

## ICR-4103

4G LTE, 2x SIM, 4x FE + 2x DI/1x DO, 1x RS485, 2x RS232



- Multi-band connectivity with FDD 4G LTE/ TDD 4G LTE/ 3G WCDMA/2G GSM
- 4G LTE/ UTP to configure WAN port for failover redundant
- NAT/Port Forward/Routing/IPv6 are compatible with existing IP networks
- Supports 3x Serial port (1x RS485, 2x RS232) for IoT and automation application, Modbus RTU and Modbus/TCP gateway, MQTT
- Various VPN protocols for security, Firewall & IPS, Authentication to enhance access security



The ICR-4103 is a high-performance, industrial grade, 4G-LTE cellular router which is designed to offer fast connectivity over cellular networks for industrial applications. ICR-4103's Ethernet ports can allow up to 3 Ethernet devices to link to the cellular network. It provides dual SIM card slots and one Ethernet WAN port which can automatically re-connect and auto-switch to offer cellular network redundancy and ensure uninterrupted connectivity. The ICR-4103 cellular router is integrated with WAN, LAN, SIM, VPN, Firewall, built-in DI/DO and Serial port services. In addition, ICR-4103 uses the highest level of industrial grade design for connection in the most demanding environments and is an ideal solution for Industrial Internet of Things (IIoT) and M2M (Machine-to-Machine) applications, such as remote control and monitoring, bus ticketing collection system, CCTV, SCADA, digital signage, kiosk and intelligent traffic systems.

### Features

- Supports multi-band connectivity with FDD 4G LTE/ TDD 4G LTE/ 3G WCDMA/2G GSM/ LTE Cat4
- 2 SIM card slots 4G LTE antenna, 1x WAN (10/100Base-TX) + 3x LAN (10/100Base-TX UTP), 2x DI + 1x DO, 3x Serial COM port (2x RS232, 1x RS485)
- Highly reliable and secure for mission-critical cellular communications
- Provide flexible options to configure LAN/ WAN ports
- Built-in dual SIM for network redundancy / failover/ roaming over/ back up
- Integrated dual detachable antenna against radio interference
- 4G LTE and WAN port for seamless connection and redundancy
- Supports 3x Serial port (1x RS485, 2x RS232) for IoT and automation application, Modbus RTU and Modbus/TCP gateway, MQTT
- Supports Routing/Firewall, NAT, Virtual Server, DMZ, Port filtering, MAC Filter, URL Filter, IP Filter, VLAN, Static Routing and RIP 1 & 2, VRRP, OSPF V2 & V3, BGP
- Supports VPN, OpenVPN, IPSec (3DES, AES128, AES196, AES256, MD5, SHA-1, SHA256), GRE, PPPTP, L2TP
- IPv6/IPv4 dual stack and all applications are IPv6 ready
- Supports DHCP server and client, PPPoE, Static IP, SNTP, DNS Proxy, DDNS, QoS, Virtual Com, UPnP
- Supports Alarm message : DO, SNMP Trap, E-mail
- Supports SNMP, TR069, Web, Telnet, CLI for management
- Supports dual Image firmware upgrade by Web
- CE, FCC, Rail Traffic EN50121-4 certified
- Safety EN60950-1 certified
- Radio RED ETSI EN301 489-1/-19/-52, EN301 908-1, EN303 413, NCC certified
- Heavy industrial grade EMS, EMI, EN61000-6-2, EN61000-6-4 certified
- Rugged metal, IP30 protection & Fanless design
- Wide operating temperature -20 ~ 75°C

### Specifications

<b>Standard</b>	Cellular MobilComm standard: (Please see order information for optional band) 4G LTE: FDD-LTE, TDD-LTE 3G: WCDMA 2G: GSM/EDGE	<b>Connector</b>	<b>Cellular MobilComm and WAN:</b> Built-in dual SIM card slots for network redundancy / failover/ roaming over/ back up 2 SMA (female) connector for Antenna (Please see ordering information for optional accessories) 1x 10/100Base-TX RJ45 for WAN port <b>LAN:</b> 3x 10/100Base-TX RJ45 <b>Serial:</b> 1x RS485 and 2x RS232 (one of RS232 could be configured for console) <b>Programmable DI/DO:</b> 2xDI and 1x DO
	IEEE 802.3 10Base-T 10Mbit/s Ethernet	<b>LTE data rate</b>	Cat 4 ,Max download 150Mbps, Max upload 50 Mbps
	IEEE 802.3u 100Base-TX Fast Ethernet		
	IEEE 802.1Q Virtual LANs (VLAN)		
	IEEE 802.3x Flow control for Full Duplex		

