# **TYPE EXAMINATION CERTIFICATE**



#### [2] Equipment or Protective System intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU Type Examination Certificate Number: DEMKO 12 ATEX 1202658X Rev. 32 [3] Product: Process Control and Measurement Equipment, Compact RIO Modules and Chassis Types [4] cRIO-XXXX, cDAQ-XXXX and NI cRIO-XXXX Manufacturer: National Instruments Corporation [5] Address: 11500 N. Mopac Expressway, Austin, TX 78759 USA [6] [7] This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to. [8] UL International Demko A/S certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014. The examination and test results are recorded in confidential report no 4790166392.1.1. [9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with: EN IEC 60079-0:2018 EN 60079-15:2010 except in respect of those requirements listed at item 18 of the Schedule. [10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate. [11]

- [11] This Type examination certificate relates only to the design of the specified product, and not to specific items of product subsequently manufactured.
- [12] The marking of the product shall include the following:





Certification Body UL International Demko A/S, Borupvang 5A, 2750 Ballerup, Denmark Tel. +45 44 85 65 65, <u>info.dk@ul.com</u>, <u>www.ul.com</u>



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#### [15] <u>Description of Product:</u>

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Models NI 9381 with DSUB, NI 9220, NI 9220 with DSUB, NI 9242, NI 9244, NI 9238, cRIO-9074XT, cDAQ-9138, cDAQ-9139, NI 9154, NI 9155, NI cDAQ-9181, NI cDAQ-9184, NI cDAQ-9188, cDAQ-9188XT, cRIO-9068, cRIO-9066, cRIO-9067, cRIO-9149, NI 9212, NI TB 9212, NI 9218 with DSUB, cDAQ-9132, cDAQ-9134, cRIO-9030, cRIO-9031, cRIO-9033, cRIO-9034, NI 9860, NI 9222 with BNC, NI 9223 with BNC, NI 9503, NI-XNET CAN HS/FD, NI-XNET CAN HS, NI-XNET LIN, NI-XNET CAN LS, NI-XNET CAN SW, NI-XNET CAN FD+PN, NI 9260 with BNC, NI 9260 miniXLR, cRIO-9035, cRIO-9036, cRIO-9038, cRIO-9039, cDAQ-9133, cDAQ-9135, NI 9997, NI 9218, NI 9344, NI 9209 w/ DSUB, NI 9216, NI 9226, NI 9230, cRIO-9063, cRIO-9032, cRIO-9065, NI 9147, NI 9361, NI 9216 with DSUB, NI 9226 with DSUB, CDAQ-9136, CDAQ-9137, NI 9970, NI 9251 with mini XLR, cRIO-9032, cRIO-9032, cRIO-9037, NI 9230 with BNC, and NI 9232 with BNC, cDAQ-9171, TRC-8542, TRC-8543, TRC-8546, NI 9207, NI 9208, NI 9209, 9210 with mini TC, NI 9775, NI 9266, NI 9250 w/BNC, NI 9145, NI 9224, NI 9228, cDAQ-9185, cDAQ-9185, cDAQ-9189, NI 9202, cRIO-9045, cRIO-9048, cRIO-9049, RI 9350, and NI 9351, NI 9262 with DSUB, cRIO-9040, cRIO-9042, cRIO-9045, cRIO-9045, cRIO-9047, cRIO-9048, cRIO-9049, NI 9350, and NI 9351, NI 9260, NI 9260, cRIO-9040, cRIO-9045, RIO-9045, cRIO-9045, cRIO-9055, cRIO-9055, cRIO-9

The cRIO and cDAQ series models may be referenced as XXXX or NI XXXX or cRIO-XXXX or cDAQ-XXXX or NI cRIO-XXXX, where XXXX represents the model number.

The models with DSUB may be referenced as "w/ DSUB", or "with DSUB". The models with BNC may be referenced as "w/ BNC" or "with BNC".

