

Model 3075-ALA

16-bit Relay Output Register

INSTRUCTION MANUAL

February, 1987

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MODEL 3075-S001

16-BIT RELAY OUTPUT REGISTER

**** Special Option ****

DECEMBER 1985

MODEL 3075-S001

**** Special Option ****

MODEL 3075-S001

The 3075-S001 is a 3075-A1A with no relays mounted and with a blank, double-width front panel. Implementation of the output circuitry and I/O connections is at the discretion of the user.

DECEMBER 1985

Model 3075-A1A

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16-bit Relay Output Register

Provides form "C" long-life mercury-wetted contact relay outputs

3075

Features

- 16 Form "C" relay outputs provided
- Bounce-free, long-life, mercury-wetted contact relays used
- Front-panel LEDs indicate state of all outputs

Typical Applications

- General-purpose digital interface
- Remote control applications
- High-reliability industrial systems

General Description *(Product specifications and descriptions subject to change without notice.)*

The 3075 is a single-width module containing a 16-bit output register. This register drives 16 mercury-wetted contact relays. A single-pole, double-throw (Form "C") contact is wired from each relay to the front-panel connector. These outputs appear on a 50-contact ribbon or a 50-pin "D" connector. Each output is monitored by a front-panel LED so that the pattern of operated circuits can be readily determined. The 3075 also contains an Inhibit feature that prevents the relays from operating when the Dataway Inhibit signal is asserted. The user has the option of strapping the module to bypass the Inhibit feature.

Function Codes

Command	Q	Action
F(0)-A(0) RD1	1	Reads the 16-bit Output register.
F(1)-A(15) RD2	1	Reads the module identifying number. (User strap-selectable).
F(16)-A(0) WT1	1	Writes the 16-bit Data Output register. (See note.)
Z CZ	0	Clears the 16-bit Data Output register

Notes: X = 1 for all valid addressed commands.
Dataway Inhibit prevents relays from operating unless module is strapped to bypass Inhibit feature.

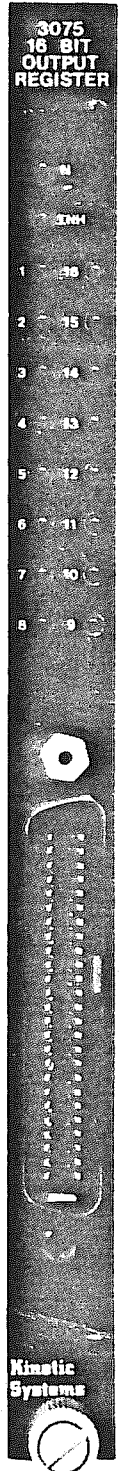
Output Ratings

Maximum open circuit voltage: 350 VDC or peak AC
Maximum current: 2 amperes, switched or carry
Maximum switched load: 100 volt-amperes
Life expectancy: 20×10^9 operations (with proper contact protection)

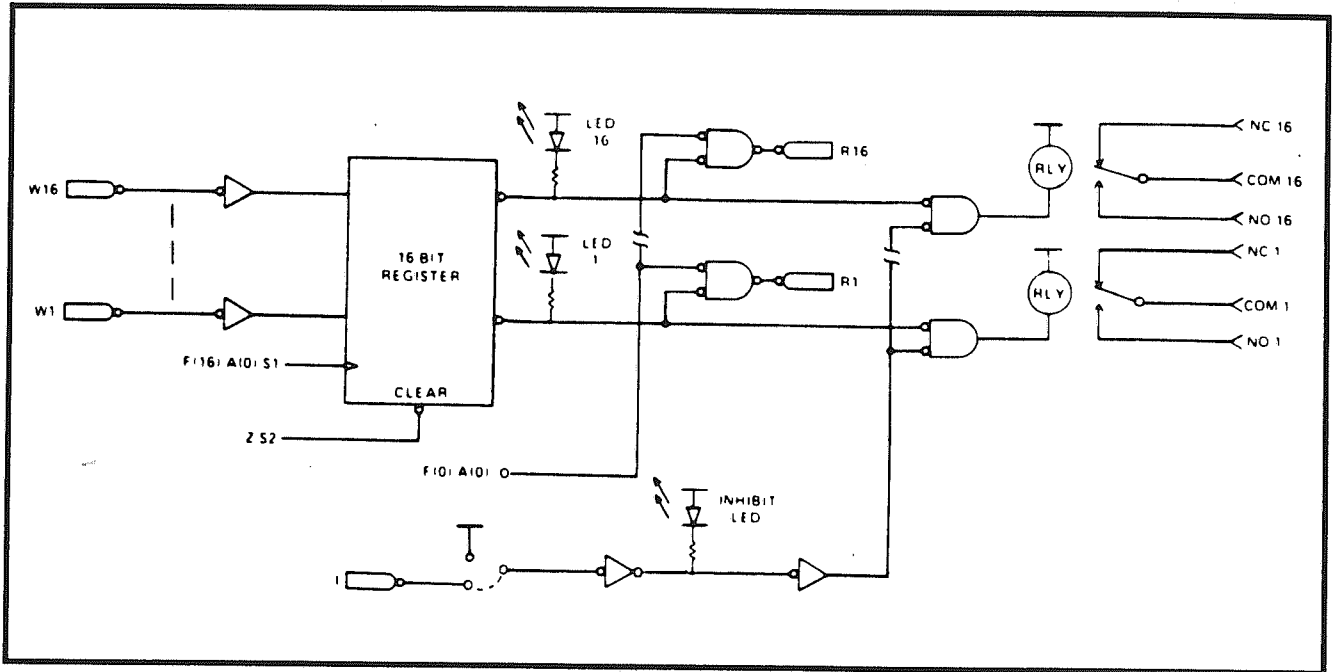
Note: The module must be mounted in the normal vertical position ($\pm 30^\circ$) for proper relay operation.

