King Pigeon S258 Remote Data Acquisition 4G LED Display Controller
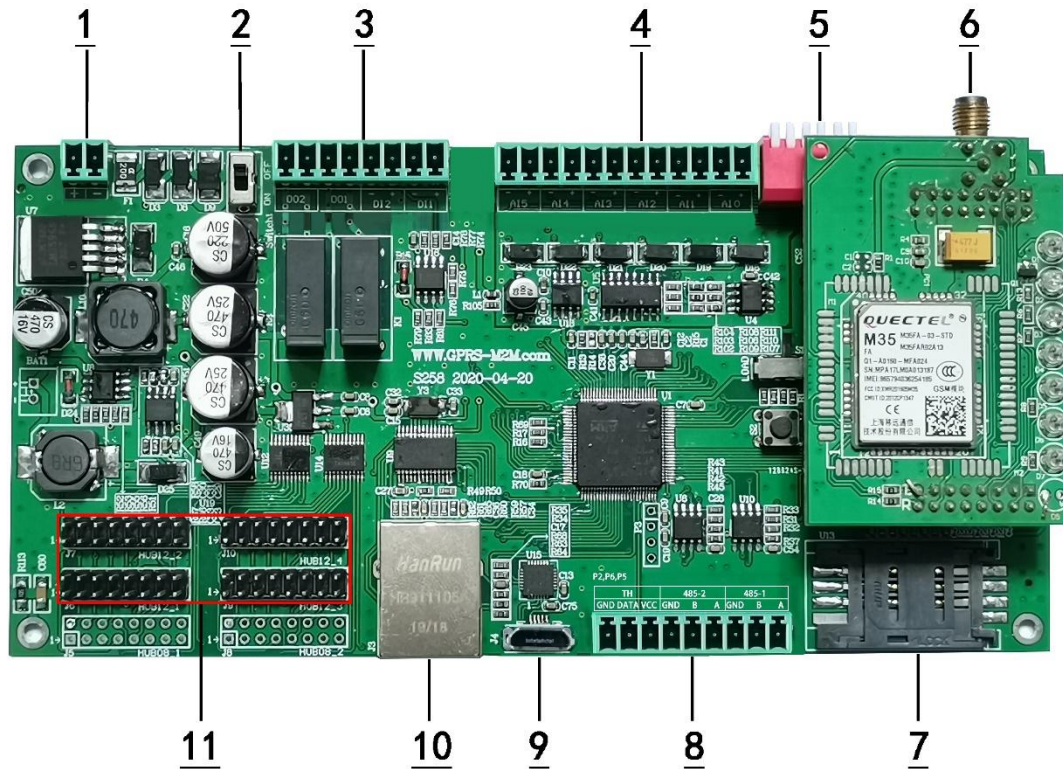
Working Diagram
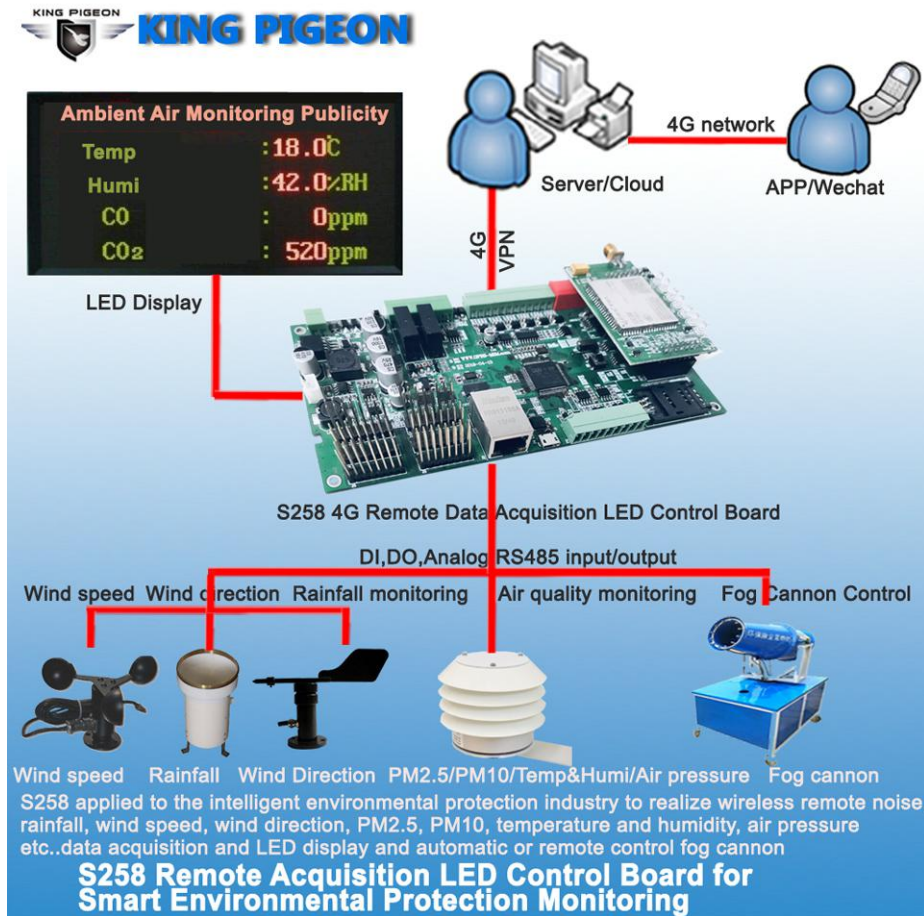
Application: Construction site environmental monitoring, outdoor environmental monitoring, public area noise environmental monitoring and display, reservoir monitoring and display, forest fire prevention monitoring and display, traffic flow collection and road condition reminder, vehicle speed collection and warning reminder, road safety warning, factory production data collection and display and other data acquisition, control output, LED display occasions.

