RK900-01 Agricultural Automatic Meteorological Station, designed for farmland, greenhouses, orchards and other agricultural scenes, aims to collect, store and transmit meteorological data in real time, provide accurate environmental monitoring support for agricultural production, help disaster warning, irrigation decision-making and crop management, and support precision agricultural management. The system has the characteristics of high precision, low power consumption, modular expansion, etc., to meet the needs of long-term and stable operation in the field, and the product has passed the testing and identification of China Agricultural Machinery Institute.

Functional

- Accurate monitoring: high-precision sensors to ensure data reliability
- Low power consumption: solar power supply, to adapt to the no-grid environment
- Remote management: support cloud data synchronization and remote control, and support API interface
- Scalability: modular design, can flexibly increase or decrease monitoring parameters
- Durability: to adapt to the outdoor harsh environment, wind resistance, lightning protection, corrosion protection



System unit

Item	Details	Remarks
Data logger	Meteorological data acquisition, computational analysis, display, storage and communication (4G/Ethernet/WIFI), 7"LCD, Support downloading historical data locally	Either-or
Communication gateway	Rs485 gateway, 4g gateway, wifi gateway, and ethernet gateway optional	

Sensors and cables	Wind speed sensor, wind direction sensor, atmospheric temperature, atmospheric humidity, panel temperature, total solar radiation, scattered radiation, direct radiation, etc	Depends on user requirements
Multilayer radiation shield (shutter box)	For install atmospheric temperature and humidity sensor	
Protective box	For the installation of data loggers, solar charging controller, battery / power supply, etc	
Solar energy power supply system	Including solar panels and bracket, solar charging controller, battery	Optional
Vertical rod and mounting parts	Height: 2.5m, including lightning protection device, other height can be customized	

Main measurement parameters

Item	Range	Resolution	Accuracy	Remarks
Wind speed	0-45m/s	0.1m/s	± (0.3±0.03v) m/s	The parameters can be adjusted according to the user requirements
Wind direction	0-360º	1°	±3°	
Air temperature	-40℃-+60℃	0.1℃	±0.5℃	
Air humidity	0-100%RH	0.1%RH	±3%	
Atmospheric pressure	300-1100hpa	0.1hpa	±0.5hpa	
Solar radiation	0-2000W/m2	1W/m2	±3%	
Illuminance	0-200klux	1lux	±5%	
Rainfall	≤4mm/min	0.2mm	±4%	
Soil temperature	-30℃-+70℃	0.1℃	±0.5℃	
Soil humidity	0-100%V/V	1%	±3%	
Soil conductivity	0-10ms/cm	0.001ms/cm	±3%	
CO2 concentration	0-5000ppm	1ppm	±3%	
Soil PH	0-14ph	0.1ph	±0.1ph	

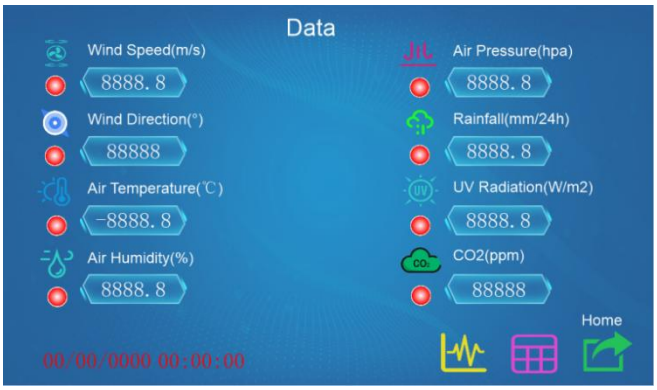
Data logger and gateway comparison

Item	Data logger				Gateway			
					4G	Ethernet	WIFI	RS485
	RK600-07C	RK600-07C	RK600-07C	RK600-07C	RK600-17	RK600-17	RK600-17	RK600-17
Local display	Support	Support	Support	Support	/	/	/	/
Ethernet	Support	Support	Support	Support	/	Support	/	/
4G	/	Support	/	Support	Support	/	/	/
WIFI	/	/	Support	Support	/	/	Support	/

RS485	Support	Support	Support	Support	/	/	/	Support
Remote upgrade	Support	Support	Support	Support	/	/	/	/
Average power consumption	3w	3w	3w	3w	1w	1w	1w	0.5w

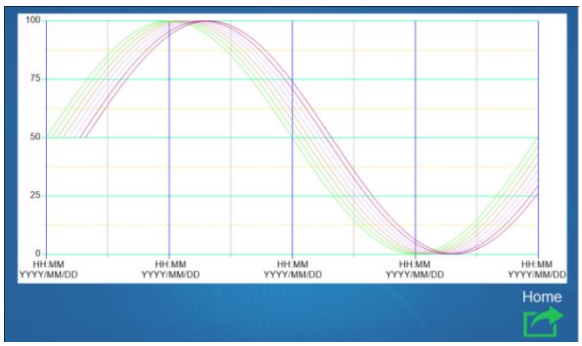
Data logger

Item	Parameter
Display	7'LCD
Pixel	1024*600
Touch type	Resistance-type
Screen dormancy	Support
Backlight adjustable	Support
Communication status indication	Support
Store-in	4GB
Communication interface	1*RS232,2*RS485
Network	Ethernet (standard standard), 4G/ WIFI (optional)
Measuring parameters	32 max.
Storage time interval	1-240 minutes (adjustable)
U disk download	Support
Relay output	Customizable
Power protection	With surge protection, anti protection
CE	EN55022 & EN55024

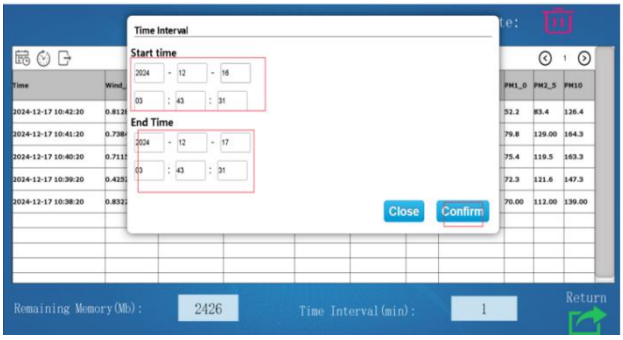


Real-time data

Data form

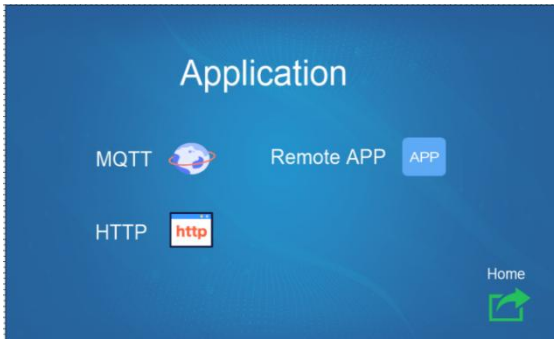


Historical curve



Historical data export

Setting interface



Server configuration

Revision time	Reviser	Current Version	Remarks
20250329	Michael	V5.0	