<b>Removable terminal block</b>	Provides for Power input, DO, DI1, DI2, COM2 (RS232), COM3 (RS485)
<b>Power Supply</b>	Input 10-32VDC removable terminal block
<b>Power consumption</b>	<7W
<b>LED</b>	System status (Green) VPN (Green), SIM 1 (Green), SIM 2 (Green) Cell signal Strong / Weak: H/L (Green)
<b>DIP SW for RS485 port</b>	DIP 1 Pull Low : OFF: Disable, ON: Enable DIP 2 Pull High : OFF: Disable, ON: Enable DIP 3 120 ohm terminal resistor : OFF: Disable, ON: Enable
<b>Alarm message</b>	DO for alarm message, with current capacity of 500mA/50VDC maximum SNMP trap, E-mail, SMS, Alarm trigger by DI, VPN or WAN disconnection
<b>Operation Temperature</b>	-20~75°C
<b>Operating Humidity</b>	5% to 95% (Non-condensing)
<b>Storage Temperature</b>	-40 ~ 85°C
<b>Housing</b>	Rugged Metal, Fanless, IP30 grade housing protection
<b>Dimensions (D x W x H)</b>	106 x 62.5 x 135mm
<b>Weight</b>	0.74kg
<b>Installation</b>	Mounting : DIN Rail mounting or Wall mounting (Optional)
<b>MTBF</b>	296,306 Hours (MIL-HDBK-217)
<b>Warranty</b>	5 years

Certification	
<b>EMC</b>	CE (EN55024, EN55032)
<b>EMI</b>	FCC Part 15 Subpart B Class A, CE
<b>EMS (Electromagnetic Susceptibility Protection Level)</b>	EN61000-4-2 (ESD) Level 3, Criteria B
	EN61000-4-3 (RS) Level 3, Criteria A
	EN61000-4-4 (Burst) Level 3, Criteria A
	EN61000-4-5 (Surge) Level 3, Criteria B
	EN61000-4-6 (CS) Level 3, Criteria A
	EN61000-4-8 (PFMF, Magnetic Field) Field Strength: 300A/m, Criteria A
<b>Radio</b>	RED ETSI EN301 908-1
	RED ETSI EN303 413
	RED ETSI EN301 489-1
	RED ETSI EN301 489-19
	RED ETSI EN301 489-52
	NCC (ICR-4103-TW)
<b>Shock</b>	IEC 60068-2-27
<b>Freefall</b>	IEC 60068-2-32
<b>Vibration</b>	IEC 60068-2-6

