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**PCIe-7852R**

# NI R Series Multifunction RIO Specifications

This document lists the specifications of the NI 781xR/783xR/784xR/785xR. These specifications are typical at 25 °C unless otherwise noted.

|  |         |     |     |      |
|--|---------|-----|-----|------|
| Français   | Deutsch | 日本語 | 한국어 | 简体中文 |
| <a href="http://ni.com/manuals">ni.com/manuals</a> |         |     |     |      |

## Analog Input (NI 783xR/784xR/785xR Only)

### Input Characteristics

|   |   |
|---|---|
| Number of channels  | Input impedance   |
| NI 7830R ..... 4  | Powered on ..... 10 G $\Omega$ in parallel with<br>100 pF   |
| NI 7831R/7833R/7841R/7842R/<br>7851R/7852R/7853R/7854R ..... 8                                      | Powered off/overload ..... 4.0 k $\Omega$ min   |
| Input modes ..... DIFF, RSE, NRSE<br>(software-selectable;<br>selection applies to all<br>channels) | Input signal range ..... $\pm 10$ V   |
| Type of ADC ..... Successive<br>approximation   | Input bias current  |
| Resolution ..... 16 bits, 1 in 65,536   | NI 783xR ..... $\pm 2$ nA   |
| Conversion time   | NI 784xR/785xR ..... $\pm 5$ nA   |
| NI 783xR/NI 784xR ..... 4 $\mu$ s   | Input offset current  |
| NI 785xR ..... 1 $\mu$ s  | NI 783xR ..... $\pm 1$ nA   |
| Maximum sampling rate   | NI 784xR/785xR ..... $\pm 5$ nA   |
| NI 783xR/784xR ..... 200 kS/s (per channel)   | Input coupling ..... DC   |
| NI 785xR ..... 750 kS/s (per channel)   | Maximum working voltage<br>(signal + common mode) ..... Inputs should remain<br>within $\pm 12$ V of ground |
|   | Overvoltage protection  |
|   | Powered on ..... $\pm 42$ V   |
|   | Powered off ..... $\pm 35$ V  |

## Accuracy Information

NI 783xR

| Nominal Range (V)   |                     | Absolute Accuracy |        |             |                           |          |                   | Relative Accuracy                     |                 |          |
|---------------------|---------------------|-------------------|--------|-------------|---------------------------|----------|-------------------|---------------------------------------|-----------------|----------|
|                     |                     | % of Reading      |        | Offset (μV) | Noise + Quantization (μV) |          | Temp Drift (%/°C) | Absolute Accuracy at Full Scale (±mV) | Resolution (μV) |          |
| Positive Full Scale | Negative Full Scale | 24 Hours          | 1 Year |             | Single Point              | Averaged |                   |                                       | Single Point    | Averaged |
| 10.0                | -10.0               | 0.0496            | 0.0507 | 2,542       | 1,779                     | 165      | 0.0005            | 7.78                                  | 2,170           | 217      |

**Note:** Accuracies are valid for measurements following an internal calibration. Averaged numbers assume dithering and averaging of 100 single-channel readings. Measurement accuracies are listed for operational temperatures within ±1 °C of internal calibration temperature and ±10 °C of external or factory-calibration temperature.

NI 784xR/785xR

| Nominal Range (V)   |                     | Absolute Accuracy |        |             |                           |          |                   | Relative Accuracy                     |                 |          |
|---------------------|---------------------|-------------------|--------|-------------|---------------------------|----------|-------------------|---------------------------------------|-----------------|----------|
|                     |                     | % of Reading      |        | Offset (μV) | Noise + Quantization (μV) |          | Temp Drift (%/°C) | Absolute Accuracy at Full Scale (±mV) | Resolution (μV) |          |
| Positive Full Scale | Negative Full Scale | 24 Hours          | 1 Year |             | Single Point              | Averaged |                   |                                       | Single Point    | Averaged |
| 10.0                | -10.0               | 0.0186            | 0.0228 | 1,591       | 1,029                     | 91.6     | 0.0005            | 3.97                                  | 1,205           | 121      |

**Note:** Accuracies are valid for measurements following an internal calibration. Averaged numbers assume dithering and averaging of 100 single-channel readings. Measurement accuracies are listed for operational temperatures within ±1 °C of internal calibration temperature and ±10 °C of external or factory-calibration temperature.

