

TECH GUIDE Installation Projectors NEC NP4000/NP4001

Technical Features
and Innovations



Innovations for your success

NEC Display Solutions offers visual display solutions that are unequalled anywhere in the world.

As the interface between user and innovative technologies, visual display solutions play a crucial part in our daily life and business. This constitutes a challenge NEC Display Solutions meets in a unique way – with an unparalleled product portfolio of desktop and large screen LCDs, plasma displays and projectors as well as relentless quality standards and experience in all different kinds of sectors.

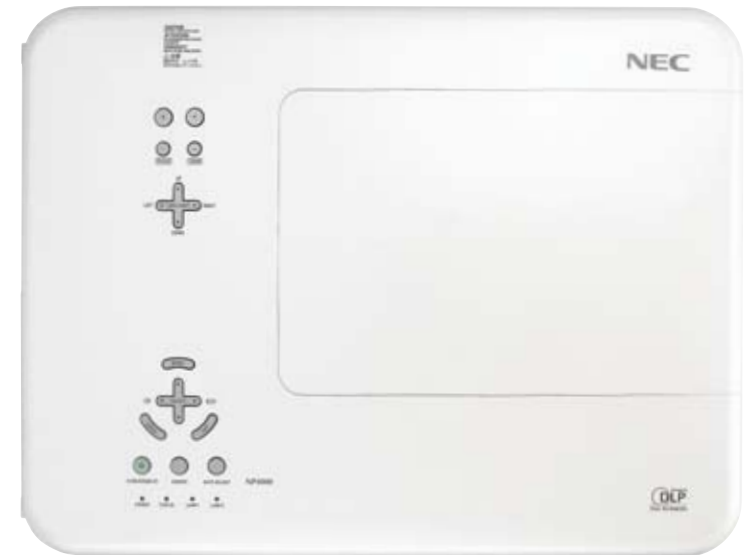
We open up new, pin-sharp ways of visualising the digital world – see more.

NEC NP4000/NP4001 Installation Projectors

The NEC NP4000 and NP4001 models with DLP® Technology are flagship products within the NEC Display Solution product portfolio.

The projectors impress with an overwhelming image quality, high reliability and superior installability. With their high brightness of 5,200 ANSI Lumens, thanks to a dual lamp system, and a contrast ratio of 2,100:1 using DynamicBlack™ Technology they can be operated very flexible and are appropriate especially for large venues. Two types of replaceable colour wheels (six-segment and four-segment wheel) together with Brilliant Color™ Technology project vivid and crisp-like images with saturated colours.

With the NP4000 and NP4001, NEC Displays Solutions is offering the market two professional installation projectors with outstanding technical features and a perfect performance even for **24/7 operations** for example in Digital Signage applications.



Advanced Technology for High Reliability



DLP™ Technology

DLP projectors from NEC Displays Solutions are characterised by their high contrast. At the heart of DLP (Digital Light Processing) technology is a microchip (DMD) with up to 2 million, tiny movable mirrors that can be oriented and tipped forwards individually. Up to a several thousand times per second.

DLP™ technology can really create black images and therefore has the highest contrast values. They are perfectly suited for long-term operation in Digital and Retail Signage Solutions, for education purposes in front of big audiences, in bars, restaurants or discotheques and even for home cinema applications.

Dual Lamp System

The flexible Dual Lamp System achieves high brightness up to 5,200 ANSI Lumens and a long lamp lifetime up to 5,000 hours – depending on the chosen lamp mode.

Dual lamp mode should be selected, when high brightness is required in large venues.

