Model 7018
32 SPDT Switch Module
91000150

Giga-tronics
ASCOR

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Regulatory compliance information

This product complies with the essential requirements of the following applicable European Directives, and carries the CE mark accordingly.

89/336/EEC and 73/23/EEC	EMC Directive and Low Voltage Directive
EN61010-1 (1993)	Electrical Safety
EN61326-1 (1997)	EMC – Emissions and Immunity
Manufacturer's Name:	**Manufacturer's Address**
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Type of Equipment:	**Model Series Number**
Switching Module	7018

Declaration of Conformity on file. Contact Giga-tronics at the following;

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Record of Changes to This Manual

Use the table below to maintain a permanent record of changes to this document. Corrected replacement pages are issued as Technical Publication Change Instructions (TPCI). When you are issued a TPCI, do the following:

1. Insert the TPCI at the front of the manual binder.
2. Remove the pages from the manual binder that are noted in the TPCI.
3. Replace the page(s) removed in the previous step with the corrected page(s).
4. Record the changes in the table below.

TPCI Number	TPCI Issue Date	Date Entered	Comments

Revision History			
Revision	**Description of Change**	**Chg Order #**	**Approved By**
A	Initial Release 2/02		JL
B	Updated		
C	Reformatted 5/12		RCW

Contents

Chapter 1 **Introduction**

1.1 Safety and Manual Conventions

This manual contains conventions regarding safety and equipment usage as described below.

1.1.1 Product Reference

Throughout this manual, the term “Common Core Switching Platform, Series 8800” refers to all models of within the series, unless otherwise specified.

1.1.2 Personal Safety Alert

WARNING: Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

1.1.3 Equipment Safety Alert

CAUTION: Indicates a situation which can damage or adversely affect the product or associated equipment.

1.1.4 Notes

Notes are denoted and used as follows:

NOTE: Highlights or amplifies an essential operating or maintenance procedure, practice, condition or statement.

1.1.5 Electrical Safety Precautions

Any servicing instructions are for use by service-trained personnel only. To avoid personal injury, do not perform any service unless you are qualified to do so.

For continued protections against fire hazard, replace the AC line fuse only with a fuse of the same current rating and type. Do not use repaired fuses or short circuited fuse holders.

Chapter 2 **Configuration Table**

Module	
PL91000150	Top Assembly BOM
Assy91000150	Top Assembly
89800740	Font Panel Assembly

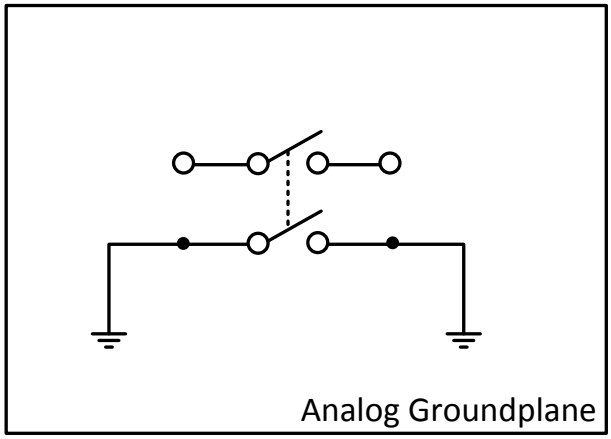
PL85003640	PWA BOM
Assy85003640	PWA ASSEMBLY
SCH85003640	PWA SCHEMATIC

Chapter 3 Functional Description

3.1 Introduction

This card assembly contains thirty-two SPST (Form A) relays. The card conforms to National Instruments PXI series specifications and allows ease in design in complex of switching systems.

Chapter 4 **Block Diagram**



Typical Channel (1 of 32). Second Pole
Of DPST grounded for improved Bandwidth.

Chapter 6 **Specifications**

Electrical:

Bandwidth:	153 MHz
Crosstalk:	-22dB @ 100MHz
Max. switching power:	60 W or 62.5VA
Max. switching current :	2 Amp
Max. switching voltage:	220 VDC or 250 VAC
Min. mech. life expectancy:	500K cycles
Initial Contact Resistance:	< 60mΩ

Mechanical:

Size:	3U PXI
Width:	0.8 inches
Height:	5.2 inches
Length:	6.5 inches
Weight:	0.5 lbs.
J1 & J2 connectors:	Positronic, 34 Pos, SMPL34M0TOLB
Mating Connectors:	ASCOR Installation Kit P/N 89800570

Environmental Specifications

Temperature:

Operating:	0º to 55ºC
Storage:	- 40º to 75ºC

Relative Humidity:

Operating:	0 to 90% non-condensing
Storage:	0 to 95% non-condensing

Chapter 7 **Programming**

The Model 7018 is a PXI register based card assembly designed for use with the National Instruments PXI specification. You can program the Model 7018 in 8, 16 or 32 bit wide data format. By way of your PXI controller, you can write the data to the appropriate register, shown on the register map, for the relay or relays in the register that is being closed. When the data bit is true, the relay chosen is closed. You can determine relay state in a register by simply reading the desired register. Data read back represents the value of the desired register. In addition, you can read back the coil state to verify that the coil is driven correctly by the program register. This scenario verifies that the program register has correctly controlled the relay coil.