The units comprise a measurement system for industrial process applications. The system consists of a maximum of 14 slot active chassis. Models NI 9381 with DSUB are 20-channel 0-5V MIO modules. Models NI 9220 and NI 9220 with DSUB are 16 channel analog input modules. Model cRIO-9074XT is an 8-slot integrated chassis and controller. Models NI 9154 and NI 9155 are 8-slot integrated chassis and controllers with field programmable gate array (FPGA). Models cDAQ-9138 and cDAQ-9139 are integrated chassis and controllers. Model cDAQ-9188XT is an eight slot Ethernet backplane and model cRIO-9068 is an eight-slot chassis with integrated controller.

Model NI 9260 with BNC and NI 9260 miniXLR are 2 channel analog voltage output modules. Models cRIO-9035, cRIO-9036, cRIO-9038 and cRIO-9039 are 8-slot integrated chassis and controller. Models cDAQ-9133 and cDAQ-99135 are 8-slot standalone chassis. Model NI 9997 is a 2-channel bus bar module and model NI 9218 is a 2 channel IO module. Model NI 9344 is a switch LED module

Models cRIO-9063, cRIO-9064, cRIO-9065 and NI 9147 are 4-slot chassis with integrated controller. Model NI 9361 is an 8-Channel Differential Counter Input Module with 30V input max.

Model NI 9770 is an RF module with a 50Ω RF input.

Model NI 9251 with mini XLR is a 2-channel, 24-bit differential analog input module.

cRIO-9032 and cRIO-9037 are performance controller that has four slots and eight slots respectively for C Series I/O modules to provide a high-performance control and monitoring system capable of surviving the harshest environments. The controller features a dual power supply and a variety of connectivity options including two Gigabit Ethernet, two USB Hi-Speed host, one USB device, and two serial ports.

The NI 9230 and NI 9230 with BNC are 3-channel C Series dynamic signal acquisition module for making industrial measurements from integrated electronic piezoelectric (IEPE) and non-IEPE sensors with CompactDAQ or CompactRIO systems.

The NI 9232 with BNC is a 3-channel C Series dynamic signal acquisition module for making industrial measurements from integrated electronic piezoelectric (IEPE) and non-IEPE sensors with CompactDAQ or CompactRIO systems.

The NI 9212 is a channel-to-channel isolated thermocouple input module for NI CompactDAQ and NI CompactRIO chassis and controllers. The NI 9212 channel-to-channel isolation protects channels from continuous voltages up to 250 Vrms and transient (withstand) voltages up to 1500 Vrms. The NI 9212, with the NI TB-9212 provides accuracies similar to the NI 9214, eliminating the need to choose between channel-to-channel isolation and accuracy.

Models TRC-8542 is a communication 1-port transceiver cable, 5Vdc, 60Vdc CAT O Channel to Earth isolation, (5000 m Altitude); and is similar to NI-XNET CAN HS/FD., TRC-8543 is a communication 1-port PXI software-selectable/FD cable, 5Vdc, 60Vdc CAT O Channel to Earth isolation, (5000 m Altitude); and is similar NI-XNET CAN HS/FD., and TRC-8546 is a communication 1-port transceiver cable LIN, 5Vdc, 60Vdc CAT O Channel to Earth isolation, (5000 m Altitude); and is similar NI-XNET CAN HS/FD., and TRC-8546 is a communication 1-port transceiver cable LIN, 5Vdc, 60Vdc CAT O Channel to Earth isolation, (5000 m Altitude); and is similar to NI-XNET LIN. are an interface for connecting to and communicating with I2C and SPI devices.

Model cDAQ-9171 is a USB based cDAQ carrier. Model cDAQ-9171 is a bus-powered, 1-slot NI CompactDAQ USB chassis designed for small, portable sensor measurement systems. Combine the cDAQ-9171 and one of the over 50 NI C Series measurement-specific modules to create an analog output, digital I/O, or counter/timer measurement system.

