DEPTRUM
光鉴科技

Deptrum® P30 Canteen Terminal Product Specification

V1.0 · 2026/10/22

Revision History

Version	Description	Date	Revised by
V1.0	Official release	2026.10.22	Yan Qizhan

1 Usage Guidelines

To keep the device in optimal condition and extend its service life, read this specification carefully before use and observe the following precautions:

- Observe all warnings marked on the device;
- Keep the device away from environments prone to electromagnetic interference or static electricity;
- Use the power adapter supplied with the device;
- Do not share the same AC outlet with high-power appliances or devices that may cause voltage fluctuations;
- Avoid using the device in direct sunlight or near heat sources, cooking fumes, dust or corrosive gases;
- If liquid spills onto the device, disconnect the power immediately and wipe it dry with a dry cloth;
- Do not push any object into the enclosure through its openings; electric shock or short circuit may otherwise occur;
- Clean the device surface regularly. Before cleaning, turn off the power switch, unplug the power cord and wipe with a slightly damp soft cloth;

- Place the power adapter and power cord properly so that the cord is not stepped on or pulled, which could cause the device to fall and be damaged;
- Check the clock accuracy after each power-on. If there is a large deviation (e.g. more than 5 minutes), correct the time before use; otherwise data may be corrupted;
- If the device will not be used for a long time, clean it, keep it tidy and dry, put the device, accessories and user manual back into the original package and store it in a ventilated, dry place;
- Do not disassemble the product by yourself; otherwise the device may be damaged, data may be lost, or electric shock and other hazards may occur. Contact your service provider for repair;
- During installation, installers are advised to wear gloves to avoid scratching the screen;
- If any other abnormality occurs during use, record the device status in detail and contact your service provider.

2 Product Overview

The P30 is a dual-screen canteen terminal for group catering, mainly used in campus, government, enterprise and commercial canteens. It features a 10-inch operator screen plus a 5-inch customer display, and supports palm-scan, QR-code and card payment.

Powered by a Qualcomm Snapdragon octa-core processor, the device supports wired network, Wi-Fi, cellular network and an RJ12 (RS232) peripheral interface for connecting to POS and peripheral systems.

2.1 Applications

- Campus canteens
- Government canteens
- Enterprise canteens
- Commercial canteens

3 Product Features

3.1 High Performance

Powered by a Qualcomm Snapdragon octa-core processor for faster computing and higher performance.

3.2 Hygienic

Fewer contacts with the device during payment, eliminating concerns about transmitting germs.

3.3 OTA Upgrade

In addition to local upgrades via OTG and USB flash drive, the device also supports batch upgrades over the network, which simplifies the upgrade and maintenance of a large number of devices.

3.4 Automatic Clock Calibration

The device periodically synchronizes its clock with the backend server, keeping the clock error within the allowed range and effectively preventing data corruption caused by clock desynchronization.

4 Core Specifications

P30 Canteen Terminal Core Specifications		
General Specifications	Device Dimensions	290 × 260 × 105 mm
	Power Input	12 V DC / 3 A
	Rated Power	18 W, 36 W max.
	Color	Black / orange
	Housing Material	Glass, PC + ABS plastic
Display & Touch	Operator Screen	10-inch IPS LCD, 800 × 1280; capacitive touch, multi-point G+G

P30 Canteen Terminal Core Specifications		
	Customer Display	5-inch IPS LCD, 480 × 854; capacitive touch, multi-point G+G
System & Storage	CPU	Octa-core 1.8 GHz Cortex-A53, Qualcomm Snapdragon 450
	Memory	2 GB LPDDR3
	Storage	16 GB eMMC
	Operating System	Android 7.1.2
	RTC Battery	Power-loss retention supported; battery life > 2 years
	Audio Output	1 speaker; rated power 2 W @ 5 V / 4 Ω / 1 kHz; frequency response 680 Hz ~ 20 kHz; SNR 86 dB @ 5 V / THD = 1% / 1 kHz; SPL 99 dB @ 2 kHz / 2 W
Network & Wireless	Wired Network	10/100 Mbps Base-T auto-negotiation, RJ45
	Wi-Fi	Dual-band 2.4 G / 5 G; 802.11 a/b/g/n/ac; 802.11a TRP ⩾ 7 dBm / TIS ⩽ -65 dBm; 802.11b TRP ⩾ 10 dBm / TIS ⩽ -78 dBm; 802.11g TRP ⩾ 10 dBm / TIS ⩽ -67 dBm; 802.11n TRP ⩾ 7 dBm / TIS ⩽ -62 dBm; 802.11ac TRP ⩾ 3 dBm / TIS ⩽ -62 dBm
	Bluetooth	BT 4.2（BR/EDR + BLE）
	Cellular Network	LTE-FDD: B1 / B3 / B5 / B8; LTE-TDD: B38 / B39 / B40 / B41; TRP ⩾ 15 dBm and TIS ⩽ -87 dBm for all bands, TRP ⩾ 19 dBm and TIS ⩽ -91 dBm for certain bands

