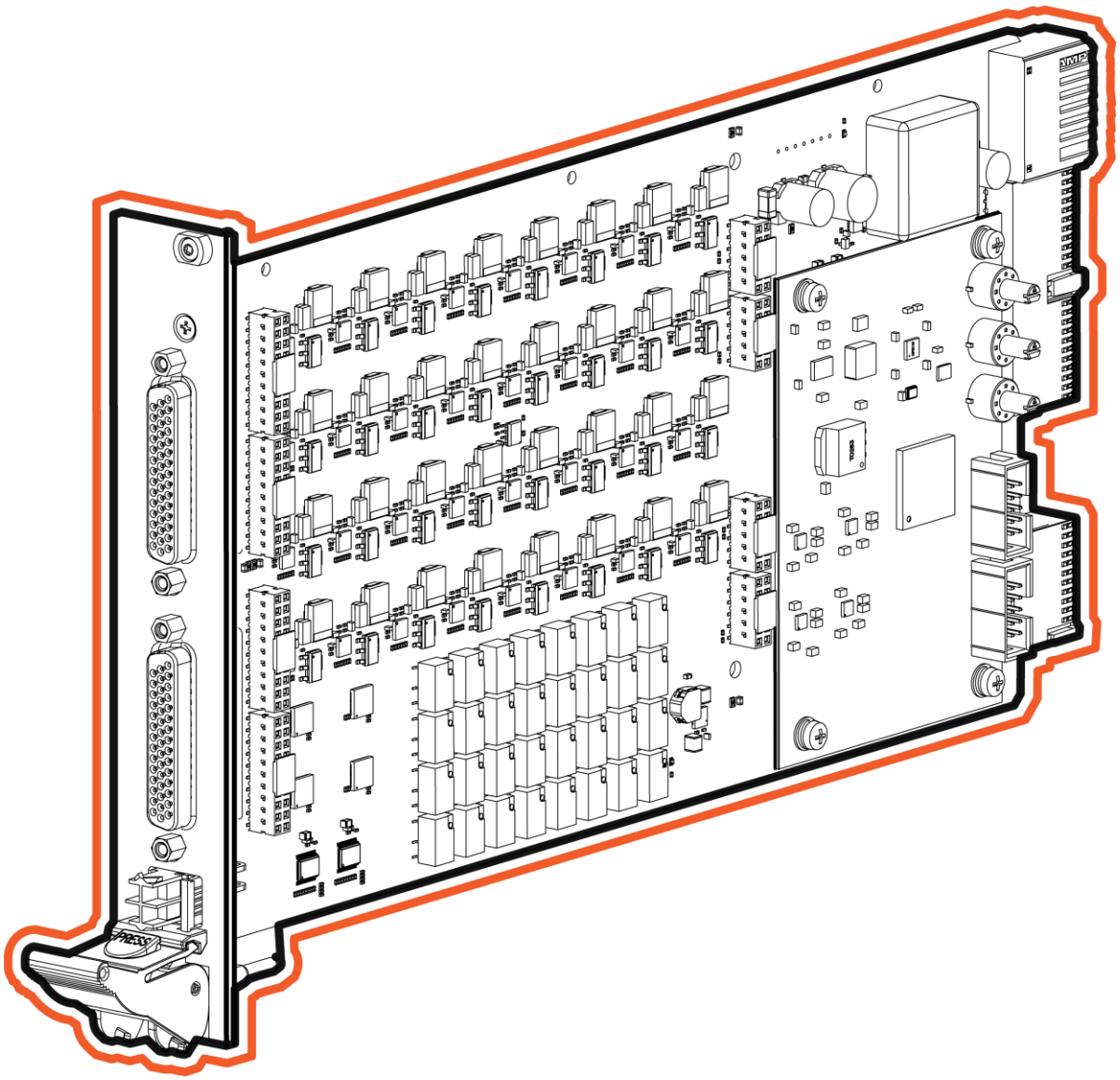
DE9007 DATASHEET

SLSC PROGRAMMABLE DISCRETE IO MODULE



DEICO

Contents

DESCRIPTION

DE9007 SLSC Programmable Discrete IO Module has 32 channel discrete output and 32 channel discrete input which is used in SLSC chassis and connected to test equipment and DUTs. Output channels can be used for high or low driver. For high side driving, the voltage source is supplied externally. For low side driving, the module's output operates an open collector or open drain driver. Input channels can compare the input level to two threshold voltages. These voltages are configurable. SLSC chassis is necessary for module usage.