Model NI 9207 combination voltage and current input C Series module has eight channels of  $\pm 21.5$  mA input and eight channels of  $\pm 10$  V input with built-in 50/60 Hz rejection for noise rejection, with 250V CAT II Channel to Earth Isolation up to 5000 m.

Model NI 9208 is a C Series Current Input Module has 16 channels of  $\pm 21$  mA input with built-in 50/60 Hz rejection for noise rejection, with 250V CAT II Channel to Earth Isolation up to 4000 m.

Model NI 9209 and NI 9209 w/ DSUB are voltage input C Series modules that have 16 differential channels of ±10 V that can be configured as 32 single-ended channels of ±10 V input with built-in 50/60 Hz rejection for noise rejection, with 250V CAT II Channel to Earth Isolation up to 5000 m for the NI 9209 and 60 VDC CAT I Channel to Earth Isolation up to 5000 m for the NI 9209 w/ DSUB.

Model NI 9210 with Mini TC is a 4 Channel C Series Temperature Input Model for use with CompactDAQ and CompactRIO chassis includes a 24-bit delta-sigma analog-to-digital converter, anti-aliasing filters, open-thermocouple detection, and cold-junction compensation for high-accuracy thermocouple measurements, with 60 VDC CAT I Channel to Earth Isolation up to 5000 m.

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- Model NI 9775 is a 4 channel, 20 MS/s, 14 Bit Digitizer C Series Module.
- Model 9266 is an 8 channel analog output module.
- Model 9145 is an 8 slot Ethernet expansion chassis.
- Model 9250 with BNC is 2 channel AI module, 24 bit.
- Model 9224 is 8 channel AI module.
- Model 9228 is 8 channel Al module, 24 bit.
- Model cDAQ-9188 is an eight slot Ethernet backplane.
- Model cDAQ-9184 is a four slot Ethernet backplane.
- Model cDAQ-9181 is an Ethernet carrier that accepts one measurement module.
- Model cDAQ-9191 is a wireless carrier that accepts one measurement module.
- 9425 32 channel DI module, sinking inputs.
- 9476 32 channel DO module, sourcing outputs.
- 9266 with DSUB 8 channel AO module.
- cDAQ-9185 Four slot Ethernet Chassis.
- cDAQ-9189 Eight slot Ethernet Chassis.
- 9202 16 channel AI module.
- 9045 Embedded CompactRIO Controller with 1.3 GHz dual core Real-Time Processor and Reconfigurable FPGA.
- 9046 Embedded CompactRIO Controller with 1.3 GHz dual core Real-Time Processor and Reconfigurable FPGA.
- 9047 Embedded CompactRIO Controller with 1.6 GHz quad core Real-Time Processor and Reconfigurable FPGA.
- 9048 Embedded CompactRIO Controller with 1.3 GHz dual core Real-Time Processor and Reconfigurable FPGA
- 9049 Embedded CompactRIO Controller with 1.6 GHz quad core Real-Time Processor and Reconfigurable FPGA.
- 9350 8-Ch Digital Input/Output, SIL2 Module.
- 9351 4-Ch Digital Input/Output, 4-Ch AI, SIL2 Module.

Accessory: NI TB-9212 with mini TC.

The NI TB-9212 with mini TC is the same as NI TB-9212 except with mini thermocouple connectors and both must be used with the module NI 9212.

- 9262 with DSUB 6 channel AO module.
- 9351 4-Ch Digital Input/Output, 4-Ch Al, SIL2 Module.
- 9202 with DSUB 16 channel AI module.
- 9040 Embedded CompactRIO Controller with Reconfigurable FPGA.
- 9041 Embedded CompactRIO Controller with Reconfigurable FPGA.
- 9042, 9043 Embedded CompactRIO Controller with Reconfigurable FPGA.

