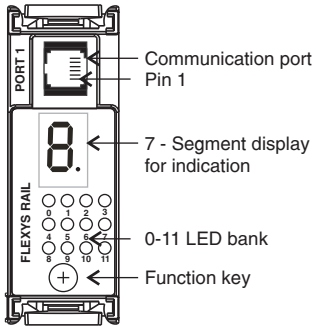

Figure 3.1 FL-RL-LG-X-X-X Display

LED Display

At power ON, Indication value (7 Segment) is -1.
Press Function key to change Indication Value.
Each value is linked with status of 12 LED bank which is explained as below.

Indication Type	Indication Value	LED Number	Description	Status
Not Flashing	-1 (LG)	0	Proprietary Exp_RX	——
		1	Proprietary Exp_TX	——
		2	Master_COMM_RX	——
		3	Master_COMM_TX	——
		4	SLAVE_COMM_RX	——
		5	SLAVE_COMM_TX	——
		6	Reserved - Always OFF	——
		7	Reserved - Always OFF	——
		8	Reserved - Always ON	——
		9	PLC START/STOP	Start : LED ON ; Stop : LED blinking
		10	Reserved - Always OFF	——
		11	Reserved - Always OFF	——
		To toggle between PLC START and STOP MODE, Press and hold the function key for 3 sec.		
	0 (PS)	0	I0	Ix Low (0) = LED OFF Ix High (1) = LED ON (Where x = 0 to 3)
		1	I1	
		2	I2	
		3	I3	

Indication Type	Indication Value	LED Number	Description	Status
Not Flashing	0 (PS)	4 - 11	Reserved-Always OFF	——
	1 / 2 / 3 / 4 (SN1 to SN4)	0 to n	Input / Output status	**Example :** For FL-SC-DI10, 10 digital Inputs status will be indicated by Corresponding 10 LED's (LED 0 – LED9).
			Analog channel status	**Example :** For FL-SC-AI04-RTD, 4 channel status will be indicated by corresponding 4 LED's (LED 0 – LED3). LED ON ➞ Sensor error / Reverse connection LED OFF ➞ channel OK
Absent	NA	NA	If slot is not configured in the program, it will not display that slot number.	
Flashing	1 / 2 / 3 / 4 (SN1 to SN4)	0-9	Error Counter	Error Counter in 10 bit binary format
		10 11	**LED 10**	**LED 11**	**Description**
			Flashing	Flashing	Slot vacant
			ON	OFF	Slot mismatch
			OFF	ON	Slot stopped
Not Flashing	8	7*1	Boot-loader mode*2 (Default mode)	ON	

*1 : LED number may vary with respect to Version Number.
(LED number 7 indicates version number 8.0-3)
*2 : PLC enters Boot loader mode under following conditions
a) Press Function key for 3 sec at power on.
b) Error during application download, if it is not downloaded successfully due to communication break.
NOTE : In bootloader mode following fixed communication settings are applicable.
Slave ID = 1, Baudrate = 19200, Parity = None(N), stop bits = 2, Data length = 8

COMMUNICATION

Communication Port-Port 1	RS485 Slave
	RS485 Master for modbus RTU Expansion Module (Optional) (IO610 series, EXP-FLEX-2M)
	Proprietary Master for proprietary Expansion Module (Optional) (IO630 series)
Communication Protocol	Modbus RTU
	Proprietary Protocol
Baud Rate	2400, 4800, 9600, 19200, 38400, 57600, 115200 (user configurable via software) Default = 19200

RIOS (Remote Input/Output Stations)

Parameter	Modbus RTU	Proprietary
Max. number of Slave	247	31
Communication Link	Port 1 – RJ25(6 Pin)	
Standard Link Interface	Modbus RTU	Proprietary
Communication Network	RS485	Proprietary
Error detection	Yes	