Shenzhen Genstar Technology Co., Ltd.

Model: Z1 Series

specification

Address: 1102 Chuangzhi Industrial Building, Dalang Residential District Langkou Community Ying′ai Road No.1,Longhua shenzen Guangdong China, Tel: 0755-83368811

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Photo Statement: The photo was taken of products from a specific batch manufactured by our company. Due to ongoing maintenance, the actual shipped products may differ from those shown in the photo.

version number	date of issue
V1.3	2026/4/20

Thank you for choosing our products. Please read this manual carefully before use.

Product Usage Precautions

- **This equipment must be installed, disassembled, and maintained by technically trained personnel.**
- **Before powering on, carefully verify that the electrical parameters of the power supply equipment match those specified on the rear casing label of this product; otherwise, do not power on.**
- **Ensure that products with a supply voltage higher than the safe voltage are installed or placed in locations inaccessible to children or where adequate protective measures are in place.**
- **Unplug the power cord and store it in a safe, designated location during thunderstorms or lightning, when the interior is unoccupied, or after prolonged disuse.**
- **Check and ensure that the ground wire of the AC power cord is properly connected, while protecting the power cord from physical or mechanical damage.**
- **During cleaning, ensure the entire unit is powered off and unplug the power socket.**
- **During installation, avoid harsh conditions such as damp environments, direct sunlight, high-temperature sources, heavy cooking fumes, or strong wind and sand.**
- **Do not place the antenna inside a metal enclosure or similar shielding equipment to prevent network disconnections or instability.**
- **Do not place heavy objects on the device to avoid excessive pressure, which may damage the equipment**

and prevent it from functioning properly.

- **Avoid using in vehicles or environments with significant vibrations to prevent poor interface contact.**
- **Private disassembly and repair without permission is strictly prohibited.**

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Product Presentation

The Genstar Z1 large self-service cash register is a high-performance self-service cashier terminal designed for various business scenarios such as retail, catering, and supermarkets. With cost reduction, efficiency improvement, convenient deployment, and flexible adaptation as its core design principles, it effectively addresses industry pain points such as long queues in traditional manual cashiering, high labor costs, and low operational efficiency. It provides a one-stop solution for digital cashiering upgrades in physical stores.

The equipment supports standardized deployment in both wall-mounted and floor-standing configurations, perfectly adapting to the spatial layout requirements of different scenarios. It can be wall-mounted, directly installed on the wall, maximizing the saving of business space. The floor-standing bracket takes into account both space utilization and ease of use, meeting the personalized deployment requirements of different stores.

At the core hardware level, it is equipped with a 21.5-inch 1920*1080 high-definition display screen, utilizing G+G ten-point capacitive touch technology, ensuring sensitive and smooth operation, and delivering an excellent interactive experience. It is built-in with an 80mm thermal printer (with automatic cutter) and a one/two-dimensional scanning platform, supporting scanning and recognition of all types of products. Additionally, a facial recognition payment module can be optionally equipped to achieve full-chain self-service cashiering through scanning and facial recognition, covering a wide range of payment scenarios. The device offers a dual-system solution for Android and Windows, allowing flexible selection according to project requirements: the Android solution is equipped with high-performance motherboards such as RK3568, compatible with lightweight cashier systems; the Windows solution is equipped with Celeron/Core series processors, compatible with various industry cashier software, providing full adaptability.

The device supports full-dimensional customization and expansion, allowing for the selection and configuration of functional modules such as WiFi, Bluetooth, 4G communication, magnetic stripe readers, IC&ID&NFC card readers, ID card recognition, and multiple specifications of cameras according to needs. It also supports hardware upgrades such as memory and hard drives, enabling deep adaptation to the personalized cashiering needs of stores of different formats and sizes. The device boasts a comprehensive interface configuration, including LAN ports, USB expansion ports, power control interfaces, etc., ensuring network stability and peripheral expansion capabilities. It is convenient for operation and maintenance, has strong reliability, and can operate stably 7×24 hours. It is the preferred device for the construction of self-service cashier systems in various commercial projects.