NI 9210 is a 4 Channel C Series Temperature Input Model for use with CompactDAQ and CompactRIO chassis includes a 24-bit deltasigma analog-to-digital converter, anti-aliasing filters, open-thermocouple detection, and cold-junction compensation for high-accuracy thermocouple measurements, +/- 60 V, with 250 Vrms CAT II Ch-to-Earth.

Model NI 9231 with 10-32 coaxial jack is 8 channel AI modules.

Model NI 9803, solid state drive expansion module.

Model cRIO-9053 is a 1.33 GHz Dual-Core CPU, 1 GB DRAM, 2 GB Storage, Artix-7 50T FPGA, 4-Slot CompactRIO Controller.

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Model cRIO-9054 is a 1.33 GHz Dual-Core CPU, 2 GB DRAM, 4 GB Storage, Artix-7 100T FPGA, 4-Slot CompactRIO Controller.

Model cRIO-9055 is a 1.33 GHz Dual-Core CPU, 2 GB DRAM, 4 GB Storage, Artix-7 100T FPGA, Extended Temperature, 4-Slot CompactRIO Controller.

Model cRIO-9056 1.33 GHz Dual-Core CPU, 1 GB DRAM, 2 GB Storage, Artix-7 75T FPGA, 8-Slot CompactRIO Controller.

Model cRIO-9057 1.33 GHz Dual-Core CPU, 2 GB DRAM, 4 GB Storage, Artix-7 100T FPGA, 8-Slot CompactRIO Controller.

Model cRIO-9058 1.33 GHz Dual-Core CPU, 2 GB DRAM, 4 GB Storage, Artix-7 100T FPGA, Extended Temperature, 8-Slot CompactRIO Controller.

Models NI 9253, NI 9252 DSUB and NI 9252 are 8 channel analog input modules

Model NI 9805 is a 4-port 802.1AS Ethernet Switch module.

Model NI 9470 is an 8-Ch Variable Digital Output with Current Readback module.

Model NI 9326 is a 6-Ch Zero Crossing C-Series Frequency Input Module.

The optical radiation output of the product with respect to explosion protection, according to Annex II clause 1.3.1 of the Directive 2014/34/EU is covered in this certificate based on Exception 1) to the scope of EN 60079-28:2015.

