

ZKBot-D1

Smart and Reliable Food Delivery Robot



ZKTeco presented ZKBot-D1, an intelligent food delivery robot that can navigate autonomously and accurately deliver food to the dining table.

ZKBot-D1 equips with laser SLAM (Simultaneous Localisation and Mapping) and Visual SLAM, which offers precise positioning and enhances obstacle-sensing capabilities. Also, a multi-sensor fusion algorithm lets the ZKBot-D1 cruise efficiently in an aisle as narrow as 80 cm.

ZKBot-D1 can optimize its battery use and save energy by automatic charging. As a result, ZKBot-D1 returns to its charging station without manual operation. Users can set the charging station freely.

Features



Precise Positioning



Autonomous Navigation



Various Delivery Modes



Automatic Charging

Specifications

Operating System Android 5.1.1 CPU RK3128 Overall Size Dimension Diameter: 500mm: Height: 1300mm Screen Size 7 inch LED TH Touchscreen (resolution 1024*600) Tray Size (L*W) 320*400mm Number of Tray 3 Single Tray Loading Capacity 10kg Machine Total Loading Capacity 30kg Moving Speed: 0.1—0.8m/5 Narrowest, Aisle Moving (width): 80cm Climbing =5° Rotation Radius: 360° (Avoiding Obstacle) Swing Radius: 254mm Navigation Method Laser Navigation + Visual Positioning + Visual Obstacle Avoidance Lidar Laser Wavelength 905 mm, Working area 270° Infrared Camera Two-dimensional Code Positioning (the height of the two-dimensional code from the camera is 1-3m or 1-3m); million pixels 3D Camera Recognition Range: 45 degrees up and down, 58 degrees left and right Wi-Fi (Support dual frequency 2.4 & 5 GHz Wi-Fi IEEE 802.11b/g/n.); 45 LBTE (Card Sict) Memory If G (PDDDR3) FLASH 8G (Bull-in NAND) USB Communication Interface Battery Capacity About 10 hours Charging Time About 10 hours Charging Time Software Software Chassis Material ABS Plastic Operating Temperature: 5°C to 40°C Environmental Requirements Certifications Certifications Certifications Certifications	Model	ZKBot-D1
Overall Size Dimension Screen Size 7 Inch LCD TFT Touchscreen (resolution 1024*600) Tray Size (L*W) 320*400mm Number of Tray 3 Single Tray Loading Capacity 10kg Machine Total Loading Capacity 30kg Moving Speed: 0.1~0.8m/s Narrowest Aisle Moving (width): 80cm Climbing:≤5* Rotation Radius: 360* (Avoiding Obstacle) Swing Radius: 254mm Navigation Method Lidar Laser Navigation + Visual Positioning + Visual Obstacle Avoidance Lidar Laser Wavelength 905 nm, Working area 270* Two-dimensional Code Positioning (the height of the two-dimensional code from the camera is 1-3 m or 1-5 m); 5 million pixels 3D Camera Recognition Range: 45 degrees up and down, 58 degrees left and right Wi-Fi (Support dual frequency 2.4 & 5 GHz Wi-Fi IEEE 802.11b/g/n); 4Ci I i Coard Slot) Memory 1G (LPDDDR3) FLASH 8G (Bullt-in NAND) USB Communication Interface Battery Capacity A/A (About 8 hours), 7A (About 5 hours) Finedded Mobile Application (Delivery) Robot Management Software: 6PC to 40°C Operating Temperature: 5°C to 40°C Operating Temperature: 5°C to 50°C	Operating System	Android 5.1.1
Screen Size Tinch LCD LFT Touchscreen (resolution 1024*600) Tray Size (L*W) 320*400mm Number of Tray 3 Single Tray Loading Capacity 10kg Machine Total Loading Capacity Moving Speed: 0.1~0.8m/s Narrowest Aisle Moving (width): 80cm Climbing::S5* Rotation Radius: 360* (Avoiding Obstacle) Swing Radius: 254mm Laser Navigation + Visual Positioning + Visual Obstacle Avoidance Lidar Laser Wavelength 905 nm, Working area 270* Two-dimensional Code Positioning the height of the two-dimensional code from the camera is 1-3m or 1-5m); 5 million pixels 3D Camera Recognition Range: 45 degrees up and down, 58 degrees left and right Wi-FI (Support dual frequency 2.4 8.5 GHz Wi-FI EEE 802.11b/g/n); 4G LTE (Card Stot) Memory 1G (LPDDDR3) FLASH 8G (Bult-In NAND) USB Communication Interface Micro USB Interface Battery Capacity 4A (About 8 hours), 7A (About 5 hours) Fmbedded Mobile Application (Delivery) Robot Management Software: (B/S Basic Server) ABS Plastic Operating Immerements Chassis Material ABS Plastic Operating Immegrature: 5°C to 40°C Operating Humidity: 59% to 85% RH Storage Temperature: 0°C to 50°C	CPU	RK3128