Note DE9007 is compatible with DE9002 SLSC Instrument Expansion Module and able to measure all of the routed channels when used together.

The general features of DE9007 are listed below:

- ⇨ 32 channel selectable sense operation, GND/open or supply/open
- ⇨ Dual programmable voltage threshold, 3 to 22v
- ⇨ Lightning protected sense inputs
- ⇨ High input voltage tolerance
- ⇨ 32 channel output
- ⇨ High side or low side driving
- ⇨ Fully protected outputs
- ⇨ High side external voltage input
- ⇨ SLSC chassis compatible
- ⇨ 2 Slots for SLSC Instrument Expansion Modules

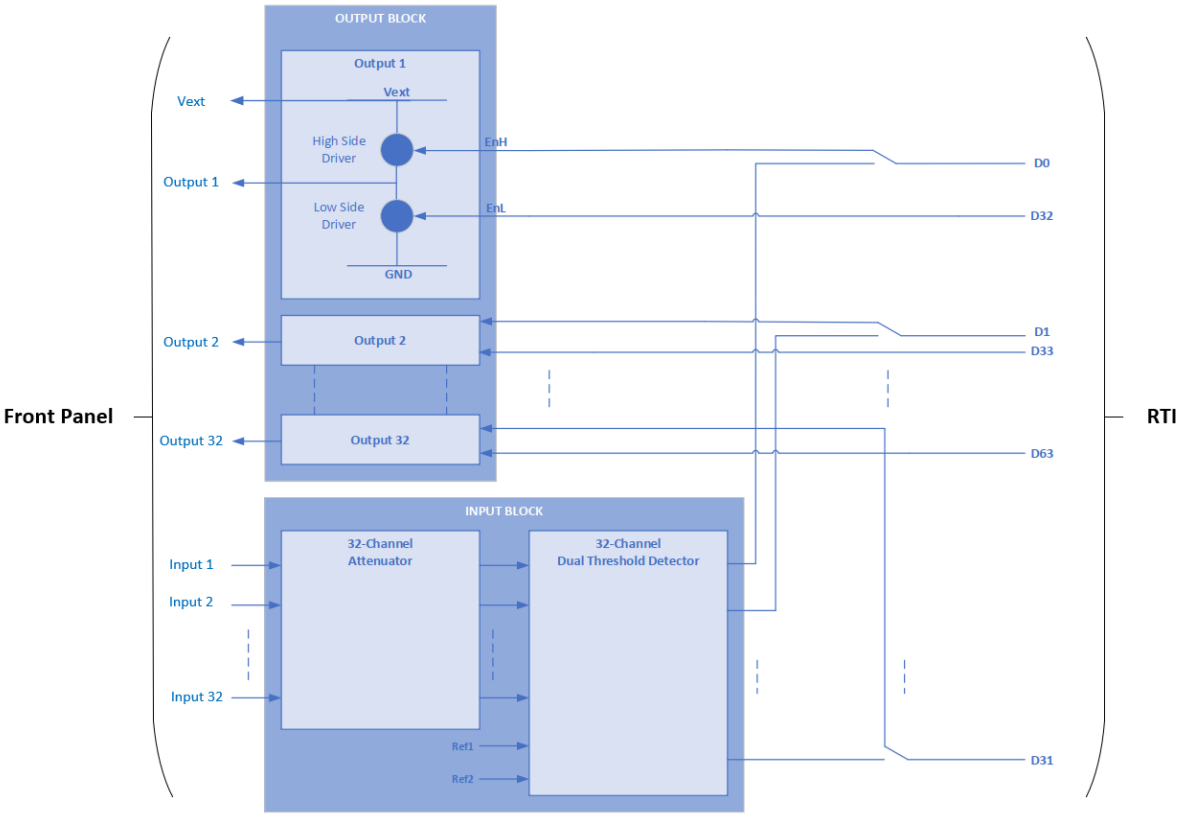
DE9007 is compatible with *IEC 60068-2-1/ IEC 60068-2-2/ IEC 60068-2-78/ IEC 60068-2-27/ IEC 60068-2-64/ EN 61326 (IEC 61326) / EN 55011 (CISPR 11) / AS/NZS CISPR 11/ FCC 47 CFR Part 15B/ ICES-001* standards.