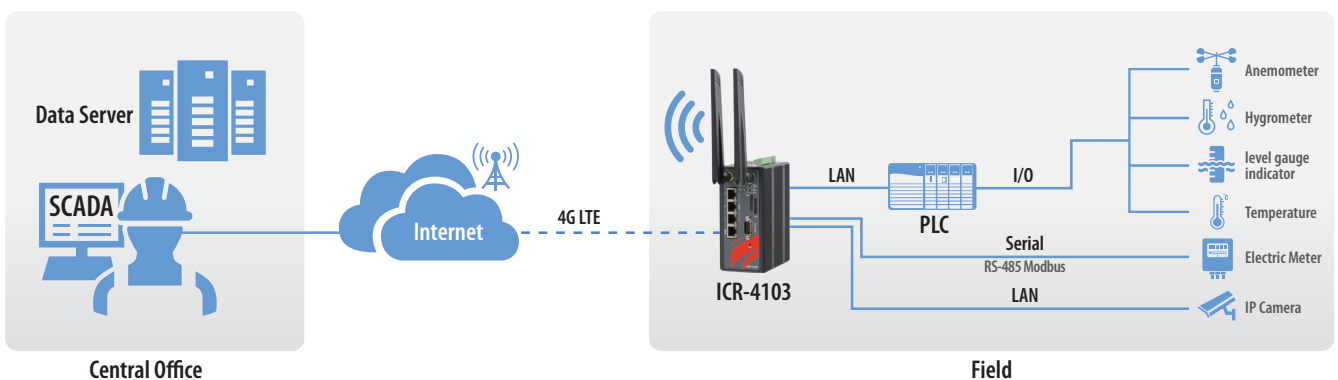
## Software Specifications

<b>Network Protocols</b>	IPv4, IPv6, IPv4/IPv6 dual stack, DHCP server and client, DNS Proxy, PPPoE, Static IP, SNTP, VRRP, OSPF V2, OSPF V3, BGP, MQTT, TCP, UDP, ARP
<b>Modbus TCP, Modbus RTU</b>	Gatway between Ethernet and COM3 (RS485) port
<b>Routing/Firewall</b>	NAT, Virtual Server, DMZ, Port filtering, MAC Filter, URL Filter, IP Filter, VLAN, Static Routing and RIP 1, RIP 2
<b>VPN</b>	OpenVPN, IPSec (3DES, AES128, AES196, AES256, MD5, SHA-1, SHA256), GRE, PPPTP, L2TP
<b>MobilComm Connectivity</b>	Two SIM for failover/ roaming over/ back up Seamless multi WAN connections switch (2x SIM and 1x Ethernet WAN)
<b>Others</b>	DDNS, UPnP, QoS Virtual COM for serial COM port

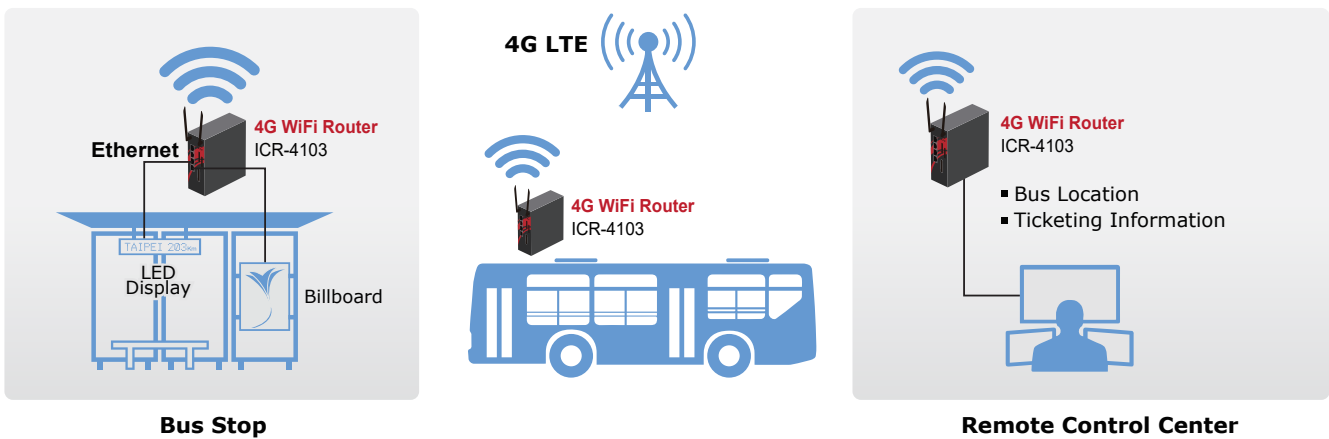
<b>Alarm message</b>	Sent by DO, SMS, SNMP Trap, E-mail
<b>Management</b>	Web GUI for remote and local management
	CLI
	Dual Image firmware upgrade by Web GUI, TFTP
	Syslog monitor
	SNMP V1, V2c, V3
	TR069: TR098 model
	Access Control list, SSH v2
	Remote management via Telnet, SSH v2, HTTPS
	Local management via Telnet, SSH v2, HTTP/HTTPS