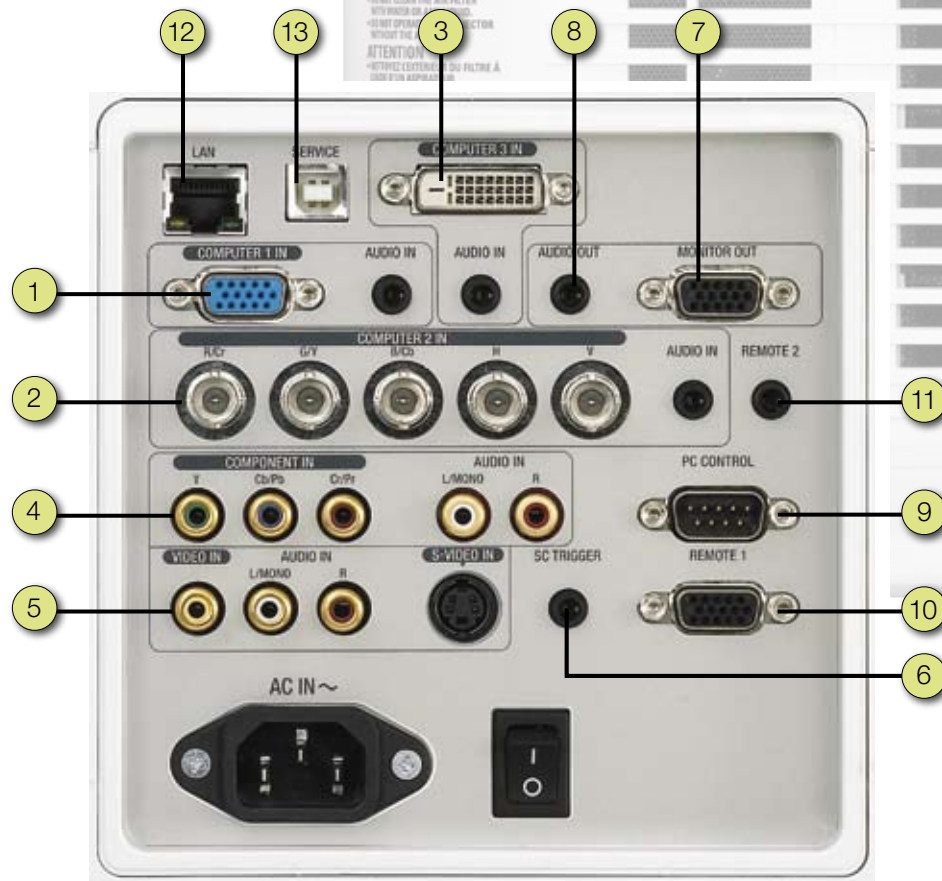
The single lamp mode is suitable for monitoring purposes, since the projector can be operated continuously by using the automatic lamp switching function. Eco mode function is available in both the dual lamp and the single lamp mode for extending the lifetime of the lamp.



Multiple Input/Output Terminals

The NEC NP4000 and NP4001 projectors confirm their professionalism by a remarkable connectivity supporting several different image sources.

The I/O Terminal Design includes analogue RGB, 5-core BNC, DVI-D (digital) incl. HDCP, video and S-video. The analogue RGB and BNC also support component inputs. For perfect audiovisual applications with high image and audio qualities 2 x 3 W stereo speakers are built in.



- 1 Computer 1 In / Audio In
- 2 Computer 2 In / Audio In
- 3 Computer 3 In (DVI-D with HDCP) / Audio In
- 4 Component In / Audio L/Mono, R
- 5 Video In / Audio L/Mono, R / S-Video In /
- 6 Screen Trigger Out
- 7 Monitor Out
- 8 Audio Out
- 9 PC Control Port
- 10 Remote 1 Port
- 11 Remote 2 Jack
- 12 LAN Port (RJ-45)
- 13 ((USB) Service Port

High Image Quality

NEC NP4000 and NP4001 installation projectors project vivid, crisp and natural images supported by their high brightness and contrast ratio. For colour critical applications BrilliantColor™ technology and two types of replaceable colour wheels stand out as special technical highlights.

DynamicBlack™ Technology

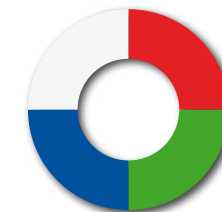
DynamicBlack™* dramatically improves black levels and offers incredible details in dark scenes. The black levels are adjusted dynamically using a fast responding iris in the optical system. Each video frame is analysed and the iris position is automatically adjusted to optimise the black level of the frame. With DynamicBlack™ technology the projectors reach a high contrast ratio of 2,100:1 for superior image display capability and a dramatic reduction of video noise without sacrifice to image detail.



* DynamicBlack™ only works in Dual lamp mode.

Replaceable Colour Wheels

The NP4000 and NP4001 installation projectors have two different types of colour wheels that can be changed easily by the user. In addition to the standard four-segment colour wheel (red, green, blue, white) a six-segment wheel with the colours red, green, blue, cyan, magenta and yellow is included free of charge. By adding cyan, magenta and yellow to the standard colours red, green and blue, colour reproducibility is improved and more natural tints are projected.



Four-segment Colour Wheel



Six-segment Colour Wheel

Remark: The colour wheel illustration is for display purposes only and differs from the actual product.