Areas of application include:

- ⇨ HIL Testing
- ⇨ Discrete Input Measurements
- ⇨ Discrete Output
- ⇨ Fault Simulation

HARDWARE OVERVIEW

Circuitry



Hardware Specifications

Electrical

Specification	Minimum	Maximum	Notes
Sense Input Channel	—	32	—
Selectable Sense Operation	—	GND/Open or Supply/Open	—
Dual Programmable Threshold	3V	—	22V
High Side/Low Side Driver Channel	—	32	—
External High Side Voltage	—	—	30V
High Side Current	—	—	400mA
Low Side Current	—	—	500mA

Physical

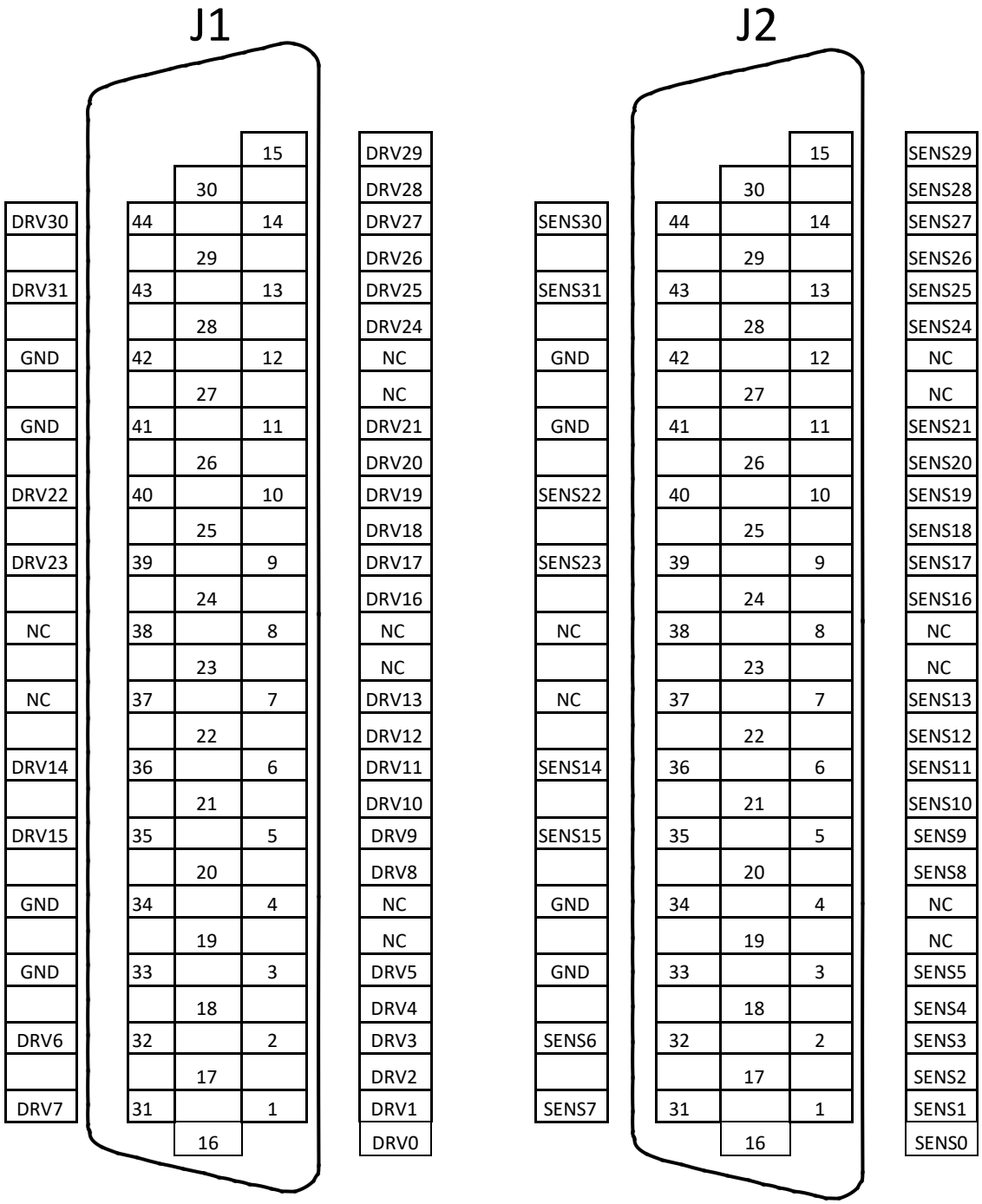
Specification	Typical	Notes
Dimensions	144.32mm x 30.48mm x 302mm (excluding ejector)	SLSC Standard Dimensions
Front panel connectors (x2)	HD44F	MPN: 2311770-1

