GM01 modem configuration

IEC-line series

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1. Use and configuration of the GM01 modem

The GM01 modem can realize a permanent connection to the Internet using PPP (Point to Point Protocol) over GPRS or HSPA network. This can happen in two alternative ways:

1. Using the **GM01_PPP.EXE** driver into autoexec.bat file
2. Using function blocks of **MODEM_Lib.lib** into the IEC program

In **case 1**, the GM01_PPP.EXE connection program should be included in the autoexec.bat file and the operating parameters should be set into CHIP.INI configuration file.
For this purpose use the Web graphic user interface (configuration by ADMIN.EXE application).
In this way, after the booting process on power-on, it will run the GM01_PPP.EXE program that requires a certain time (about 30 ") to establish a permanent connection to the Internet.
To allow other programs, for example the IEC application, to know the connection status, an item of configuration file, named PPP_STATUS, is available.
Furthermore, by setting to 1 the value of BATCHMODE item in the [BATCH] section, you can postpone the next scheduled program (CoDeSys Run Time System) at the connection established. The BATCHMODE parameter makes it possible to activate the sequential execution of programs listed into autoexec.bat, as an alternative to their simultaneous execution. The GM01_PPP.EXE driver, when the connection is established, however restores the simultaneous execution of subsequent programs of the autoexec.bat file, allowing the execution of the CoDeSys Run Time System.

In **case 2**, the connection functions are handled by the IEC application using the function blocks of CoDeSys library for the GM01 modem. The integrated management of modem into the IEC application allows greater flexibility and control of the connection functions. Moreover, only in this case, you can use the modem for other functions such as sending and receiving SMS messages. About the use of modem function blocks, refer to **Target-CoDeSys-Reference-Manual_EN.pdf** manual.
To simplify the parameterization of GM01 modem function blocks you can still use the values set in the CHIP.INI configuration file. These settings are considered as default values for the input variables of the library function blocks. Furthermore, in the absence of the value of a CHIP.INI item, is still used a fixed value by default.
The following table summarizes the parameters of the CHIP.INI configuration file regarding specifically the functions of the GM01 modem:

GM01 modem configuration

Item	Value	Default	Description
[GM01]			Section of GM01 modem parameters
ENABLE	0/1	0	Global enable of GM01_PPP.EXE driver (0 for not executing the program)
SIMPIN	number	blank=disabled	Pin number of SIM card (refer to the operator) Normally left blank (disabled)
PPPAUTH	0÷4	0	Type of authorization for the PPP connection (refer to the operator) 0=No, 1=PAP, 2=CHAP, 3=PAPPEER, 4=CHAPPEER Normally not used (PPPAUTH=0)
PPPUSER	string	blank	Username for the PPP connection (refer to the operator) Normally left blank (PPPAUTH=0). Used with PPPAUTH > 0
PPPPASSWORD	string	blank	Password for the PPP connection (refer to the operator) Normally left blank (PPPAUTH=0). Used with PPPAUTH > 0
PPPCONNECTSTRING	string	AT+CGDCONT=1, "IP","ibox.tim.it"	String with APN for the PPP connection (refer to the operator) Example: AT+CGDCONT=1,"IP","ibox.tim.it"
PPPDIAL	string	ATD*99***1#	Dial string for the PPP connection (refer to the operator) Example: ATD*99***1#
PPP_STATUS	string	-	Current status of the connection for GM01_PPP.EXE driver program Values: DISABLED / INIT / INIT_ERR / LINK / RETRY
RETRY_SECONDS	0÷Sec	60	Waiting time in seconds to reconnect after the loss of the Link
MODEMTRACE	0/1	0	Enable debug messages on the Telnet window
[DNS]			Section of Dynamic DNS client parameters
DYNDNS_ENABLE	0/1	0	Enable Dynamic DNS client for GM01_PPP.EXE driver program
DYNDNS_URL	URL string	members.dyndns. org/nic/update	URL where the service of the DNS server is available For "dyndns.com" is: members.dyndns.org/nic/update For "no-ip.com" is: dynupdate.no-ip.com/nic/update
DYNDNS_USER	string	name_user	Username to access the DNS server, choice to create your account In the default: "name" is the [DEVICE]NAME parameter value in CHIP.INI
DYNDNS_PASSWORD	string	name_password	Password to access the DNS server, choice to create your account In the default: "name" is the [DEVICE]NAME parameter value in CHIP.INI
DYNDNS_HOSTNAME	URL string	name.dyndns.org	Host name registered for access the device (example: myplc.dyndns.org) In the default: "name" is the [DEVICE]NAME parameter value in CHIP.INI
DYNDNS_LAST_IP	IP string	-	Last IP address registered into DNS server Permanently stored for not abuse the service
[BATCH]			Section of autoexec.bat execution
BATCHMODE	0/1	0	Simultaneous (0) / sequential (1) execution of programs

NOTE: To change the parameters in the CHIP.INI file can be used an FTP connection to directly edit this configuration file. However, is recommended the user friendly interface of Web server, accessed typing in the browser the network address of the device followed by /admin/admin.html (for example: 192.168.1.101/admin/admin.html).