Contact Protection

Because the contact protection that is needed varies with the type of load, such protection is not included on the module. Contact protection is not normally required for highly capacitive loads, voltages below 12 volts, or currents below 65 milliamperes.



Simplified Block Diagram



Power Requirements

+24 volts: 300 mA (maximum)
 +6 volts: 350 mA

Ordering Information

Model 3075-A1A Relay Output Register, mercury wetted, 16 bits, with 50S Ribbon connector
 Model 3075-E1A Relay Output Register, mercury wetted, 16 bits, with 50P "D" connector

Related Products

For Model	Mating Connector	Termination Panel
3075-A1A	5950-Z1A	1850-A1D
3075-E1A	5934-Z1A	1850-E1D

STRAP SELECTION

All 16 module straps are located by chips E and F (see page 5). The straps are numbered starting with strap 1 at the bottom and strap 16 at the top. Straps 1 through 15 are for the module I.D. command, while strap 16 is used for the Dataway Inhibit signal.

MODULE I.D.

These straps are the bottom 15 straps and are read onto the Dataway read lines (R1-R15) with the F(1)A(15) command.

INHIBIT

Strap 16 is used for the Dataway Inhibit signal. With the strap "in", the relays will be inhibited from operating when the Inhibit signal is asserted. With the strap removed from strap location 16, the Inhibit line will be disabled from affecting the operation of the relays. The module is shipped with the Inhibit signal strapped.

SOFTWARE CONSIDERATIONS

Since both Read and Write commands are provided, "Selective Set" and "Selective Clear" functions can be achieved by reading the register, performing the appropriate software sequence (logical AND, etc.), then writing the module register.