Protocol: Modbus RTU/Modbus TCP/MQTT

Main Features:

1.Support on-site　large-screen LED display　and　remote display of the cloud platform；

2.Support standard T12 LED display interface, the brightness of LED light is adjustable；

3.Support custom display parameters, area scrolling (left shift, right shift)/fixed selection;

4.Support flash mode, suitable for occasions where information is updated frequently；

5.Support anti-dismantling alarm, which can be linked with on-site fog cannon；

6.Supports up to 4 lines per screen, 32 characters per line , and can automatically turn pages to display up to 100 information content;

7. 2 DO, 2 DIN, 6 AIN, 1 temperature and humidity acquisition, 2 RS485 communication；

8.Supports cloud platform history record save for half a year, supports local history 1000 record , to ensure that data will not be lost；

9.Embedded ARM®Cortex™-M4 32-bit RISC kernel real-time operating system, software watchdog and hardware watchdog to prevent false crashes；

10.Support USB interface for parameter configuration, reading, historical record export and program upgrade through computer configuration software；

11.Built-in TCP/IP protocol stack, supports TCP/UDP, Modbus TCP protocol, Modbus RTU over TCP protocol, MQTT protocol, supports self-defined handshake protocol to actively connect to the server and automatically reconnect to the server after disconnection；

12.Support Modbus RTU to MQTT.

Technical Spec

Item	Parameter	Description
Power Supply	Voltage	9～36V DC
	Power Consumption	Normal：130mA@12V，Max：500mA@12V
	Protection	Anti-reverse connection, ESD air: 15KV, surge: 4KV
	Spare battery	3.7V/900mA
USB	USB	1 x Micro USB
Serial Port	QTY	2 x RS485
	Serial port baud rate	1200bps-115200bps
	Data bit	8
	Parity	None, Even, Odd
	Stop bit	1,2
	Protocol	Modbus RTU（slave），Modbus RTU（master）
	Protection	ESD contact: 8KV surge: 4KV (8/20us)
DI	QTY	2
	Input type	Support both dry contact and wet contact（NPN）
	Dry contact	● Closed: short circuit ● Disconnect: open
	Wet contact	● Close：0-0.5VDC ● Open：3-30VDC
	Others	Support DI0 as pulse counter, sampling frequency: 1MHz; Support DI1 as arm and disarm function；
	Isolation protection	2KVrms

