

# IRU131

Robust RISC-based DIN-rail Fanless Embedded System with i.MX 6UL Processor, COM, LAN, DIO (2-in/2-out) and 2 PCIe Mini Card Slots

## Features

- RISC-based (i.MX 6UltraLite) processor 528 MHz
- 512MB DDR3 SDRAM onboard
- 8GB eMMC flash onboard
- 2 PCI Express Mini Card slots (Wi-Fi, 3G/4G or LoRa)
- 1 isolated COM port
- 1 isolated DIO (2-in/2-out)
- Power input range of 9V to 48V DC with terminal block
- Embedded Linux operating system (Yocto)
- Wide operating temperature range from -40°C to +70°C
- Supports OPC UA



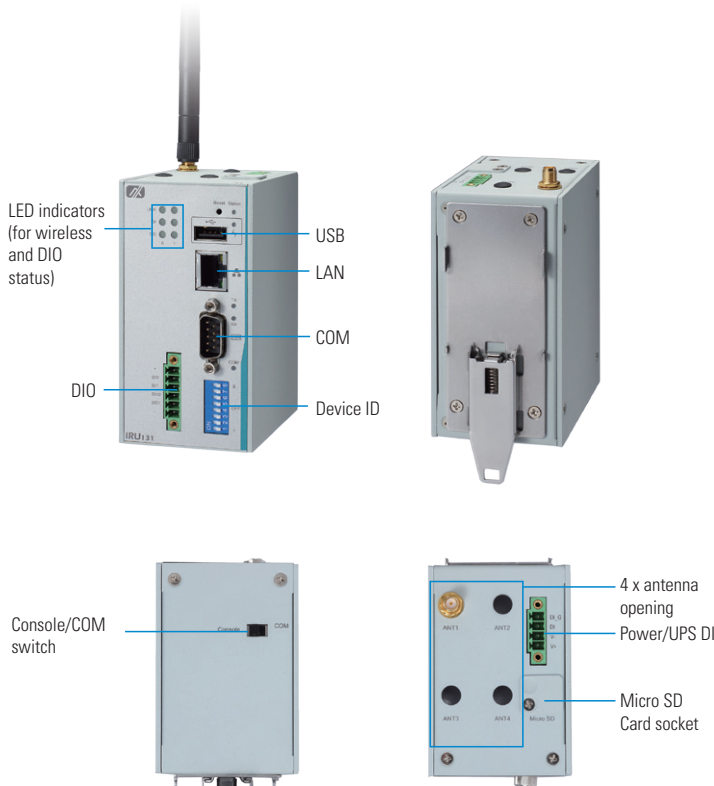
## Introduction

The IRU131 DIN-rail fanless embedded system utilizes a low power RISC based (i.MX6 UL) processor and is designed to withstand temperatures ranging from -40°C to +70°C for applications in extreme operating environment and industrial automation.

The IRU131 supports one RS-232/422/485 serial ports, one LAN port, two digital input channels, two digital output channels and two wireless sockets. Its vertical DIN-rail form factor makes it easy to install the system in a small cabinet. The ready-to-run IRU131 is specially designed for remote control/ monitoring management applications ideal in a unmanned control room, an industrial machine, an automatic parking lot, a traffic cabinet, just to name a few.

## Specifications

Construction	Extruded aluminum and heavy-duty steel, IP40	
CPU	NXP i.MX 6 UL processor, ARM® Cortex®-A7 @ 528 MHz	
System Memory	1 x DDR3-1600 onboard, 512 MB	
System I/O Outlet	Serial Port	1 x RS-232/422/485 Magnetic isolation protection 2 KV
	LAN	1 x 10/100 Mbps Ethernet Magnetic isolation protection 1.5 KV
	USB	1 x USB 2.0
	DIO	1 x DIO (2-in/2-out) with isolation 2 KV DI: wet/dry DO : wet DI: Input channels: 2 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: 2, sink type Output current: max. 200 mA per channel On-state voltage: 24 VDC nominal, open collector to 30V Optical isolation protection 2 KV



System I/O Outlet	Console Port	Yes For user setting with debug
	EEPROM	1 x EEPROM (2 Kb)
	Device ID	ID setting 0 to 255
	Wireless	2 x PCI Express Mini Card slot (USB signal only) 1 x SIM card socket
Watchdog Timer	0.5 to 128 sec. with a time resolution of 0.5 sec.	
RTC	Yes ( RTC battery on board)	
LEDs	2 x LED for dual wireless status	
	2 x LED for DI status	
	2 x LED for DO status	
Storage	1 x eMMC 8GB flash onboard	
Power Supply	9 to 48 VDC	
Operating Temperature	-40°C to +70°C (-40°F to +158°F)	
Storage Temperature	-45°C to +85°C (-49°F to +185°F)	
Humidity	10% to 95%	
Vibration Endurance	2 Gms @ (10 to 150Hz sine wave; operation)	
Dimensions	55 mm (2.16") (W) x 82 (3.23") mm (D) x 108 (4.25") (H)	
Weight (net/gross)	0.3 kg (0.66 lb)/0.50 kg (1.10 lb)	
Installation	DIN-rail	
Certifications	FCC part 15, Heavy Industrial CE	

## Wireless Specifications

4G module	4G Mini card LTE SIERRA AIRPRIME MC7304 (Option)	Standards: LTE Cat.3 Interface: USB Radio Band/ Frequencies (MHz): 850(5) / 900(8) / 1800(3) / 1900(2) @GSM 850(5) / 900(8) / 1900(2) / 2100(1) @UMTS 800(20) / 900(8) / 1800(3) / 2100(1) / 2600(7) @FDD LTE Region: Global
Wi-Fi module	Wi-Fi Mini card Sparklan WPEQ-160ACN (Option)	Qualcomm Atheros QCA9377-7 Antenna:2xUFL connectors, 1T1R Operating Frequency: 802.11 ac/a/b/g/n ISM Band 2.412 GHz to 2.472 GHz 5.180 MHz to 5.825 MHz Interface: USB Region: Global
3G module	3G Mini card Quectel UC20G (Option)	UMTS:800/ 850/ 900/ 1900/ 2100MHz GSM/EDGE 850/ 900/1800/ 1900MHz Region: Global
4G module	4G Mini card LTE RYR2800 (uBlox R280) (Option)	Standards: LTE Cat.1 Interface: USB Radio Band/ Frequencies (MHz): LTE bands1, 3,5,7,8,28 Region: TW, AU
	4G Mini card LTE RYR2110 (uBlox R211) (Option)	Standards: LTE Cat.1 Interface: USB Radio Band/ Frequencies (MHz): LTE bands1, 3,7,20 Region: EU

## Ordering Information

### Standard

IRU131-FL-DC (P/N: E271131100)	Robust DIN-rail fanless embedded system with i.MX 6UL processor, COM, LAN, DIO (2-in/2-out) and 2 PCIe Mini Card slots
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### Optional

Wireless (3G/GPS or Wi-Fi) module

## Packing list

- 1 x CD
- 8 x Screws
- 1 x Din-rail kit
- 1 x 4-pin terminal block for power port
- 1 x 6-pin terminal block for DIO port

## Dimensions

