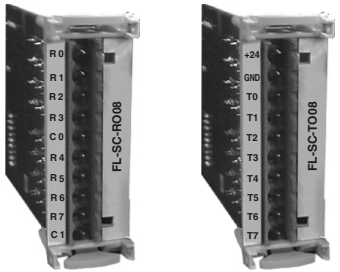
OP390-V01

selec

DIGITAL OUTPUT CARD

Operating Instructions



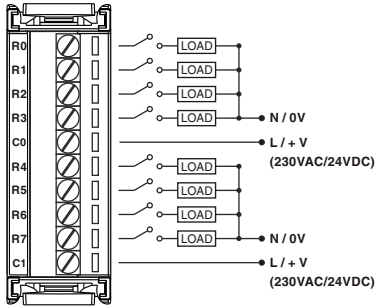
These are Digital output cards for Flexys Rail and Flexys Panel TX4. It can be easily connected as well as replaced in Flexys Rail and Flexys Panel TX4.

SPECIFICATIONS

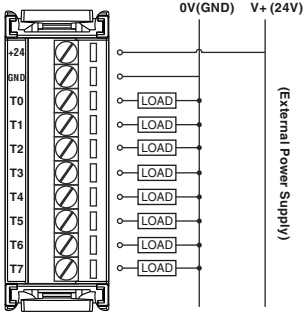
RELAY OUTPUTS	
No of Outputs	8 Nos
Response Time	20ms
Relay Output Rating	NO Type : 5A@230V AC 5A@30V DC
Isolation between Outputs	2.5 kV
Order Code	**FL-SC-RO08**
TRANSISTOR OUTPUT	
No of Outputs	8 nos
Output Type	PNP
Rated voltage	18 to 30V DC (External)
Output Current	100 mA max. per output
Response time	10ms
Short Circuit Protection	Yes
Reverse polarity protection	Yes
Isolation between Outputs	4kV
Order Code	**FL-SC-TO08**

TYPICAL WIRING DIAGRAM

FL-SC-RO08



FL-SC-TO08



NOTE : In Flexys Panel TX4 max. limit for no. of FL-SC-RO08 cards is 2.

ELECTRICAL PRECAUTIONS DURING USE

Electrical noise generated by switching of inductive loads can create momentary disruption, erratic display, latch up, data loss or permanent damage to the instrument.

To reduce noise :

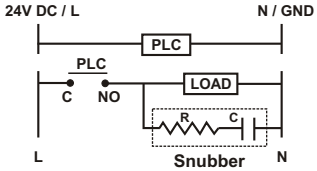
Use of MOV / Snubber circuit across load / contactors of the unit and snubber circuits across the load are recommended.

1. MOV Part no. : AP-MOV-03
2. Snubber Part no. : APRC-01

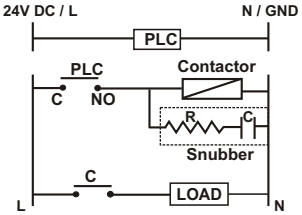
NOTE : Below mentioned diagram is applicable only for 230V relay outputs.

TYPICAL CONNECTIONS FOR LOADS :

For load current < 0.5A



For bigger loads use interposing relay/contactor



NOTE : Use snubber as shown above to increase life of internal relay.

SAFETY PRECAUTIONS

This manual is meant for personnel involved in wiring, installation, operation and routine maintenance of the equipment.

All safety related conditions, symbols and instructions that appear in this operating manual or on the equipment must be strictly followed to ensure operator and instrument safety. Any misuse may impair the protection provided by the equipment.

CAUTION : Read complete instructions prior to installation and operation of the unit.

INSTALLATION INSTRUCTIONS

CAUTION

1. This equipment can be easily fitted or removed from the controller with respect to any slots of the main controller
2. Conductors must not come in contact with the internal circuitry of the equipment else it may lead to a safety hazard that may endanger life or cause electrical shock to the operator.
3. The equipment shall not be installed in environmental conditions other than those specified in this manual.
4. Since this equipment forms part of the main control panel, its output terminals get connected to the host equipment. Such equipment shall also comply to EMI/EMC and safety requirements like BSEN 613261 and BSEN 61010.
5. Thermal dissipation of equipment is met through ventilation holes provided on housing of equipment. obstruction of these ventilation holes may lead to a safety hazard.
6. The output terminal shall be connected strictly as per the specified terminal diagram of individuals I/O cards.

FUNCTIONAL DETAILS

User can configure IO cards using SELPRO software.

SELPRO has two sections :

1. Ladder logic programming section
2. Selec Machine Interface, used for configuration of HMI.

This software is provided with the product. For details of the software and configuration method, please refer to its user manual with the product.

