

Lenovo
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ThinkVision P Series
Gen 40 Monitors

Energy Saving Solution Guide

Innovating for Impact:
Smarter Displays,
Smarter Energy Saving



Smarter
technology
for all

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Why Lenovo ThinkVision

ThinkVision is your trusted advisor to empower the future of business productivity. Our industry-leading display technologies support modern professionals and their organizations to redefine the possibilities of efficient multitasking and impactful collaboration.

Leading the way in a new era of workplace transformation, ThinkVision Gen 40 monitors push the boundaries of innovation with smarter experiences for the workplace.



Relentless Innovation

Future-ready technologies, powered by AI



Purposeful Design

Cutting-edge display performance and customer-centric functionality to boost productivity and support user health



Trusted Quality

Two decades of Display Excellence, Durability & Reliability with every device



Sustainability

Commitment to reducing environmental impact through eco-conscious design and responsible business practices



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Empowering a Sustainable Future Through Energy Innovation

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Revolutionizing Energy Use in Modern Workspaces

As technology, computing hardware, and modern business needs evolve, energy demands within commercial buildings are rising steadily in response. Smarter, adaptive energy management is critical to not only lower operation costs but also to align with the future of flexible, sustainable work environments.¹

Leading Corporate Responsibility with Energy Efficiency

Nearly **90%** of leading enterprises integrate energy and carbon footprint management into their sustainability frameworks—transforming operational practices into powerful drivers of brand trust while driving tangible environmental impact.²

Investing in energy saving technologies can be the strategic advantage that transforms your business's future-readiness.

¹UNEP, Global Environment Outlook
²GRI, Global Reporting Initiative



Powering Responsible Business

Energy-Efficient Displays for Modern Workspaces

Energy-efficient monitors play a crucial role in reducing power consumption and operational costs, especially across large-scale deployments in modern workplaces. Beyond environmental benefits like lower carbon emissions, they also support sustained productivity for professionals in today's energy-conscious business landscape, without compromising performance.



To better illustrate the energy cost savings organizations can achieve with ThinkVision P Series Gen 40 monitors, we combine technical performance data with real-world usage patterns and energy pricing benchmarks.

Model Name

P32UD-40

Size / Refresh Rate

31.5" / 60Hz

Test Conditions

200 nits brightness

Annual Usage

237 days, 8 hours/day

Estimated annual energy consumption

Actual:
64.02 kWh/year

ES8.0 ETEC_MAX requirement:
119.15 kWh/year

Reduction

55.13 kWh (46.26%)
less energy consumed annually versus
ES8.0 requirements, per monitor.

For a fleet of 1,000 monitors,
this translates to an annual
savings of **55,130 kWh.**

At the U.S. national average commercial electricity rate of 13.09¢ per kWh, this results in approximately **\$7,212** in energy cost savings, and a reduction of **55,130 kWh** in energy consumption and **20.95 metric tons in CO₂ emissions¹** annually.

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¹Based on the 2025 U.S. average commercial electricity emissions rate of 0.38 kg CO₂ per kWh (EPA and EIA). Carbon savings were calculated using the formula: **55,130 kWh × 0.38 kg CO₂/kWh = 20,949.4 kg CO₂/year**, resulting in an estimated **20.95 metric tons of CO₂ saved annually.**

ThinkVision P Series Gen 40 Monitors

Sustainable Design, Smarter Energy Savings

The energy-saving performance of ThinkVision P Series Gen 40 monitors exceed **Energy Star 8.0** industry standards by **up to 50%**,¹ through a combination of innovative features:

50%



Real-time AI algorithm-based Backlight Dimming

ThinkVision monitors present real-time AI algorithm-based Backlight Dimming. This smart feature analyzes on-screen content, dynamically adjusting backlight brightness and liquid crystal deflection to reduce power consumption, with no noticeable change in the visual experience to the human eye.



Gallium Nitride (GaN) AC-DC technology

Gallium Nitride (GaN) AC-DC power supply improves power conversion efficiency, reduces energy loss and allows for lower cooling requirements.



Smart Ambient Light Detection

ThinkVision Ambient Light Detection uses smart sensors to detect the amount of ambient light present and dynamically adjust the luminance of the monitor screen according to the amount of natural light surrounding it for optimized viewing and energy saving.



Variable Refresh Rate

ThinkVision is the first display brand to offer Variable Refresh Rate (24-120Hz) technology for smarter performance and greater energy efficiency. It intelligently adjusts the monitor's refresh rate in real time to match the content on screen. Experience smoother visuals during fast-paced action and save energy when viewing for static or less demanding content.



DP (DisplayPort) Power Saving²

Lenovo's exclusive DP Power Saving feature uses panel replay technology to reduce the refresh rate (e.g., to 24Hz) for still images—significantly cutting power consumption without compromising visual quality.