Environmental

Specification	Condition	Value
Operating Humidity	Relative, non-condensing	10% - 90%
Storage Humidity	Relative, non-condensing	5% - 95%
Operating Temperature	Forced-air cooling from chassis	0°C - 40°C
Storage Temperature	Non-operational	-40°C - 85°C

SIGNAL CONNECTIONS

J1, J2 Pinout (Front)



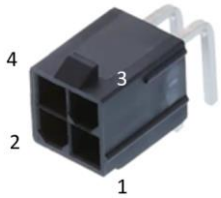
J1, J2 Connector Pin Assignments

Signal	Description
DRVx SENSx	Driver Output Channel Sense Input Channel
GND	Ground connection
NC	No connection

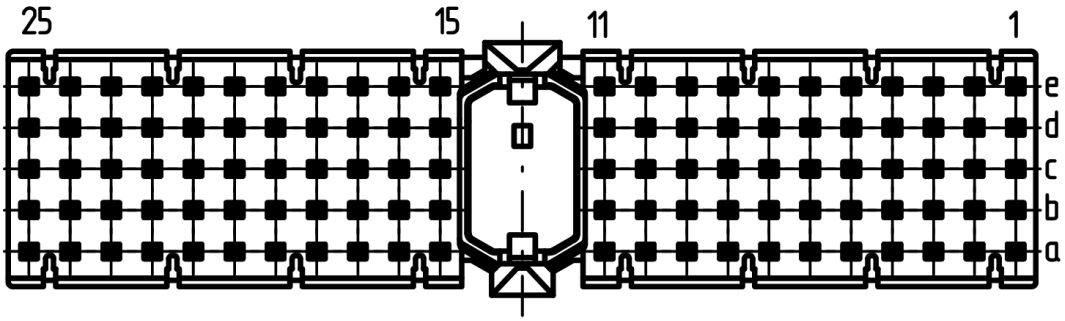
J3 Pinout (Front)

J3 Connector Pin Assignments

Pins	Signal
1	GND
2	GND
3	VWET
4	V_EXT



XJ2 Connector Pinout (Rear)