## Application

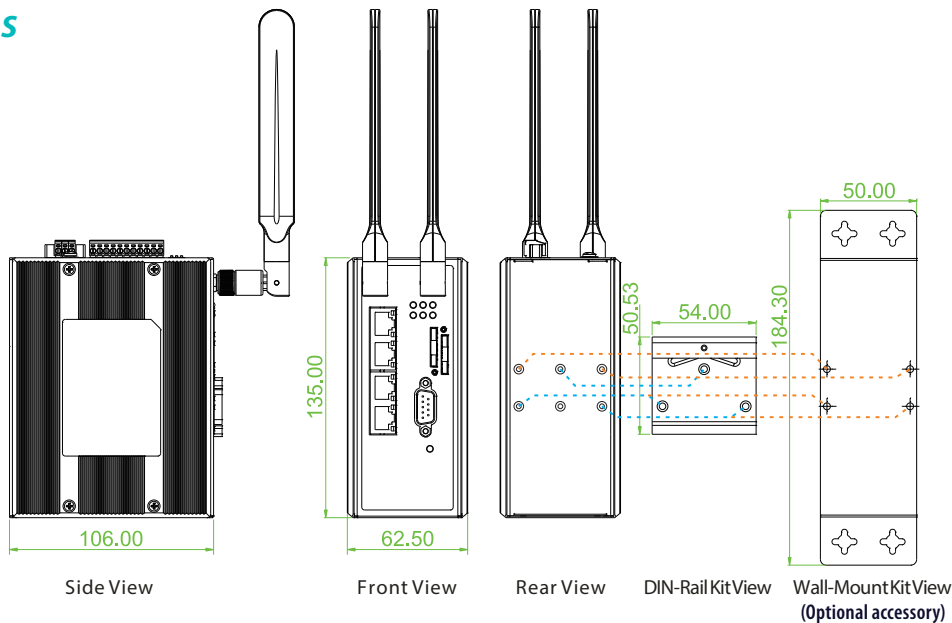
Figure 1 : Application for Environmental Monitoring



**Figure 2 : Application for Transportation/Bus Communication**



## Dimensions



## Ordering Information

Model Name	Managed	WAN		LAN			Certification	
		Cellular MobilComm band (2 SIM for Redundancy)	10/100Base-TX	10/100Base-TX	RS232	RS485 (Modbus)	Radio	CE, FCC
ICR-4103-EU	V	see Region code table-EU	1	3	2	1	RED	V
ICR-4103-A	V	see Region code table-A	1	3	2	1	RED	V
ICR-4103-TW	V	see Region code table-TW	1	3	2	1	NCC, RED	V

## Region Code Table

Region Code	4G LTE		3G	2G	Region
	FDD LTE	TDD LTE	WCDMA	GSM / EDGE	
EU	B1(2100) , B3(1800), B5(850), B7(2600), B8(900), B20(800)	B 3 8 ( 2 6 0 0 ) , B 4 0 ( 2 3 0 0 ) , B41(2500)	B1(2100), B5(850), B8(900)	B3(1800), B8(900)	Europe, Africa, Middle East, Korea, Thailand, India
A	B2(1900), B4(1700), B12(700)		B2(1900), B4(1700), B5(850)		USA (AT&T, T-Mobile)
TW	B1(2100), B2(1900), B3(1800), B4(1700), B5(850), B7(2600), B8(900), B28(700)	B40(2300)	B1(2100), B2(1900), B5(850), B8(900)	B2(1900), B3(1800), B5(850), B8(900)	ANZ, South America, Taiwan

## Optional Accessories

### Antenna Accessories

**ANT-BASE-01** Antennas Base with Magnetic, SMA (Male) connector, 1.5meter for 4G LTE extension



ANT-BASE-01

### Wall Mount Kit Accessories

**IND-WMK02** Wall Mount kit for Industrial product (Wide) (184 x 50mm)

### Industrial Power Supply

**MDR-20-24** Industrial Power, Input 85 ~ 264VAC/120 ~ 370VDC, Output 24VDC, 24W, -20 ~ +70°C