Dynamic Refresh Rate (DRR)³

Built into Microsoft Windows, Dynamic Refresh Rate taps into Variable Refresh Rate technology to switch between 60Hz and 120Hz based on user activity—ensuring fluid motion when you need it and power savings when you don't.



¹50% is based on Lenovo Visuals lab testing results, achieved by enabling select features on P32UD-40 under set conditions

²supported on ThinkVision P and T series Gen 40 QHD and above monitors, Compatible with select ThinkPad devices via DP, USB-C, or Thunderbolt ports.



Please do not share DP power saving-related information externally till IFA embargo date (September 5, 2025, at 8:00am CEST)

³Supported via DP 1.2 or above, USB-C, or Thunderbolt ports.

Variable refresh rate*: DP power saving vs. DRR



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	DP Power Saving 	DRR 
Definition	Lenovo-unique DisplayPort-based feature that uses panel replay technology to lower refresh rate (e.g., to 24Hz) to save power	Microsoft-defined Windows feature that dynamically switches between 60Hz and 120Hz
Condition/Interface Requirement (for PC& monitor)	DisplayPort 1.4 or above/ USB-C / Thunderbolt	DisplayPort 1.2 or above/ USB-C / Thunderbolt
Activation Method (Status)	Enabled via OSD (default off)	Enabled in Windows 11 display settings (default off)
Power Saving Behavior	Drops refresh rate to the lowest ² for static content, significantly reducing power	Switches between 60Hz and 120Hz based on activity
Limitations	PC-reliant: supported on select ThinkPad models	Requires at least 120Hz refresh rate

¹VRR is an HDMI 2.1-based refresh rate adjustment feature which is enabled via OSD (default off).
²48Hz on P24QD-40 and P24Q-40, 24Hz on other P-40 models

ThinkVision P-40 Energy Saving Performance in the Modern Office

DP Power Saving

Lenovo's unique DP Power Saving technology is designed to deliver measurable energy savings throughout the typical workday—backed by lab-tested data.

Optimized for ThinkPad laptops, the DP Power Saving feature integrates seamlessly into the modern workspace ecosystem, leveraging Panel Replay technology to reduce energy consumption by up to **16%¹**.

Model	DP Power Saving	
	Power Saving % (60Hz)	Power Saving % (120Hz)
P32UD-40	8.18%	16.29%
P27QD-40	7.85%	14.92%
P34WD-40	7.76%	13.46%
P40WD-40	7.40%	13.42%



Lab-tested data simulating real-world usage of select ThinkVision P-40 Series monitors shows significant energy savings across a mix of **static** and **dynamic** tasks. Common static activities on the monitor screens—such as reading emails, joining virtual meetings, or viewing images—make up the bulk of a typical office workday, while more dynamic tasks like continuous scrolling, typing, or video playback require higher refresh rates and naturally consume more power.

Model	DP power saving	
	85% Static + 15% Dynamic	90% Static + 10% Dynamic
	Power saving % (120Hz)	Power saving % (120Hz)
P32UD-40	13.84%	14.66%
P27QD-40	12.68%	13.43%
P34WD-40	11.44%	12.11%
P40WD-40	11.41%	12.08%



¹Based on Lenovo Visuals lab testing results, achieved by enabling DP power saving on P32UD-40 under set static conditions

ThinkVision P-40 Energy Saving Performance in the Modern Office

AI algorithm-based Backlight Dimming

Lenovo's AI algorithm-based Backlight Dimming technology is designed to deliver measurable energy savings throughout the typical workday—backed by lab-tested data.

AI algorithm-based Backlight Dimming is a real-time power saving technology that adjusts to screen content without disrupting workflow or affecting image quality. When enabled, it can reduce energy consumption by up to **10%¹**.







Model	AI algorithm-based Backlight Dimming
	Power Saving %
P32UD-40	6.03%
P34WD-40	10.37%
P40WD-40	5.43%



¹Based on Lenovo Visuals lab testing results, achieved by enabling AI-algorithm based backlight dimming on P34WD-40 under 60Hz and set conditions



