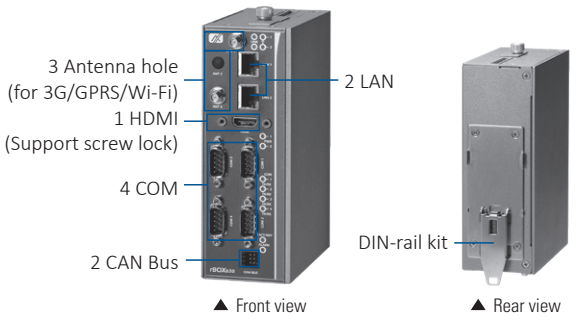
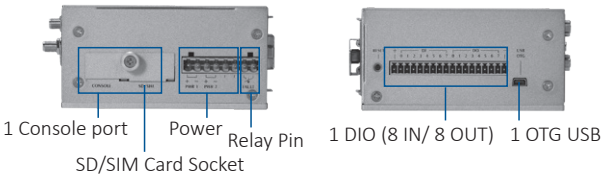
rBOX630

Robust RISC-based DIN-rail Fanless Embedded System with i.MX 6 Processor 4 COM, 2 CAN Bus and DIO



▲ Front view ▲ Rear view



▲ Easy-to-access interface

Features

- Fanless design
- RISC-based module (i.MX 6) processor
- 1GB DDR3 SDRAM onboard
- 8GB eMMC on board
- Completed industrial AP development software
- 12- 48 VDC wide range power input with terminal block
- Ready-to-run embedded Linux operating system
- Wide operating temperature range from-40°C to +70°C

Introduction

The rBOX630 cost-effective DIN-rail fanless embedded system utilizes the low power RISC-based module (i.MX 6) processor and is designed to withstand temperatures ranging from-40°C to +70°C for using in harsh environment and industrial automation applications.

The rBOX630 features 4 RS-232/422/485 serial ports, dual LANs, 8 digital input channels, 8 digital output channels, 2 CAN bus and 1 eMMC onboard 8 GB & 1 x SDHC socket for storage expansion (easy to access) in a compact, IP30 protected, industrial-strength robust case. Two power paths input minimize the risk of data loss in the event of a single power failure. Its vertical DIN-rail form factor makes it easy to install the system in a small cabinet. Because of ARM's low power consumption architecture, rBOX630 generate little heat while being operated. The ready-to-run rBOX630 is specially designed for industrial machine, automatic parking lot, traffic cabinet and more.

Specifications

Standard Color	Sliver-Black	
Construction	Extruded aluminum and heavy-duty steel, IP30	
CPU	i.MX 6, Cortex-A9 RISC CPU, 800MHz	
System Board	Q7M120	
System Memory	1 x DDR3-1600 onboard, 1GB	
System I/O Outlet	Serial Port	4 x RS-232/422/485 (COM 1-4) COM 1-4 with TX/RX/RTS/CTS signals RS-232/422/485 interface select by software
	LAN	1 x 10/100/1000 Mbps Ethernet 1 x 10/100 Mbps Ethernet Magnetic isolation protection 1.5 KV
System I/O Outlet	HDMI	1 x HDMI (Support screw lock)
	USB	1 x USB 2.0 OTG
	CAN	2 CAN 2.0 B (Phoenix connector, non-isolation) Meets ISO 11898 standard Software control termination resistor 120 ohm can high speed up to 1Mbit/s for transmit/receive

Specifications

System I/O Outlet	DIO	1 x DIO (8-in/ 8-out) with Isolation 2 KV DI: Wet/Dry DO: Wet DI: Input channels: 8, source type Input voltage: 0 to 30 VDC digital input levels for dry contacts: -Logic level 0: close to GND -Logic level 1: open Digital input levels for wet contacts : -Logic level 0: +10V to +24V (DI to COM-) -Logic level 1: +3V max. DO : Output channels: 8, sink type Output current: Max. 200 mA per channel On-state voltage: 24 VDC nominal, open collector to 30 V Optical isolation protection 2 KV
	Console Port	DB9 connector For user setting with debug
	RTC	Battery onboard Provides power for the internal real time clock & calendar Ideal for vibration environment & reduces maintenance efforts
	Alarm Contact	One relay output with current 0.5A@30 VDC