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◆ Product Display

Z1 27" Column Model Left 45° View | Right 45° View | Rear view | Right view | Left view

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Product Core Parameters

Android system	RK3568	RK3576	RK3588
CPU	Rockchip RK3568 quad-core 64-bit processor with Cortex-A55 architecture, featuring a maximum clock speed of 2.0GHz	Rockchip RK3576 quad-core Cortex-A72 + quad-core Cortex-A53, with a maximum frequency of 2.2GHz	The Rockchip RK3588S is an octa-core 64-bit processor with a maximum clock speed of 2.4GHz, featuring a quad-core Cortex-A76 (large core) and quad-core Cortex-A55 (small core) architecture.
GPU	ARM G52 2EE Supports OpenGLES 1.1/2.0/3.2, OpenCL 2.0, and Vulkan 1.1 Embedded high-performance 2D acceleration hardware	ARM G52 MC3 Supports OpenGLES 1.1/2.0/3.2, OpenCL 2.0, and Vulkan 1.1. Embedded high-performance 2D acceleration hardware	ARM G610 GPU MC4 quad-core GPU Supports OpenGL ES3.2, OpenVG1.1, and OpenCL2.2, with 450 GFLOFS Embedded high-performance 2D acceleration hardware
NPU	Equipped with a built-in neural network processor (NPU) delivering 0.8TOPS@INT8 performance, it supports AI development tools including Caffe/Mxnet/TensorFlow/ TF Lite/ONNX/Darknet for model deployment. Features rapid model conversion capabilities.	Equipped with a built-in neural network processor (NPU) delivering 6.0TOPS@INT8 performance, it supports models including Caffe, Mxnet, TensorFlow, PyTorch, TF Lite, ONNX, and Darknet, providing comprehensive AI development tools with rapid model conversion capabilities.	Equipped with a built-in neural network processor (NPU) for powerful AI computing: Supports IN4/IN8/INT16/FP16 operations with up to 6.0 TOPS performance, enabling direct loading of models like Caffe/Mxnet/TensorFlow/TF Lite/ONNX/Darknet. Provides AI development tools including rapid model conversion capabilities.
Operating System	Android 11	Android 14	Android 12
RAM	LPDDR4 2GB (4G/8G optional)	LPDDR4 4GB (8G/16G optional)	LPDDR4 4GB (8G/16G/32G optional)
ROM	eMMC 16GB (available in 32G, 64G, 128G, or 256G options)	eMMC 32GB (available in 64G, 128G, 256G, or 512G options)	eMMC 32GB (64G/128G/256G optional) TF Card expansion (optional)
Ethernet	Supports Ethernet 10/100	Supports Ethernet 10/100/1000 speeds	Supports Ethernet 10/100/1000 speeds
WiFi	Supports 2.4GHz and Wi-Fi 802.11b/g/n/ac protocols. (Optional 5GHz dual-band WiFi)	Supports 2.4GHz and WiFi6 802.11b/g/n/ax protocols (5GHz dual-band WiFi optional)	Supports 2.4G WiFi and Wi-Fi 802.11b/g/n protocols. (Optional 5GHz dual-band WiFi)

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Bluetooth	Supports Bluetooth function, V2.1+EDR (optional 3.0/3.0+HS/4.1/BLE)	Supports Bluetooth function, V2.1+EDR (optional 3.0/3.0+HS/4.1/BLE)	Supports Bluetooth function, V2.1+EDR (optional 3.0/3.0+HS/4.1/BLE)