## DC Transfer Characteristics

INL

NI 783xR ..... ±3 LSB typ, ±6 LSB max  
 NI 784xR/785xR ..... ±1 LSB typ, ±3 LSB max

DNL

NI 783xR ..... -1.0 to +2.0 LSB max  
 NI 784xR/785xR ..... ±0.4 LSB typ,  
 ±0.9 LSB max

No missing codes

NI 783xR ..... 16 bits typ, 15 bits min  
 NI 784xR/785xR ..... 16 bits guaranteed

CMRR, DC to 60 Hz ..... -86 dB

## Dynamic Characteristics

Bandwidth

NI 783xR  
 Small signal (-3 dB) ..... 650 kHz  
 Large signal (1% THD) ..... 55 kHz

NI 784xR/785xR

Small signal (-3 dB) ..... 1 MHz  
 Large signal (1% THD) ..... 500 kHz

## Settling Time

| Device             | Step Size | Accuracy |         |        |
|--------------------|-----------|----------|---------|--------|
|                    |           | ±16 LSB  | ±4 LSB  | ±2 LSB |
| NI 783xR           | ±20.0 V   | 7.5 μs   | 10.3 μs | 40 μs  |
|                    | ±2.0 V    | 2.7 μs   | 4.1 μs  | 5.1 μs |
|                    | ±0.2 V    | 1.7 μs   | 2.9 μs  | 3.6 μs |
| NI 784xR/<br>785xR | ±20.0 V   | 2.1 μs   | 4.2 μs  | 8 μs   |
|                    | ±2.0 V    | 1.3 μs   | 1.6 μs  | 1.8 μs |
|                    | ±0.2 V    | 0.8 μs   | 1.1 μs  | 1.2 μs |

Crosstalk ..... -80 dB, DC to 100 kHz

# Analog Output (NI 783xR/784xR/785xR Only)

## Output Characteristics

|  |                                 |                          |                      |
|--|---------------------------------|--------------------------|----------------------|
| Output type .....  | Single-ended,<br>voltage output | Resolution.....          | 16 bits, 1 in 65,536 |
| Number of channels   |                                 | Update time .....        | 1.0 $\mu$ s          |
| NI 7830R .....   | 4                               | Maximum update rate..... | 1 MS/s               |
| NI 7831R/7833R/7841R/7842R/<br>7851R/7852R/7853R/7854R ..... | 8                               | Type of DAC .....        | Enhanced R-2R        |

## Accuracy Information

| Nominal Range (V)   |                     | Absolute Accuracy |        |                   |                              | Absolute Accuracy at Full Scale (mV) |
|---------------------|---------------------|-------------------|--------|-------------------|------------------------------|--------------------------------------|
|                     |                     | % of Reading      |        | Offset ( $\mu$ V) | Temp Drift (%/ $^{\circ}$ C) |                                      |
| Positive Full Scale | Negative Full Scale | 24 Hours          | 1 Year |                   |                              |                                      |
| 10.0                | -10.0               | 0.0335            | 0.0351 | 2366              | 0.0005                       | 5.88                                 |

**Note:** Accuracies are valid for analog output following an internal calibration. Analog output accuracies are listed for operation temperatures within  $\pm 1$   $^{\circ}$ C of internal calibration temperature and  $\pm 10$   $^{\circ}$ C of external or factory calibration temperature. Temp Drift applies only if ambient is greater than  $\pm 10$   $^{\circ}$ C of previous external calibration.

