

# **DUALCOM** SIA IP

# INSTALLATION AND APPLICATION MANUAL

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# **1** Application

Communicator for fire alarm control panels, that converts the contact input events to SIA IP format and sends to alarm monitoring receivers/servers over IP channel through mobile GPRS network. It can be used for any control panel which has contact outputs or the contact outputs can be obtained using relays. With this module, the input events are sent to the monitoring station's IP receiver over the GPRS network, using SIA IP protocol based on ANSI/SIA DC-09-2007 standard, or TEX protocol. No need for a central server, only an IP receiver with internet connection is necessary. The module works with the following receiver types: **TELLMon**, **AMR-08**, **ENIGMA II** and **TEX-MVP**. Remote update of the Dualcom's firmware is available through the **TELLMon** receiver over **TELLMon** protocol. Firmware update through the programming software is available over **TEX** protocol only.

## 2 Functions

- Parallel usage of two independent GSM modules
- Reporting up to 4 IP addresses, which means 2 primary IP addresses per network
- 6 NO/NC/EOL contact inputs
- 6 alarm activated NO relay outputs
- Programmable by PC software and by SMS
- Supervision message with configurable sending interval for automatic checking of the transmission channel



## 3 Module overview

# 4 Operating logic

The events generated on the contact inputs are sent towards the preset receiver IP addresses through both independent GPRS channels simultaneously. The requirement for the simultaneous operation is a receiver pair operating on two different networks on the remote monitoring station side.

The logical scheme in the figure below illustrates the method of reporting . Explanation of IP address markings:

Monitoring station numbering	GPRS network p	rovider marking
1	A= e.g. Vodafone	B= e.g. Telenor
2	A= e.g. Vodafone	B= e.g. Telenor



After an event occurs, the module establishes IP connection with the configured receivers through both networks (A and B) at the same time. Reporting is done through the different networks and to the different remote monitoring stations in parallel. Due to the parallel operation, ideally each receiver receives the event roughly at the same time (this is an average of 5 seconds). If one of the networks fails on the module side or delay occurs, the other network's transfer rate and availability is still provided. The system provides possibility for use with two remote monitoring stations. The two monitoring stations shown in the figure above can be completely equivalent or functionally separated (e.g. alarm and technical). If reporting to only one remote monitoring station is required, then it is enough to configure receivers 1A and 1B only.

## 4.1 Estimated data traffic

In case of using TCP protocol, with supervision message sending by 60 seconds, the data traffic is expected to be about 25MB/month for each configured IP address. In case of using UDP protocol this is expected to be about 9MB/month.

## 5 Settings

The module settings can be configured by PC software through USB, and the main parameters can also be configured remotely by SMS commands.

## 5.1 Configuring through USB connection

The programming software is available on the manufacturer's website (<u>www.tell.hu</u>). The module connects to the PC as HID device, therefore no special drivers are required to connect to USB.

The programming software is compatible with the following operating systems:

- Windows 7 (32/64 bit)
- Windows 8.x (32/64 bit)
- Windows 10 (32/64 bit)

The user interface language can be changed in the "Software settings / Settings" menu.

Programming:

To configure the module through USB, open the programming software and follow the instructions in the "*Connection*" chapter.

## 5.2 Connection

## 5.2.1 Connecting through USB

DUALCOM SIA IP progra	amming so Change A	oftware offware dmin password						T	
Connection	~	Connection type							
Connection type Module register		<b>t</b>	ISB ISB		TEX-MVI	2		TELLMon	
Module settings	~	Connection password	General						
		Admin password	Module name		Server address	Port	Server password	Device ID	
General		2322	Γ.	-	194.38.104.31	3333		SOE	
Receivers					-				
Inputs and events		Details							
Outputs		Date / Time 🔹 I	Event						
		▶ 2017. 01. 16. 14:21:13	Connected						
Module status	~	2017. 01. 16. 14:21:13	Admin level access						
		2017. 01. 16. 14:21:13	Successful device identificati	on, device ide	entifier: 01:01:04:08:02:	:00			
Status monitoring		2017. 01. 16. 14:21:12	Connecting						
System logs		2017. 01. 16. 14:20:35	Connection type: USB						
Event log									
Software settings	^								
Collinso									
Setungs									
About									

To configure the connection, click on the "Connection type" menu item in the "Connection" menu, select the "USB" option at connection type, then connect the module to the PC using the USB A-B cable. Enter the module's admin password in the "Admin password" field and click the "Connect" icon to establish the connection between the module and the software.

Admin password: the module's security password (default admin password: 1111).