Windows system	J6412	N100	I5-10210U
CPU	Celeron J6412, quad-core quad-thread processor with a base frequency of 2.0GHz and a maximum frequency of 2.6GHz	N100, quad-core quad-thread, up to 3.4GHz	ntel Core i5-10210U, quad-core eight-thread, base frequency 1.6G, maximum 4.2G
GPU	Intel® UHD Graphics	Intel® UHD Graphics	Intel® Iris® Xe Graphics eligible
Operating System	Windows10/11	Windows10/11	Windows10/11
RAM	1× DDR4 memory slot with SO-DIMM 4GB capacity (4G/8G/16G available)	1× DDR4 memory slot with SO-DIMM 4GB capacity (available in 4G, 8G, or 16G variants)	2*DDR4 memory slots, supporting up to 64GB
SSD	64GB SSD (available in 128G, 256G, or 512G options)	64GB SSD (available in 128G, 256G, or 512G options)	64GB SSD (available in 128G, 256G, or 512G options)
Ethernet	Supports Ethernet 10/100/1000 speeds	Supports Ethernet 10/100/1000 speeds	Supports Ethernet 10/100/1000 speeds
WiFi	Supports 2.4GHz, IEEE 802.11b/g/n/ac. (5GHz dual-band optional)	Supports 2.4GHz, IEEE 802.11b/g/n/ax. (5GHz dual-band optional)	Supports 2.4GHz, IEEE 802.11b/g/n/ac. (5GHz dual-band optional)
Bluetooth	None (Bluetooth optional: V2.1+EDR / 3.0/3.0+HS/4.2/5.2)	None (Bluetooth optional: V2.1+EDR / 3.0/3.0+HS/4.2/5.2)	None (Bluetooth optional: V2.1+EDR / 3.0/3.0+HS/4.2/5.2)

27-inch LCD screen		remarks
LCD type	TFT	
LCD size	27 inches	
Active Area(W×H)	597.888 x 336.312 mm	
Number of Dots	1920*1080	

Brightness	250~270 Cd/m2	
Viewing Angle(H) θ 3	89 degrees	
Viewing Angle(H) θ 9	89 degrees	
Viewing Angle(V) θ 12	89 degrees	
Viewing Angle(V) θ 6	89 degrees	
Contrast Ratio	700~1000	
Response Time	14~20 ms	
Colour Gamut	72%	

Touchscreen/Glass		remarks
structure	G+G	
Total Thickness	2.95 mm	
Sensor thickness	0.7 mm	
Cover plate color	black	
surface hardness	>6H	
Number of contacts	10	
Touch area	Φ≥9	
input mode	Finger or conductive pen	
Total light transmittance	≥85%	
fog level	≤3%	

Printer		remarks
Print mode	temperature-sensitive	
Print Speed	MAX:200mm/s	
Resolution	203dpi	
Effective print area	72mm	
Paper type	Continuous thermal paper, die-cut label paper, black label paper	
Paper width	43-80mm (adjustable)	
Max Paper	max：80mm	

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Rolldiameter		
Paper Thickness	0.053-0.09mm(receipt)/0.10-0.15mm(label)	
Print Life	≥100 KM	
Cutter	Auto cutter, full cut and half cut (via command)	
Cutter Life	≥1,000,000 occurrences	
Character Set	ESC/POS (bill), CPCL, TSPL, JPL (label)	
Barcode	UPC-A, UPC-E, EAN8, EAN13, code39, ITF, CODEBAR, CODE128, CODE93	
QR code	QR code, PDF417	

Scanner		remarks
imaging sensor	CMOS	
resolution ratio	300,000 pixels, 640*480	
recognition accuracy	2D ≥7.5 mil, 1D ≥3.9 mil	
decoding speed	≤2m/s	
Scan angle	Tilt ±80°, tilt ±70°, rotate 360°	
recognition distance	0~400 mm	
readable encoding system	One-dimensional codes: Codabar, Code 11, Code 39, Code 93, Code 128/EAN128 EAN.UCC Composite, Interleaved 2 of 5,MSI Code, Planet, Plessey Code, Postnet, RSS, Standard 2 of 5, Telepen, UPC/EAN, etc.	
	Two-dimensional formats: PDF417, QR code, Matrix 2 of 5, MicroPDF417, and Australian Post. Canada Post, Japan Post, MaxiCode, Codablock, Aztec, Dutch Post, TLC 39, DataMatrix, etc.	