## DC Transfer Characteristics

|                   |   |
|-------------------|---|
| INL.....          | $\pm 0.5$ LSB typ,<br>$\pm 4.0$ LSB max |
| DNL .....         | $\pm 0.5$ LSB typ,<br>$\pm 1$ LSB max   |
| Monotonicity..... | 16 bits, guaranteed                     |

## Voltage Output

|                       |                         |
|-----------------------|-------------------------|
| Range .....           | $\pm 10$ V              |
| Output coupling ..... | DC                      |
| Output impedance      |                         |
| NI 783xR .....        | 1.25 $\Omega$           |
| NI 784xR/785xR.....   | 0.5 $\Omega$            |
| Current drive .....   | $\pm 2.5$ mA            |
| Protection.....       | Short-circuit to ground |
| Power-on state.....   | User configurable       |

## Dynamic Characteristics

Settling time

| Step Size    | Accuracy     |             |             |
|--------------|--------------|-------------|-------------|
|              | $\pm 16$ LSB | $\pm 4$ LSB | $\pm 2$ LSB |
| $\pm 20.0$ V | 6.0 $\mu$ s  | 6.2 $\mu$ s | 7.2 $\mu$ s |
| $\pm 2.0$ V  | 2.2 $\mu$ s  | 2.9 $\mu$ s | 3.8 $\mu$ s |
| $\pm 0.2$ V  | 1.5 $\mu$ s  | 2.6 $\mu$ s | 3.6 $\mu$ s |

|  |  |
|--|--|
| Slew rate.....                               | 10 V/ $\mu$ s                            |
| Noise.....                                   | 150 $\mu$ V <sub>rms</sub> , DC to 1 MHz |
| Glitch energy<br>at midscale transition..... | $\pm 200$ mV for 3 $\mu$ s               |

## Digital I/O

Number of channels

|  |     |
|--|-----|
| NI 781xR.....  | 160 |
| NI 7830R.....  | 56  |
| NI 7831R/7833R/7841R/7842R/<br>7851R/7852R/7853R/7854R ..... | 96  |

Compatibility.....TTL

Digital logic levels

| Level   | Min   | Max   |
|---|-------|-------|
| Input low voltage ( $V_{IL}$ )                              | 0.0 V | 0.8 V |
| Input high voltage ( $V_{IH}$ )                             | 2.0 V | 5.5 V |
| Output low voltage ( $V_{OL}$ ),<br>where $I_{OUT} = -4$ mA | 0 V   | 0.4 V |
| Output high voltage ( $V_{OH}$ ),<br>where $I_{OUT} = 4$ mA | 2.4 V | 3.3 V |

Output current

|              |        |
|--------------|--------|
| Source ..... | 4.0 mA |
| Sink .....   | 4.0 mA |

Input leakage current..... $\pm 10$   $\mu$ A

Power-on state .....Programmable, by line

Protection

Input

|                      |                              |
|----------------------|------------------------------|
| NI 781xR/783xR.....  | -0.5 to 7.0 V, single line   |
| NI 784xR/785xR ..... | -20.0 to 20.0 V, single line |

Output .....Short-circuit  
(up to eight lines may be shorted at a time)

Minimum pulse width

|              |         |
|--------------|---------|
| Input.....   | 25 ns   |
| Output ..... | 12.5 ns |

Minimum sampling period .....5 ns

## Reconfigurable FPGA

NI 7811R/7830R/7831R

|  |                 |
|--|-----------------|
| FPGA type.....                           | Virtex-II V1000 |
| Number of flip-flops.....                | 10,240          |
| Number of 4-input LUTs.....              | 10,240          |
| Number of 18 $\times$ 18 multipliers ... | 40              |
| Embedded block RAM.....                  | 720 kbits       |

NI 7813R/7833R

|  |                 |
|--|-----------------|
| FPGA type.....                           | Virtex-II V3000 |
| Number of flip-flops.....                | 28,672          |
| Number of 4-input LUTs.....              | 28,672          |
| Number of 18 $\times$ 18 multipliers ... | 96              |
| Embedded block RAM.....                  | 1,728 kbits     |

NI 7841R/7851R

|   |               |
|---|---------------|
| FPGA type.....  | Virtex-5 LX30 |
| Number of flip-flops.....                                   | 19,200        |
| Number of 6-input LUTs.....                                 | 19,200        |
| Number of DSP48<br>slices (25 $\times$ 18 multipliers)..... | 32            |
| Embedded block RAM.....                                     | 1,152 kbits   |