P30 Canteen Terminal Core Specifications		
Recognition & Card Reading	Contactless Card Reading	Reading distance 3 ~ 5 cm; read/write time < 0.5 s; operating frequency 13.56 MHz ± 7 kHz; UART rate 9,600 ~ 230,400 bit/s; ISO/IEC 14443A/B and ISO 15693
	Scan Engine	Recognition distance 30 ~ 150 mm; supports 2D codes such as QR Code, PDF417 and DataMatrix (ECC200), and 1D codes such as EAN13 / EAN8 / UPC-A / UPC-E0 / UPC-E1 / Code128 / Code39 / Code93 / CodaBar / Interleaved 2 of 5 / Industrial 25 / Matrix 2 of 5 / Code11 / MSI Plessey / RSS-14
	Palm-scan Distance	5 ~ 12 cm
	QR-code Distance	3 ~ 20 cm
	Palm-scan Camera	RGB 720 × 1024 @ 25 fps； IR 720 × 1024 @ 25 fps
	Palm Module Interface	Type-C (USB 2.0), 5 V 2 A power supply
External Interfaces	USB	2 × USB 2.0 Type-A; 4.8 V ~ 5.2 V / 500 ~ 600 mA per port
	RJ12 Interface	RS232, RJ12 (RJ11 compatible)
	SIM Card Interface	Micro SIM, 1.8 V / 2.95 V auto-adaptive
	Power Interface	5521 DC jack
Operating Environment	Operating Temperature	Max. range -10 °C ~ +50 °C; recommended -10 °C ~ +40 ℃
	Operating Humidity	Max. range 10% ~ 90% RH; recommended 10% ~ 80% RH

5 Product Appearance

5.1 Device Front View (Dual Screen)



Device front view (dual screen)