**Details**: this window shows detailed information regarding the process of connecting.

Click the "Connect" button in the top left corner of the program window button to establish the USB connection.



Click the "Disconnect" button in the top left corner of the program window button to close the USB connection.

The password can be changed using the "Change Admin password" button. If the wrong password is entered when connecting to the module, the software establishes the connection with the module and you can read the settings, but the settings cannot be changed.



Change Admin password: this button opens a new window where you can change the Admin password.

To change the Admin password enter the current password, then the new password twice and click "OK". The length of the password should be at least 4, but not more than 8 characters. Accepted characters are numbers (0..9), lower case letters (a..z) and capital letters (A..Z).

Current password	_	
New password	Confirm	new password
ſ		Cancal

#### 5.2.2 Remote connecting to modules which are using the TEX-MVP protocol

This connection type can be used if the *DUALCOM* module you wish to remotely connect to is connected to a TEX-MVP server. Also use this connection type if the *DUALCOM* module is connected to a TELLMon receiver and the module is configured to communicate with the TELLMon receiver using the TEX-MVP protocol.

Connection between the module and the **DUALCOM** programming software can be established through the server/receiver on which the module is online.

The "**System logs**" option of the programming software cannot be used in case of remote connection over the Internet.

Connection password	General				
Admin password	Module name	Server address	Port	Server password	Device ID
		▼ 194.38.104.31	3333		50E

Admin password: the module's security password (default admin password: 1111).

**Receiver/Server address**: the IP address or domain name of the server/receiver on which the module is online.

Port: communication port number (the default TEX communication port is: 3333)

**Server password**: the 20 hexadecimal-character password of the TEX server or TELLMon receiver (5x4 characters separated by hyphen).

**Device ID**: the "TEX" identifier of the DUALCOM to which you wish to connect to. The format of the "TEX" device identifier is: **FFF** (3 hexadecimal characters).

Connecting to the module through server/receiver which uses the TEX protocol:

- Enter the module's security password.
  - Admin permission: full access to all settings. (default password: 1111)
  - Connecting without password: read permission only.
- Fill in the "Server address", "Port", "Server password" and "Device ID" fields.
- Click on the "*Connect*" We button.
- In case of entering the wrong password, the software connects to the module with read-only permission.
- The status of the connection is indicated by the status icon in the top left corner of the program window:



disconnected



- After connecting using the valid password, you can configure the module, change settings, download event logs and monitor system status.
- To disconnect from the module click on the "Disconnect" We button.

#### 5.2.3 Remote connecting to modules which are using the TELLMon protocol

This connection type can be used if the *DUALCOM* module you wish to remotely connect to, is connected to a TELLMon receiver and the module is configured to communicate with the TELLMon receiver using the TELLMon protocol.

Connection between the module and the **DUALCOM** programming software can be established through the server/receiver on which the module is online.

The "System logs" option of the programming software cannot be used in case of remote connection over the Internet.

Connection password	General			
Admin password	Module name	Receiver address	Port	Device ID
****		+	3535	21:00:2E:43:28:7F

Admin password: the module's security password (default admin password: 1111).

Receiver/Server address: the IP address or domain name of the server/receiver on which the module is online.

**Port**: communication port number (the default TELLMon communication port is: 3535)

Device ID: the device identifier of the DUALCOM module to which you wish to connect to. The format of this unique, burned-in during production and thereby unchangeable (6x2 hexadecimal characters).

Connecting to the module through server/receiver which uses the TELLMon protocol:

- Enter the module's security password.
  - Admin permission: full access to all settings. (default password: 1111)
  - Connecting without password: read permission only.
- Fill in the "Receiver address", "Port" and "Device ID" fields.
- Click on the "*Connect*" A button.
- The DUALCOM module that communicates using the TELLMon protocol is not continuously online. The module connects to the server/receiver only when it sends supervision or event message, therefore after clicking the "Connect" button, you have to wait until the module next connects to the server/receiver for sending a supervision or event message. This is the opportunity when the programming software has the possibility to connect to the module.
- In case of entering the wrong password, the software connects to the module with read-only permission.
- The status of the connection is indicated by the status icon in the top left corner of the program window:



- connected
- After connecting using the valid password, you can configure the module, change settings, download event logs and monitor system status.
- To disconnect from the module click on the "Disconnect" 🚧 button.