NI 7842R/7852R

|   |               |
|---|---------------|
| FPGA type.....  | Virtex-5 LX50 |
| Number of flip-flops.....                                   | 28,800        |
| Number of 6-input LUTs.....                                 | 28,800        |
| Number of DSP48<br>slices (25 $\times$ 18 multipliers)..... | 48            |
| Embedded block RAM.....                                     | 1,728 kbits   |

NI 7853R

|   |               |
|---|---------------|
| FPGA type.....  | Virtex-5 LX85 |
| Number of flip-flops.....                                   | 51,840        |
| Number of 6-input LUTs.....                                 | 51,840        |
| Number of DSP48<br>slices (25 $\times$ 18 multipliers)..... | 48            |
| Embedded block RAM.....                                     | 3,456 kbits   |

NI 7854R

|   |                |
|---|----------------|
| FPGA type.....  | Virtex-5 LX110 |
| Number of flip-flops.....                                   | 69,120         |
| Number of 6-input LUTs.....                                 | 69,120         |
| Number of DSP48<br>slices (25 $\times$ 18 multipliers)..... | 64             |
| Embedded block RAM.....                                     | 4,608 kbits    |

Timebase ..... 40, 80, 120, 160,  
or 200 MHz

## Timebase reference sources

|                           |   |
|---------------------------|---|
| NI PCI-781xR/783xR .....  | Onboard clock only                                    |
| NI PCIe-784xR/785xR ..... | Onboard clock only                                    |
| NI PXI-78xxR .....        | Onboard clock,<br>phase-locked to PXI<br>10 MHz clock |

## Timebase accuracy,

|                     |   |
|---------------------|---|
| onboard clock ..... | ±100 ppm, 250 ps<br>peak-to-peak jitter |
|---------------------|---|

## Phase locked to PXI 10 MHz

|                                 |                                    |
|---------------------------------|------------------------------------|
| Clock (NI PXI-78xxR only) ..... | Adds 350 ps<br>peak-to-peak jitter |
|---------------------------------|------------------------------------|

## Additional frequency-dependent peak-to-peak jitter

|                |        |
|----------------|--------|
| NI 781xR/783xR |        |
| 40 MHz .....   | None   |
| 80 MHz .....   | 400 ps |
| 120 MHz .....  | 720 ps |
| 160 MHz .....  | 710 ps |
| 200 MHz .....  | 700 ps |
| NI 784xR/785xR |        |
| 40 MHz .....   | None   |
| 80 MHz .....   | 460 ps |
| 120 MHz .....  | 172 ps |
| 160 MHz .....  | 172 ps |
| 200 MHz .....  | 152 ps |

## Calibration (NI 783xR/784xR/785xR Only)

Recommended warm-up time ..... 15 minutes

Calibration interval ..... 1 year

## Onboard calibration reference

|                               |   |
|-------------------------------|---|
| DC level .....                | 5.000 V (±3.5 mV)<br>(actual value stored<br>in Flash memory) |
| Temperature coefficient ..... | ±5 ppm/°C max   |
| Long-term stability .....     | ±20 ppm/ $\sqrt{1,000}$ h                                     |



**Note** Refer to *Calibration Certificates* at [ni.com/calibration](http://ni.com/calibration) to generate a calibration certificate for the NI 78xxR.

## Bus Interface

|                              |                                    |
|------------------------------|------------------------------------|
| PCI/PCIe/PXI .....           | Master, slave                      |
| Data transfers .....         | DMA, interrupts,<br>programmed I/O |
| Number of DMA channels ..... | 3                                  |

## Power Requirement

|                           |            |
|---------------------------|------------|
| +5 VDC (±5%) <sup>1</sup> |            |
| NI 781xR .....            | 9 mA typ   |
| NI 7830R/7831R .....      | 330 mA typ |
| NI 7833R .....            | 364 mA typ |
| NI PXI-7841R/7851R .....  | 125 mA typ |
| NI PXI-7842R/7852R .....  | 136 mA typ |
| NI 7853R .....            | 460 mA typ |
| NI 7854R .....            | 484 mA typ |