Tray Size (L*W) Number of Tray Single Tray Loading Capacity Machine Total Loading Capacity Moving Speed: 0.1~0.8m/s Narrowest Alsie Moving (width): 80cm Climbing: S° Rotation Radius: 360" (Avoiding Obstacle) Swing Radius: 254mm Navigation Method Lidar Laser Navigation + Visual Positioning + Visual Obstacle Avoidance Lidar Infrared Camera Two-dimensional Code Positioning the height of the two-dimensional code from the camera is 1-3m or 1-5m); S million pixels 3D Camera Recognition Range: 45 degrees up and down, 58 degrees left and right Wi-Fi (Support dual frequency 2.4 & 5 GHz Wi-Fi IEEE 802.11b/g/n); 4G LTE (Card Slot) Memory IG (IPDDDR3) FLASH BG (Bult-in NAND) USB Communication Interface Battery Capacity About 10 hours Charging Time A/A (About 8 hours), 7A (About 5 hours) Lmbedded Mobile Application (Delivery) Robot Management Software: (B/S Basic Server) A/BS Plastic Operating Temperature: 5°C to 40°C Operating Temperature: 5°C to 40°C Operating Temperature: 0°C to 50°C	Overall Size Dimension	Diameter: 500mm ; Height: 1300mm
Number of Tray Single Tray Loading Capacity Machine Total Loading Capacity Moving Speed: 0.1~0.8m/s Narrowest Aisle Moving (width): 80cm Climbing≤5* Rotation Radius: 254mm Navigation Method Lidar Laser Navigation + Visual Positioning + Visual Obstacle Avoidance Lidar Laser Wavelength 905 nm, Working area 270* Two-dimensional Code Positioning (the height of the two-dimensional code from the camera is 1-3m or 1-5m); 5 million pixels 3D Camera Recognition Range: 45 degrees up and down, 58 degrees left and right Wi-Fi (Support dual frequency 2.4 & 5 GHz Wi-Fi IEEE 802.11b/g/n); 4G (I'ET (Card Slot) Memory 1G (I'PDDDR3) FLASH 8G (Built-in NAND) USB Communication Interface Battery Capacity About 10 hours Charging Time 4A (About 8 hours), 7A (About 5 hours) Embedded Mobile Application (Delivery) Robot Management Software: (B/S Basic Server) Chassis Material ABS Plastic Operating Turnidity: 5% to 85% RH Storage Temperature: 5°C to 50°C	Screen Size	7 inch LCD TFT Touchscreen (resolution 1024*600)
Single Tray Loading Capacity Machine Total Loading Capacity Moving Speed: 0.1–0.8m/s Moving Speed: 0.1–0.8m/s Narrowest Aisle Moving (width): 80cm Climbing:s5° Rotation Radius: 250° (Avoiding Obstacle) Swing Radius: 2540° (Avoiding Obstacle) Swing Radius: 2540° (Avoiding Obstacle) Swing Radius: 2540° (Avoiding Obstacle) Lidar Laser Navigation + Visual Positioning + Visual Obstacle Avoidance Lidar Laser Wavelength 905 nm, Working area 270° Infrared Camera Infrared Camera Recognition Range: 45 degrees up and down, 58 degrees left and right Communication Wi-Fi (Support dual frequency 2.4 & 5 GHz Wi-Fi IEEE 802.11b/g/n); 4CL LL (Card Slot) Memory 1G (I.P.D.D.DR3) FLASH 8G (Built-in NANLD) USB Communication Interface Micro USB interface Battery Capacity About 10 hours Charging Time 4A (About 8 hours), 7A (About 5 hours) Embedded Mobile Application (Delivery) Robot Management Software: (8/5 Basic Server) Chassis Material ABS Plastic Operating Temperature: 5°C to 40°C Operating Temperature: 5°C to 50°C	Tray Size (L*W)	320*400mm