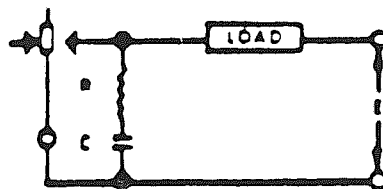
CONTACT PROTECTION FOR ALL MERCURY-WETTED RELAYS

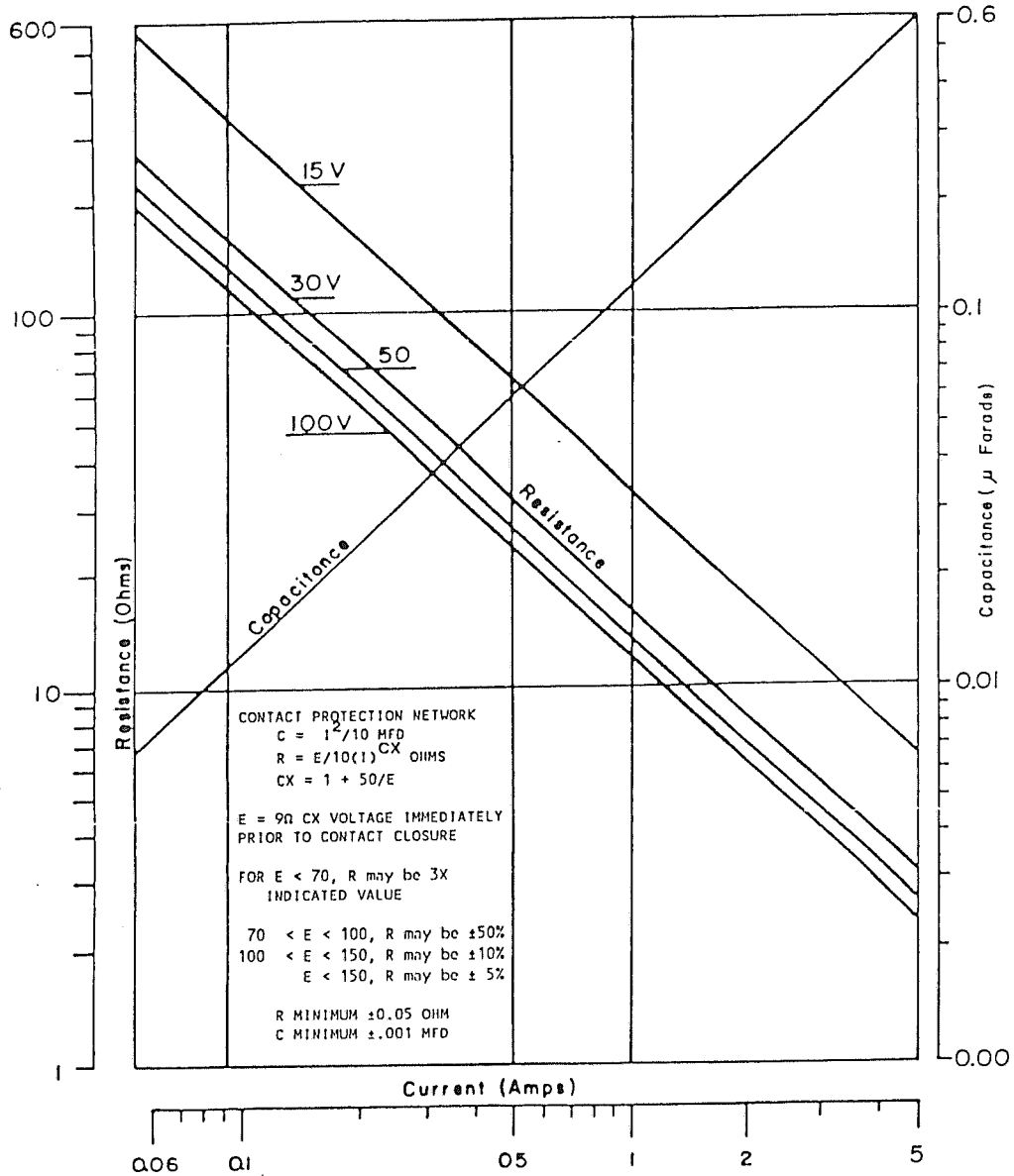
Contact loads that can cause arcing may result in contact failure unless contact protection is provided. It should be wired close to the relay terminals.

The R-C network shown is suitable for most loads. Component values may be obtained from the nomograph. Capacitance may be increased (up to 10 times) to minimize inductive load transients. Use peak values for AC circuits. No protection is required for voltages below 12 or currents below 65 ma.

The resistor may be eliminated for voltages below 50 with currents below 0.5A. The capacitor should not exceed the chart value.