|                             |            |
|-----------------------------|------------|
| +3.3 VDC (±5%) <sup>2</sup> |            |
| NI 7811R .....              | 650 mA typ |
| NI 7813R .....              | 850 mA typ |
| NI 7830R/7831R .....        | 462 mA typ |
| NI 7833R .....              | 727 mA typ |
| NI PCIe-7841R/7851R .....   | 847 mA typ |
| NI PCIe-7842R/7852R .....   | 984 mA typ |
| NI PXI-7841R/7851R .....    | 525 mA typ |
| NI PXI-7842R/7852R .....    | 604 mA typ |
| NI 7853R .....              | 640 mA typ |
| NI 7854R .....              | 843 mA typ |

|                      |       |
|----------------------|-------|
| +12 V                |       |
| NI 784xR/785xR ..... | 0.5 A |

|                          |        |
|--------------------------|--------|
| -12 V                    |        |
| NI PXI-784xR/785xR ..... | 0.25 A |

|                      |                          |
|----------------------|--------------------------|
| +5V terminal         |                          |
| Connector 0 .....    | 0.5 A max <sup>3</sup>   |
| Connector 1 .....    | 0.5 A max <sup>3</sup>   |
| Connector 2 .....    | 0.5 A max <sup>3</sup>   |
| All connectors ..... | 1.5 A max <sup>3,4</sup> |

<sup>1</sup> Does not include current drawn from the +5 V line on the I/O connectors.

<sup>2</sup> Does not include current sourced by the digital outputs.

<sup>3</sup> (NI PCIe-78xxR only) Total maximum terminal current for all connectors is 100 mA unless disk drive connector is attached.

<sup>4</sup> (NI 784xR/785xR only) The NI 784xR/785xR has a user-replaceable socketed fuse that opens when current exceeds the current specification. Refer to the *NI R Series Multifunction RIO User Manual*, available at [ni.com/manuals](http://ni.com/manuals), for information about fuse replacement.

To calculate the total current sourced by the digital outputs, use the following equation:

$$\sum_{i=1}^j \text{current sourced on channel } i$$

Power available at I/O connectors...4.50 to 5.25 VDC at 1 A total, 250 mA per I/O connector pin

## Physical

Dimensions (not including connectors)

|                          |  |
|--------------------------|--|
| NI PCI-781xR/783xR.....  | 17 cm by 11 cm<br>(6.7 in. by 4.3 in.) |
| NI PCIe-784xR/785xR..... | 17 cm by 11 cm<br>(6.7 in. by 4.3 in.) |
| NI PXI-78xxR.....        | 16 cm by 10 cm<br>(6.3 in. by 3.9 in.) |

Weight

|                          |       |
|--------------------------|-------|
| NI PCI-781xR/783xR.....  | 112 g |
| NI PCIe-784xR/785xR..... | 127 g |
| NI PXI-78xxR.....        | 152 g |

I/O connectors

|                           |   |
|---------------------------|---|
| NI 781xR.....             | Four 68-pin female high-density VHDCI type  |
| NI 7830R.....             | Two 68-pin female high-density VHDCI type   |
| NI 783xR/784xR/785xR..... | Three 68-pin female high-density VHDCI type |

Disk drive power connector

(PCIe devices) .....Standard ATX peripheral connector (not serial ATA)

## Maximum Working Voltage (NI 783xR/784xR/785xR Only)

Maximum working voltage refers to the signal voltage plus the common-mode voltage.

|                         |                               |
|-------------------------|-------------------------------|
| Channel-to-earth.....   | ±12 V, Measurement Category I |
| Channel-to-channel..... | ±24 V, Measurement Category I |



**Caution** Do *not* use the NI 783xR/784xR/785xR for connection to signals in Measurement Categories II, III, or IV.

## Environmental

The NI 78xxR is intended for indoor use only.