P/T-40 energy saving features overview

Series	 Docking Capability	 Model	 AI algorithm-based Backlight Dimming	 GaN	 Ambient light sensor	 DP Power Saving	 Dynamic Refresh Rate (DRR)
P Series	Docking P	P34WD-40	Yes	-	Yes	Yes (Aug 2025)	Yes
	Docking P	P27QD-40	-	-	-	Yes (Aug 2025)	Yes
	Docking P	P32UD-40	Yes	Yes	-	Yes (Aug 2025)	Yes
	Docking P	P24QD-40	-	-	-	Yes (Aug 2025)	Yes
	Docking P	P40WD-40	Yes	-	Yes	Yes (Aug 2025)	Yes
	Non-Docking P	P27Q-40	-	-	-	Yes (Oct 2025)	Yes
	Non-Docking P	P24Q-40	-	-	-	Yes (Oct 2025)	Yes
T Series	Docking T	T34WD-40	-	-	-	Yes (Aug 2025)	Yes
	Docking T	T27UD-40	-	-	-	Yes (Aug 2025)	-
	Docking T	T27QD-40	-	-	-	Yes (Aug 2025)	Yes
	Docking T	T24D-40	-	-	-	-	Yes
	Docking T	T24D-4v	-	-	Yes	-	Yes
	Docking T	T27QD-4v	-	-	Yes	Yes (Aug 2025)	Yes
	Docking T	T32UD-40	-	-	-	Yes (Aug 2025)	-
	Non-Docking T	T24-40	-	-	-	-	Yes
	Non-Docking T	T27Q-40	-	-	-	Yes (Oct 2025)	Yes
	Non-Docking T	T27-40	-	-	-	-	Yes
	Non-Docking T	T24-4v	-	-	-	-	Yes

P32UD-40 Competitive Analysis

Model	ThinkVision P32UD-40	Dell U3225QE
Size	31.5	31.5
Panel	IPS (4side Ultra Thin Bezel)	IPS (4s borderless)
Resolution	3840x2160	3840x2160
Brightness	350cd/m ²	400cd/m ²
Contrast	1,500:1	3,000:1
HDR	HDR10	HDR600
1 Refresh rate	24-120Hz Variable Refresh Rate	48-120Hz Variable Refresh Rate
Color space	98% (DCI-P3), 99%(sRGB)	99%(DCI-P3), 100% (sRGB, Rec.709)
Delta E	<2	<1.5
Video ports	1 x TBT4 (UHD@120Hz) 1 x HDMI 2.1(UHD@120Hz), 1 x DP 1.4 (HBR3) (UHD@120Hz), 1 x TBT4 out 1 x DP out	1 x TBT4 (UHD@120Hz) 1 x HDMI 2.1(UHD@120Hz), 1 x DP 1.4 (HBR3) (UHD@120Hz), 1 x TBT4 out 1 x DP out
Support max res. / refresh rate	3840x2160 @ 120Hz (all video ports)	3840x2160 @ 120Hz (all video ports)
Support max res. / refresh rate @ daisy chain	3840x2160 @ 60Hz + 3840x2160 @ 60Hz	3840x2160 @ 60Hz + 3840x2160 @ 60Hz
more connections	1 x 2.5Gb LAN (RJ-45)	1 x 2.5Gb LAN (RJ-45)
USB hub downstream	1 x USB-C (15W) data / power only, 1 x TBT4 (15W) for daisy chain/data/power 4 x USB-A 3.2 Gen1 (with 1x BC1.2)	2 x USB-C (15W) data / power only, 1 x TBT4 (15W) for daisy chain/data/power 5 x USB-A 3.2 Gen2 (with 1x BC1.2)
USB hub upstream	1 x USB-B 3.0, 1 x TBT4 (100 to 140W)	1 x USB-C 3.2 Gen2, 1 x TBT4 (140W)
USB-C Power Delivery (Max.)	140W, 15W	140W, 15W
Modular camera & soundbar	Yes (via MC60/MS30)	No
Audio	N/A	1x line out
Ergonomics	155mm (height adjustable), ±90° (pivot), +23.5°/-5° (tilt)	150mm (height adjustable), ±90° (pivot), +21°/-5° (tilt)
Low Blue Light	Yes (TUV LBL - HW) (TUV 5star)	Yes (TUV LBL - HW) (TUV 5star)
2 EU Energy Level @ 60Hz 200nits	E	F
ALS sensor	No	Yes
3 ENERGY STAR Power Consumption	18.3W	30.4W
ALS sensor	No	Yes
TCO	10	10
Package cushion	Paper	Paper
4 PCC %	95%	85%
KVM/eKVM, PiP/PbP, TrueSplit	Yes (KVM, PxP, eKVM)	Yes (KVM, PxP)
Others	LADM SW, mirror power button, Multi-sync, LDFM	DDM SW, Power Sync
Cables (e.g. NA, excl. power)	USB B-A, DP1.4, TBT4 (1.5m) - 3ea	USB C-A Gen2 (1m), DP1.4, TBT4 (1m) -3ea

1 ThinkVision's Variable Refresh Rate technology supports a wider refresh rate range, reaching as low as **24Hz**—compared to 48Hz on competitor models.

2 At **60Hz** and **200 nits** brightness, ThinkVision monitors achieve a higher EU Energy Label rating for superior energy efficiency compared to competitor models.

3 ThinkVision monitors also feature lower Energy Star power consumption, using just **18.3W** versus 30.4W on comparable models.

4 Additionally, ThinkVision monitors incorporate **up to 10%** more PCC recycled content than competitor models.

ThinkVision P Series Monitors

Powerful Displays for Smarter Energy Efficiency

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technology
for all

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thanks.



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