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masibus

MSG-21

IIoT Gateway

RoHS

The MSG-21 is the most cost-effective gateway that provides easy way of connecting Modbus serial and TCP slave devices to MQTT server via cellular network or WAN, truly a plug and play solution for connecting industrial devices to IIoT system, it is a compact protocol converter cum gateway that converts Modbus serial and TCP slave data to MQTT IIoT data.

The MSG-21 can be remotely configured via it's web server and can be easily set up to read serial and TCP slave devices like drives, PLC, IO modules, HMI, etc., the MQTT publishing interval is programmable.

The MSG-21 allows a fast and easy access to the IIoT world and is compatible with all IIoT servers that supports MQTT protocol. It provides encrypted communication using TLS / SSL protocols, ensuring a secure and safe communication.

The MSG-21 is simple to install and easy to manage and having an integrated web server to allow the user to configure the device parameters (MQTT, Ethernet, Modbus).

The MSG-21 has Modbus TCP server functionality which can be used to monitor the data of Digital Input and output of the device and connected Modbus Serial devices Via. Connecting HMI/PLC/SCADA on Ethernet port.

Features

- 4G Modem (LTE Cat1)
  - Support frequency band :
    GSM : 900/1800MHz
    LTE FDD : B1/B3/B5/B7/B8/B20/B28/B31/B72
  - LTE Cat1: 10 Mbps (DL) 5 Mbps (UL)
- Remotely monitoring data on MQTT server
- Retains the data in-case of network failure
- Embedded web server for easy configuration
- DHCP / static IP support
- Configurable RS-485 baud rate, parity and stop bit
- Completely isolated in both RS-485 and RJ45
- One touch recovery (Factory reset configuration)
- LED indication for easy setup and trouble shooting
- SMS or MQTT alert on event of digital input
- Digital output operates via SMS or MQTT
- MQTT on cellular network or WAN is selectable
- Selectable publishing interval for data publish to MQTT server (5 Sec. to 1440 minutes)
- Modbus Serial or TCP register write via MQTT.
- Support up to 32 Modbus serial devices or 512 Modbus read register (max.)
- Support up to 8 Modbus TCP slave devices or 256 Modbus read register (Max.)
- TCP Server to monitor Modbus RTU data Via. HMI/PLC/SCADA
- DIN-Rail mounting option

Applications

- Energy management system
- Building management system
- Remote data acquisition for modbus client devices
- Automatic meter reading

TECHNICAL SPECIFICATIONS

Network	4G (LTE Cat 1)
SIM Slot	1 X Micro SIM (3FF)
Antenna Connector	1 x SMA (female)
Ethernet	1 x RJ45 (10/100Mbps)
Serial Port	1 x RS-485 Baud rate : 9600/19200/38400/57600/115200, 2 Pin plugging screw terminal
Input/Output	2 x Digital input 2 x Digital output
Memory Size	16 MBytes (for data logging)
RTC with Battery Back Up	Yes
CPU	ARM cortex-M4 core, 192MHz
Power	9 to 36VDC, <5W
Power Connecter	2 Pin plugging screw terminal
LED Indicators	Power, TX (RS-485), RX (RS-485) RSSI, network and status LEDs
SMS Features	Yes
Frame Format	JSON frame
Enclosure Dimension	111mm(W) x 75mm(H) x 25mm(D)
Ingress Protection	IP20
Enclosure Material	ABS
Enclosure Mounting	DIN-Rail
Weight	140 gms approx.
Enclosure Color	Black
Operating Temperature	0 °C to +55 °C
Humidity	20 to 90 % RH (Non-condensing)

Digital Input Specification	
No of Channels	2
Input Frequency	1KHz max.
Pulse Width	500 uSec
Mode of Operation	Normal (ON/OFF) / counter
Counter Resolution	32 Bit
Input Voltage Range	+24V DC (±10%) Ext. power supply
Input Impedance	5100 Ω

Digital Output Specification	
No of Channels	2
Output Type	Open collector (Sink type) (external +24V DC required)
Pulse Width	10mSec.
Maximum Current	100mA per output
Mode of Operation	Discrete (ON/ OFF), Single pulse mode
Vce On	1.1V max.