Model Nos.	Protection Method Employed
Model Nos.   NI 9381 with DSUB, NI 9220, NI 9220 with DSUB, NI 9242, NI 9244, NI 9238, cRIO- 9074XT, cDAQ-9138, cDAQ-9139, NI 9154, NI 9155, cDAQ-9188XT, cRIO-9068, cRIO- 9066, cRIO-9067, cRIO-9149, NI 9212, NI TB 9212, NI 9218 with DSUB, cDAQ-9132, cDAQ-9134, cRIO-9030, cRIO-9031, cRIO-9033, cRIO-9034, NI 9860, NI 9222 with BNC, NI 9223 with BNC, NI 9503, NI-XNET CAN HS/FD, NI-XNET CAN HS, NI-XNET LIN, NI-XNET CAN LS, NI-XNET CAN SW, NI-XNET CAN HS/FD, NI-200 with BNC, NI 9260 miniXLR, cRIO-9035, cRIO-9036, cRIO-9038, cRIO-9039, cDAQ-9133, cDAQ- 9135, NI 9997, NI 9218, NI 9344, NI 9209 w/ DSUB, NI 9216, NI 9226, NI 9230, cRIO- 9063, cRIO-9064, cRIO-9065, NI 9147, NI 9361 NI 9216 w/DSUB, NI 9226 w/DSUB, cDAQ-9136, cDAQ-9137, NI 9770, NI 9251 with mini XLR cRIO-9032, cRIO-9037, NI 9230 with BNC, NI 9232 with BNC, TB 9212 with mini TC, cDAQ-9171, TRC-8542, TRC- 8543, TRC-8546, NI 9207, NI 9208, NI 9209, NI 9210 with mini TC, NI 9775, NI 9266, NI 9224, NI 9228, NI 9250 w/ BNC, NI 9145, cDAQ-9191, NI 9266 w/DSUB, cDAQ-9185, cDAQ-9189, NI 9202, NI 9425, NI 9476, cRIO-9045, cRIO-9047, cRIO-9048, cRIO-9049, NI 9350 NI 9351 NI 9262 with DSUB, cRIO-9045, cRIO-9047, cRIO-9049, RIO-9049, NI 9210 with 9202, NI 9203 with 9202, NI 9203 with 9200, NI 9210 with mini TC, NI 9775, NI 9266, NI 9224, NI 9228, NI 9250 w/ BNC, NI 9145, cDAQ-9191, NI 9266 w/DSUB, cDAQ-9185, cDAQ-9189, NI 9202, NI 9425, NI 9476, cRIO-9045, cRIO-9047, cRIO-9048, cRIO-9049,	Protection Method Employed Ex nA IIC T4 Gc
cDAQ-9189, NI 9202, NI 9425, NI 9476, cRIO-9045, cRIO-9047, cRIO-9048, cRIO-9049, NI 9350, NI 9351, NI 9262 with DSUB, cRIO-9040, cRIO-9042, cRIO-9043, NI 9202 with DSUB, NI 9210, cRIO-9041, cRIO-9046, cRIO-9040, cRIO-9045, cRIO-9045, cRIO-9047, cRIO-9048, NI 9202 with DSUB, NI 9210, cRIO-9041, cRIO-9046, cRIO-9040, cRIO-9047, cRIO-9048, NI 9202 with DSUB, NI 9210, cRIO-9041, cRIO-9046, cRIO-9040, cRIO-9047, cRIO-9048, cRIO-9048, cRIO-9049, cRIO-9048, cRIO-9049, cRIO-9048, cRIO-9048, cRIO-9049, cRIO-9048, cRIO-9048, cRIO-9049, cRIO-9048, cRIO-9049, cRIO-9048, cRIO-9048, cRIO-9049, cRIO-9048, cRIO-9054, cRIO-9048, cRIO-9054, cRIO-9054, cRIO-9054, cRIO-9048, cRIO-9048, cRIO-9048, cRIO-9054, cRIO-9048, cRIO-9	
DSUB, NI 9210, cRIO-9041, cRIO-9046, cRIO-9053, cRIO-9054, cRIO-9055, cRIO- 9056, cRIO-9057, cRIO-9058, NI 9253 and NI 9252, NI 9252 DSUB, NI 9805, NI 9470,	
anu Ni 9320.	

Temperature range

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The relation between ambient temperature and the assigned temperature class is as follows:

Ambient temperature range	Temperature class
-40°C to +70°C	T4
0°C to +55°C	T4
-20°C to +55°C	T4



