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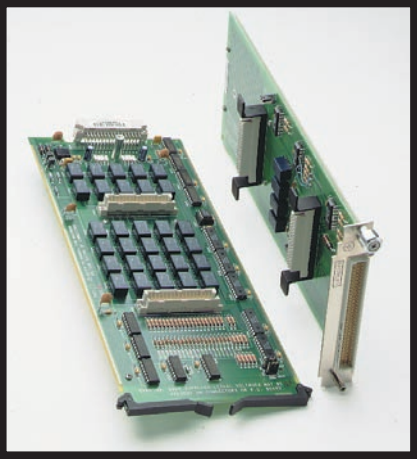
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Find the *Keithley 7021* at our website: *Click HERE*

7021

Multiplexer-Digital I/O Card

with 1×12 Plus 1×18 Multiplexer, 10 Digital Inputs & 10 Digital Outputs



- **30-channel, 2-pole multiplexer**
- **20 control bits – 10 in/10 out**
- **Multiplexer connects to 7001/7002 backplane for easy expandability**
- **250mA digital output sink capacity**
- **Digital input and output protection built in**

Ordering Information

7021 **30-Channel Multiplexer with Digital I/O**

Accessories Supplied

7011-KIT-R **96-Pin Female Connector Kit**

The Model 7021 Multiplexer-Digital I/O Card combines high-density signal switching with digital control on a single card. This space-saving design is well-suited for configuring compact automated production test applications. The Model 7021 card contains two independent 2-pole multiplexers—one 1×12 bank and one 1×18 bank. For larger applications, these multiplexers can be combined to form a 1×30 two-pole multiplexer. In addition to the Model 7021's signal routing capabilities, it can also sense the state of 10 digital inputs and generate 10 digital output states. Each input channel can be set up for either pull-up or pull-down operation through the card's 10kΩ onboard resistors. This allows microswitches and similar devices to be monitored directly, without the need for level-shifting interface circuitry.

ANALOG MULTIPLEXER SPECIFICATIONS

MULTPLEXER CONFIGURATION: Independent 1×12 and 1×18 multiplex banks. Adjacent banks can be connected together. Jumpers can be removed to isolate any bank from the backplane.

CONTACT CONFIGURATION: 2-pole Form A (HI, LO).

MAXIMUM SIGNAL: 110V DC, 110V rms, 155V peak between any two inputs or chassis, 1A switched, 30VA (resistive load).

CONTACT LIFE: Cold Switching: 10^8 closures.
Maximum Signal Levels: 10^5 closures.

CHANNEL RESISTANCE (per conductor): <1.25Ω.

CONTACT POTENTIAL: <3μV per channel contact pair. <9μV per single contact.

OFFSET CURRENT: <100pA.

ACTUATION TIME: <3ms.

ISOLATION:[1]

Bank:	>10^9Ω, <25pF.	
Channel to Channel:	>10^9Ω, <50pF.	
Differential:	Configured as 1×12:	>10^9Ω, <100pF.
	Configured as 1×18:	>10^9Ω, <150pF.
	Configured as 1×30:	>10^9Ω, <200pF.
Common Mode:	Configured as 1×12:	>10^9Ω, <200pF.
	Configured as 1×18:	>10^9Ω, <250pF.
	Configured as 1×30:	>10^9Ω, <350pF.

CROSSTALK[1] (1MHz, 50Ω Load): <–40dB.

INSERTION LOSS[1] (50Ω Source, 50Ω Load): <0.25dB below 1MHz, <3dB below 10MHz.

RELAY DRIVE CURRENT (per relay): 16mA.

[1] Specifications apply with no more than one channel closed.

ACCESSORIES AVAILABLE

7011-KIT-R	96-Pin Female Connector Kit
7011-MTR	96-Pin Male Connector Kit

SERVICES AVAILABLE

7021-3Y-EW	1-year factory warranty extended to 3 years from date of shipment

DIGITAL I/O SPECIFICATIONS

DIGITAL I/O CAPABILITY: 10 independent inputs.10 independent outputs.

OUTPUT:

Configuration: 10 open-collector drivers with factory installed 10kΩ pull-up resistors. Each driver has an internal flyback diode.

Pull-Up Voltage: 5V internally supplied, external connection provided for user supplied voltage up to 42V max. Outputs short circuit protected up to 25V.

Maximum Sink Current: Per Channel: 250mA. Per Card: 1A.

Logic: Hardware user configurable for negative or positive true logic levels.

INPUT:

Configuration: 10 inputs with internal 10kΩ pull-up resistors provided. Input resistors can be set for pull-up or pull-down configuration.

MAXIMUM VOLTAGE LEVEL: 42V peak.

LOGIC: Positive true.

GENERAL

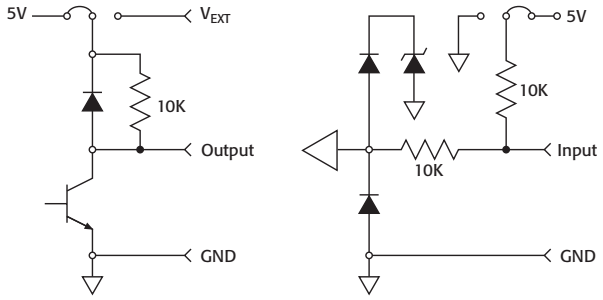
CONNECTOR TYPE: 96-pin male DIN connector (7011-KIT-R mating connector included).

ENVIRONMENT:
Operating: 0° to 50°C, up to 35°C <80% RH.
Storage: –25° to 65°C.

EMC: Conforms to European Union Directive 89/336/EEC.

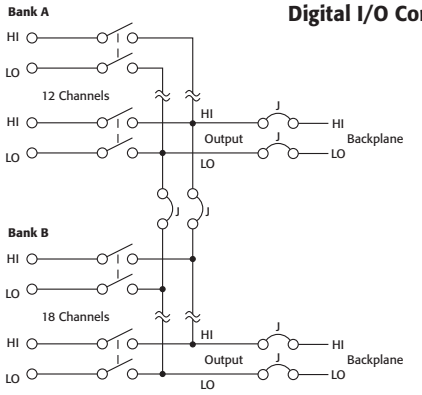
SAFETY: Conforms to European Union Directive 73/23/EEC (meets EN61010-1/IEC 1010).

Multiplexer Configuration



Output Channel 1 of 10 Input Channel 1 of 10

Digital I/O Configuration



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