### Operating Environment

|  |  |
|--|--|
| NI 781xR.....                              | 0 °C to 55 °C,<br>tested in accordance with IEC-60068-2-1 and IEC-60068-2-2.   |
| NI 7830R, NI 7831R                         | 40 MHz or 80 MHz timebase ..... 0 °C to 55 °C,<br>tested in accordance with IEC-60068-2-1 and IEC-60068-2-2.   |
| NI PCI/PXI-7833R                           | 40 MHz timebase ..... 0 °C to 55 °C,<br>tested in accordance with IEC-60068-2-1 and IEC-60068-2-2.   |
| 80 MHz timebase .....                      | 0 °C to 55 °C except the following: 0 °C to 45 °C when installed in an NI PXI-1000/B or NI PXI-101X,<br>tested in accordance with IEC-60068-2-1 and IEC-60068-2-2. |
| NI PXI-7841R/7842R/7851R/7852R/7853R/7854R | 40 MHz timebase ..... 0 °C to 55 °C,<br>tested in accordance with IEC-60068-2-1 and IEC-60068-2-2.   |
| 80 MHz timebase .....                      | 0 °C to 55 °C except the following: 0 °C to 45 °C when installed in an NI PXI-1000/B or NI PXI-101X,<br>tested in accordance with IEC-60068-2-1 and IEC-60068-2-2. |
| NI PCIe-7841R/7842R/7851R/7852R            | 40 MHz or 80 MHz timebase ..... 0 °C to 40 °C,<br>tested in accordance with IEC-60068-2-1 and IEC-60068-2-2.   |
| Relative humidity range.....               | 10% to 90%,<br>noncondensing,<br>tested in accordance with IEC-60068-2-56.   |
| Altitude .....                             | 2,000 m at 25 °C ambient temperature   |

## Storage Environment

|                                 |  |
|---------------------------------|--|
| NI PCI/PXI-781xR/783xR .....    | -20 °C to 70 °C,<br>tested in accordance with<br>IEC-60068-2-1 and<br>IEC-60068-2-2. |
| NI PCIe-784xR/785xR .....       | -20 °C to 70 °C,<br>tested in accordance with<br>IEC-60068-2-1 and<br>IEC-60068-2-2. |
| NI PXI-784xR/785xR .....        | -40 °C to 70 °C,<br>tested in accordance with<br>IEC-60068-2-1 and<br>IEC-60068-2-2. |
| Ambient temperature range ..... | -20 °C to 70 °C,<br>tested in accordance with<br>IEC-60068-2-1 and<br>IEC-60068-2-2. |
| Relative humidity range.....    | 5% to 95%,<br>noncondensing,<br>tested in accordance with<br>IEC-60068-2-56.         |



**Note** Clean the device with a soft, non-metallic brush. Make sure that the device is completely dry and free from contaminants before returning it to service.

## Shock and Vibration (for NI PXI-78xxR Only)

|                         |   |
|-------------------------|---|
| Operational shock ..... | 30 g peak, half-sine,<br>11 ms pulse;<br>tested in accordance with<br>IEC-60068-2-27. Test<br>profile developed in<br>accordance with<br>MIL-PRF-28800F.                          |
| Random vibration        |   |
| Operating .....         | 5 Hz to 500 Hz, 0.3 g <sub>rms</sub>  |
| Nonoperating .....      | 5 Hz to 500 Hz, 2.4 g <sub>rms</sub> ,<br>tested in accordance with<br>IEC-60068-2-64.<br>Nonoperating test profile<br>exceeds the requirements<br>of MIL-PRF-28800F,<br>Class 3. |

## Safety

The NI 78xxR is designed to meet the requirements of the following standards of safety for electrical equipment for measurement, control, and laboratory use:

- IEC 61010-1, EN 61010-1
- UL 61010-1, CSA 61010-1



**Note** For UL and other safety certifications, refer to the product label or the [Online Product Certification](#) section.

## Electromagnetic Compatibility

The NI 78xxR is designed to meet the requirements of the following standards of EMC for electrical equipment for measurement, control, and laboratory use:

- EN 61326 (IEC 61326): Class A emissions;  
Basic immunity
- EN 55011 (CISPR 11): Group 1, Class A emissions
- AS/NZS CISPR 11: Group 1, Class A emissions
- FCC 47 CFR Part 15B: Class A emissions
- ICES-001: Class A emissions



**Note** For the standards applied to assess the EMC of this product, refer to the [Online Product Certification](#) section.