#### 5.2.4 Module register

ect Disconnect Add new	Clone Edit Delete					TEL
Connection ^	* Module register	Connection type	Device ID	Server/receiver addr	Port	Server password
Madda analista	Demo Dualcom TELLMon	TELLMon	21:00:2E:35:17:5F	185.43.28.115	3535	5
Module register	Demo Dualcom TEX-MVP	TEX-MVP	50E	194.38.104.31	3333	3 0E29-E238-245C-3CD6-254F
Inputs and events Outputs Module status		Module name Demo Dualcom T Server/receiver a 185.43.28.115	ELLMon address	Connection type	▼ Port 3535	
System logs Event log Software settings ^		21:00:2E:35:17	:5F	Save	Close	]

The "module register" serves for storing and easy handling of *DUALCOM* modules' availabilities used for remote programming. You can add new module availabilities to the database and also edit, delete and clone entries for easy adding of modules with similar availabilities.

When connecting remotely, you can easily select by name the module you wish to connect to from the "*Module name*" drop-down menu, out of the modules added to the database. If you add a new module availability in the connection type section, the program will add it automatically to the module register database by using the device ID as module name, which you can then change by editing the given entry.

Function buttons available in the "**Module register**" menu:

📑 : add new module

- : clone entry (duplicate)
- : edit entry
- : delete entry

Data stored by the module register:

Module name: custom name

**Connection type**: select the type of connection (TEX-MVP, TELLMon) according to the server/receiver to which the module connects to.

Server/receiver address: the IP address or domain name of the server/receiver

Port: the communication port number of the server/receiver

**Server password**: (for TEX-MVP protocol only) the 20 hexadecimal-character server password (5x4 characters separated by hyphen)

**Device ID**: the module's device identifier. The format of the device identifier is:

- for TELLMon protocol: FF:FF:FF:FF:FF (6x2 hexadecimal characters, unique, burned-in during production and thereby unchangeable device identifier). The device ID (used for the TELLMon protocol) of the connected module is shown in the "Device ID" field in the "Status monitoring" menu.
- for TEX-MVP protocol: **FFF** (3 hexadecimal characters)

## 5.3 Module settings

The settings of the module can be configured in the "Module settings" menu.

#### 5.3.1 General

DUALCOM SIA IP programming	software	0
hnect Disconnect Read	Write Firmware update Export Import	TEL
Connection ^	General settings	
Connection type Module register	SIM "A" PIN code APN APN username APN password	^
Module settings ^		
<ul> <li>General</li> <li>Receivers</li> <li>Inputs and events</li> <li>Outputs</li> </ul>	SIM "B" PIN code APN APN username APN password	*
Module status ^	Miscellaneous settings Admin phone number	^
Status monitoring System logs Event log		
Software settings ^		
Settings About		

Function buttons available in the "General" module settings menu:





Write settings to the connected module.



automatically, then after 5 minutes the module restarts automatically and the uploaded firmware takes effect.



Save settings to file.

Load settings from file. In this software you can import saved settings files with .cfg extension, as well as settings files with .ini extension saved with an earlier version of the software.

#### • General settings:

**SIM** "**A**": settings for SIM card "A" (placed on the right side of the PCB) **SIM** "**B**": settings for SIM card "B" (placed on the left side of the PCB)

**APN:** Internet access point name (belongs to the SIM card, is provided by the mobile service provider)

**APN username** and **password:** user and password for the given APN (necessary only if requested by the mobile service provider)

**PIN:** the module supports PIN code usage on the SIM cards inserted in sockets SIM "A" and SIM "B". If you wish to use this function, enter the PIN code in this section and enable PIN code request on the SIM card. The module will provide the PIN code upon each power up and upon daily restarts when the SIM card asks for the PIN.

**Attention!** The SIM card will become blocked if you enter the wrong PIN code! Thereafter it can be unlocked by inserting in a cellphone and entering the PUK code.

Admin phone number: it is possible to configure the module by sending commands in SMS to the module's phone number. The module accepts SMS commands only from the Superuser phone number. You can enter the superuser phone number here, or can register it by SMS. You can find the list of the available SMS commands in chapter "<u>Configuring by SMS commands</u>".