Machine Total Loading Capacity Moving Speed: 0.1~0.8m/s Narrowest Alsle Moving (width): 80cm Climbing:≤5° Rotation Radius: 360° (Avoiding Obstacle) Swing Radius: 254mm Navigation Method Laser Navigation + Visual Positioning + Visual Obstacle Avoidance Lidar Laser Wavelength 905 nm, Working area 270° Infrared Camera Two-dimensional Code Positioning (the height of the two-dimensional code from the camera is 1-3m or 1-5m); 5 million pixels 3D Camera Recognition Range: 45 degrees up and down, 58 degrees left and right Wi-Fi (Support dual frequency 2.4 & 5 GHz Wi-Fi IEEE 802.11 b/g/n); 4G LTE (Card Stot) Memory 1G (LPDDR3) FLASH 8G (Built-in NAND) USB Communication Interface Micro USB interface Battery Capacity About 10 hours Charging Time 4A (About 8 hours), 7A (About 5 hours) Lmbedded Mobile Application (Delivery) Robot Management Software: (B/S Basic Server) ABS Plastic Operating Humidity: 5% to 85% BH Storage Temperature: 0°C to 50°C	Number of Tray	3
Moving Speed: 0.1~0.8m/s Narrowest Aisle Moving (width): 80cm Climbing:≤5° Rotation Radius: 360° (Avoiding Obstacle) Swing Radius: 254mm Navigation Method Laser Navigation + Visual Positioning + Visual Obstacle Avoidance Lidar Laser Wavelength 905 nm, Working area 270° Infrared Camera Two-dimensional Code Positioning (the height of the two-dimensional code from the camera is 1-3m or 1-5m); 5 million pixels 3D Camera Recognition Range: 45 degrees up and down, 58 degrees left and right Wi-Fi (Support dual frequency 2.4 & 5 GHzWi-Fi IEEE 802.11b/g/n); 4G LTE (Card Slot) Memory 1G (LPDDDR3) FLASH 8G (Built-in NAND) USB Communication Interface Battery Capacity About 10 hours Charging Time 4A (About 8 hours), 7A (About 5 hours) Embedded Mobile Application (Delivery) Robot Management Software: (B/S Basic Server) Chassis Material ABS Plastic Operating Humidity: 5% to 85% BH Storage Temperature: 0°C to 50°C	Single Tray Loading Capacity	10kg
Narrowest Alsle Moving (width): 80cm Climbing:≤59 Rotation Radius: 360° (Avoiding Obstacle) Swing Radius: 254mm Navigation Method Lidar Laser Wavelength 905 nm, Working area 270° Infrared Camera Two-dimensional Code Positioning (the height of the two-dimensional code from the camera is 1-3m or 1-5m); 5 million pixels 3D Camera Recognition Range: 45 degrees up and down, 58 degrees left and right Communication Wi-Fi (Support dual frequency 2.4 & 5 GHz Wi-Fi IEEE 802.11b/g/n); 4G LTE (Card Slot) Memory IG (LPDDDR3) FLASH 8G (Built-in NAND) USB Communication Interface Battery Capacity About 10 hours Charging Time 4A (About 8 hours), 7A (About 5 hours) Chassis Material ABS Plastic Operating Temperature: 5°C to 40°C Operating Humidity: 5% to 85% RH Storage Temperature: 0°C to 50°C	Machine Total Loading Capacity	30kg
Move Parameters Climbing:≤5° Rotation Radius: 360° (Avoiding Obstacle) Swing Radius: 254mm Navigation Method Laser Navigation + Visual Positioning + Visual Obstacle Avoidance Lidar Laser Wavelength 905 nm, Working area 270° Infrared Camera Two-dimensional Code Positioning (the height of the two-dimensional code from the camera is 1-3m or 1-5m); 5 million pixels 3D Camera Recognition Range: 45 degrees up and down, 58 degrees left and right Communication Wi-Fi (Support dual frequency 2.4 & 5 GHz Wi-Fi IEEE 802.11b/g/n); 4G LTE (Card Slot) Memory 1G (LPDDDR3) FLASH 8G (Built-in NAND) USB Communication Interface Micro USB interface Battery Capacity About 10 hours Charging Time 4A (About 8 hours), 7A (About 5 hours) Charging Time 4A (About 8 hours), 7A (About 5 hours) Chassis Material ABS Plastic Operating Temperature: 5°C to 40°C Operating Humidity: 5% to 85% RH Storage Temperature: 0°C to 50°C	Move Parameters	Moving Speed: 0.1~0.8m/s
Rotation Radius: 360° (Avoiding Obstacle) Swing Radius: 254mm Navigation Method Laser Navigation + Visual Positioning + Visual Obstacle Avoidance Lidar Laser Wavelength 905 nm, Working area 270° Infrared Camera Two-dimensional Code Positioning (the height of the two-dimensional code from the camera is 1-3m or 1-5m); 5 million pixels 3D Camera Recognition Range: 45 degrees up and down, 58 degrees left and right Wi-Fi (Support dual frequency 2.4 & 5 GHz Wi-Fi IEEE 802.11b/g/n); 4G LTE (Card Slot) Memory IG (LPDDDR3) FLASH 8G (Built-in NAND) USB Communication Interface Micro USB interface Battery Capacity 24V 20AH Battery Life About 10 hours Charging Time 4A (About 8 hours), 7A (About 5 hours) Software Chassis Material ABS Plastic Operating Temperature: 6°C to 40°C Environmental Requirements Operating Humidity: 5% to 85% RH Storage Temperature: 0°C to 50°C		Narrowest Aisle Moving (width): 80cm