BrilliantColor™ Technology

BrilliantColor™ technology can dramatically increase system brightness and colour saturation at mid and low video levels. BrilliantColor™ with multi-colour processing together with the six-segment colour wheel significantly improves colour performance across the full colour gamut and results in superior reproducibility of neutral tints for vivid images by a high contrast ratio.



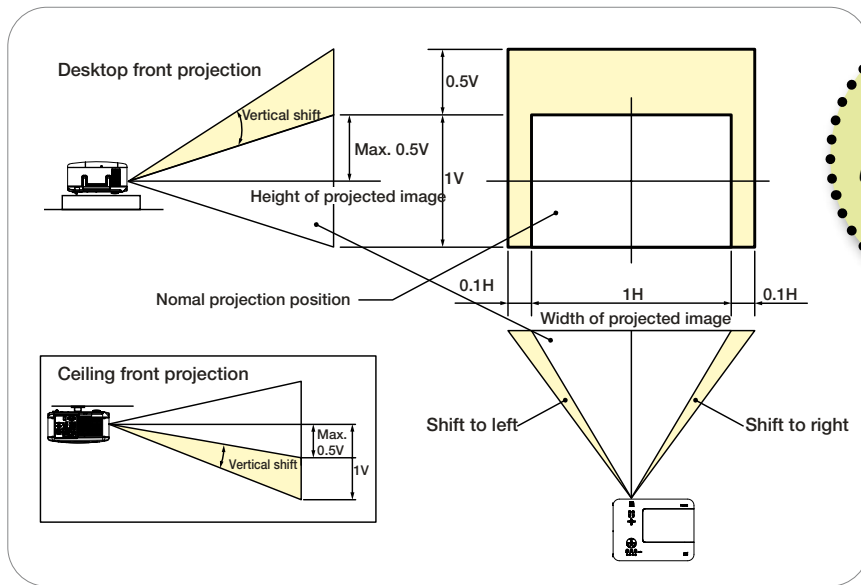
Current



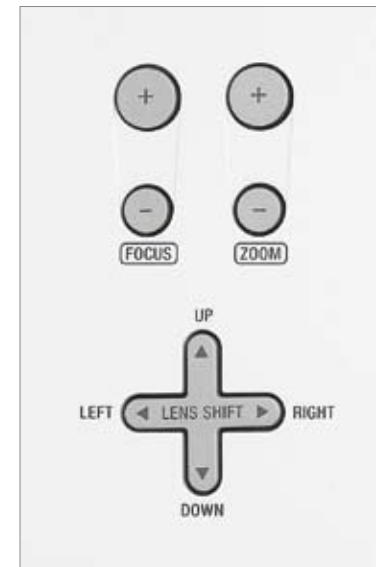
BrilliantColor™

Powered Lens Shift

With the motorised lens shift mechanism, the position of the projected images on screen can be adjusted in vertical and horizontal directions without moving the main unit. It is an excellent tool to adjust the picture without any loss in image quality.



Lens shift function – different projection installations



Lens shift (right/left, up/down), Zoom and Focus adjustment on the top side of the projector.

Remark: Lens shift function is not available for the NP06FL (Short Focus Fixed Lens).

Zoom and Focus Adjustment

For the NEC NP4000 and NP4001 projectors lens zoom and focus can be adjusted motorised.

Keystone Correction

Keystone correction adjusts distortions up to a maximum of +/- 35° in the horizontal direction and a maximum of +/- 40° in the vertical direction.

Lens shift and Keystone correction as well as lens zoom and focus adjustment can also be operated by remote control.

Optional Lenses

In order to support a variety of application fields, five types of lenses for flexible installation are available in addition to the standard lens. The projectors support screens from 40 to 500 inches diagonal. For different applications, such as conference rooms, halls or exhibitions the optimum lens, depending on the specific installation environment, can be selected. For a 100-inch screen for example, projection is possible at a distance of 1.6 m (Short Fixed Focus Lens) or between 2.7 m to 17.1 m.