## 5.3.2 Receivers

ect Disconnect Read	Write Exp	oort Import								TEL
Connection ^	Rece	ivers								
Connection type	SIM "	A"								~
Module register		IP address / domain name	Name	Port	Protocol		User account ID	Group ID	Device ID	Supervision message interval
	1A			3535	TELLMon_TCP	•	0000			90 sec
Module settings ^		IP address / domain name	Name	Port	Protocol		User account ID	Group ID	Device ID	Supervision message interval
General	2A			3545	TELLMon_UDP	•	0000			90 sec
Receivers Inputs and events	SIM 1	B" IP address / domain name	Name	Port	Protocol		User account ID	Group ID	Device ID	A Supervision message interval
Outputs	1B			3333	MVP-TEX	•	0000			90 sec
Module status ^		IP address / domain name	Name	Port	Protocol		User account ID	Group ID	Device ID	Supervision message interval
	2B		-	9999	AMR-08	•	0000			90 sec
System logs Event log Software settings ^ Settings About										

Attention! For system safety it is mandatory to configure the IP addresses in pairs, which means if IP **A** is set, **B** must also be set and vice versa!

**1A, 2A:** receivers to be notified through the SIM "A" network

**1B, 2B:** receivers to be notified through the SIM "B" network

**Name:** in this textbox you can add a name to the given receiver. The module does not use the name entered here, but it is saved with the settings as informative data for easier system overview.

IP address / domain name: the IP address or domain name of the given receiver

Port: the communication port number belonging to the given IP address or domain name

**Protocol:** use the drop-down list to select the appropriate communication protocol for the receiver available on the given IP address or domain name. Available protocols: **TELLMon\_TCP**, **TELLMon\_UDP**, **AMR-08**, **ENIGMA II** and **TEX-MVP**. The UDP protocol uses less data traffic.

**User account ID:** the user account ID which the module uses to send events towards the receiver available on the given IP address or domain name.

**Group ID:** hexadecimal-format remote monitoring identifier. If you do not own such identifier, please contact your reseller.

**Device ID:** 3-digit hexadecimal-format module identifier. Should consist of 0...9,A,B,C,D,E,F characters only.

**Supervision message interval:** the supervision message interval in seconds (60...3600s). The module sends the supervision message by the sending interval configured here to check the connection with the receiver.

Attention! The lower the value set, the higher the data traffic will be!

#### 5.3.3 Inputs and events

Connection A	Inputs and events	
Connection		~
Connection type	injut setungs	
Module register	Contact ID code 1A+1B 2A+2B Input type EOL Sensitivity Name	
Module settings ^		
riodule settings	Contact ID code 1A+1B 2A+2B Input type EOL Sensitivity Name	
General		
Receivers	TN2 110 Vec + Vec + Vec + 200 ms	
Inputs and events	Contact ID code 10.118 20.178 Tenut tune EOL Constituity Name	
Outputs		
Module status ^	Contact ID code 14+18 24+28 Innuit type EOL Sensitivity Name	
Status monitoring	Contact ID code 1A+1B 2A+2B Input type EOL Sensitivity Name	
System logs Event log	IN6 110 No • No • Yes • 200 ms	
Software settings ^	Input tamper event (with EOL only)	~
Solution Countings	Contact ID code 10.18 20.178	
Settings		
About		
	Battery fault event	^
	Contact ID code 1A+1B 2A+2B Battery low voltage threshold Battery restore voltage threshold	
	302 No Ves 11,5V 12,2V	
	Periodic test report	^
	Contact ID code 1A+1B 2A+2B Enable Interval Time of sending	

Special function buttons available in the "Inputs and events" settings menu:

**Send test report:** by clicking on this button you can initiate test report sending at any time at will. It is recommended to use for operation testing purposes.

**IN1...IN6:** the settings of the 6 contact inputs. The normally open or normally closed contact is considered between the given **IN** input and the **COM** common terminal (see connection diagram).

**Contact ID code:** 3-digit event code, consisting of 0..9,A,B,C,D,E,F characters for reporting to monitoring station using the Contact ID protocol (e.g. 110 = fire alarm). The restoration event is sent automatically upon restore (for inputs, according to the input sensitivity settings). For inputs and tamper event the module sends the zone number (001...006) automatically, according to the number of the activated input (IN1...IN6).

**Receiver pairs:** using the **1A+1B** and **2A+2B** drop-down menus, you can enable for each event separately, to which receiver pairs to send the given event to through the two independent GPRS networks. Thereby, it is possible to separate e.g. the alarm events

and technical events (send alarm events only to the alarm monitoring station, and technical events only to the technical monitoring station) – see chapter "<u>Operating logic</u>".

**1A+1B** enabled: reporting of the given event will be performed to receivers **1A** and **1B**.

2A+2B enabled: reporting of the given event will be performed to receivers 2A and 2B.

#### Input type:

- NO normally open (the input is normally open, and it generates alarm event when shorted)
- NC normally closed (the input is normally closed, and it generates alarm event when opened)

**EOL**: if enabled, tamper protection function is automatically activated for the given input. In this case the given input must be provided with a  $1k\Omega$  end-of-line resistor at the end of the loop, directly at the controlling contact (see wiring diagram).

