

Model 3000-60

32 DPDT Relays

90400570



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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

EN61010-1 (1993)

EN61326-1 (1997)

Manufacturer's Name:

Giga-tronics, Incorporated

EMC Directive and Low Voltage Directive

Electrical Safety

EMC – Emissions and Immunity

Manufacturer's Address

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Type of Equipment:

Switching Module

Model Series Number

3000-60

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

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Record of Changes to This Manual

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TPCI Number	TPCI Issue Date	Date Entered	Comments

Revision History			
Revision	Description of Change	Chg Order #	Approved By
A	Initial Release		
B	Updated		
C	Reformatted 3/12		RCW

Contents

Contents	6
Chapter 1 Introduction	7
1.1 Safety and Manual Conventions.....	7
1.1.1 Product Reference.....	7
1.1.2 Personal Safety Alert	7
1.1.3 Equipment Safety Alert	7
1.1.4 Notes	7
1.1.5 Electrical Safety Precautions	7
Chapter 2 Configuration Table.....	8
Chapter 3 Functional Description	9
Chapter 4 Theory of Operation.....	Error! Bookmark not defined.
Chapter 5 Block Diagram	9
Chapter 6 Controls and Indicators	11
6.1 VXI LOGICAL ADDRESS	11
6.2 LEDs.....	11
6.2.1 “BUS” LED	11
Chapter 7 Internal Settings	12
7.1 FUSE	12
7.2 VXI _{bus} INTERRUPT LEVEL SELECTION	12
Chapter 8 Specifications	13
Chapter 10 Register Map	14

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 3000-60

PL90401190

ASSY90401190

PL85003940

ASSY85003940

SCH85003940

Chapter 3 Functional Description

3.1 Introduction

This technical manual provides the necessary information for the use and maintenance of the ASCOR Model 3000-60 VXI Module.

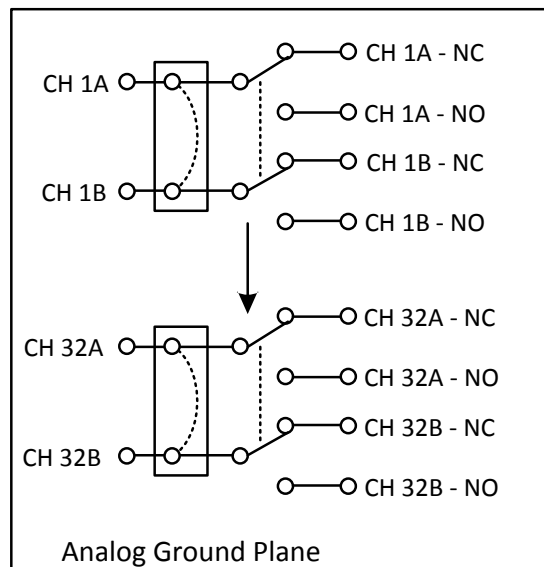
3.2 General Description

This module contains 32 DPDT relays. The basic 3000-60 module is specially designed to support ATE testing and it supports shielded measurements. Each channel is shielded to an isolated ground plane. This ground is brought out to the front panel connectors. This allows connections of shielded wires to the relays.

Each common contact of each half of the DPDT is normally shipped as an independent set of contacts. A provision exists on the PWA which allows the common contacts to be connected together for special purposes.

The 3000-60 is a register based VXI module. The register map and pin chart is carefully laid out for easy software control. The interface and mechanical construction meet the specifications of the VXIbus System Specifications, Rev. 1.2 and 1.3.

Chapter 4 Block Diagram

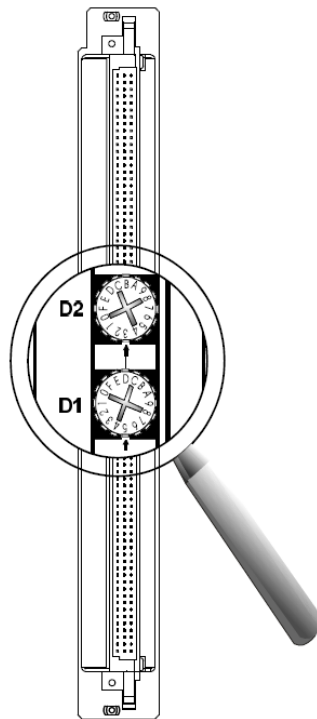


Chapter 5 Controls and Indicators

The following controls and indicators are provided to select and display the functions of the ASCOR 3000-60 Module's operating environment.

5.1 VXI Logical Address

The Logical Address Switch is dual circular switches, D1 and D2 which are located at the rear of the module. The address can be set to any value between 1 and 255 (decimal) or 1 and FF (hexadecimal), (address 0 is reserved for the resource manager). However, the Module fully supports Dynamic Configuration as defined in **Section F of the VXI specification**, address 255 (FF) should be selected only if the Resource Manager also supports Dynamic Configuration.