Optical Specifications

Model	NP06FL	NP07ZL	NP08ZL	NP09ZL	NP10ZL	
Lens type	Short Focus Fixed Lens	Zoom Lens	Zoom Lens	Zoom Lens	Zoom Lens	
Option Lens						
Zoom/Focus	Power (Focus Only)	Power	Power	Power	Power	
Zoom Ratio	1.00	1.34	1.32	2.00	1.85	
Throw Ratio	0.77 : 1	1.33 - 1.79 : 1	1.78 - 2.35 : 1	2.22 - 4.43 : 1	4.43 - 8.3 : 1	
Lens Shift	Vertical	0	Max +0.5V	Max +0.5V	Max +0.5V	
	Horizontal	0	Max ±0.1H	Max ±0.1H	Max ±0.1H	
Weight	1.0kg	1.1kg	0.8kg	1.1kg	0.9kg	
Screen Size	50 - 200inch	40 - 500inch	40 - 500inch	40 - 500inch	40 - 500inch	
Brightness*	2-Lamp Mode	4200 ANSI lm	4600 ANSI lm	5200 ANSI lm	4600 ANSI lm	3600 ANSI lm
	1-Lamp Mode	2100 ANSI lm	2300 ANSI lm	2600 ANSI lm <td 2300 ANSI lm	1800 ANSI lm	

* This is the brightness in Normal Mode. If the lamp mode is set to Eco Mode, brightness is reduced to 85% of Normal Mode.

Projection Range of Lenses (for a 100-inch screen)

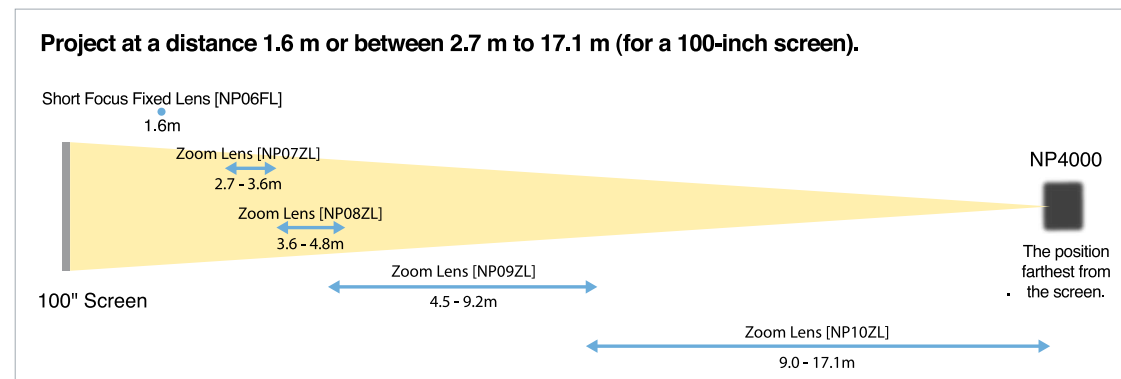


Image projected on a 100-inch screen

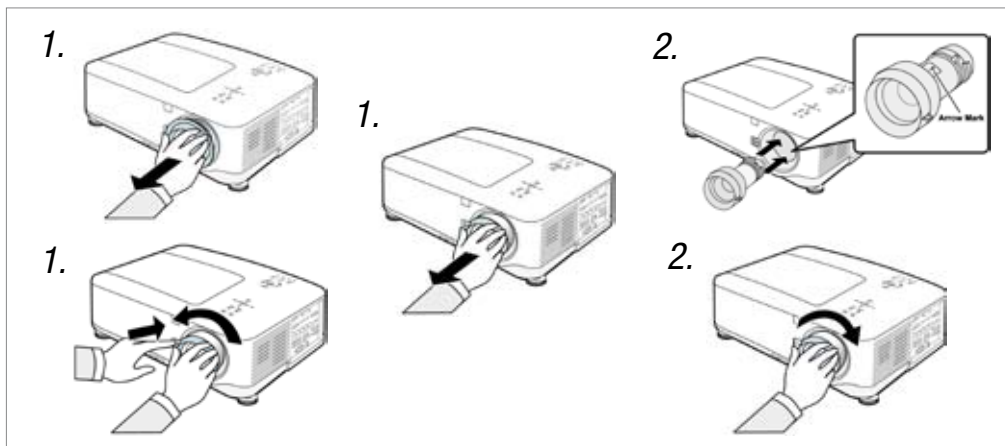
Throwing Distance

Throwing Distance of images projected on different screen sizes.

Screen Size (Inch)	Throwing Distance				
	NP06FL	NP07ZL	NP08ZL	NP09ZL	NP10ZL
40"	—	1.06-1.44	1.42-1.89	1.76-3.60	3.54-6.78
60"	0.94	1.61-2.19	2.16-2.87	2.70-5.48	5.37-10.24
80"	1.27	2.17-2.93	2.90-3.84	3.63-7.34	7.21-13.70
100"	1.60	2.72-3.68	3.64-4.82	4.56-9.20	9.04-17.16
120"	1.93	3.27-4.42	4.38-5.80	5.50-11.06	10.88-20.62
150"	2.42	4.10-5.54	5.49-7.26	6.90-13.84	13.63-25.81
200"	3.24	5.48-7.40	7.34-9.70	9.23-18.50	18.22-34.46
300"	—	8.25-11.12	11.05-14.59	13.90-27.80	27.40-51.76
400"	—	11.02-14.84	14.75-19.47	18.57-37.11	36.57-69.06
500"	—	13.78-18.56	18.46-24.35	23.24-46.41	45.75-86.36



Flexible and Easy Installation



The lenses can easily be replaced by the customer, with a single movement via bayonet mount and without any special tools required.