A register map can be organized to show the relay designation at each register, followed by the register's functionality and the path connections to the front panel. PXI automatically assigns the starting address of the card, called Bar0. Bar0 becomes the starting address of the first register. Each address location controls 8 bits. The control functions using 16 format are shown in the illustration below.

Programming of the Model 7018 is very straight forward. The module is organized as 32 SPST 1 Amp general purpose relay board. The location of the first register is assigned by the PCI enumerator. This is designated as "Bar0" or the starting address of the card. The program registers using 16 bit format are located as follows:

Register #1: read/write function: Bar0 + 0000h
coil read back: Bar0 + 0008h

BIT 15	BIT 14	BIT 13	BIT 12	BIT 11	BIT 10	BIT 9	BIT 8	BIT 7	BIT 6	BIT 5	BIT 4	BIT 3	BIT 2	BIT 1	BIT 0
K16	K15	K14	K13	K12	K11	K10	K09	K08	K07	K06	K05	K04	K03	K02	K01

Register #2: read/write function: Bar0 + 0002h
coil read back: Bar0 + 000Ah

BIT 31	BIT 30	BIT 29	BIT 28	BIT 27	BIT 26	BIT 25	BIT 24	BIT 23	BIT 22	BIT 21	BIT 20	BIT 19	BIT 18	BIT 17	BIT 16
K32	K31	K30	K29	K28	K27	K26	K25	K24	K23	K22	K21	K20	K19	K18	K17

Chapter 8 **Connector Pin Assignments**

J1

FRONT PANEL CONNECTOR

PIN POSITION
AS YOU FACE CONNECTOR

	MM		NN
KK		LL	
	HH		JJ
EE		FF	
	CC		DD
M		BB	
	Y		Z
W		X	
	U		V
S		T	
	P		R
M		N	
	K		L
H		J	
	E		F
C		D	
	A		B

PIN TO INTERNAL CONNECTION

Pin #	Description
A	Relay #1 in
B	Relay #1 out
C	Relay #2 in
D	Relay #2 out
E	Relay #3 in
F	Relay #3 out
H	Relay #4 in
J	Relay #4 out
K	Relay #5 in
L	Relay #5 out
M	Relay #6 in
N	Relay #6 out
P	Relay #7 in
R	Relay #7 out
S	Relay #8 in
T	Relay #8 out
U	Relay #9 in
V	Relay #9 out
W	Relay #10 in
X	Relay #10 out
Y	Relay #11 in
Z	Relay #11 out
AA	Relay #12 in
BB	Relay #12 out
CC	Relay #13 in
DD	Relay #13 out
EE	Relay #14 in
FF	Relay #14 out
HH	Relay #15 in
JJ	Relay #15 out
KK	Relay #16 in
LL	Relay #16 out
MM	Analog Ground
NN	Analog Ground

J2

FRONT PANEL CONNECTOR

PIN POSITION
AS YOU FACE CONNECTOR

	MM		NN
KK		LL	
	HH		JJ
EE		FF	
	CC		DD
M		BB	
	Y		Z
W		X	
	U		V
S		T	
	P		R
M		N	
	K		L
H		J	
	E		F
C		D	
	A		B

PIN TO INTERNAL CONNECTION

Pin #	Description
A	Relay #17 in
B	Relay #17 out
C	Relay #18 in
D	Relay #18 out
E	Relay #19 in
F	Relay #19 out
H	Relay #20 in
J	Relay #20 out
K	Relay #21 in
L	Relay #21 out
M	Relay #22 in
N	Relay #22 out
P	Relay #23 in
R	Relay #23 out
S	Relay #24 in
T	Relay #24 out
U	Relay #25 in
V	Relay #25 out
W	Relay #26 in
X	Relay #26 out
Y	Relay #27 in
Z	Relay #27 out
AA	Relay #28 in
BB	Relay #28 out
CC	Relay #29 in
DD	Relay #29 out
EE	Relay #30 in
FF	Relay #30 out
HH	Relay #31 in
JJ	Relay #31 out
KK	Relay #32 in
LL	Relay #32 out
MM	Analog Ground
NN	Analog Ground