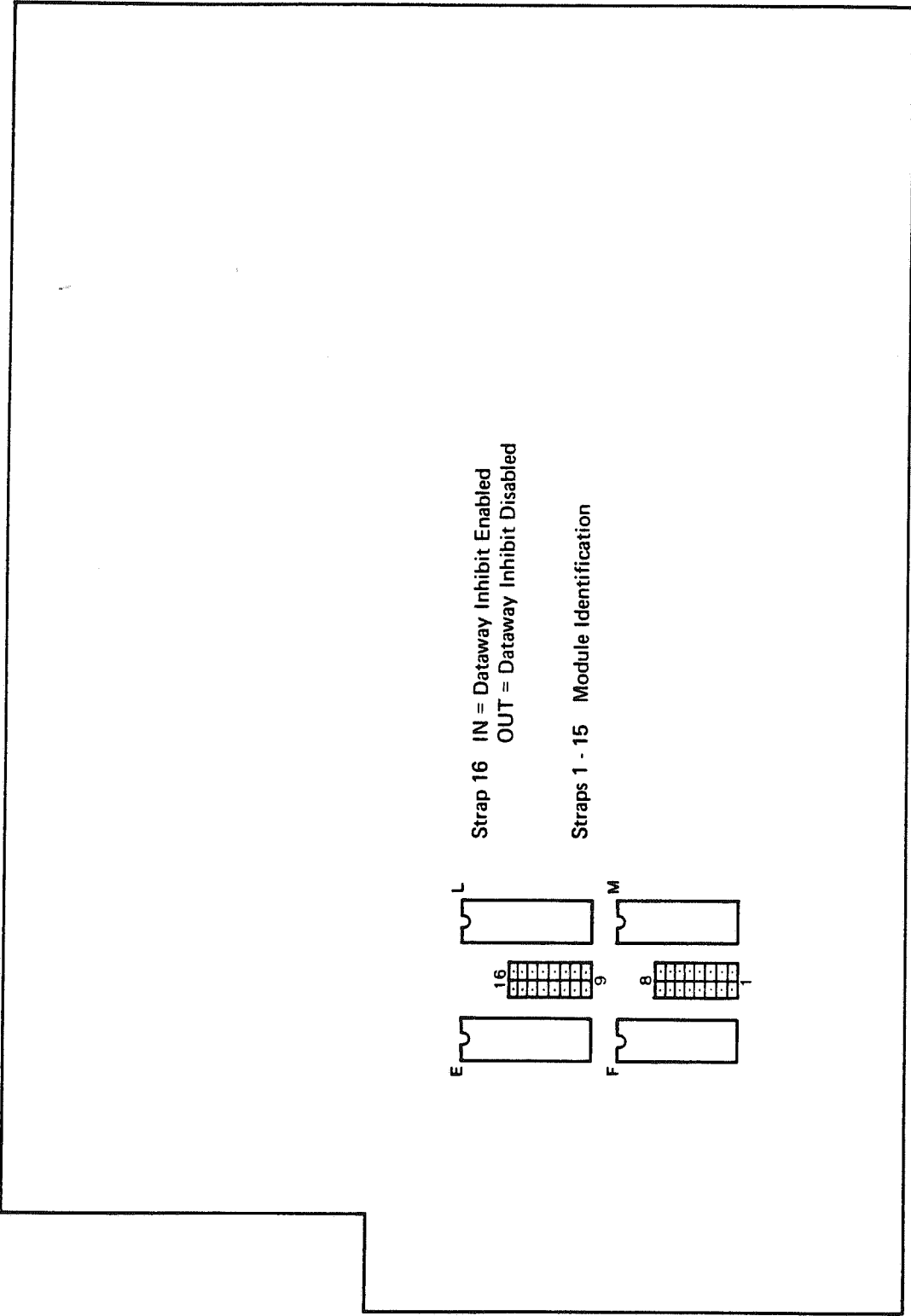
Highly capacitive loads do not require protection.

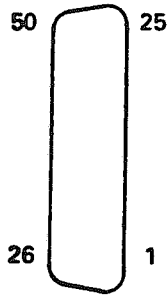




How to Use Nomograph

This nomograph affords a convenient means of determining the necessary contact protection. To determine C, the value of load current is found on the CURRENT axis. Reading directly up to the sloping capacitance line, the value of C is determined from the right hand CAPACITANCE scale. To determine R, read directly up from the load current value to its intersection with appropriate load voltage line. The value of R is then read from the left hand RESISTANCE scale. For AC loads, peak values of current and voltage must be used.





FACE VIEW

50 SOCKET RIBBON CONN.

NC: Normally Closed
NO: Normally Opened

SOCKET NO.

50	
49	NO 16
48	NC 16
47	NO 15
46	NO 14
45	NC 14
44	NO 13
43	NO 12
42	NC 12
41	NO 11
40	NO 10
39	NC 10
38	NO 9
37	NO 8
36	NC 8
35	NO 7
34	NO 6
33	NC 6
32	NO 5
31	NO 4
30	NC 4
29	NO 3
28	NO 2
27	NC 2
26	NO 1

SOCKET NO.

25	
24	Common 16
23	NC 15
22	Common 15
21	Common 14
20	NC 13
19	Common 13
18	Common 12
17	NC 11
16	Common 11
15	Common 10
14	NC 9
13	Common 9
12	Common 8
11	NC 7
10	Common 7
9	Common 6
8	NC 5
7	Common 5
6	Common 4
5	NC 3
4	Common 3
3	Common 2
2	NC 1
1	Common 1

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1. Contact KineticSystems and discuss the problem with a Technical Service Engineer.
2. Obtain a Return Authorization (RA) Number.
3. Initiate a purchase order for the estimated repair charge if the product is out of warranty.
4. Include a description of the problem and your technical contact person with the product.
5. Ship the product prepaid with the RA Number marked on the outside of the package to:

KineticSystems Company, LLC
Repair Service Center
900 North State Street
Lockport, IL 60441

Telephone: (815) 838-0005
Facsimile: (815) 838-4424
Email: tech-serv@kscorp.com