- 1. Removing of the existing lens
- 2. Installing the new lens

Flexible Operations

Different Supported Screen Sizes

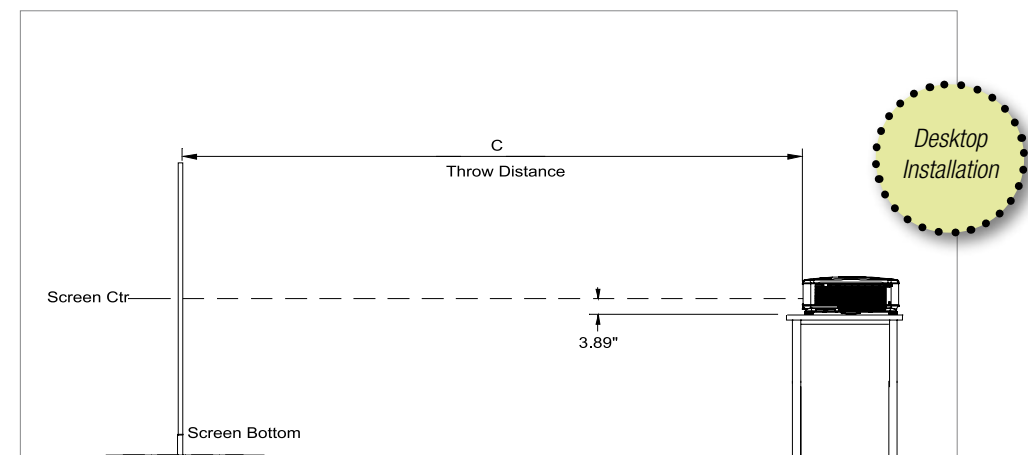
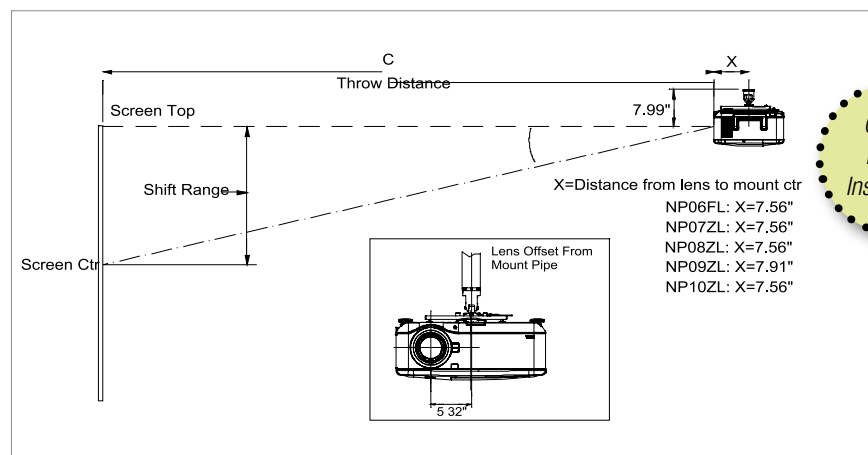
Both 4:3 and 16:9 screens are fully supported with proper aspect ratio control for both type sources using NEC developed scaling technology. Menu selections have aspect ratio control for each source type. The NEC NP4001 supports native 15:9 wide screen format, which is especially interesting for e-cinema applications. For example to broadcast commercials in wide screen format previous to the main movie.

Mounting Solutions

The NEC NP4000 and NP4001 projectors are tailor-made for fixed installation purposes in large venues, which can be either ceiling mounted or desktop installations. For Desktop and Ceiling Mount a special Installation Guide is available.