Electrical data

Model	Electrical Ratings	Ambient Temperature Range
cRIO-9074XT	19-30Vdc, 20 Watts	-40°C to +70°C
NI 9381 with DSUB	0-5V Working Voltage	-40°C to +70°C
	± 10V Working Voltage	-40°C to +70°C
NI 9220	250V CAT II Channel to Earth Iso, 2000m Altitude	
	60 VDC CAT I, Channel to Earth Iso, 5000 m Altitude	
NI 9220 with DSUB	± 10V Working Voltage	-40°C to +70°C
	60 VDC CAT I, Channel to Earth Iso, 5000 m Altitude	
NI 9154, NI 9155	9-30Vdc, 25W	
cDAQ-9138 and	9-30VDC, 75W, 60Vdc CAT I, RS-485 to Earth	0°C to +55°C
cBIO-9068	19-30V/dc 25 Watts	40°C to +70°C
	9-30Vdc, 25W/ 5000 m Altitude	$-40 \ C \ 10 \ +70 \ C$
cDAQ-9184	9-30Vdc, 15W, 5000 m Altitude	20°C to +55°C
	9-30Vdc, 15W, 5000 m Altitude	-20°C to +55°C
CDAQ-9100	9-30 Vdc, 15 W/ max	$-40^{\circ}$ C to $+70^{\circ}$ C
CDAQ-9100A1	250 V/ Working Voltage 250 V/ CAT III Channel to Earth	$-40^{\circ}$ C to $+70^{\circ}$ C
NI 9242	$\leq$ 5000 m Altitude	
	400 Vrms L-N, 800 Vrms L-L Working Voltage, 400 V	-40°C to +70°C
NI 9244	CAT III Channel to Earth ≤ 2000 m Altitude, 400 V CAT	
	II or 300 V CAT III Channel to Earth ≤ 5000 m Altitude	
	0.5 Vdc Channel to Earth and Channel to Channel ≤	-40°C to +70°C
NI 9238	2000 m Altitude, 60 V CAT I Channel to Earth and	
	Channel to Channel ≤ 5000 m Altitude	
cRIO-9066, cRIO-9067	9-30V, 25W	-20°C to +55°C
cRIO-9149	9-30V, 19W	-40°C to +70°C
NI 9212, NI TB 9212,	±78.125mV	-40°C to +70°C
	60Vdc CAT I Ch-to-earth 60Vdc CAT I Ch-to-ch	
	16V/dc ipput: 9-30V/dc/1.8W/ipput 60V/ CAT LCb-to-earth	40°C to +70°C
NI 9218 with DSUB	Ch-to-Ch Altitude 5000 m	-40 C 10 +70 C
cDAQ-9134	9-30V dc. 40W max. Altitude 5000 m	-40°C to +70°C
cDAQ-9132, cDAQ-		-20°C to +55°C
9136	9-30V dc, 40W max, Altitude 5000 m	
cRIO-9031, cRIO-	9-30V dc, 40W man	-40°C to +70°C
9033	CAT I RS-485-to-earth	
cRIO-9030, cRIO-	9-30V dc, 40W man	-20°C to +55°C
9032, cRIO-9034	CAT I RS-485-to-earth	
NI 9860	9-30Vdc, 1.6W	-40°C to +70°C
NI 9222 WITH BINC, NI	$\pm 10V$	-40°C to +70°C
9223 WILLI DINC	00 VDC CATT CI-to-GIG, CI-to-CI	40°C to +70°C
NI-XNET CAN HS/ED		-40  C to  +70  C
NI-XNET CAN HS NI-		-40 C 10 +70 C
XNET LIN, NI-XNET		
CAN LS, NI-XNET	5Vdc, 60Vdc CATT Channel to Earth	
CAN SW, NI-XNET		
CAN FD+PN		
NI 9260 with BNC,	±3Vrms output. 7mA ≤ 5000 m Altitude	-40°C to +70°C
NI 9260 miniXLR		
NI 9997	300V CAT II Channel to Channel, Channel to Earth, 11A	-40°C to +70°C
Ni 0344	$\leq$ 500011	10°C to +70°C
111 9344	$30$ /dc //cup lineut $60$ /dc CAT / Channel to Earth $\leq$	-40 C to +70 C
NI 9218	5000 m Altitude	-40°C 10 +70°C
cRIO-9036 cRIO-	9-30Vdc 46W 60Vdc CAT O RS485 to Farth < 5000 m	-40°C to +70°C
9038	Altitude	
cRIO-9035, cRIO-	9-30Vdc, 46W, 60Vdc CAT O, RS485 to Earth ≤ 5000 m	-20°C to +55°C
9037, cRIO-9039	Altitude	
cDAQ-9135	9-30Vdc, 46W ≤ 5000 m Altitude	-40°C to +70°C
cDAQ-9133, cDAQ-	9-30/dc 46W < 5000 m Altitude	-20°C to +55°C
9137		
NI 9209 w/ DSUB	60V CAT I Ch-to-Earth	-40°C to +70°C