Swing Radius: 254mm Navigation Method Laser Navigation + Visual Positioning + Visual Obstacle Avoidance Lidar Laser Wavelength 905 nm, Working area 270° Infrared Camera Two-dimensional Code Positioning (the height of the two-dimensional code from the camera is 1-3m or 1-5m); 5 million pixels 3D Camera Recognition Range: 45 degrees up and down, 58 degrees left and right Communication Wi-Fi (Support dual frequency 2.4 & 5 GHz Wi-Fi IEEE 802.11b/g/n); 4G LTE (Card Slot) Memory IG (LPDDDR3) FLASH 8G (Built-in NAND) USB Communication Interface Micro USB interface Battery Capacity 24V 20AH Battery Life About 10 hours Charging Time 4A (About 8 hours), 7A (About 5 hours) Software Embedded Mobile Application (Delivery) Robot Management Software: (B/S Basic Server) Chassis Material ABS Plastic Operating Temperature: 5°C to 40°C Operating Humildity: 5% to 85% RH Storage Temperature: 0°C to 50°C		Climbing:≤5°
Navigation Method Lidar Laser Navigation + Visual Positioning + Visual Obstacle Avoidance Lidar Laser Wavelength 905 nm, Working area 270° Two-dimensional Code Positioning (the height of the two-dimensional code from the camera is 1-3 m or 1-5 m); 5 million pixels 3D Camera Recognition Range: 45 degrees up and down, 58 degrees left and right Communication Wi-Fi (Support dual frequency 2.4 & 5 GHz Wi-Fi IEEE 802.11b/g/n); 4G LTE (Card Slot) Memory 1G (LPDDDR3) FLASH 8G (Built-in NAND) USB Communication Interface Micro USB interface Battery Capacity 24V 20AH Battery Life About 10 hours 4A (About 8 hours), 7A (About 5 hours) Charging Time 4A (About 8 hours), 7A (About 5 hours) Embedded Mobile Application (Delivery) Robot Management Software: (B/S Basic Server) Chassis Material ABS Plastic Operating Temperature: 5°C to 40°C Operating Humidity: 5% to 85% RH Storage Temperature: 0°C to 50°C		Rotation Radius: 360° (Avoiding Obstacle)
Lidar Laser Wavelength 905 nm, Working area 270° Infrared Camera Two-dimensional Code Positioning (the height of the two-dimensional code from the camera is 1-3m or 1-5m); 5 million pixels 3D Camera Recognition Range: 45 degrees up and down, 58 degrees left and right Communication Wi-Fi (Support dual frequency 2.4 & 5 GHz Wi-Fi IEEE 802.11b/g/n); 4G LTE (Card Slot) Memory 1G (LPDDDR3) FLASH 8G (Built-in NAND) USB Communication Interface Micro USB interface Battery Capacity 24V 20AH Battery Life About 10 hours Charging Time 4A (About 8 hours), 7A (About 5 hours) Software Embedded Mobile Application (Delivery) Robot Management Software: (8/S Basic Server) Chassis Material ABS Plastic Operating Temperature: 5°C to 40°C Operating Humidity: 5% to 85% RH Storage Temperature: 0°C to 50°C		Swing Radius: 254mm
Infrared Camera Two-dimensional Code Positioning (the height of the two-dimensional code from the camera is 1-3m or 1-5m); 5 million pixels Recognition Range: 45 degrees up and down, 58 degrees left and right Wi-Fi (Support dual frequency 2.4 & 5 GHz Wi-Fi IEEE 802.11b/g/n); 4G LTE (Card Slot) Memory IG (LPDDDR3) FLASH 8G (Built-in NAND) USB Communication Interface Micro USB interface Battery Capacity About 10 hours Charging Time 4A (About 8 hours), 7A (About 5 hours) Embedded Mobile Application (Delivery) Robot Management Software: (B/S Basic Server) Chassis Material ABS Plastic Operating Temperature: 5°C to 40°C Operating Humidity: 5% to 85% RH Storage Temperature: 0°C to 50°C	Navigation Method	Laser Navigation + Visual Positioning + Visual Obstacle Avoidance