IC/ID card reader		remarks
Supports cards	Reading 125kHz and 13.56MHz cards	
communication interface	USB	
Card reading distance	20~50mm	

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Camera			
	2M B/W	**2M HDR**	**remarks**
scanning mode	line by line scan		
horizontal-scanning frequency	30Hz	25Hz	
vertical scanning frequency	50Hz	50Hz	
Image Sensor	1/2.7″ CMOS	1/2.7″ CMOS	
effective pixel	1920*1080	1920*1080	
Pixel size	3.0umX3.0um	3.0umX3.0um	
Data output type	Raw Data 10bits	Raw Data 10bits	
Export in MJPG format with specified resolution and frame rate	1920x1080 at 30fps 1280x960 at 30fps 1280x720 at 30fps 1024x768 at 30fps 800x600 at 30fps 640x480 at 30 fps 352x288 at 30fps 320x240 at 30fps 160x120 at 30fps	1920x1080 at 30fps 1280x960 at 30fps 1280x720 at 30fps 1024x768 at 30fps 800x600 at 30fps 640x480 at 30 fps 352x288 at 30fps 320x240 at 30fps 160x120 at 30fps	
Output in YUY2 format with resolution and frame rate	1920x1080 at 5fps 1280x960 at 5fps 1280x720 at 10fps 1024x768 at 10fps 800x600 at 20fps 640x480 at 30 fps 352x288 at 30fps 320x240 at 30fps 160x120 at 30fps	1920x1080 at 5fps 1280x960 at 5fps 1280x720 at 10fps 1024x768 at 10fps 800x600 at 20fps 640x480 at 30 fps 352x288 at 30fps 320x240 at 30fps 160x120 at 30fps	
Signal-to-Noise Ratio (SNR)	≥36dB	≥41dB	
dynamic range	≥72dB	≥85dB	
minimal illumination	≥0.01LUX at F1.2	≥0.01LUX at F1.2	NO LED
Infrared spectrum	850nm		
angle of view	76°		

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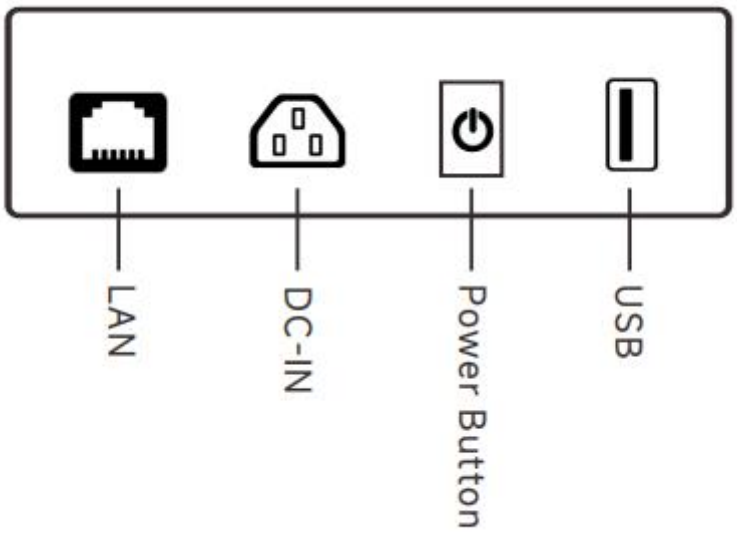
iris diaphragm	F2.4	
AEC/Gain/White Balance	automatic	
focusing distance	Fixed at 50-150 cm	

Loudspeaker		remarks
impedance	8Ω ±15%	
power rating	5W	
maximum power	7W	

Product operating environment parameters	
Storage temperature and humidity	-20～70℃，10～85 %RH
Working temperature and humidity	-20～50℃，10～80 %RH
Electrostatic Discharge Immunity (ESD)	Contact voltage: ±6 kV; air voltage: ±8 kV
Power Input	DC12V

Product appearance and interfaces:



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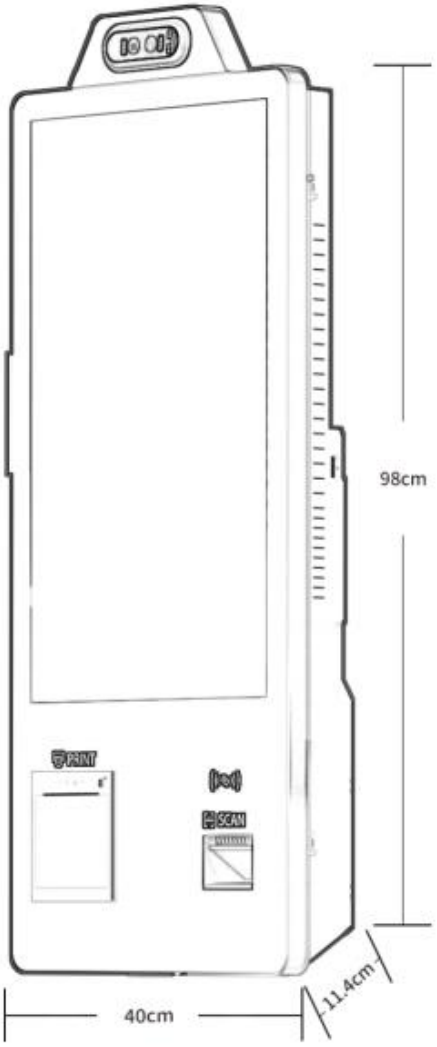
SIZE



Z1 27inch
wall-mounted
40*11.4*98CM

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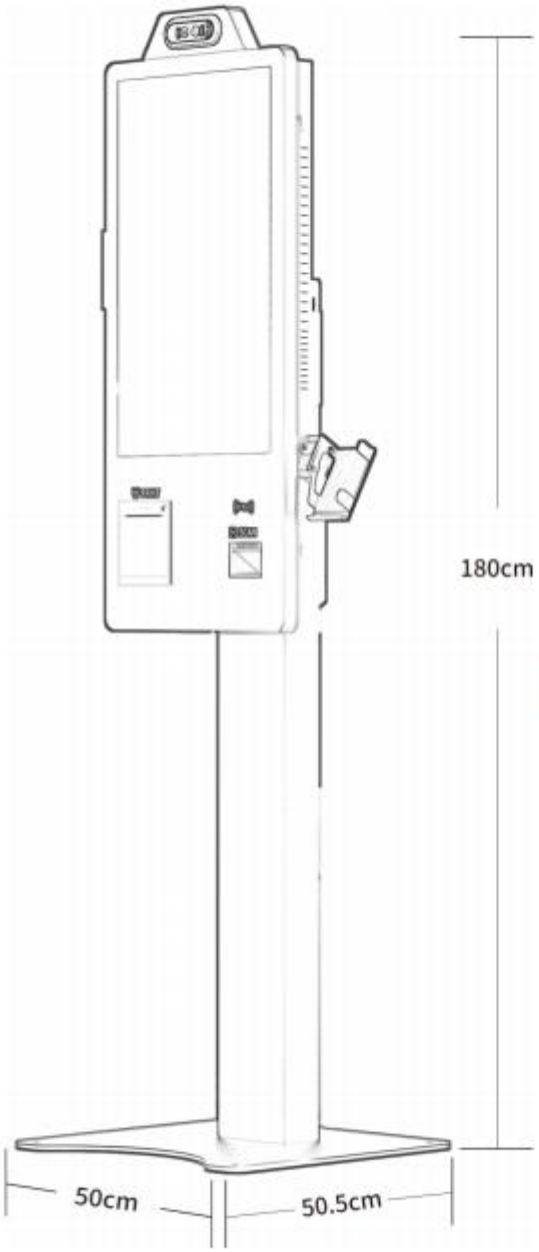

Z1 27inch Floor Stand And Carrying Shelves 50*50.5*180CM

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