IRU131-SI
Robust RISC-based DIN-rail Fanless Embedded System with i.MX 6UL Processor, COM, LAN, DIO 2-in, source type/2-out, sink type 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, Source Type/2-out, Sink Type
- 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 port, 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 6UL 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
  - DI: open
  - Input channels: 2 source type
  - Input voltage: 0 to 24 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 1: +3V max.
  - 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

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<tr>
<th>Module</th>
<th>Description</th>
<th>Standards</th>
<th>Interface</th>
<th>Region</th>
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<td>4G Mini card LTE SIERRA AIRPRIME MC7304 (Option)</td>
<td>LTE Cat.3</td>
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<td>Wi-Fi module</td>
<td>Wi-Fi Mini card Sparklan WPEG-160ACN (Option)</td>
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<td>3G module</td>
<td>3G Mini card Quectel UC20G (Option)</td>
<td>UMTS 800/850/900/1900/2100MHz, GSM EDGE 850/900/1800/1900MHz</td>
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<td>4G module</td>
<td>4G Mini card LTE RYR2800 (uBlox R290) (Option)</td>
<td>LTE Cat.1</td>
<td>USB</td>
<td>TW, AU</td>
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<tr>
<td>4G module</td>
<td>4G Mini card LTE RYR2110 (uBlox R211) (Option)</td>
<td>LTE Cat.1</td>
<td>USB</td>
<td>EU</td>
</tr>
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### Ordering Information

**Standard**

IRU131-SF-FL-DC (P/N: E271131100)
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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

![Image of dimensions](image_url)