**Sensitivity:** the input sensitivity can be set in milliseconds between 100 and 60000. Shorter state changes on the given input are ignored by the module upon activation and restore as well.

**Attention!** After changing the sensitivity settings, the module considers the first activation on the given input still with the earlier setting! The new setting takes effect only after the first activation of the given input or after module restart.

**Name:** in this textbox you can add a name to the given input/event. The module does not use the name entered here, but it is saved with the settings as informative data for easier system overview.

**Input tamper event:** the sabotage (tamper) event applies globally to all EOL inputs. The number of the input (001...006) affected is inserted automatically the in the "zone" section of the tamper Contact ID event code. The module does not send tamper event for inputs for which the EOL option is disabled.

**Battery fault event:** the module monitors its supply voltage level and sends report if the configured "**low battery voltage/restore**" voltage thresholds are exceeded for at least 30 seconds.

**Battery low voltage threshold:** the module can monitor the supply voltage. This function is useful when the module is powered from uninterrupted power supply provided with a backup battery (recommended). You can set a threshold between 10...30V, at which the module generates "*Battery fault*" event. The event is generated if the supply drops below the configured level for at least 30 seconds.

**Battery restore voltage threshold**: you can set a threshold between 10...30V, at which the module generates "*Battery fault restore*" event. The event is generated if the supply voltage increases above the set level for at least 30 seconds after a "*Battery fault*" event.

#### Periodic test report:

**Enable:** using the drop-down selection menu you can enable or disable periodic test report event sending.

**Interval:** if periodic test report sending is enabled, the module sends the test report by the interval configured here. The periodic test report sending interval can be adjusted from 1 to 24 hours.

**Time of sending:** if periodic test report sending is enabled, the module sends the test report each day at the time of day configured here, and respectively by the configured sending interval.

#### 5.3.4 Outputs

	software				
nnect Disconnect Read	Write Export Import			T	
Connection ^	Outputs				
Connection type	Output settings				~
Module register	Output 1		Output 2	Output 3	
	Follow status of input 1	•	Follow status of input 2	▼ Follow status of input 3	•
Module settings ^	Output 4		Output 5	Output 6	
General	Activate when any input is active	•	Activate on battery trouble	<ul> <li>Activate on communication trouble</li> </ul>	•
Inputs and events					
Receivers Inputs and events Outputs					
Acceivers Inputs and events Outputs Module status					
Acceivers Inputs and events  Outputs  Module status  Status monitoring System lose					
Acceivers Inputs and events Outputs Module status Status monitoring System logs Event log					
Necevers       Inputs and events       Outputs       Module status       Status monitoring       System logs       Event log       Software settings					
Receivers Inputs and events					

The module has 6 relay outputs (Output 1...6) for which any of the following functions can be configured:

- Follow status of input 1: the output is activated when input 1 is activated and remains activated as long as input 1 is active.
- Follow status of input 2: the output is activated when input 2 is activated and remains activated as long as input 2 is active.
- Follow status of input 3: the output is activated when input 3 is activated and remains activated as long as input 3 is active.
- Follow status of input 4: the output is activated when input 4 is activated and remains activated as long as input 4 is active.
- Follow status of input 5: the output is activated when input 5 is activated and remains activated as long as input 5 is active.
- Follow status of input 6: the output is activated when input 6 is activated and remains activated as long as input 6 is active.
- Activate when any input is active: the output is activated when any of the 6 inputs is activated and remains activated as long as any input is active.
- Activate on battery trouble: the output is activated upon battery fault and remains activated as long as the battery fault persists. Output activation and deactivation are done at the same time when *battery fault* and *battery restore* events occur.
- Activate on communication trouble: the output is activated if the module is unable to establish the connection with the receivers through any of the configured channels, and remains activated until the connection is established through at least one of the configured channels.

Attention! The continuity of the activated state of the outputs may temporarily be interrupted! The activated output is deactivated for 1-2 seconds if the module restarts, then after restart the module restores the active state. An exception to this is the communication trouble indication, where the active state is restored only if communication trouble occurs again after restart. Module restart may occur if this is necessary in order to restore a connection or for the further proper operation, as well as upon scheduled daily automatic restart.

## 5.4 Configuring by SMS commands

The table below contains the commands to be sent in SMS to the module's phone number in order to configure the module. The module accepts SMS commands only from the Admin phone number.