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Communication Wi-Fi (Support dual frequency 2.4 & 5 GHz Wi-Fi IEEE 802.11b/g/n); 4G LTE (Card Slot) Memory 1G (LPDDDR3) FLASH 8G (Built-in NAND) USB Communication Interface Micro USB interface Battery Capacity 24V 20AH Battery Life About 10 hours Charging Time 4A (About 8 hours), 7A (About 5 hours) Software Embedded Mobile Application (Delivery) Robot Management Software: (B/S Basic Server) Chassis Material ABS Plastic Operating Temperature: 5°C to 40°C Operating Humidity: 5% to 85% RH Storage Temperature: 0°C to 50°C	Infrared Camera	
Memory 1G (LPDDDR3) FLASH 8G (Built-in NAND) USB Communication Interface Micro USB interface Battery Capacity 24V 20AH Battery Life About 10 hours Charging Time 4A (About 8 hours), 7A (About 5 hours) Embedded Mobile Application (Delivery) Robot Management Software: (B/S Basic Server) Chassis Material ABS Plastic Operating Temperature: 5°C to 40°C Environmental Requirements Operating Humidity: 5% to 85% RH Storage Temperature: 0°C to 50°C	3D Camera	Recognition Range: 45 degrees up and down, 58 degrees left and right
FLASH 8G (Built-in NAND) USB Communication Interface Micro USB interface Battery Capacity 24V 20AH Battery Life About 10 hours Charging Time 4A (About 8 hours), 7A (About 5 hours) Software Embedded Mobile Application (Delivery) Robot Management Software: (B/S Basic Server) Chassis Material ABS Plastic Operating Temperature: 5°C to 40°C Environmental Requirements Operating Humidity: 5% to 85% RH Storage Temperature: 0°C to 50°C	Communication	
Battery Capacity Battery Life About 10 hours Charging Time 4A (About 8 hours), 7A (About 5 hours) Software Embedded Mobile Application (Delivery) Robot Management Software: (B/S Basic Server) Chassis Material ABS Plastic Operating Temperature: 5°C to 40°C Environmental Requirements Operating Humidity: 5% to 85% RH Storage Temperature: 0°C to 50°C	Memory	1G (LPDDDR3)
Battery Capacity Battery Life About 10 hours Charging Time 4A (About 8 hours), 7A (About 5 hours) Embedded Mobile Application (Delivery) Robot Management Software: (B/S Basic Server) Chassis Material ABS Plastic Operating Temperature: 5°C to 40°C Environmental Requirements Operating Humidity: 5% to 85% RH Storage Temperature: 0°C to 50°C	FLASH	8G (Built-in NAND)
Battery Life About 10 hours Charging Time 4A (About 8 hours), 7A (About 5 hours) Software Embedded Mobile Application (Delivery) Robot Management Software: (B/S Basic Server) Chassis Material ABS Plastic Operating Temperature: 5°C to 40°C Operating Humidity: 5% to 85% RH Storage Temperature: 0°C to 50°C	USB Communication Interface	Micro USB interface
Charging Time 4A (About 8 hours), 7A (About 5 hours) Software Embedded Mobile Application (Delivery) Robot Management Software: (B/S Basic Server) Chassis Material ABS Plastic Operating Temperature: 5°C to 40°C Operating Humidity: 5% to 85% RH Storage Temperature: 0°C to 50°C	Battery Capacity	24V 20AH
Software Embedded Mobile Application (Delivery) Robot Management Software: (B/S Basic Server) Chassis Material ABS Plastic Operating Temperature: 5°C to 40°C Operating Humidity: 5% to 85% RH Storage Temperature: 0°C to 50°C	Battery Life	About 10 hours
Robot Management Software: (B/S Basic Server) Chassis Material ABS Plastic Operating Temperature: 5°C to 40°C Environmental Requirements Operating Humidity: 5% to 85% RH Storage Temperature: 0°C to 50°C	Charging Time	4A (About 8 hours), 7A (About 5 hours)
Operating Temperature: 5°C to 40°C Environmental Requirements Operating Humidity: 5% to 85% RH Storage Temperature: 0°C to 50°C	Software	
Environmental Requirements Operating Humidity: 5% to 85% RH Storage Temperature: 0°C to 50°C	Chassis Material	ABS Plastic
Storage Temperature: 0°C to 50°C		Operating Temperature: 5°C to 40°C
	Environmental Requirements	Operating Humidity: 5% to 85% RH
Certifications CE; ISO9001		Storage Temperature: 0°C to 50°C
	Certifications	CE; ISO9001

Product Description



Applications









Restaurant Hotel Office Building Shopping Mall