ORDERING INFORMATION

Order Code	Description	certification	
		CE	cULus LISTED
FL-SC-TO08	Transistor Output	■	—
FL-SC-RO08	Relay Output	■	—

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 :
Toll free : 1800 227 353 (BSNL / MTNL subscribers only)
Others : 91-22-40394200 / 40394202

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.
Tel. No. : +91-22-40394200 / 40394202
Fax No. : +91-22-28471733 I Toll free : 1800 227 353
Website: www.selec.com I Email: sales@selec.com

OP515-V01

1. PRODUCT PROFILE

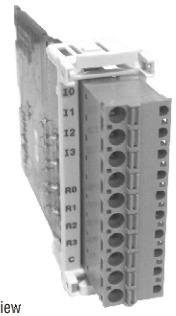


Figure 1.1 : Front view

2. DESCRIPTION

- FL-SC-DI04-RO04 card as shown in Figure 1.1 is used as a plug-in module in Flexys series and EXP FLEX 2M, and not as an independent module.
- Easy to connect and replace.

NOTE : For Safety precautions, Refer FL-TX4-LG-X-X-X / FL-RL-BS-6 / Flexys GT35 / EXP FLEX 2M Operating Instruction.

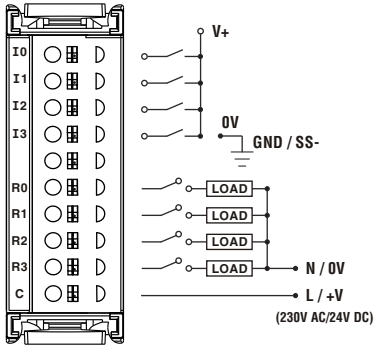
3. ELECTRICAL SPECIFICATIONS

DIGITAL INPUT		
Number of Digital Inputs		4
Input Type		DC, PNP
Operating Range		6 ~ 30V DC (V+)
Input Current		8mA max. per input
Action Level	ON ➡ OFF	< 2V DC
	OFF ➡ ON	≥ 6V DC
Response Time		Default 10ms (based on ladder scan time)
Input Impedance		3.3 kΩ
Debounce Time		0 ~ 255 ms (Default = 10 ms)
Maximum counting frequency		40 Hz (with < 6ms debounce time)
Isolation		2.5 kV (between CPU and Inputs)
Protection against polarity inversion		Yes
Existence of common points between channels		For 230V supply : SS- For 24V supply : GND/0V
Effect of incorrect input terminal OR Withdrawing / inserting input module under power		Unstable responses OR input/product damage
RELAY OUTPUT		
Number of Relay Outputs		4
Output Type		NO contact type
Output Current		5A @ 30V DC 5A @ 230V AC
Response Time		20ms
Life Expectancy (Mechanical)		5000000 OPS

Isolation	2.5 kV (between CPU and outputs)
Type of external protective networks	Snubber circuit
Existence of common points between channels	C for Relays R0-R3 (Refer typical wiring diagram)
Effect of incorrect output terminal OR Withdrawing / inserting input module under power	Unstable responses OR output/product damage
Monitoring point and binary state of visual indicator	Available
Short circuit protection	Yes
Operating Temperature	0 to 55°C
Storage Temperature	-20 to 70°C
Humidity	95%
Connector	Spring type pluggable terminal block (5.08 mm pitch)
Weight (g)	50

NOTE : 1] FL-TX4-DI04-PS-230V / FL-GT35-DI04-PS-230V card limitation : not supported FL-SC-AO04-X if FL-SC-DI04-RO04 card used and vice-versa. (where X = V or I)
2] FL-GT35-DI04-PS-230V card limitation : Maximum one FL-SC-DI04-RO04 card supported.
3] FL-TX4-DI04-PS-230V / FL-RL-PS-230V card limitation : Maximum two FL-SC-DI04-RO04 cards supported.

4. TYPICAL WIRING DIAGRAM



5. SAFETY SUMMARY

- To prevent risk of electric shock, power supply to the controller must be kept off while wiring.
- Wiring shall be done strictly according to the terminal layout provided in the Operating Manual.

NOTE : For Safety precautions, Refer FL-TX4-LG-X-X-X / FL-RL-BS-6 / Flexys GT35 / EXP FLEX 2M Operating Instruction.

⚠ CAUTION

Electrical noise generated by switching of inductive loads can create momentary disruption, erratic display, latch up, data loss or permanent damage to the instrument.

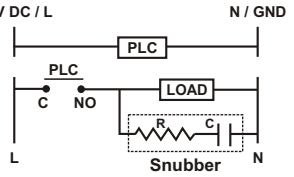
To reduce noise :

Use of MOV/snubber circuits across load/contactor of the controller are recommended.

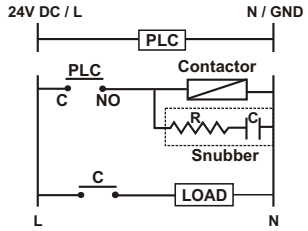
1. MOV Part no. : AP-MOV-03
2. Snubber Part no. : APRC-01

Load connections for 230V Relay Outputs :

For load current < 0.5A



For bigger loads use interposing relay / contactor



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