For NP4000: <http://www.nec-display-solutions.de/c/download/286188/NP4000-InstallationGuide-english.pdf>

For NP4001: <http://www.nec-display-solutions.de/c/download/295690/NP4001-InstallationGuide-english.pdf>



Audio Speaker

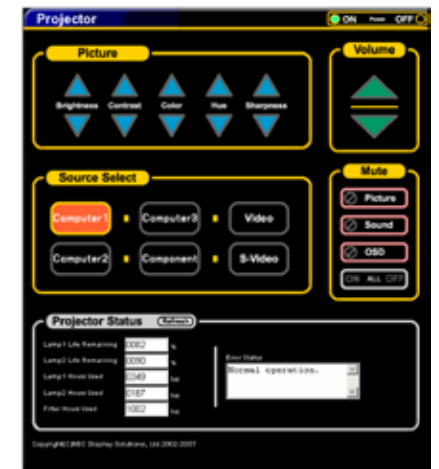
Integrated 2 x 3 W stereo speakers allow perfect audiovisual applications with high audio quality.

LAN Function

It is possible to turn the power of the NEC NP4000/4001 projectors on and off and switch input signals from a PC via the network. Furthermore the LAN function allows to control brightness, contrast, volume and picture mute via RJ-45 as well as the operating hours of the projectors' lamp and filter.

Dust Resistant

Special dust resistant features of the NEC NP4000/4001 projectors – for instance a special coating of the DLP Chip – increase life expectancy of the projectors and guarantee breathtaking images even in dusty environment etc.



24x7 Extended Warranty

The NEC NP4000 and NP4001 allow continuous operation up to 24 hours / 7 days a week. A special extended warranty for 24 x 7 operations is available for both projectors*.

Stackable

The NP4000 can be double stacked. When using lens model NP08ZL two units can be stacked and reach a maximum brightness of up to 10,000 ANSI Lumens.

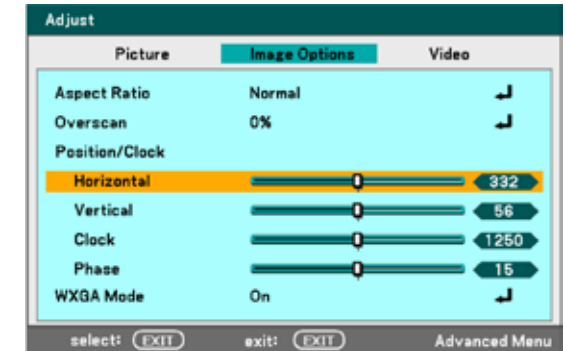


* Consumption parts are not included. Please refer to our warranty conditions under www.nec-display-solutions.com.

User-friendly and Easy to Control

New OSD

The new On Screen Display (OSD) will be ahead in user-friendliness. All main menu and sub menu categories are highlighted in yellow and therefore easily recognisable. The clear structure supports the intuitive, efficient and simple navigation in the OSD menu and control of the desired functions.



Easy Remote Control System

With the provided remote control system all projector functions can easily be selected and set-up. Additionally there is a laser pointer built-in, which is very usable for different kinds of presentations, especially in front of bigger audiences.

Help Function

Integrated Help Function for frequently asked questions.

Direct Power-Off

The NP4000 and NP4001 can be turned off using a power strip equipped with a switch and a breaker. The cooling fan keeps operating until the lamp is cooled down completely.

Auto Power Start

The Auto Power Start function turns the projector in automatically, when the power cable is inserted into an active power outlet (default, off).

RS-232 Control

PC-Control via 1 D-Sub mini 9-pin input.

Program Timer

The installation projectors NEC NP4000 and NEC NP4001 include the Program Timer function. The Timer allows the user to define a individual programmable time window for start and shut down of the projector – even for 24/7 operations.

Eco Mode

Using the NEC NP4000 or NP4001 in Eco Mode increases lamp life and reduces operating noise and consumption. This reduces Total Cost of Ownership (TCO) and you are saving the environment.

Top Security

Protection against thieves and unauthorised users.

- Password protection
- Cabinet control panel lock
- Account lock
- Antitheft lens (can be fixed by a screw)
- Kensington Lock Slot

The integrated security functions guarantee highest possible security for the authorised use of the projectors.

Logo Upload Function

It is possible to individually upload a specific start-up logo. This also means an additional protection against thieves, since the logo can only be changed by using your password.