XJ2 Connector Pin Assignments

Row	a	b	c	d	e
1	D0/LD0	D1/LD1	NC	D2/LD2	D3/LD3
2	D4/LD4	D5/LD5	NC	D6/LD6	D7/LD7
3	GND	GND	GND	GND	GND
4	D8/LD8	D9/LD9	NC	D10/LD10	D11/LD11
5	D12/LD12	D13/LD13	NC	D14/LD14	D15/LD15
6	GND	GND	GND	GND	GND
7	D16/LD16	D17/LD17	NC	D18/LD18	D19/LD19
8	D20/LD20	D21/LD21	NC	D22/LD22	D23/LD23
9	GND	GND	GND	GND	GND
10	D24/LD24	D25/LD25	NC	D26/LD26	D27/LD27
11	D28/LD28	D29/LD29	NC	D30/LD30	D31/LD31
15	HD0	HD1	NC	HD2	HD3
16	HD4	HD5	NC	HD6	HD7
17	GND	GND	GND	GND	GND
18	HD8	HD9	NC	HD10	HD11
19	HD12	HD13	NC	HD14	HD15
20	GND	GND	GND	GND	GND
21	HD16	HD17	NC	HD18	HD19
22	HD20	HD21	NC	HD22	HD23
23	GND	GND	GND	GND	GND
24	HD24	HD25	NC	HD26	HD27
25	HD28	HD29	NC	HD30	HD31

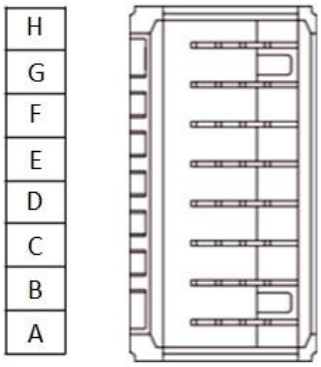
XJ2 Connector Signal Descriptions

Signal	Description
Dx/LDx HDx	Sense digital output channel x / Low Side Driver input channel x High Side Driver input channel x
GND	Ground connection
NC	No connection

XJ3 Connector Pinout (Rear)

XJ3 Connector Pin Assignments

Pins	Signal
A	FAULTD
A	FAULT D
B	FAULT C
C	FAULT B
D	FAULT A
E	INST1-
F	INST1+
G	INST0-
H	INST0+



CONFIGURATION

DE9007 control is based on NI-SLSC API. Before installing the device, NI-SLSC 19.5 or later must be installed. After installing software & the device, the device appears in the <LabVIEW Folder>\examples\ SLSC\Configuration.vi front panel under the related SLSC Chassis when the VI is executed. If the device does not appear in Configuration VI, use the following troubleshooting guidelines:

- ⇨ Verify that the related SLSC Chassis is present on NI MAX and Configuration VI.
- ⇨ Use 'Refresh' button on the Configuration VI for the SLSC Chassis.
- ⇨ Use 'Restart' button on the Configuration VI to restart the SLSC Chassis.
- ⇨ Power off and unplug the chassis, and install the device in a different slot.

PROGRAMMING THE DEVICE

Programming the Device in Software

To use DE9007 in software, DE9007 LabVIEW Driver must also be installed on the system. After the driver is installed, device control VIs can be found on Instrument I/O>Instr Drivers>DE9007 palette in LabVIEW. Driver also provides programming examples. For more information on the subject, refer to the User Manual of DE9007.

SAFETY GUIDELINES

Caution Do not operate the DE9007 in a manner not specified in this document. Product misuse can result in a hazard. You can compromise the safety protection built into the product if the product is damaged in any way. If the product is damaged, return it for repair.

COMPATIBILITY GUIDELINES

Electromagnetic Compatibility Guidelines

This product was tested and complies with the regulatory requirements and limits for electromagnetic compatibility (EMC). These requirements and limits provide reasonable protection against harmful interference when the product is operated in the intended operational electromagnetic environment.

This product is intended for use in industrial locations. However, harmful interference may occur in some installations, if the product is connected to a peripheral device or test object, or if the product is used in residential or commercial areas. To minimize interference with radio and television reception and prevent unacceptable performance degradation, install and use this product in strict accordance with the instructions specified in the product documentation.

Furthermore, any changes or modifications to the product not expressly approved by DEICO could void your authority to operate it under your local regulatory rules.

Caution To ensure the specified EMC performance, operate this product only with shielded cables and accessories.
Caution To ensure the specified EMC performance, the length of any cable attached to connectors J1 and J2 must not be longer than 3 m (10 ft.)

NOTES

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