5.2 LEDs

The following LEDs are visible at the Module's front panel to indicate the status of the module's operation:

5.2.1 "BUS" LED

This green color LED is normally off and will flash on when the module is addressed by the system.

5.2.2 "PWR" LED

This red color LED is normally on when the Module is Powered up.

Chapter 6 Internal Settings

The following items are inside the module and can be reached by removing the side cover.

6.1 Fuse

The ASCOR VXI 3000-60 uses a 10 Amp fuse in the +5 Volt line and is located on the Mother Board (MB) assembly.

6.2 VXI_{bus} Interrupt Level Selection

The VXIbus interrupt level is set with three bits in the “3Eh” register.

See the section on “A16 ADDRESS SPACE REGISTER DESCRIPTION”.

The interrupt level is factory set to “no interrupt”.

Chapter 7 Specifications

DPDT relays: 32

Electrical:

Switching Voltage 120VAC, 150VDC

Switching Current 2 Amps

Power Rating 60 W

Bandwidth: 180MHz

Mechanical:

Thickness: 1.200 inches

Width: 10.317 inches

Length: 13.78 inches

Weight: 3 lbs.

Environmental Specifications

Temperature:

Operating: 0° to 55°C

Storage: - 40° to 75°C

Relative Humidity:

Operating: 0 to 90% non-condensing

Storage: 0 to 95% non-condensing

Chapter 9 Register Map

A16 Registers

Offset	Value	
00h	CFB5	
	C= Register Based, A16/A24 Module	
	FB5=VXI Manufacturer ID, Ascor Inc.	
02h	7D2Eh	
	7=A24 space requirement	
	D2E = Model Number for this Module	
04h	FFFCh	
	Bit 0, reset, is supported. Toggling this bit will clear all relay registers. Care should be taken to modify only bit 0	
06h	(assigned by Resource Manager)	
Control	Bit	
3Eh	0	Low true output enable to the coil driver ICs.
	1	When low enables readback of relay coil state. When high enables readback of data registers.
	2	Reserved
	3-15	Don't care

Chapter 10 Programming

The Model 3000-60 is a VXI register based module. The switch paths are controlled via *VXIMAX* is the 16/32 bit data controller. The Model 3000-60 can be programmed in 16 bit wide data. Through your VXI controller, write the data to the appropriate register as 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 will be closed. The state of the relays in a register can be determined by reading the desired register. The data read back represents the value at the coil of the relay. This allows verification that the program register has correctly controlled the relay coil.

The following register maps are shown in the configurations: 16 bit mode and 32 bit mode. In each section, 16 bit and 32 bit, the register map is organized to show the relay designation in each register. See Programming Guide ASCOR part number 07500740 for complete programming information.

10.1 Register Map, 16 Bit

DESCRIPTION : 32 DPDT RELAYS

PWA NUMBER : 85003940

ADDRESS OFFSET : 8000h

MSB

LSB

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
K 16	K 15	K 14	K 13	K 12	K 11	K 10	K 9	K 8	K 7	K 6	K 5	K 4	K 3	K 2	K 1

ADDRESS OFFSET : 8002h

MSB

LSB

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
K 32	K 31	K 30	K 29	K 28	K 27	K 26	K 25	K 24	K 23	K 22	K 21	K 20	K 19	K 18	K 17

10.2 Register Map, 32 Bit

DESCRIPTION : 32 DPDT RELAYS

PWA NUMBER : 85003940

ADDRESS OFFSET : 8000h

LSB

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
K 16	K 15	K 14	K 13	K 12	K 11	K 10	K 9	K 8	K 7	K 6	K 5	K 4	K 3	K 2	K 1

MSB

31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
K 32	K 31	K 30	K 29	K 28	K 27	K 26	K 25	K 24	K 23	K 22	K 21	K 20	K 19	K 18	K 17

Chapter 11 FRONT PANEL CONNECTORS

J1			
Description	Pin #	Pin #	Description
K1, 2NC	64	63	K1, 1NC
K1, 2com	62	61	K1, 1com
K1, 2NO	60	59	K1, 1NO
shield	58	57	shield
K2, 2NC	56	55	K2, 1NC
K2, 2com	54	53	K2, 1com
K2, 2NO	52	51	K2, 1NO
shield	50	49	shield
K3, 2NC	48	47	K3, 1NC
K3, 2com	46	45	K3, 1com
K3, 2NO	44	43	K3, 1NO
shield	42	41	shield
K4, 2NC	40	39	K4, 1NC
K4, 2com	38	37	K4, 1com
K4, 2NO	36	35	K4, 1NO
shield	34	33	shield
K5, 2NC	32	31	K5, 1NC
K5, 2com	30	29	K5, 1com
K5, 2NO	28	27	K5, 1NO
shield	26	25	shield
K6, 2NC	24	23	K6, 1NC
K6, 2com	22	21	K6, 1com
K6, 2NO	20	19	K6, 1NO
shield	18	17	shield
K7, 2NC	16	15	K7, 1NC
K7, 2com	14	13	K7, 1com
K7, 2NO	12	11	K7, 1NO
shield	10	9	shield
K8, 2NC	8	7	K8, 1NC
K8, 2com	6	5	K8, 1com
K8, 2NO	4	3	K8, 1NO
shield	2	1	shield