Isolation	
Supply to RS-485	1500VAC RMS
Supply to Ethernet	1000VAC RMS
Supply to Digital Input	1500VAC RMS
Supply to Digital Output	1500VAC RMS

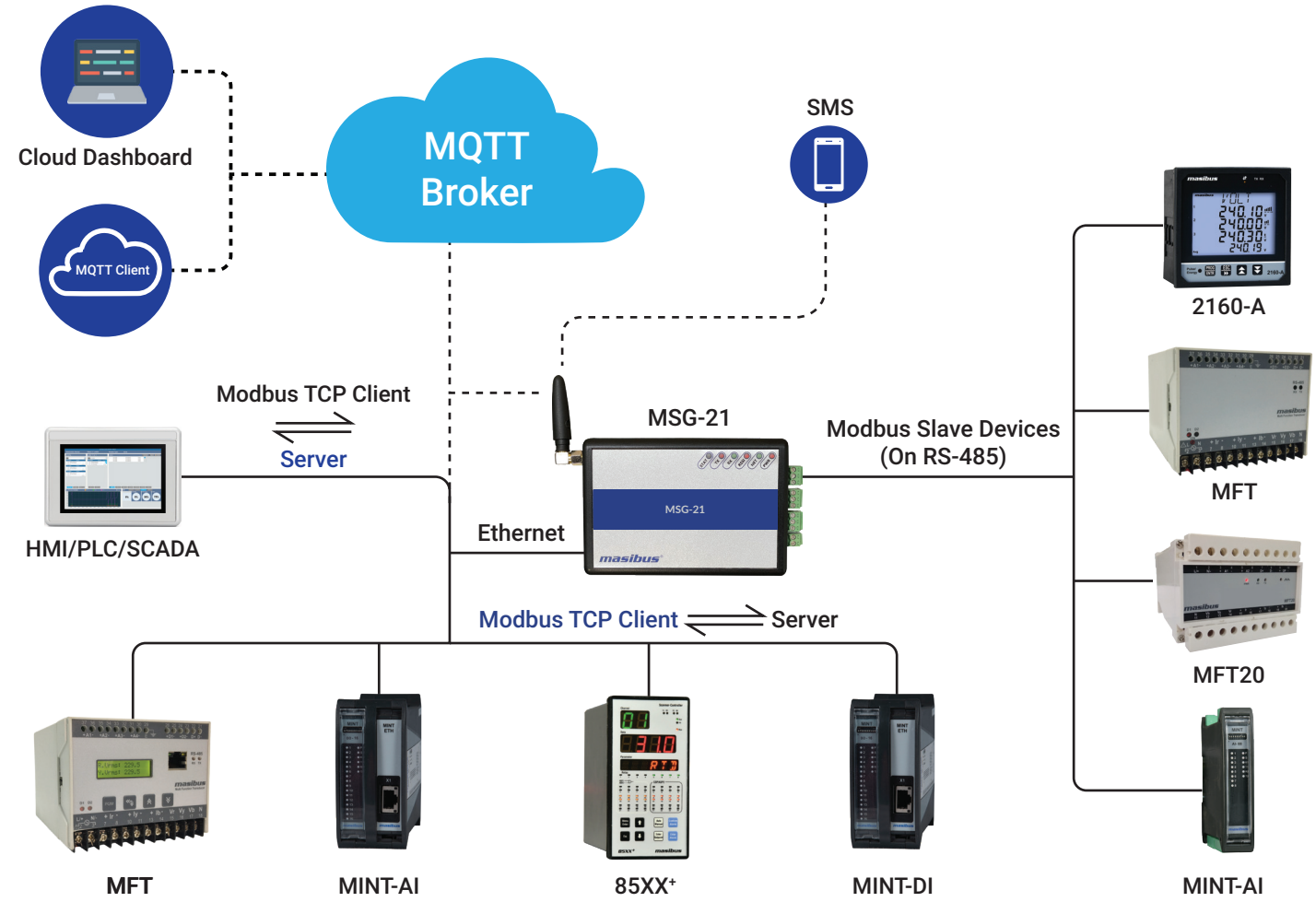
RF Wireless Communication	
Wireless Frequency	868 - 915 MHz
Distance Range (Approx.)	Upto 90 meter Line of Sight
Transmission Frequency	30Sec to 5Min
Antenna	3 dbi Rubber-duct External Antenna
Max. Node Connections	16

Ordering Code for MSG-21

Model	Mounting		Cellular Type		Input Type		Output Type	
MSG-21	X		X		X		X	
	D	DIN-Rail	N	None	1	Digital Input	1	Digital Output
			1	4G Cellular				
			2*	Wireless (RF)				

Note: *For Wireless Busbar Temperature Sensor (mTAG-TS)

Application Diagram



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All specifications are subject to change without notice due to continuous improvements.

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