

# IGW/936-L-MOE

## AT Modem Emulator Gateway with LTE Router



- ✓ **Embedded Linux**
- ✓ **AT Modem Emulator Software**
- ✓ **1:1 Modem/CSD Replacement by IP**
- ✓ **OpenVPN Client and Server**
- ✓ **Firewall with NAT Support**
- ✓ **12 – 24 VDC Power Supply**
- ✓ **DIN-rail Mounting**

### Description

The classic analog- and ISDN phone lines as well as the 2G- and UMTS data services are gradually turned off and switched to IP-based lines. Many countries already turned off or plan to turn off in future. To allow an easy 1:1 replacement the AT Modem Emulator Gateway IGW/936-L-MOE enables existing modem communication applications to interact over local IP networks or **VPN** (Virtual Private Network) secured Internet connections instead of dialing a telephone number.

The IGW/936-L-MOE fully replaces the modems on both sending and receiving side and allows the further usage of applications working with AT command-based communication or CSD calls.

On the sending side it maps a phone number with an IP address and connects to the remote side via LAN or Internet. On the remote side it detects the incoming connection and emulates an incoming call to turn the received AT commands to a machine like a real physical modem. So instead of direct phone calls the LAN or Internet can be used to connect regular communication software.

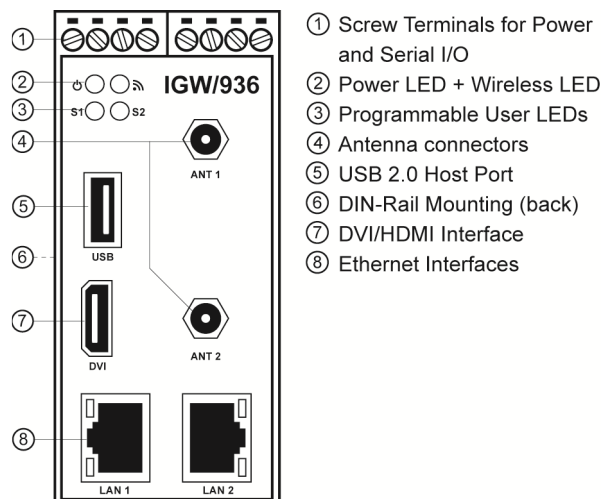
For the fast and simple integration into existing network environments the IGW/936-L-MOE also offers **AutoIP** and **UPnP**.

### Safety & Security

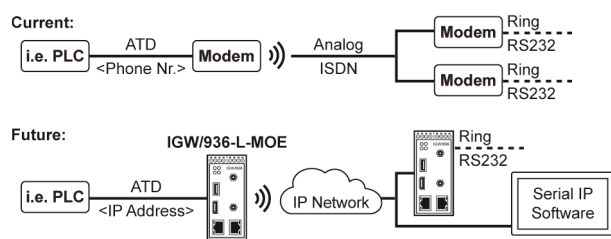
To ensure the highest level of safety and security the IGW/936-L-MOE offers many integrated security functions like **OpenVPN**, **OpenSSL** (incl. SSL/TLS), **Firewall with NAT support** as well as **SSH**, which protect local Ethernet networks from unauthorized remote access.

All the software features of the IGW/936-L-MOE including the AT Modem Emulator settings are easily configured with the **SSV/WebUI configuration tool** with a standard web browser.

### Overview



#### Basic hardware interfaces of the IGW/936-L-MOE



#### Replacing analog modems with the IGW/936-L-MOE

## Specifications

Processor	
Manufacturer / Type	Texas Instruments AM3517 32-bit ARM Cortex-A8 SoC
Clock speed	600 MHz
Memory	
RAM	256 MB SDRAM
Flash	1 GB NAND memory, 8 MB NOR memory
Storage media	1x internal microSD card holder
Interfaces	
Ethernet	2x 10/100 Mbps (RJ45)
USB	1x USB 2.0 Host
Serial I/Os	1x RS485 serial port (screw terminal) 1x RS232/RS485 serial port (screw terminal)
HMI	1x DVI/HDMI
Antenna	2x SMA female (bulkhead) connector
Special Functions	
RTC	1x Real Time Clock with internal supercapacitor (backup time ~125 h)
Watchdog	1x Timer watchdog (hardware-based, software-configurable) 1x Power supervisor (hardware-based)
SIM card	1x Mini-SIM card holder (accessible from the outside)
Wireless Module	
Mobile radio standards	GSM/UMTS/HSPA+/LTE
Transfer rates	150 Mbps peak download, 50 Mbps peak upload
Frequency bands	LTE: 2600 MHz (B7), 2100 MHz (B1), 1800 MHz (B3), 900 MHz (B8), 850 MHz (B5), 800 MHz (B20) WCDMA: 2100 MHz (B1), 850 MHz (B5), 900 MHz (B8) GSM/GPRS quad-band 850/900/1800/1900 MHz
Authentication	PAP, CHAP, CHAT, none
Supported APNs	Telekom, Vodafone, O2, E-Plus, user-defined
Software	
Operating system	Embedded Linux
Web server	lighttpd with SSL support
Web browser	WebKitGTK+ (HTML5, CSS3, JavaScript)
Programming environment	Python, PHP, Node.js, Java (JVM 1.5 + Classpath 0.98), Bash
IP address assignment	Static, DHCP, AutoIP, UPnP
Protocol stack	ARP, ICMP, IP, TCP, UDP, Telnet, FTP, HTTP, TFTP, Modbus TCP/RTU (server + client), MQTT, OPC UA, M-Bus, ACCON AGLink
Security protocols	SSL/SSH, HTTPS, TLS 1.2, OpenVPN, IPsec
TCP servers	Telnet, (S)FTP, TFTP, HTTP
Firewall	netfilter + iptables
Proxy functions	HTTP(S), FTP, Telnet, SSH, generic TCP port mapping
Configuration	WebUI
Internet of Things Tools	Node-RED + SSV Smart Connection Nodes (optional) Node-RED + SSV IEC Remote Control Nodes (optional) Node-RED + SSV VHPready 4.0 Nodes (optional)
Miscellaneous	DynDNS support Firmware update over WebUI IEC 61850 / 60870-5-104 protocol support (optional)
Displays / Control Elements	
LEDs	1x Power 1x Wireless 1x System status (programmable) 1x VPN status (programmable)
Electrical Characteristics	
Power supply	12 .. 24 VDC from external power supply
Power consumption	< 15 W

Mechanical Characteristics	
Protection class	IP20 industrial case for 35 mm DIN-rail mounting
Mass	< 270 g
Dimensions	112 mm x 100 mm x 45 mm
Operating temp.	0 .. 60 °C
Standards and Certifications	
EMC	CE
Environmental standards	RoHS, WEEE
Industrial standards	VHPready (Virtual Heat & Power Ready)
Order information	
Order number	PX-87775

## Scope of Delivery

- 1x AT Modem Emulator Gateway IGW/936-L-MOE
- 1x LTE/UMTS/GSM magnetic base antenna with 3 m cable
- 1x Null modem cable MOE
- 1x USB-to-Serial adapter

## Startup Package (optional)

- 1x Plug-in power supply
- 1x CD-ROM

## Product Variants

- Customized variants with preinstalled configuration and/or individual case design on request.

## Similar Products

- AT Modem Emulator Gateway IGW/922-MOE
- AT Modem Emulator Module DIL/NetPC DNP/9265-MOE
- AT Modem Emulator Module incl. Socket-Modem-Adapter DIL/NetPC DNP/9265-SMOE

## Compatible Products

- A/D-Extension IO/5640

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