	QTY	2
	Output type	Relay output
	Output capacity	5A@250VAC or 5A@30VDC
DO	Others	Support DO0 call Incoming control to open door function. Support custom setting of close and open time
	Isolation protection	2KVrms
	QTY	6
	Input method	Differential input
	Input type	4-20mA/0-20mA/0-5V
	Resolution	12Bit
AI	Accuracy	● ±0.1% FSR @ 25 ℃ ● ±0.3% FSR @ -10 and 60 ℃ ● ±0.5% FSR @ -40 and 75 ℃
	Sampling Rate	200ms
	Input resistance	>1M ohms
	Resolution	16bit（0.1 %RH,0.1℃）
	Sampling Rate	200ms
	Temperature range	-40℃ to +80℃
Temperature and humidity input(AM2301)	Accuracy (temperature)	±0.5℃
	Humidity range	0 to 99 %RH
	Accuracy (humidity)	±3 %RH
	LED interface	LED interface supports T08, T12 interface
	LED color	Monochrome LED display
LED Display control function	Control range	max 65536，Up to 4 lines, 32 characters per line
	Font	Fixed 16-point font library, cannot be modified
	Play mode	FLASH
	Play source	Analog input, acquisition of 16-bit or 32-bit data from Modbus slave, SMS, server delivery
SIM/UIM	SIM slot	1
	Type	Standard clamshell card slot, support 1.8V/3V card,

		built-in 15KV ESD protection
Cellular network	2G	GSM/EDGE：850,900,1800,1900MHz
	3G	GSM/EDGE：850,900,1800,1900MHz UMTS：850,900,2100MHz
	4G（E）	GSM/EDGE：900,1800MHz WCDMA：B1,B5,B8 FDD：B1,B3,B5,B7,B8,B20 TDD：B38,B40,B41
	4G（AU）	GSM/EDGE：850,900,1800MHz WCDMA：B1,B2,B5,B8 FDD：B1,B2,B3,B4,B5,B7,B8,B28 TDD：B40
	4G（A）	WCDMA：B2,B4,B5 FDD：B2,B4,B12
	4G（V）	FDD：B4,B13
	4G（J）	WCDMA：B1,B3,B8,B18,B19，B26 FDD：B2,B4,B12 TDD: B41
	4G（CE）	GSM/EDGE：900,1800MHz WCDMA：B1,B8 TD-SCDMA：B34,B39 FDD：B1,B3,B8 TDD：B38,B39,B40,B41
	Protocol	Modbus RTU、Modbus TCP、MQTT
Software parameters	Network protocol	IPV4、TCP/UDP、DNS、Modbus RTU、Modbus TCP、MQTT
	Protocol conversion	Support Modbus TCP and RTU protocol conversion Support Modbus RTU to MQTT and Modbus TCP to MQTT
	Indicator light	Cellular network signal, power, status, operation, arming and disarming, RS485
	User configuration	PC software configuration, support WIN XP, WIN 7, WIN 8 and WIN 10
	Slave access	48 devices, the maximum number of mapping registers: 320　(Boolean, 16-bit, 32-bit, 64-bit)
	SMS command	Support
	Registration package	Support custom registration package
	Heartbeat package	Support custom heartbeat package
	Storage	Up to 100,000 historical records can be saved
Certification	MTBF	≥100 000 hrs

		EN 55022: 2006/A1: 2007 (CE &RE) Class B
	EMC	IEC 61000-4-2 (ESD) Level 4
		IEC 61000-4-3 (RS) Level 4
		IEC 61000-4-4 (EFT) Level 4
		IEC 61000-4-5 (Surge)Level 3
		IEC 61000-4-6 (CS)Level 4
		IEC 61000-4-8 (M/S) Level 4
	Others	CE、FCC、ROHS、3C
Environment	Working temperature, humidity	-45～85℃，5～95%RH
	Storage temperature and humidity	-45～105℃，5～95%RH
Other	Enclosure	Metal
	Size	88mm×70mm×52mm
	Protection level	IP30
	NW	350g
	Installation method	Wall-mounted, rail-mounted