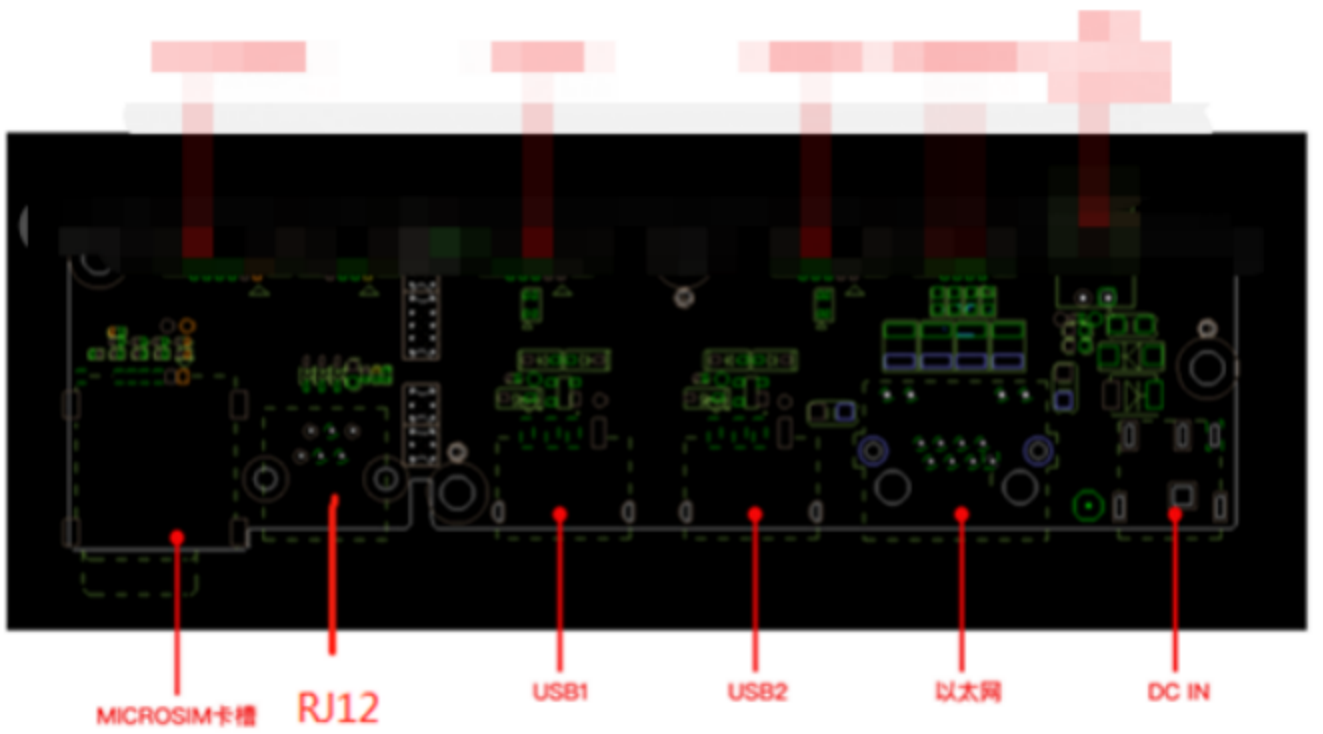
5.2 Device Oblique View



Device oblique view

6 External Interface Description

6.1 Interface Layout



Interface locations

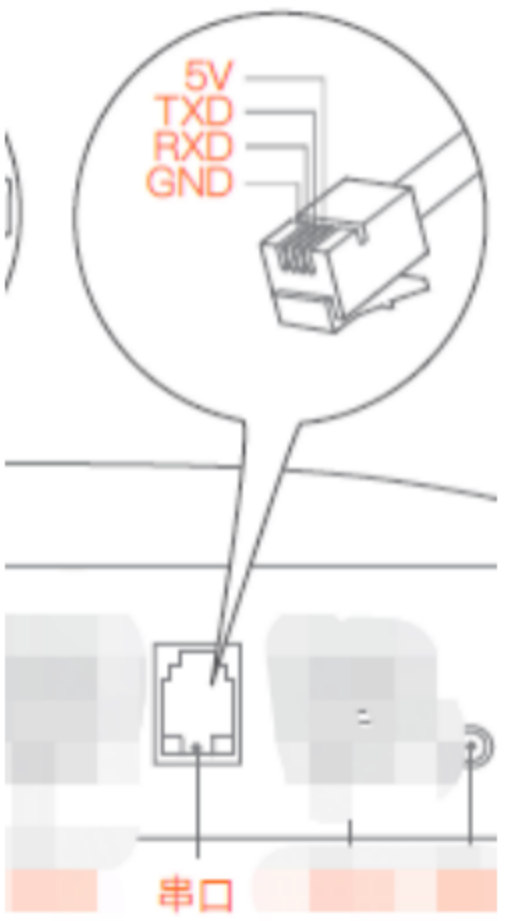
6.2 Interface Description

Interface	Qty	Description
DC 12 V power jack	1	5521 DC jack
Standard Ethernet port	1	10/100 Mbps auto-negotiation
RJ12 Interface	1	RS232, RJ11 compatible
USB 2.0 HOST	2	Type-A
Micro SIM slot	1	1.8 V / 2.95 V auto-adaptive

6.3 Terminal Electrical Definition

Terminal / Pin	Electrical Definition
Power, center positive	12 V
Power, outer negative	GND
RJ12 Pin1	GND
RJ12 Pin2	GND

Terminal / Pin	Electrical Definition
RJ12 Pin3	RS232-RX-IN
RJ12 Pin4	RS232-TX-OUT
RJ12 Pin5	VDD 3.3 V
RJ12 Pin6	GND



RJ12 serial pin definition (5 V / TXD / RXD / GND)

7 Product Packaging

Packaging quantity and box accessories are not provided in the source document; to be confirmed.

8 Troubleshooting

The following table lists common symptoms together with the corresponding checks and solutions for reference. It does not cover every possible fault, but provides a starting point for preliminary diagnosis.

Symptom	Solution
Device does not power on	1. Check that the power outlet is properly connected; 2. Check that the power switch is turned on
No network access or intermittent connection	1. Check that the network cable is properly connected; 2. Check the quality of the network cable and of the cabling; 3. Check that the SIM card is properly inserted
Card reading failure	Run the built-in device test tool to identify the fault
Palm not recognized	1. Check that the palm module is working properly; 2. Check whether the screen protective film has been removed
Unresponsive key	Run the built-in device test tool to identify the fault

9 Warranty

During the warranty period, the supplier shall provide free repair service for any non-human-caused failure of the product.

The following cases are not covered by the free warranty:

(1) Failure or damage caused by incorrect or improper use, maintenance or storage, such as cracking, corrosion or damage of the product or its parts resulting from improper handling, dropping, excessive external force, contact with or exposure to unsuitable temperatures, water immersion or damp environments;

(2) Failure or damage caused by repair, modification or disassembly by an organization or person not authorized by the supplier;

(3) Failure to install the device in accordance with the supplier's product manual or installation video (including but not limited to any non-standard operation such as drilling that may affect the quality or performance of the device);

(4) Failure or damage caused by force majeure or accidents;

(5) Other failure or damage not caused by the quality of the product itself.

Apart from the cases excluded above, the supplier shall repair the product free of charge within 15 working days after receiving the product mailed by the customer, and mail the repaired product back to the customer immediately; each party shall bear its own shipping costs.

For cases not covered by the free warranty, the corresponding repair and shipping costs shall be borne by the customer.

10 Disclaimer

The device application information and other similar content in this specification are provided for your convenience only and may be superseded by updated information. It is your responsibility to ensure that applications comply with the technical specifications. Shenzhen Deptrum Technology Co., Ltd. makes no representation or warranty of any kind, express or implied, written or oral, statutory or otherwise, with respect to such information, including but not limited to any warranty of use, quality, performance, merchantability or fitness for a particular purpose. Deptrum assumes no liability for any consequence arising from such information or from the use of such information. Without the written approval of Shenzhen Deptrum Technology Co., Ltd., Deptrum products shall not be used as critical components in life support systems. No license is granted, implicitly or otherwise, under any Deptrum intellectual property rights.

11 Technical Support

You can obtain support through the following channels:

- Email support: send your questions to support@deptrum.com
- FAE support: contact our sales representatives for the FAE contact details