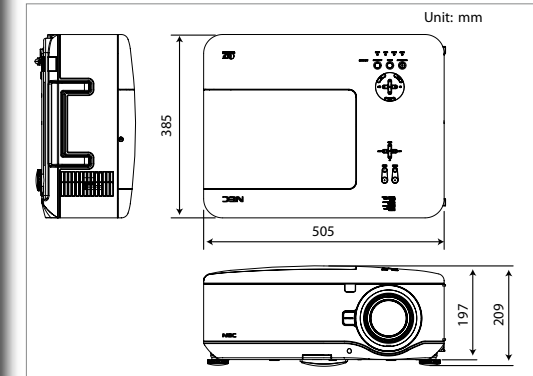


Technical Specifications

TECHNICAL SPECIFICATIONS		NP4000	NP4001
Display		1 x 1.78 cm (0.7") DMD Chip - DLP™ Technology (Aspect Ratio 4:3)	1 x 1.78 cm (0.7") DMD Chip - DLP™ Technology (Aspect Ratio 15:9)
Lamp (Dual Lamp System)	Normal Mode	2 x 260 W AC	2 x 260 W AC
	Eco Mode	2 x 230 W AC	2 x 230 W AC
Lamp Life	Normal Mode	4,000 hrs (with 2 lamps)	4,000 hrs (with 2 lamps)
	Eco Mode	5,000 hrs (with 2 lamps)	5,000 hrs (with 2 lamps)
Brightness	Normal Mode	5,200 ANSI Lumens (dual lamp mode)	4,500 ANSI Lumens (dual lamp mode)
	Eco Mode	approx. 80%	approx. 80%
Standard Lens (NP08ZL)		F= 1.7 - 1.9, f= 26.0 - 34.0 mm	F= 1.7 - 1.9, f= 26.0 - 34.0 mm
Projection Distance		1.42 - 24.35 m (with NP08ZL)	1.54 - 26.45 m (with NP08ZL)
Projection Factor		1.78 - 2.35:1 (with NP08ZL)	1.78 - 2.35:1 (with NP08ZL)
Contrast Ratio		2,100:1 with DynamicBlack™	2,100:1 with DynamicBlack™
Minimum/Maximum Diagonal		102 cm (40") / 1,270 cm (500")	102 cm (40") / 1,270 cm (500")
Frequency		Horizontal: 15, 31 - 90 kHz; Vertical: 50 - 85 Hz	Horizontal: 15, 31 - 90 kHz; Vertical: 50 - 85 Hz
Native Resolution		1,024 x 768 (XGA)	1,280 x 768 (WXGA)
Supported Resolutions		1,600 x 1,200 (UXGA), 1,400 x 1,050 (SXGA+), 1,280 x 1,024 (SXGA), 1,152 x 870 (Mac), 1,920 x 1,080 (HDTV 1,080i@50/60 Hz), 1,280 x 720 (HDTV 720p) compressed signal, 1,024 x 768 (XGA), 800 x 600 (SVGA), 832 x 624 (Mac), 640 x 480 (VGA/Mac), 768 x 576 (PAL 15.6 kHz), 640 x 480 (NTSC 15.7 kHz), 720 x 483 (SDTV 480p), 756 x 557 (SDTV 557p)	1,600 x 1,200 (UXGA), 1,400 x 1,050 (SXGA+), 1,280 x 1,024 (SXGA), 1,152 x 870 (Mac), 1,920 x 1,080 (HDTV 1,080i@50/60 Hz) compressed signal, 1,280 x 768 (WXGA), 1,280 x 960, 1,280 x 720 (HDTV 720p), 1,024 x 768 (XGA), 800 x 600 (SVGA), 832 x 624 (Mac), 640 x 480 (VGA/Mac), NTSC, PAL, PAL60, SECAM
Input/Output Terminals	Computer Analog	1 input: Mini D-SUB 15-pin, shared with component signal (YPbPr), 1 input: 5BNC, shared with component signal (YPbPr), 2 inputs: Audio 3.5 mm stereo mini jack, 1 output: Mini D-SUB 15-pin	
	Computer Digital	1 input: DVI-D with HDCP, 1 input: Audio 3.5 mm stereo mini jack	
	Component	1 input: 3 x RCA (phono jack), 1 input: Audio 2 x RCA (L/R)	
	Video	1 input: RCA (phono jack), 1 input: Audio 2 x RCA (phono jack) for S-video or video	
	S-Video	1 input: Mini DIN 4-pin	
	Audio Output	1 output: 3.5 mm stereo mini jack (variable), for computer 1, 2, 3 (DVI-D), component, S-video, video	
	LAN	1 input: RJ45, 10/100 base-T	
	Control	1 input PC Control: D-SUB, 9-pin for external control device 1 output: 3.5 mm stereo mini jack for screen trigger, 1 input USB: Type B (for service)	
	Remote Control	2 inputs: + 15 pol D-sub pin	
Audio Functions	2 x 3 W stereo speaker		
Zoom / Focus Adjustment	Motorised		
Keystone Correction	Horizontal: Manual approx. +/- max. 35° (Standard Lens); Vertical: Manual approx. +/- 40° (Standard Lens)		
Environment	Operational Temper.	5°C to 40°C, 20% to 80% Humidity (Non-Condensing)	
	Storage Temper.	minus 10° C to 50°C, 20% to 80% Humidity (Non-Condensing)	
Power Consumption	Normal Mode	640 W (dual lamp mode); 340 W (single lamp mode)	
	Others	Eco Mode: 540 W (dual lamp), 310 W (single lamp); Stand-by Mode: 30 W; Power-saving Mode: 5 W	
Dimensions (W x H x D)	505 x 197 x 385 mm (without lens and feet)		
Weight	16.5 kg / 17.0 kg (with NP08ZL)		
Warranty	Projector: 3 years pan-European premium service, Lamp: 6 months, extended warranty for continuous use (3 years at 24/7)*		

