Specification Sheet U70000

Rugged Coaxial Relay Modules
Sizes 1x2 to 1x24 (DC-800MHz)
Series 70000 and RS70000

March 2016

General

USC acquired the product line of Matrix Systems Corporation in April of 2007. One of the product lines that USC continues to build is the unique coaxial relay line. The 70000 and RS70000 relays are unique in the relay industry due to the rugged design and excellent shielding characteristics.

The Series 70000 is an Nx1 relay with various coaxial contact types controlled by DC voltage. The Series RS70000 is also an Nx1 relay (like the Series 70000), but has a built-in serial control port as well. The RS70000 can be used in a standalone installation since the control port and wall mount style power supply is included.

The Series 70000 relay is used by simply applying the appropriate DC voltages, or install it into a Model U11600 rack mount chassis complete with relay drivers, remote control ports and power supplies as shown below. It has an LCD display and can be populated with up to 24 relay modules. LED illuminated driver cards must be installed for each relay installed. Status of the relays can be viewed through the top of the chassis.

USC has slightly changed the model numbering of the original series for compatibility with our inventory system. If you are unsure what your new model number might be, feel free to contact our application staff for assistance. Note that not all combinations or sizes are being built. For exact reorder of an old MSC unit, there will be a minimum order quantity of five.

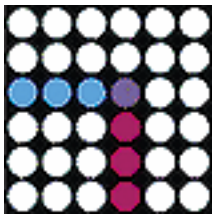
Applications

- Communication installations
- Airborne surveillance systems
- RF and IF signal switching with ultra high isolation
- Applications that require high shielding integrity
- Switching 1553, DS-1, DS-3 or ECL
- Low leakage triaxial signals
- Pulse and analog switching

Features

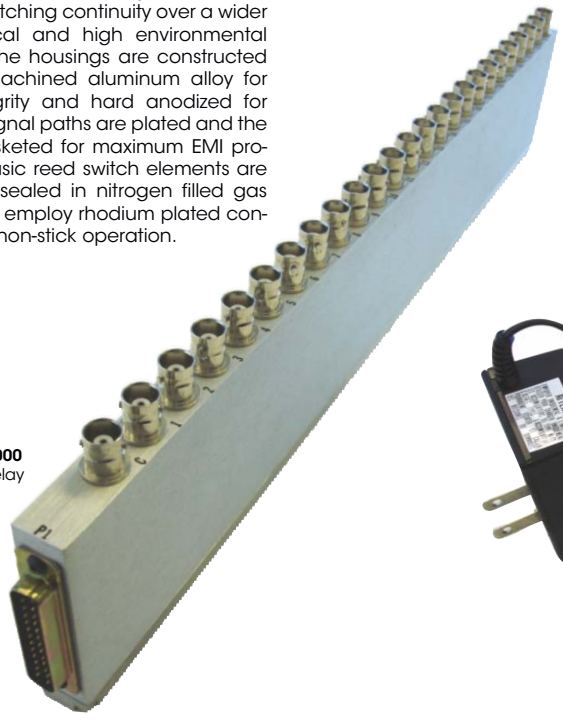
- Rugged machined alluminum construction
- Two to twenty-four throws (SP2T to SP24T)
- Available in relay or with serial control port (RS)
- Control is isolated from signal path
- Continuous shielding continuity
- Various signal connectors and voltages available
- Low EMI and VSWR

Model U11600 Controller
3RU rack mount controller chassis
(up to 24 relays)



Construction Note:

These relay modules are designed to maintain coaxial switching continuity over a wider range of critical and high environmental applications. The housings are constructed of precision machined aluminum alloy for structural integrity and hard anodized for durability. All signal paths are plated and the covers are gasketed for maximum EMI protection. The basic reed switch elements are hermetetically sealed in nitrogen filled gas envelopes and employ rhodium plated contacts to insure non-stick operation.



Series 70000
Coaxial relay

Series RS70000
Coaxial relay with serial port and wall mount power supply

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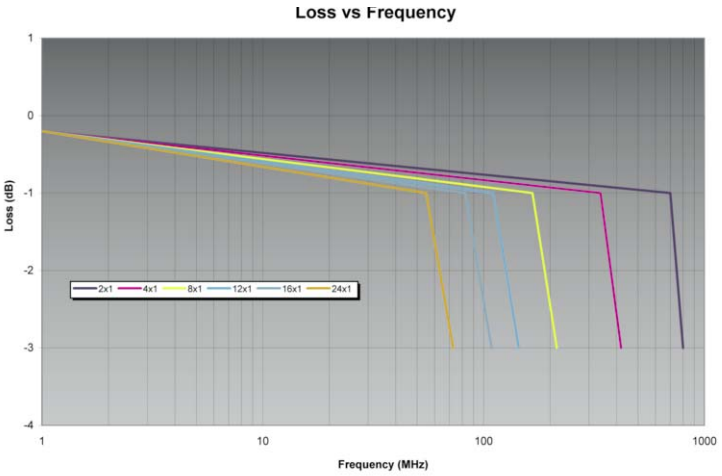