**Note** For EMC compliance, operate this device with shielded cabling.

## CE Compliance

This product meets the essential requirements of applicable European Directives as follows:

- 2006/95/EC; Low-Voltage Directive (safety)
- 2004/108/EC; Electromagnetic Compatibility Directive (EMC)



## Online Product Certification

Refer to the product Declaration of Conformity (DoC) for additional regulatory compliance information. To obtain product certifications and the DoC for this product, visit [ni.com/certification](http://ni.com/certification), search by model number or product line, and click the appropriate link in the Certification column.

## Environmental Management

NI is committed to designing and manufacturing products in an environmentally responsible manner. NI recognizes that eliminating certain hazardous substances from our products is beneficial to the environment and to NI customers.

For additional environmental information, refer to the *NI and the Environment* Web page at [ni.com/environment](http://ni.com/environment). This page contains the environmental regulations and directives with which NI complies, as well as other environmental information not included in this document.

## Waste Electrical and Electronic Equipment (WEEE)



**EU Customers** At the end of their life cycle, all products *must* be sent to a WEEE recycling center. For more information about WEEE recycling centers and National Instruments WEEE initiatives, visit [ni.com/environment/weee.htm](http://ni.com/environment/weee.htm).

## 电子信息产品污染控制管理办法（中国 RoHS）



**中国客户** National Instruments 符合中国电子信息产品中限制使用某些有害物质指令 (RoHS)。关于 National Instruments 中国 RoHS 合规性信息, 请登录 [ni.com/environment/rohs\\_china](http://ni.com/environment/rohs_china)。(For information about China RoHS compliance, go to [ni.com/environment/rohs\\_china](http://ni.com/environment/rohs_china).)