[13] [14]

Model	Electrical Ratings	Ambient Temperature Range
NI 9216, NI 9226, NI	± 30V Working Voltage, 60V CAT I Channel to Earth,	-40°C to +70°C
9216 w/DSUB, NI 9226	1000V Withstand ≤ 3000m Altitude; 860V Withstand ≤	
w/DSUB	5000 m Altitude	
NI 9230, NI 9230 with BNC, NI 9232 with	± 30 V Working Voltage, 60 Vdc CAT I Channel to Earth	-40°C to +70°C
	9 30)/dc 18)// Altitudo 5000 m	10°C to +70°C
0062 000	9-30Vdc, 18W, Allitude 5000 m	$-40^{\circ}$ C to $+70^{\circ}$ C
CRIU-9003, CRIU-9004	9-30Vdc, 16VV, Allitude 5000 m	$-20^{\circ}$ C to $+35^{\circ}$ C
111 9147	30/dc 60/dc CAT L Channel to Earth Voun to Earth <	$-40 \ C \ 10 + 70 \ C$
NI 9361	Altitude 5000 m	-40 C 10 +70 C
NI 9770	30 kHz – 100 MHz 50Ω RF Input	-40°C to +70°C
NI 9251 with mini XLR	3Vrms, ≤5000 m Altitude	-40°C to +70°C
cDAQ-9171	5 Vdc, 500mA Max. (USB); CAT O "Non-Isolated", 5000 m Altitude	-20°C to +55°C
TRC-8542, TRC-8543, and TRC-8546	5 Vdc; 60Vdc CAT O Ch-to-grd, 5000 m Altitude	-40°C to +70°C
NI 9207	± 10Vdc Measurement Voltage, +/- 21.5mA Measurement Current, ± 30 V Working Voltage, 250 Vrms CAT II Channel to Earth ≤ 5000 m Altitude	-40°C to +70°C
NI 9208	± 21.5mA Measurement Current, +/- 30 V Working Voltage, 250 Vrms CAT II Channel to Earth ≤ 4000m Altitude	-40°C to +70°C
NI 9209	± 10 Vdc Measurement Voltage, +/- 30 V Working Voltage, 250 Vrms CAT II Channel to Earth ≤ 5000 m Altitude	-40°C to +70°C
NI 9210 with Mini TC	± 80mVdc Measurement Voltage, +/- 30 V Working Voltage, 60 Vdc CAT O Channel to Earth ≤ 5000 m Altitude	-40°C to +70°C
NI 9775	± 10 Vdc Measurement Voltage, +/- 30 V Working Voltage, Non-Isolated Module ≤ 5000 m Altitude	-40°C to +70°C
NI 9266	0-20mA, 36 VDC working voltage, with 250Vrms CAT II isolation Channel to Earth	-40°C to +70°C
NI 9224	± 10V, 60 VDC isolation Channel to Channel and Channel to Ground, up to 5000 m	-40°C to +70°C
NI 9228	± 60 VDC continuous, and isolated Channel to Channel and Channel to Ground, up to 5000 m	-40°C to +70°C
NI 9250 with BNC	± 5V input, +/- 30V overvoltage, 5000 m Altitude	-40°C to +70°C
NI 9145	9-30 Vdc, 16 W, 5000 m Altitude	-40°C to +70°C
cDAQ-9191	9-30 Vdc, 6W max	0°C to +55°C
NI 9266 with DSUB	60 VDC Channel to Earth, CAT I, 1000 Vrms withstand.	-40°C to +70°C
cDAQ-9185, cDAQ- 9189	9-30 VDC, 16 W	-40°C to +70°C
NI 9202	± 10V, 250 Vrms CAT II Channel to Earth, 5000 m Altitude	-40°C to +70°C
cRIO-9046, cRIO- 9047, cRIO-9048	9-30 Vdc, 60W	-40°C to +70°C
cRIO-9045, cRIO-9049	9-30 Vdc, 60W	-20°C to +55°C
NI 9350	30 VDC max on DIO, 60 VDC Channel to Earth, CAT I, 5000 m Altitude	-40°C to +70°C
NI 9351	30 VDC max on DIO, Al-to-COM 20 VDC maximum, 60 VDC Channel to Earth, CAT I, 5000 m Altitude	-40°C to +70°C
NI 9425	30 V Working Voltage 250 Vrms Channel to Earth	-40°C to +70°C
NI 9476	36 Vdc Working Voltage 0.25 A per Channel 250 Vrms Channel to Earth	-40°C to +70°C
NI 9262 with DSUB	60Vdc CAT I (O) Channel to Earth Iso	-40°C to +70°C
NI 9210	250 V RMS, +/- 80mV Measurement Voltage, +/- 1.5V Channel to COM, 250V CAT II Channel to Earth ≤ 5000 m Altitude	-40°C to +70°C
NI 9202 with DSUB	60 Vdc, 16 channel Al module, 60Vdc CAT O Channel to Earth	-40°C to +70°C
cRIO-9041, -9042, and -9043	9–30 Vdc, 60 W maximum power consumption	-40°C to +70°C
cRIO-9040	9–30 Vdc, 60 W maximum power consumption	-20°C to +55°C