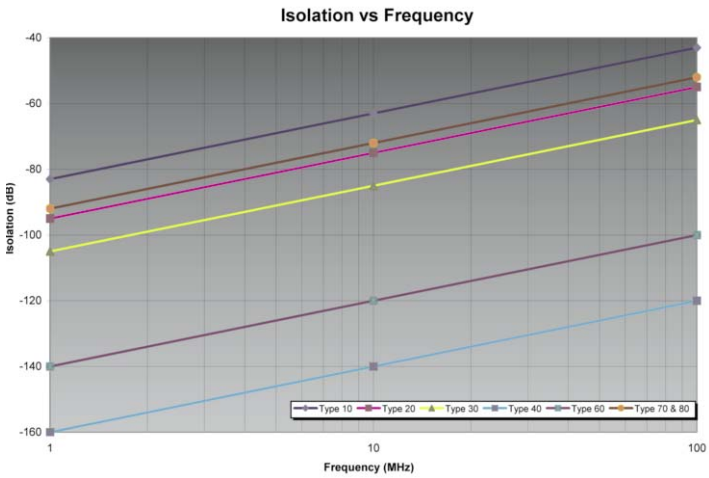

70000 Model Number Definition

U7[CC][NT]-[V][D][X]

Example: U72512-1PA (contact 25, 12x1, 24vdc, diodes with common positive and SMA's)

[CC] - Contact Configuration Type

10 - Standard (normally open) 100vdc, 250ma, 10W
25 - Standard (self-terminating type, 50 ohm) 4vdc, 250ma, 1/3W
27 - Standard (self-terminating type, 75 ohm) 4vdc, 250ma, 1/3W
30 - Medium isolation (normally open) 100vdc, 250ma, 10W
40 - High isolation (normally open) 28vdc, 250ma, 3W
65 - High isolation (self-terminating, 50 ohm) 4vdc, 250ma, 1/3W
67 - High isolation (self-terminating, 75 ohm) 4vdc, 250ma, 1/3W
70 - Mercury wetted (normally open) 500vdc, 1A, 35W (Note 5)
90 - Standard with Triaxial connector (BJ77) 100vdc, 250ma, 10W

[NT] - Number of throws

02 - 2x1
04 - 4x1
08 - 8x1
12 - 12x1
16 - 16x1
24 - 24x1

[V] - Coil voltage (nominal)

1 - 24vdc to 28vdc (1000 ohm coils)
2 - 15vdc (500 ohm coils)
5 - 5vdc (135 ohm coils with NO series polarity diode included: P or N option)

[D] - Coil suppression diodes

0 - Not included
P - Suppression diodes included with coil common positive
N - Suppression diodes included with coil common negative

[X] - Extra options

A - SMA signal connectors (only on contact types 10, 25, 27 & 65)
F - F-Type signal connectors (only on contact types 10, 27)
T - TNC signal connectors (only on contact types 10, 25, & 65)
I - Insulated coaxial shield (only on contact types 10, 25, 27 & 70)
S - Insulated & switched coaxial shield (only contact types 10, 25, 27, 70)
L - Lockscrews on control connector so mate can be secured

NOTES:

1. The I or S options are not available on the optional signal connectors or the contact type 90 (triaxial).
2. The "expander" port is not available any longer.
3. No mating connectors or hardware are included.
4. Contact type 70 must be mounted with signal connectors facing up.
5. Due to new environmental laws, USC may or may not be able to sell relays with mercury wetted contacts. Spec was 2A, 50W. Connectors must be within 20 deg of up.
6. For installing into the U11600 chassis, the "-1" coil voltage is needed.
7. Type 27 and 67 use the standard 50 ohm MSC connector.

RS70000 Model Number Definition

URS7[CC][NT]-[X]

Example: URS71008-A (contact 10, 8x1, and SMA connectors)

[CC] - Contact Configuration

10 - Standard (normally open) 100vdc, 250ma, 10W
25 - Standard (self-terminating type, 50 ohm) 4vdc, 250ma, 1/3W
27 - Standard (self-terminating type, 75 ohm) 4vdc, 250ma, 1/3W
30 - Medium isolation (normally open) 100vdc, 250ma, 10W
40 - High isolation (normally open) 28vdc, 250ma, 3W
65 - High isolation (self-terminating, 50 ohm) 4vdc, 250ma, 1/3W
67 - High isolation (self-terminating, 75 ohm) 4vdc, 250ma, 1/3W
70 - Mercury wetted (normally open) 500vdc, 1A, 35W (Note 5)
90 - Standard with Triaxial connector (BJ77) 100vdc, 250ma, 10W

[NT] - Number of throws

02 - 2x1
04 - 4x1
08 - 8x1
12 - 12x1
16 - 16x1
24 - 24x1

[X] - Extra options

A - SMA signal connectors (only on contact types 10, 25, 27 & 65)
F - F-Type signal connectors (only on contact types 10, 27)
T - TNC signal connectors (only on contact types 10, 25, & 65)
I - Insulated coaxial shield (only on contact types 10, 25, 27 & 70)
S - Insulated & switched coaxial shield (only contact types 10, 25, 27, 70)

NOTES:

1. The I or S options are not available on the optional signal connectors or the contact type 90 (triaxial).
2. The "expander" port is not available any longer.
3. No mating connectors or hardware are included.
4. Contact type 70 must be mounted with signal connectors facing up.
5. Due to new environmental laws, USC may or may not be able to sell relays with mercury wetted contacts. Spec used to be 2A, 50W.
7. Type 27 and 67 use the standard 50 ohm MSC connector.

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