J2			
Description	Pin #	Pin #	Description
K9, 2NC	64	63	K9, 1NC
K9, 2com	62	61	K9, 1com
K9, 2NO	60	59	K9, 1NO
shield	58	57	shield
K10, 2NC	56	55	K10, 1NC
K10, 2com	54	53	K10, 1com
K10, 2NO	52	51	K10, 1NO
shield	50	49	shield
K11, 2NC	48	47	K11, 1NC
K11, 2com	46	45	K11, 1com
K11, 2NO	44	43	K11, 1NO
shield	42	41	shield
K12, 2NC	40	39	K12, 1NC
K12, 2com	38	37	K12, 1com
K12, 2NO	36	35	K12, 1NO
shield	34	33	shield
K13, 2NC	32	31	K13, 1NC
K13, 2com	30	29	K13, 1com
K13, 2NO	28	27	K13, 1NO
shield	26	25	shield
K14, 2NC	24	23	K14, 1NC
K14, 2com	22	21	K14, 1com
K14, 2NO	20	19	K14, 1NO
shield	18	17	shield
K15, 2NC	16	15	K15, 1NC
K15, 2com	14	13	K15, 1com
K15, 2NO	12	11	K15, 1NO
shield	10	9	shield
K16, 2NC	8	7	K16, 1NC
K16, 2com	6	5	K16, 1com
K16, 2NO	4	3	K16, 1NO
shield	2	1	shield

J3			
Description	Pin #	Pin #	Description
K17, 2NC	64	63	K17, 1NC
K17, 2com	62	61	K17, 1com
K17, 2NO	60	59	K17, 1NO
shield	58	57	shield
K18, 2NC	56	55	K18, 1NC
K18, 2com	54	53	K18, 1com
K18, 2NO	52	51	K18, 1NO
shield	50	49	shield
K19, 2NC	48	47	K19, 1NC
K19, 2com	46	45	K19, 1com
K19, 2NO	44	43	K19, 1NO
shield	42	41	shield
K20, 2NC	40	39	K20, 1NC
K20, 2com	38	37	K20, 1com
K20, 2NO	36	35	K20, 1NO
shield	34	33	shield
K21, 2NC	32	31	K21, 1NC
K21, 2com	30	29	K21, 1com
K21, 2NO	28	27	K21, 1NO
shield	26	25	shield
K22, 2NC	24	23	K22, 1NC
K22, 2com	22	21	K22, 1com
K22, 2NO	20	19	K22, 1NO
shield	18	17	shield
K23, 2NC	16	15	K23, 1NC
K23, 2com	14	13	K23, 1com
K23, 2NO	12	11	K23, 1NO
shield	10	9	shield
K24, 2NC	8	7	K24, 1NC
K24, 2com	6	5	K24, 1com
K24, 2NO	4	3	K24, 1NO
shield	2	1	shield

J4			
Description	Pin #	Pin #	Description
K25, 2NC	64	63	K25, 1NC
K25, 2com	62	61	K25, 1com
K25, 2NO	60	59	K25, 1NO
shield	58	57	shield
K26, 2NC	56	55	K26, 1NC
K26, 2com	54	53	K26, 1com
K26, 2NO	52	51	K26, 1NO
shield	50	49	shield
K27, 2NC	48	47	K27, 1NC
K27, 2com	46	45	K27, 1com
K27, 2NO	44	43	K27, 1NO
shield	42	41	shield
K28, 2NC	40	39	K28, 1NC
K28, 2com	38	37	K28, 1com
K28, 2NO	36	35	K28, 1NO
shield	34	33	shield
K29, 2NC	32	31	K29, 1NC
K29, 2com	30	29	K29, 1com
K29, 2NO	28	27	K29, 1NO
shield	26	25	shield
K30, 2NC	24	23	K30, 1NC
K30, 2com	22	21	K30, 1com
K30, 2NO	20	19	K30, 1NO
shield	18	17	shield
K31, 2NC	16	15	K31, 1NC
K31, 2com	14	13	K31, 1com
K31, 2NO	12	11	K31, 1NO
shield	10	9	shield
K32, 2NC	8	7	K32, 1NC
K32, 2com	6	5	K32, 1com
K32, 2NO	4	3	K32, 1NO
shield	2	1	shield