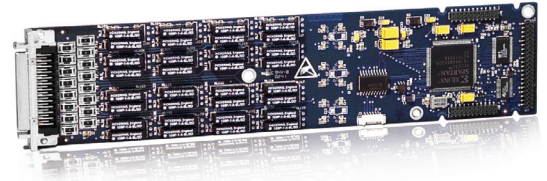


ProDAQ Data Acquisition Function Cards

ProDAQ 3940 32-Channel Relay/Switching Function Card



OVERVIEW

The ProDAQ 3940 switching function card is a high-density card that fits into ProDAQ VXIbus motherboards and LXI function card carriers. The ProDAQ 3940 function card is a switching card with 32 independently controlled reed or solid-state relays. Two relays occupy three terminals on the function card front-panel connector, sharing one common terminal.

An optional low-resistance, resettable positive temperature coefficient (PTC) fuse ensures protection of relay contacts when faulty conditions, such as overcurrent, occur. When a faulty condition has been removed, the PTC fuse returns to its low resistance state, so the device still can be used without costly service intervention. Two surge suppressors provide overvoltage protection of relay contacts. Magnetic screening of relays allows for dense packing and eliminates problems of magnetic interaction.



Features & Benefits

- ▶ High-quality **screened relays**
- ▶ **Switches** up to **0.9 A**, carry **1.0 A**
- ▶ **32 independently controlled relays** per function card
- ▶ Built-in **relay protection** (optional)
- ▶ **On-path resistance** as low as **0.3 Ω**

For more information, visit www.bustec.com.

Learn more about the **ProDAQ 3940** on our website by scanning the code below.

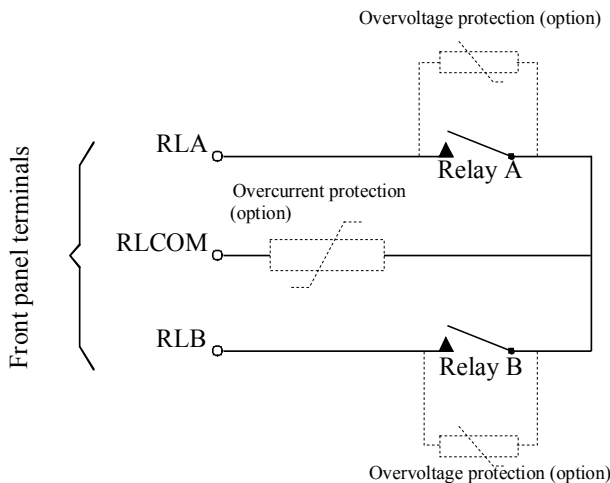


Figure: Single channel configuration

SPECIFICATIONS

INPUT CHARACTERISTICS

Number of Relays 32 (16 independent channels)

SWITCHING

	-AA	-AB	-BA	-BB
Relay Type	Ruthenium-plated reed relays	Ruthenium-plated reed relays	Solid state relays	Solid state relays
Overcurrent Protection	N/A	PTC resettable fuse	N/A	PTC resettable fuse
Overvoltage Protection	N/A	Multilayer transient voltage surge suppressor Leakage current: 10 μ A	N/A	Multilayer transient voltage surge suppressor Leakage current: 10 μ A
On-path Resistance	< 0.3 Ω (initial)	< 0.6 Ω (initial)	< 0.7 Ω	< 1.0 Ω
Off-path Resistance	N/A	N/A	> 10 ⁸ Ω	N/A
Switch Current	0.5 A max.	0.5 A max.	900 mA max.	0.5 A max.
Carry Current	1.0 A max. (per common terminal)	0.5 A max.	1.0 A max. (per common terminal)	0.5 A max.
Switch Voltage	24 V max.	24 V max.	24 V max.	24 V max.
Switch Power Rating	10 W max.	10 W max.	N/A	N/A
Insulation Resistance	> 10 ¹² Ω	> 10 ¹² Ω	> 10 ¹² Ω	> 10 ¹² Ω
Turn-On Time	< 0.5 msec	< 0.5 msec	< 2.0 msec	< 2.0 msec
Turn-Off Time	< 0.25 msec	< 0.25 msec	< 0.5 msec	< 0.5 msec
Expected relay lifetime	10 ⁹ operations typical	10 ⁹ operations typical	Unlimited	Unlimited

POWER REQ.

	-AA	-AB	-BA	-BB
Current Consumption	300 mA (+5V)	300 mA (+5V)	500 mA (+5V)	500 mA (+5V)

TRIGGER INPUT

Maximum input voltage	5 V
Input type	Schmitt trigger
Negative threshold	1.5 V (typical)
Positive threshold	2.5 V (typical)
Hysteresis	1.0 V (typical)
Active Polarity	Software selectable

FRONT PANEL I/O

Connector 50-pin SCSI female

PHYSICAL CHARACTERISTICS

Dimensions	230 mm x 53 mm
Weight	95 g

OPERATION

MTBF 118725 hrs (-AA, -AB: 10⁹ operations)

ENVIRONMENTAL

Temperature	0°C to +50°C (operational) -40°C to +70°C (storage only)
Humidity	10% - 90% (non-condensing)

SOFTWARE SUPPORT

Driver support for Microsoft Windows, VxWorks, and Linux (Contact Bustec Ltd. for more information)

WARRANTY PERIOD

12 months (extended periods available at additional cost)

Ordering Information

- ▶ **3940-AA** 32-ch relay/switching function card, w. reed relays
- ▶ **3940-AB** 32-ch relay/switching function card, w. reed relays and protection
- ▶ **3940-BA** 32-ch relay/switching function card, w. solid state relays
- ▶ **3940-BB** 32-ch relay/switching function card, w. solid state relays and protection

Related Products

- ▶ **6100-xx** LXI function card carrier
- ▶ **3180-AA** Ultra-performance motherboard module
- ▶ **5010-AA** Signal conditioning unit
- ▶ **5421-AA** 24-ch terminal card, direct input
- ▶ **8010-AA** 0.5m SCSI cable

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