# Device Pinouts

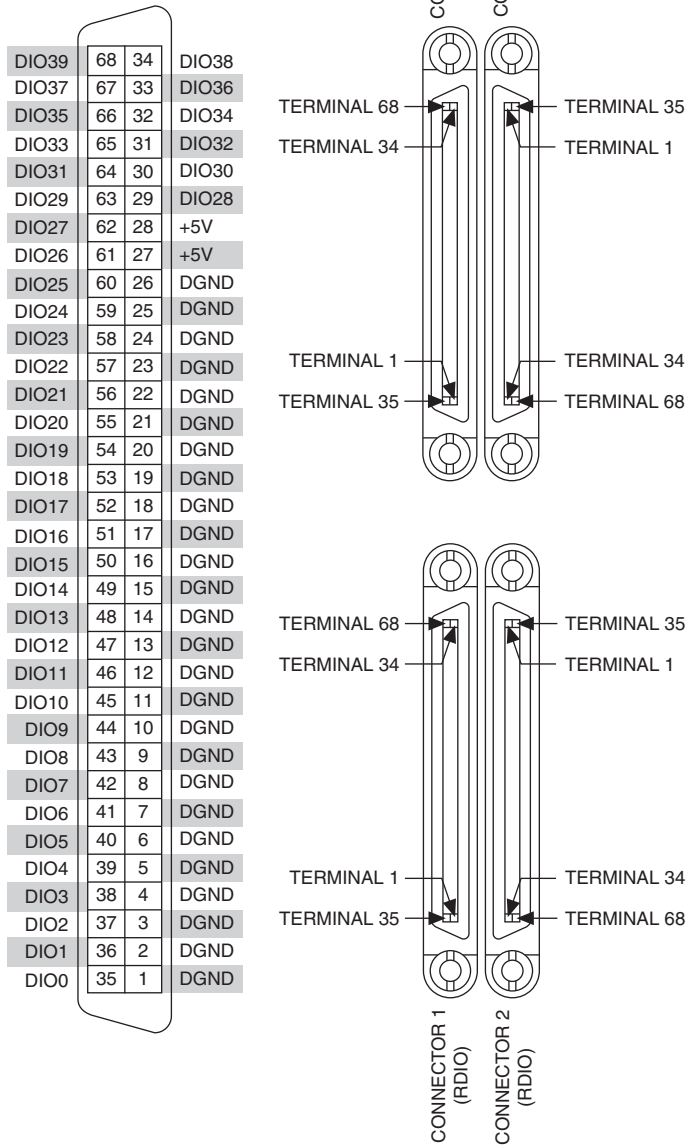
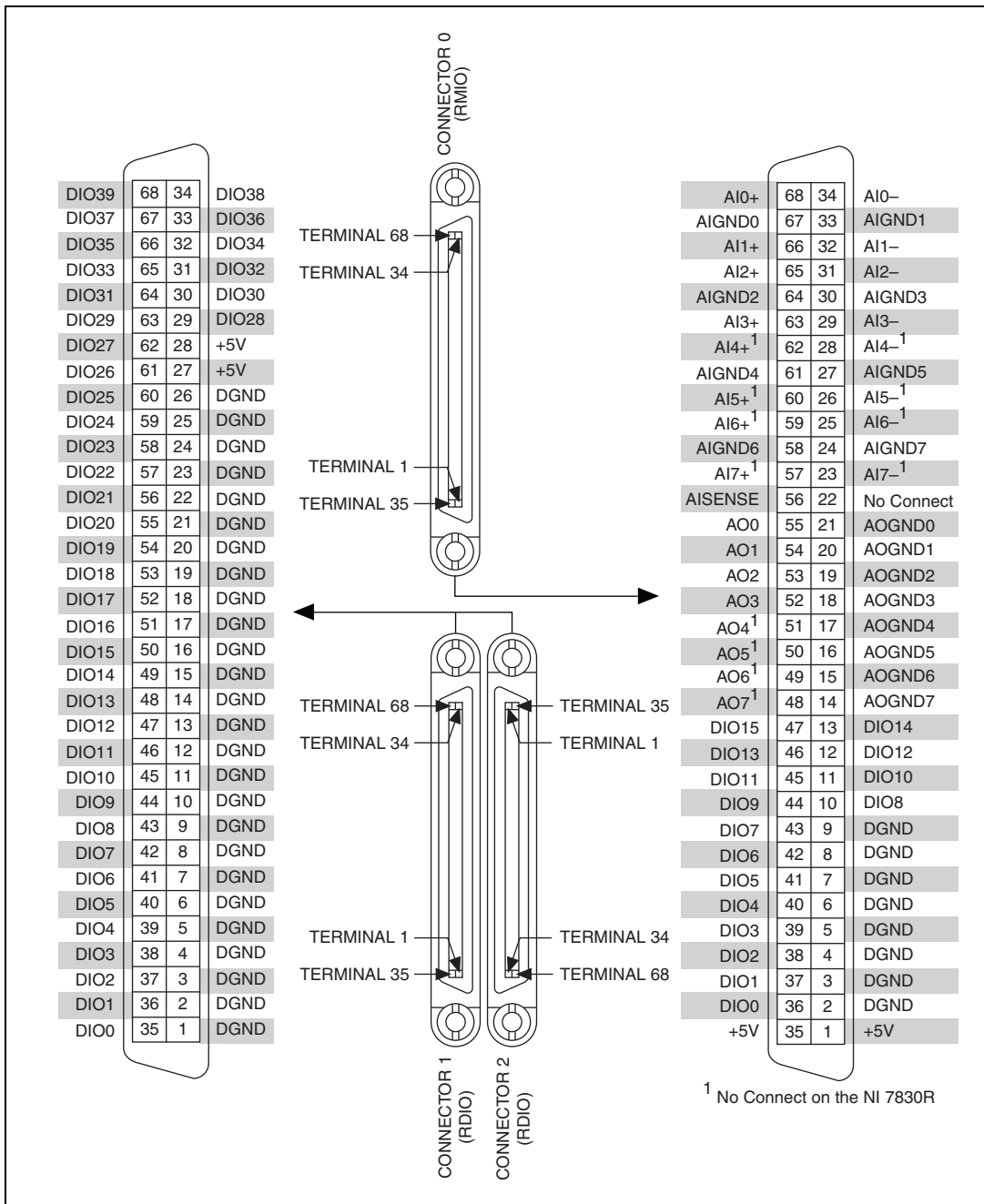


Figure 1. NI 781xR Connector Pin Assignments and Locations



**Figure 2.** NI 783xR/784xR/785xR Connector Pin Assignments and Locations

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