



# MRG

## Modbus RTU Gateway

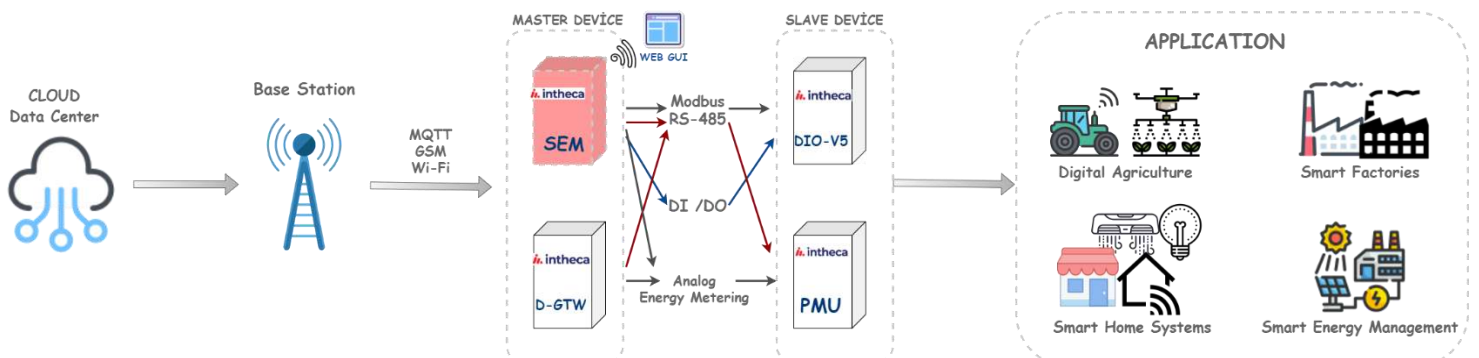
### KEY FEATURES

- MQTT Protocol Support
- GSM, Wi-Fi Communication Interfaces
- Modbus RTU- MQTT gateway
- Embedded Web-Server
- 3 Digital Inputs, 2 Outputs (Dry Contact Relay)
- DIN rail mounted
- 16 MB Flash

SEM is gateway with Modbus support. With these capability, the device provides the end user to monitor Modbus devices in the field via the industry standard MQTT protocol over an IoT platform. Thanks to its modular structure, these features can be simplified or expanded in line with customer needs.

SEM has 3 digital inputs and 2 digital outputs (Dry Contact Relay). The device provides fast and reliable data transmission over long distances with its RS-485 connection. The device has a GSM module. Thanks to its DIN rail mountable design, it can be easily installed in the field.

### APPLICATION



## TECHNICAL SPECIFICATIONS

Device Specifications	
Supply Voltage Range	4.5V- 6V
Supply Current Range	0.6A
Nominal Supply Voltage	5V
CPU	ESP-32 (Tensilica Xtensa 32-bit LX6)
Flash	16 MB
RAM	8 MB
Watchdog Timer	System Reset /5 sec
Power Consumption	3W
Real Time Clock	Available
OTA (Over the Air)	Yes
Wi-Fi Specifications	
Wi-Fi Protocols	802.11 b/g/n
Frequency Range	2.4 GHz to 2.5 GHz
Wi-Fi Antenna	External Antenna On board SMA Connector
RF Certification	SRRC, FCC, CE (RED)
Wi-Fi Certification	Wi-Fi Alliance
Wi-Fi Mode	Station / SoftAP / SoftAP + Station
Security	WPA / WPA2
Network Protocols	IPv4, TCP / UDP / HTTP / FTP, MQTT
GSM Specifications	
Embedded 4G GSM	Yes
Operating Frequencies	900/1800MHz
Number of Connections	6
GSM Antenna	On Board SMA Connections
Communication Specifications	
Communication Protocols	Modbus-RTU (Master)
Serial Interfaces	RS-485
Serial Communication	1200- 115200 b/s
MQTT Support	Yes
Digital Input Specifications	
Number of Digital Input Channels	3
Input Channel Voltage Range	4,5-5,5 VDC
Input Channel Isolation	Available, Isolated with Optocoupler
Input Current	1.5 mA / Channel
Input Filter	Programmable, Default: 20ms
Input Change Counter	32 Bit
Digital Output Specifications	
Number of Digital Output Channels	2
Output Channel Voltage Range	0 – 36 VDC (Shoud be defined on order)
Nominal Output Voltage	24 VDC / 110 VDC / 220 VAC
Output Type	Dry-Contact Relay
Max. Output Current	2A
Load Type	Resistive, Inductive
Output Channel Isolation	Magnetically
Environment Conditions	
Standards	IEC 61326-1, EN 301489-1, IEC 61010-1, EN 60950-1
Operating Temperature	-25°C / +70°C
Storage Temperature	-40°C / +70°C
Operating Humidity	25%- 95% RH
Protection Class	IP20
Mechanical Specifications	

Device Dimensions (W x H x D)	35 x 102 x 117 mm
Weight	220 gr
	Input (3)
	Output(2)
Notification LEDs	Modbus
	MQTT
	GSM Status