# SPESIFIKASI IOT HARDWARE PLATFORM

Solutions





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# MALAKA

Malaka is an innovative IoT controller box developed by Mertani to face the challenges of industrial digitalization, especially for applications that require flexible remote monitoring via an app and independent power supply.

Designed with a compact form factor and equipped with a waterproof enclosure, Malaka combines style with durability, ensuring adaptability to changing weather conditions. Experience seamless online remote monitoring and enhanced power storage capacity for more efficient and reliable industrial operations.

#### **Key features:**

- Compact Design
- Green-Medium Power Management
- Multi-Sensor Port
- Multi-Connectivity Option
- Plug & Play
- Weather Resistant Enclosure for Outdoor Use
- After Sales Support In Indonesia

### **Plug and Play**

We design our IoT product to be user-friendly for you.

- You don't need to do any coding/programming.
- No need for specialized technicians for installation or maintenance.
- It's already industrial and outdoor-grade, so there's no need to add special protection.









# **DEVICE PART DETAILS**



#### Keterangan :

- 1. Antena GSM/LoRa (opsional)
- 2.QR code ID perangkat
- 3. Konektor 12 pin untuk akses perangkat
- 4. Antena GPS/GNSS
- 5.Tombol On/Off
- 6.Konektor output baterai
- 7.Konektor sensor rainfall
- 8. Konektor sensor universal (RS485, I2C, RS232, Serial TTL, One Wire)
- 9. Konektor sensor (RS485, I2C, RS232, Serial TTL, One Wire, Grounding)
- 10. Tombol reset
- 11. Konektor power input









# **TECHNICAL SPESIFICATIONS**

ENCLOSURE					
Protection	Waterproof cover that is air and weather resistant				
Material	ABS plastic				
Temperature	From 0°C to +85°C				
Dimension	17x13x6 cm				
Weight	591.5 g				
Button	<ul> <li>On/off button to turn the device on and off</li> <li>User button to reset the device</li> </ul>				
Additional Feature	QR ID to make it easier to find the device				

CONNECTIVITY				
GSM network	<ul> <li>2G and 4G</li> <li>Frequency Bands:</li> <li>LTE FDD:B1/B3/B5/B8/B40</li> <li>GSM: 900/1800</li> <li>LTE Version: 3GPP E-UTRA Release 11</li> <li>GNSS GPS/GLONASS/ BeiDou/Galileo/QZSS</li> <li>Output Power:</li> <li>Class 3 (23dBm±2dB) for LTE FDD</li> <li>Class 3 (23dBm±2dB) for LTE TDD</li> <li>Class 4 (33dBm±2dB) for GSM 900MHz</li> <li>Class 1 (30dBm ±2dB) for GSM 1800MHz</li> <li>Consumption:</li> <li>20uA @Power off 3mA @Sleep, Typ. 22mA @Idle</li> <li>Sensitivity:</li> <li>FDD B1: -97dBm (10M)</li> <li>FDD B3: -95dBm (10M)</li> <li>FDD B41: -96dBm (10M)</li> <li>TDD B41: -96dBm (10M)</li> <li>GSM 900: -109dBm</li> <li>GSM 1800: -109dBm</li> </ul>			
LoRa	920-923 MHz for data transmission where signal is not available (optional)			
Bluetooth	Bluetooth low energy for device setup or onsite data transfer			
Wi-Fi	<ul> <li>802.11b/g/n</li> <li>Bit rate: 802.11n up to 150 Mbps</li> <li>A-MPDU and A-MSDU aggregation</li> <li>0.4 µs guard interval support</li> <li>Center frequency range of operating channel: 2412- 2484 MHz</li> </ul>			

	PROCESSOR				
Main MCU	Cortex M4+ based low power				
PORT					
Output Sensor	<ul><li> 3 port (default)</li><li>&gt;10 (extend)</li></ul>				
Protocol	<ul> <li>RS485 modbus baud rate 2400bps-115.200bps (default)</li> <li>Digital pulse (default)</li> <li>I2C, RS232, serial TLL, and one-wire communication (additional feature)</li> </ul>				

POWER			
Internal input/output	3.7V~4.2V, 2A		
Internal baterai	3.7 volt wit a capacity of 10.000 mAh		
Power supply	<ul> <li>Solar panel 20-50 WP</li> <li>External power supply DC 4.1 V</li> </ul>		

ANTENNA				
Eksternal	<ul><li>Main GSM antenna</li><li>GNSS/GPS</li></ul>			
Internal	<ul><li>GSM antenna</li><li>2.4 GHz Wi-Fi antenna</li></ul>			
Optional	<ul><li>LoRa antenna</li><li>Wi-Fi external antenna</li></ul>			

MEMORY		
Internal	16 MB	
External	up to 128 MB	

MONITORING		
Data Transmission Interval	5 minutes, 10 minutes, 15 minutes, 30 minutes, 1 hour, and so on	
Monitoring	Real-time monitoring	

## **OTHER INFORMATIONS**

•	Can be	integrated	with	20-50	WP	solar	panel

• Device warranty for 1 year (default)





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Merapi Tani Instrumen