It is possible to send multiple commands in one SMS, but the message length should not exceed 40 characters, otherwise the module responds with an error message. Each command must end with **#** character.

At some of the commands the module allows for settings query, these are marked with **?** character in the first column of the table. The module will send the requested settings in SMS. For settings query send the command in SMS using question mark after the command (e.g. **IP1A?#**).

Commands should always be typed using capital letters. The first step is to register the Admin phone number using the programming software or by sending the **SUPERUSER#** command in SMS to any of the module's phone numbers, from the number wished to be registered.

	Specification	Command		Value	
	Admin registration	SUPERUSER		(registers the sender's phone number)	#
?	Modifying / deleting the Admin	SU	=	phone number	#
?	APN assigned to SIM "A"	APNA	=	APN name (e.g. <b>internet</b> )	#
?	APN user name assigned to SIM "A"	APNUA	=	user name	#
?	APN password assigned to SIM "A"	APNPA	Π	password	#
?	SIM "A" PIN code	PINA	=	PIN code	#
?	APN assigned to SIM "B"	APNB	=	APN name (e.g. <b>internet</b> )	#
?	APN user name assigned to SIM "B"	APNUB	=	user name	#
?	APN password assigned to SIM "B"	APNPB	=	password	#
?	SIM "B" PIN code	PINB	=	PIN code	#
?	1A receiver name	IPC1A	=	receiver name	#
?	1A receiver IP address	IP1A	=	IP address (e.g. 111.222.33.44)	#
?	1A receiver port number	PORT1A	=	port (e.g. <b>3535</b> )	#
?	1A user account ID	UID1A	=	user account ID (e.g. <b>1234</b> )	#
?	1A group ID	GID1A	=	group ID (e.g. 011)	#
?	1A device ID	DID1A	=	device ID (e.g. 123)	#
?	1A supervision message interval	FR1A	=	test interval (in seconds) (e.g. <b>60</b> )	#
?	1A receiver protocol	PROT1A	=	TELLMon_TCP TELLMon_UDP AMR-08 ENIGMA_II TEX	#
?	2A receiver name	IPC2A	=	receiver name	#
?	2A receiver IP address	IP2A	=	IP address (e.g. 111.222.33.44)	#
?	2A receiver port number	PORT2A	=	port (e.g. <b>3535</b> )	#
?	2A user account ID	UID2A	=	user account ID (e.g. <b>1234</b> )	#
?	2A group ID	GID2A	=	group ID (e.g. 011)	#
?	2A device ID	DID2A	=	device ID (e.g. 123)	#
?	2A supervision message interval	FR2A	=	test interval (in seconds) (e.g. <b>60</b> )	#
?	2A receiver protocol	PROT2A	=	TELLMon_TCP TELLMon_UDP AMR-08 ENIGMA_II TEX	#

?	1B receiver name	IPC1B	=	receiver name	#
?	1B receiver IP address	IP1B	=	IP address (e.g. 111.222.33.44)	#
?	1B receiver port number	PORT1B	=	port (e.g. <b>3535</b> )	#
?	1B user account ID	UID1B	=	user account ID (e.g. <b>1234</b> )	#
?	1B group ID	GID1B	=	group ID (e.g. 011)	#
?	1B device ID	DID1B	=	device ID (e.g. 123)	#
?	1B supervision message interval	FR1B	=	test interval (in seconds) (e.g. <b>60</b> )	#
?	1B receiver protocol	PROT1B	=	TELLMon_TCP TELLMon_UDP AMR-08 ENIGMA_II TEX	#
?	2B receiver name	IPC2B	=	receiver name	#
?	2B receiver IP address	IP2B	=	IP address (e.g. 111.222.33.44)	#
?	2B receiver port number	PORT2B	=	port (e.g. <b>3535</b> )	#
?	2B user account ID	UID2B	=	user account ID (e.g. <b>1234</b> )	#
?	2B group ID	GID2B	=	group ID (e.g. 011)	#
?	2B device ID	DID2B	=	device ID (e.g. 123)	#
?	2B supervision message interval	FR2B	=	test interval (in seconds) (e.g. <b>60</b> )	#
?	2B receiver protocol	PROT2B	=	TELLMon_TCP TELLMon_UDP AMR-08 ENIGMA_II TEX	#
?	Low battery voltage threshold	BATL	=	e.g. <b>11800</b> (900030000 mV)	#
?	Voltage restore threshold	BATH	=	e.g. <b>12500</b> (900030000 mV)	#
?	Enable/disable periodic test report	TEST	=	<b>0</b> or <b>1</b> (1: enable; 0: disable)	#
?	Periodic test report sending interval	TESTFR	=	e.g. <b>24</b> (124 hours)	#
?	Periodic test report sending time of day	TESTTIME	=	e.g. <i>04:30</i> (00:0023:59)	#
	Restart the module after 30sec.	RESET	=	1	#

The module sends response message about the modifications, e.g. **IP1A OK**, except for Admin registration.