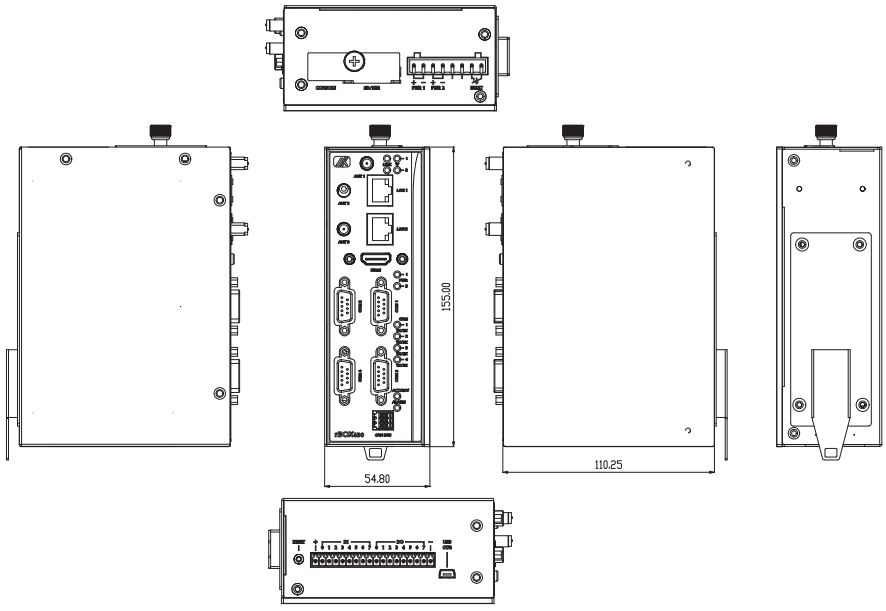
Hardware Specifications

System I/O Outlet	Wireless	1 x Mini card socket (supports USB interface) with 1 x SIM Socket by outside access and is easy plug/pull. 1 x Mini card socket (supports USB & PCIE interface) with 1 x SIM Socket by inside
Watchdog Timer	WDT 1: one step is 1 sec, 255 levels	
LEDs	System	Power, Alarm, Ready/Active, COM (TX, RX), Wireless
	Alarm	DC PWR1 or PWR2
Storage	1 x eMMC 8 GB onboard (for boot disk) Supports 1 x SDHC Card (easy-to-access, for store only.)	
Installation	DIN-rail, wall mount	
Power Supply	Power Input	2 power paths with terminal block
	Power Input Range	12-48 VDC
	Power Input Rating	12-48 VDC, 0.74-0.23A
	Power Protection	DC Version: OVP (Over voltage protection) UVP (Under voltage protection) Reverse protection
Operating Temperature	-40°C to +70°C (-40°F to +158°F)	
Humidity	10% - 95%	
Vibration Endurance	5G @ 10-150Hz, amplitude 0.35ms	
Weight (net/gross)	0.9 kg (2 lb)/1.3kg (2.87 lb)	
Dimensions	55 mm (2.16") (W) x 110 mm (4.33") (D) x 155 mm (6.10") (H)	
OS Linux	OS: Yocto 3.3 (Hardknott) Kernel: 5.10.72	
Certificate	FCC Part 18 Heavy Industrial CE	

Ordering Information

Standard	
rBOX630-DL8E-A (P/N:E26M630104)	Robust DIN-rail fanless embedded system with Q7-RISC module (i.MX 6), 8GB eMMC, 4 COM, 2 CAN, and DIO (-40°C to +70°C)
Optional	
826M1000040E	Wall mount kit
Wireless (3G/GPS or Wi-Fi) module	

Packing List

8 x Screws
1 x Din-rail kit
1 x Console cable
1 x 6-pin terminal block for CANbus port
1 x 8-pin terminal block for power port
1 x 18-pin terminal block for DIO port

Dimensions