[13] [14]

Model	Electrical Ratings	Ambient Temperature Range
NI 9231	±5V, 24 Bit Analog Input, 5000 m Altitude	-40°C to +70°C
NI 9803	4.5W max, 900 mA @ 5V	-40°C to +70°C
cRIO-9053	9-30VDC, 30W Maximum	-20°C to +55°C
cRIO-9054	9-30VDC, 30W Maximum	-20°C to +55°C
cRIO-9055	9-30VDC, 30W Maximum	-40°C to +70°C
cRIO-9056	9-30VDC, 30W Maximum	-20°C to +55°C
cRIO-9057	9-30VDC, 30W Maximum	-20°C to +55°C
cRIO-9058	9-30VDC, 30W Maximum	-40°C to +70°C
NI 9252	±10 V 24-but simultaneous analog input. 250 Vrms CAT II Channel to Earth 60 VDC CAT O Ch-to-earth	-40°C to +70°C
NI 9252 DSUB	±10 V 24-but simultaneous analog input. 250 Vrms CAT II Channel to Earth 60 VDC CAT O Ch-to-earth	-40°C to +70°C
NI 9253	±20 mA 24-bit simultaneous analog input 250 Vrms CAT II Ch-to-Earth Isolation	-40°C to +70°C
NI 9805	9-30V, 5W, CAT I	-40°C to +70°C
NI 9470	5-30V Vsup-to-COM, 15A max. Output: 3A/ Two channels; 1.6A/All Channels	-40°C to +70°C
NI 9326	150Vrms, 128kHz , CAT I Ch-Ch/ Ch-Earth isolation, 5000m, 0.89 W Maximum	-40°C to +70°C

Routine tests:

Routine tests are not required.

#### [16] **Descriptive Documents**

The scheduled drawings are listed in the report no. provided under item no. [8] on page 1 of this Type Examination Certificate.

#### Special Conditions of Use: [17]

- (For all models except NI 9770) You must make sure that transient disturbances do not exceed 140% of the rated voltage.
- The system shall be mounted in an ATEX certified enclosure with a minimum ingress protection of at least IP54 as defined in EN 60079-15.
- The system shall only be used in an area of not more than Pollution Degree 2, as defined in EN 60664-1.
- The enclosure must have a door or cover accessible only by the use of a tool.

#### [18]

NATIONAL **INSTRUMENTS** 

Essential Health and Safety Requirements In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9.



will be used as the company identifier on the marking label.