## • Examples:

Registering the Admin phone number:

## SUPERUSER#

The module executes the registration, but does not send response message to this command!

Erasing the Admin phone number: **SU=#** 

Setting the 1A receiver IP address (e.g. 111.222.33.44), port number (e.g. 3545), user account ID (e.g. 1234), supervision message sending interval (e.g. 60s) and the protocol (e.g. TELLMon\_UDP), then restarting the module:

## ÌP1A=111.222.33.44#PORT1A=3545#UID1A=1234#FR1A=60# PROT1A=TELLMon\_UDP#RESET=1#

Setting the low battery and restore voltage thresholds (e.g. 11,8V and 12,5V): **BATL=11800#BATH=12500#** 

Querying the 1B receiver IP address, port number and user account ID: IP1B?#PORT1B?#UID1B?#

To erase a setting value, do not write a new value in the command, leave the value part blank. E.g. to erase the 1B receiver IP address: **IP1B=#** 

## 5.5 Module status

Module status information and system logs are available in the "Module status" menu.

#### 5.5.1 Status monitoring

In the "Status monitoring" window you can check the status of the connected module:

Connection ^	Status monito	ring						
Connection type	Module							^
Module register	Firmware version	Hardware version	Туре	Device ID	Supply volt	age	Uptime	System time
-	V01.55.2532	V01.00.0000	DUALCOM	01:01:04:08:0	2:00 13,	13 V	2 173 sec	2017-01-16 11:12:04
Module settings ^								
General	Inputs							^
Receivers	IN1	IN2	IN3	IN4	-	IN5		IN6
Inputs and events	Idle	Idle		Idie	Tamper		Active	ACTIVE
Outputs	Outputs							^
Module status ^	OUT1	OUT2	OUT3	ол	4	OUT5		OUT6
Status monitoring	Inactive	Inactive	e I	nactive	Active		Active	Active
System logs								
Event log	SIM "A"		SI	M "B"				
A.	SIM "A"			SIM "B"				
Software settings ^	GSM operator GSM signal				GSM operator GSM signal			
Settings	vodafe	one HU	27		Telen	or HU		31
About	SIM "A"				SIM "B"			
	IP address	ID address Lintime			IP address			
	172.17	.70.194	2 150 sec		10.25	5.72.55		2 147 sec
	SIM "A"				SIM "B"			
					10		20	

- Module:
  - Firmware version: shows the module's firmware version
  - Hardware version: shows the module's hardware version
  - Type: shows the type of the connected module
  - **Device ID:** the module's device identifier used for the TELLMon protocol, which is unique, burned-in during production and thereby unchangeable (6x2 hexadecimal characters)
  - Supply voltage: the module's actual supply voltage level in Volts
  - Uptime: the time elapsed from last module restart (seconds)
  - System time: the date and time setting of the module's system clock
- Inputs (IN1...IN6): the actual state of the contact inputs:
  - Inactive: the input is in idle state
  - Active: the input is activated
  - Tamper: sabotage (for EOL inputs) loop open

- Outputs (OUT1...OUT6): the actual state of the relay outputs:
  - **Inactive:** the output is deactivated
  - Active: the output is activated
- SIM "A" / SIM "B":
  - GSM operator: the name of the GSM network in use
  - GSM signal: the actual GSM signal
  - IP address: the actual IP address of the given SIM card
  - Uptime: the time elapsed from connecting to the GPRS network
- 1A, 2A / 1B, 2B: connection status of the receivers:
  - Online: IP connection ok, ready
  - Online (ACK error): IP connection ok, but no acknowledgement signal is received (serial connection error between the receiver and the alarm monitoring software)
  - Offline (No response): no response is received from the configured IP address (no receiver on the configured IP address)
  - Offline: no IP connection
  - Not configured: IP address is not set for the given receiver