Dimensions

Equal dimensions for NP4000 and NP4001.



Terminals

Spot on the backside of the projector.



Remote Control

Improved, easy-to-use (IR) Remote Control.



* please refer to our conditions under www.nec-display-solutions.com

Accessories/Options

For the NEC projectors NP4000 and NP4001 some special accessories can be ordered optionally.

Replacement Lamp

Lamp model NP04LP. Easy to replace by the customer/user.



Optional Lenses

5 optional lenses are available: NP06FL (0.77:1), NP07ZL (1.33-1.79:1), NP08ZL (1.78-2.35:1), NP09ZL (2.22-4.43:1), NP10ZL (4.43-8.3:1). These can easily be exchanged by the customer using a quick-release lens mechanism, giving a greater degree of versatility.



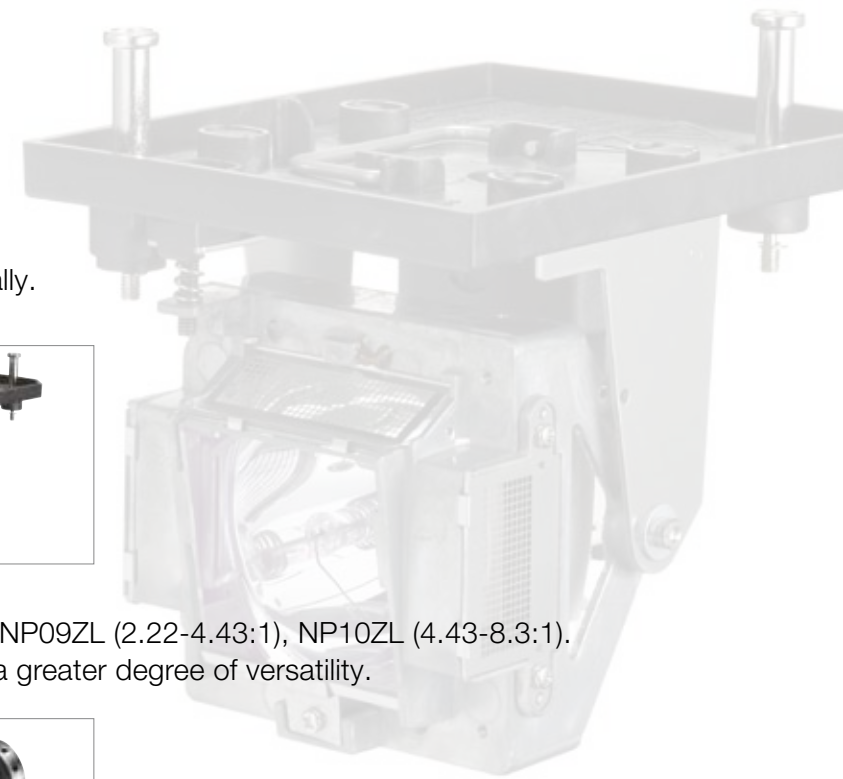
Ceiling Mount Kit

With the special Ceiling Mount Kit NP06CM incl. cable cover, the projectors can easily and securely be installed on the ceiling of the chosen location.



WMS 100/200 – Wireless LAN Adapter

Wireless LAN transmission of MPEG-1/2/4 video files (WMS200) and screen-captured images (WMS100/200) from any Wi-Fi enabled computer to a SVGA-XGA projector.



Technical Support

Technical Hotline for Projector subjects – Tel. 0800 63 26 320 (only for Germany – free of charge)

www.nec-display-solutions.com

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