

# Piezoelectric Drivers

NDR6210 Single Channel Dynamic Driver

NDR6220 Single Channel Dynamic Driver

## Features

- Fast linear low noise driver
- Galvanic separation of the output
- Adjustable input range and phase inversion
- Adjustable output range
- 4 predefined cut off frequencies
- G class design with higher efficiency so less warming
- Soft startup
- Adjustable output voltage limiters
- Actuator discharge circuit
- Switch off timer



## Description

NDR6210 and NDR6220 are single channel dynamic piezoelectric drivers. Both piezoelectric drivers have adjustable output range and can supply actuators with capacity up to 100  $\mu$ F. The output voltage range is from -60 to +300 V or  $\pm$  180 V depending on the piezoelectric component type. The drivers NDR6210 and NDR6220 are designed to work as static and dynamic power supply.

There are also DC versions of these drivers – see [ctscorp.com](http://ctscorp.com) for more information.

## Standard Product or Custom Solution

This document contains information about the piezoelectric driver NDR6210 and NDR6220. All the CTS multilayer products can be custom designed to match specific requirements – find more information on [www.ctscorp.com](http://www.ctscorp.com).

Parameters	Typical Value	Unit	Remark
<b>NDR6210</b>			
Maximal Power	25	W	
Output Voltage	-60 ÷ +300 -180 ÷ +180	V	Settable from the panel
Maximum Current Amplitude	0.45	A	
Peak Current	1	A	<0.5 ms impulse, 10 ms period
<b>NDR6220</b>			
Maximal Power	55	W	
Output Voltage	-60 ÷ +300 -180 ÷ +180	V	Settable from the panel
Maximum Current Amplitude	1	A	Ambient temperature less than 22 °C
Peak Current	2	A	<0.5 ms impulse, 10 ms period

**NDR62 series parameters**

Parameter	Typical Value	Unit	Remark
Power Supply <sup>1</sup>	230 V / 50 Hz or 115 V / 60 Hz	V	Two versions of the device
Voltage Limiters	-60 ÷ +300 -180 ÷ +180	V	Both – high limit and low limit
Output Voltage Distortion	5	%	
Maximal Capacitance Load	100	µF	
Frequency Range	0	Hz	
Low Frequency Limit			
High Frequency Limit - 2 DB	10	kHz	DC coupled, galvanically isolated

<b>Slew Rate</b>	10	V/ $\mu$ s	Limited by maximal power
<b>High Frequency Filter</b>	50 Hz, 500 Hz, 2500 Hz and 10 kHz	-	
<b>Offset Setting</b>	$\pm 100$	%	Settable from the panel
<b>Output Noise<sup>2</sup></b>	10	mV	
<b>Input voltage range<sup>3</sup></b>	0 $\div$ 10.0, 0 $\div$ 5.0, 0 $\div$ 2.5, 0 $\div$ 1.0	V	Typical RMS value, 1 $\mu$ F load
<b>Input impedance</b>	10	k $\Omega$	Settable from the panel
<b>Input connection</b>	BNC	-	
<b>Output connection</b>	4 pin LEMO	-	
<b>Measured values<sup>4</sup></b>	LCD display with 2 rows NDR6110-30+30	-	The output plug is FGG.0B.304.CLAD52Z

<sup>1</sup> Two front long purple rubber feet must be used!

<sup>2</sup> Input is shorted and output is set with the aid of offset into 0 V DC. Noise voltage RMS was measured in bandwidth 0  $\div$  300 kHz.

<sup>3</sup> Other input ranges on request.

<sup>4</sup> Current and temperature are only informative values.

## Environmental Parameters

<b>Temperature range</b>	+5 $\div$ +45	$^{\circ}$ C	
<b>Relative humidity</b>	max 80 % to 31 $^{\circ}$ C, max 50 % above 40 $^{\circ}$ C	%	
<b>Ingress protection</b>	IP20		When connectors are opened

## Mechanical Parameters

<b>Dimensions<sup>1</sup></b>	Width 105, height 6, depth 200	mm	
<b>Mass</b>	1.9	Kg	

<sup>1</sup> Dimensions are without purple rubber feet (foot overlap is about 5.5mm) and without connector(s) overlap.

Piezoelectric Drivers Product Families

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NDR6110 Single Channel Dynamic Driver  
NDR6110 OEM Single Channel Dynamic Board

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NDR6210 Single Channel Dynamic Driver  
NDR6220 Single Channel Dynamic Driver

NDR6210DC Single Channel Dynamic Driver  
NDR6220DC Single Channel Dynamic Driver

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NDR6880 Single Channel Dynamic Driver  
NDR6880-20A Single Channel Dynamic Driver

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NDR6881 Dual Channel Dynamic Driver  
NDR6881-20A Dual Channel Dynamic Driver

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Learn more about the different piezoelectric drivers on [www.ctscorp.com](http://www.ctscorp.com).