

# MICA-R4 SENSOR IP65



## Picture



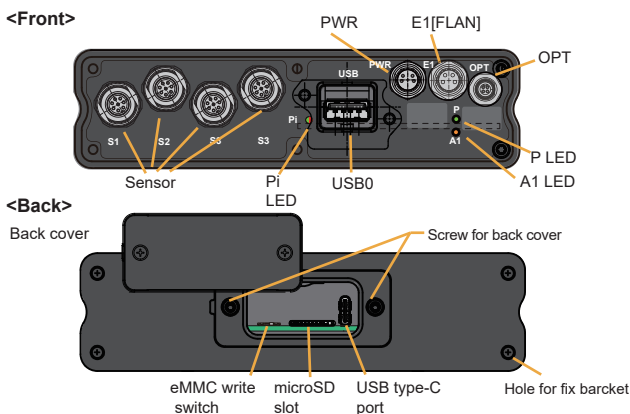
## Product Specifications

Processor	Broadcom BCM2711, Quad core @ 1.5GHz
Memory	RAM4GB, eMMC32GB (Depend on model)
OS	Raspberry Pi OS
Interface	Front
	1x PWR :Power input, 2-line
	1x LAN : FLAN 1ch 1x OPT*1 : i2c/RS-232/485 selectable 1x USB : PushPull USB2.0 Host Type-A 4x SENSOR1/2/3/4 : M8 8pin [Option]1x WLAN IEEE 802.11 b/g/n/ac Bluetooth 5.0, BLE [Option]1x LTE(M.2 slot/EM7431)
Back	1x USB-C : USB Type-C(eMMC writing only) 1x SW : eMMC write switch 1x microSD : microSD slot
Internal	1x M.2 slot B-key*2, 1x nanoSIM slot 1x CSI, 1xGPIO 40p
LED, Button	P: Power status, A0,1: LAN status Pi: User custom/WD error
RTC/NVRAM	BR1225[or CR1225] Backup RTC
Watchdog	Built-in hardware watchdog
Power/Consumption	GPIO:DC10.7V...28.8V/ 12.5W(incl. USB 500mAx1)
Temperature	Operating Temp.: -20~60°C, Storage:-25~85°C
Humidity	Operating Humi.:0~95%(non-condensing)
IP grade	IP65
housing material	Aluminum powder coating
Dimensions	W132 x D89 x H35 mm (excluding protrusions)
Weight	Approx.610g
Vibration/shock	IEC 60068-2-6 / IEC 60068-2-27
EMI	Radiated emissions EN55016-2-3
EMS	Electrostatic radiation immunity EN 61000-4-2
	Radio frequency electromagnetic fields EN 61000-4-3
	Fast transient burst EN 61000-4-4
Installation method	DIN rail mounting, wall mounting(Option)

\*1When WiFi/Bluetooth or LTE options are selected, the OPT connector is replaced to an SMA connector for the antenna.

\*2Not a full pin connection. USB2.0, PCIe, SIM are connected.

## Details of each part



## Features

- Industrial Raspberry Pi 4(CM)
- New processor, up to 2x faster than CM3
- Raspberry Pi OS compatible (Ubuntu requires 4GB or more RAM)
- DC12/24V power input
- Wide operating temperature range and high noise resistance
- M8, M5 connectors with high vibration resistance and connection reliability
- Robust aluminum die-cast housing
- Supports wall mount and DIN rail mount
- On-board eMMC (SD card is not used for boot)
- microSD slot for data storage
- M.2 slot inside SSD and WWAN expansion
- Raspi40p connector for expansion board
- Built-in battery backup RTC
- Highly reliable hardware watchdog

## Interface

### <Connector pin layout>

PWR connector				E1 connector [FLAN]			
Pin	Col.	Signal	Pin	Col.	Signal		
1	BR	24VDC(V1)	1	BR	TX+		
2	WH	24VDC(V2)	2	WH	RX+		
3	BL	0V(V1)	3	BL	RX-		
4	BK	0V(V2)	4	BK	TX+		

### OPT connector

Pin	Col.	i2c	RS232	RS485	Type	OPT
1	BR	3.3V/5V/none*			Wired LAN	---
2	WH	SCL	TXD	A	Wired LAN+LTE	Main
3	BL	0V(RS232:SG)			Wired LAN+Wireless LAN	WL/BT
4	BK	SDA	RXD	B	Wired LAN+Wireless LAN+LTE	---

\*1 pin for power output is no output by default.

Note) When wireless LAN or LTE is selected, the waterproof performance of the ANT port and antenna is different from IP65.

### Sensor

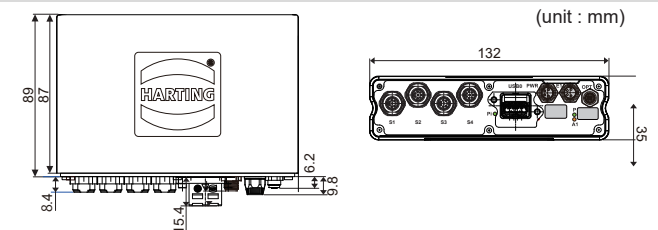
#### S1/2/3/4 communication port

Pin	Signal
1	Connection confirmation
2	+5VA (5V analog voltage supply)
3	Vout (accelerometer analog voltage output)
4	GND A (Analog GND)
5	I2C SCL
6	+3V3 (3.3V digital power supply for I2C)
7	I2C SDA
8	GND D (Digital GND)

### <LED>

LED	Sts.	Comments
P(GR)	Off	No power supply
	On	Power OK
A0(OR)	BK	E0 active
A1(OR)	BK	E1 active
Pi(RD)	Off	WD Normal
	On	WD Error
Pi(GR)	Off	User OFF
	On	User ON

## Dimension



## Ordering information

[Part Number] <b>721RSN1 0 0 0R 3 3 0</b> IP65 SENSOR model		RAM size [GB]	
1: CM4 IP65 type		1	1
R: Wired		2	2
W: Wireless		3	4[standard]
revision number		4	8
Expansion interface		eMMC size [GB]	
Option (OPT) interface	0 None	1	8
1 RS-232C[standard]		2	16
2 I2C		3	32[standard]
3 RS-485		4	32/SSD128GB
		5	32/SSD256GB
		6	32/SSD512GB
		4,5,6: NVMe fast SSD (Temperature 0-55°C)	
Add-on software		Accessory	
0 None[standard]		0	None[standard]
1 CodeSys		1	Reserved
		L	LTE

When selecting CodeSys, please use 32bit OS. If you select 64bit, the license key will not be the Raspberry Pi version and you will not be able to use it.

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