## 5.5.2 System logs

nect Disconnect Send	www test report		т					
Connection ^	System logs General							
Connection type	Event							
Module register	(16:18:09)Closing: Tellmon TCP	(16:18:09)Closing: Tellmon TCP						
	(16:18:09) 1B: TCP dose.	(16:18:09) 1B: TCP dose.						
Module settings ^	(16:18:09)SIA[2] socket closed	(16:18:09)SIA[2] socket dosed						
and the second sec	(16:18:09)Closing: Tellmon TCP	(16:18:09)Closing: Tellmon TCP						
General	(16:18:09) 1A: TCP dose.							
Receivers	(16:18:09)SIA[0] socket closed							
Inputs and events	(16:17:50) 1A: CID response OK							
Outputs	SIM "A"		SIM "B"					
Module status	Event		Event	*				
	(16:18:09)Closing: Tellmon TCP		(16:18:09)Closing: Tellmon TCP	1				
Status monitoring	(16:18:09) 1A: TCP dose.		(16:18:09) 1B: TCP dose.					
System logs	(16:17:49) 1A: CID response received	U	(16:17:50) 1B: CID response received					
Evention	(16:17:49) 2A: CID response received		(16:17:50) 1B: CID response OK					
Evenciog	(16:17:50) 1A: CID response OK		(16:17:49) 1B: already connected					
Software settings ^	(16:17:50) 2A: CID response OK		(16:17:49) 1B: TCP socket connected(CID)					
	(16:17:48) 2A: already connected		(16:17:49) 1B: sending CID(BBBB311001004) to 185.48.40.163.3536					
Settings	(16:17:48) 2A: TCP socket connected(CID)							
About	(16:17:49) 1A: sending CID(DCBA311001004) to		(16:17:48) 1B: CID response received					
ADUUL	185.48.40.163.3535		(16:17:48) 1B: CID response OK					
	(16:17:48) 1A: CID response received	+	(16:17:47) 1B: already connected	*				

**Send test report:** by clicking on this button you can initiate test report sending at any time at will. It is recommended to use for operation testing purposes. If you click on this button, you can get detailed information on the reporting process in the system logs.

- General: this window shows activity messages related to system operation.
- SIM "A" / SIM "B": this window shows logs of the GSM modules, separated system messages related to the two SIM cards.

## 5.6 Event log

Connection ^	Event log						
_	Date/Time	<b>▼</b> E	vent code	1A	2A	1B	2B
Connection type	2017-05-02,15	:43:04	18 3 110 01 004	*	*	*	*
Module register	2017-05-02,15	:43:02	18 1 110 01 004	*	*	*	*
	2017-05-02,15	:42:57	18 3 110 01 003	*	*	*	*
Madula cattings	2017-05-02,15	42:55	18 1 110 01 003	R	*	R	*
riodule settings	2017-05-02,15	:36:06	18 3 302 01 006	120	R		R
Conoral	2017-05-02,15	:36:05	18 1 302 01 006	-	R		R
aerierai	2017-05-02,15	:36:03	18 3 301 01 005	1.000	R		R
Receivers	2017-05-02,15	:36:00	18 1 301 01 005	-	R	-	R
inputs and events Dutputs	2017-05-02,15	:35:58	18 3 110 01 004	R	R	R	R
	2017-05-02,15	:35:57	18 1 110 01 004	R	R	R	R
	2017-05-02,15	:35:55	18 3 110 01 003	R	R	R	R
	2017-05-02,15	:35:53	18 1 110 01 003	R	R	R	R
Module status ^	2017-05-02,15	:35:51	18 3 110 01 002	R		R	
	2017-05-02,15	:35:50	18 1 110 01 002	R	-	R	-
Status monitoring	2017-05-02,15	:35:45	18 3 110 01 001	R	5.	R	-
System logs	2017-05-02,15	:35:44	18 1 110 01 <mark>0</mark> 01	R	-	R	
Event log							
Eventing							

The module's events can be viewed in the "**Event log**" menu. To download the event log from the module, open the "**Read**" of drop-down menu, select how many of the latest events to be downloaded (10, 20 or all), then click on the "**Read**" of button.

#### • Columns of the event log:

Date/Time:	the event's timestamp
Event code:	the event's Contact ID event code
1 <b>A</b> :	reporting to receiver "1A" (SIM "A" primary)
<b>2A</b> :	reporting to receiver "2A" (SIM "A" secondary)
1B:	reporting to receiver "1B" (SIM "B" primary)
<b>2B</b> :	reporting to receiver "2B" (SIM "B" secondary)

- Symbols displayed in columns 1A, 2A, 1B and 2B:
  - \* event processing/reporting is in progress
  - R the event was successfully reported
  - reporting is not required
  - T timeout, event reporting failed

## 5.7 Software settings

In the "Software settings" menu you can change the skin and language of the user interface, as well as you can configure individual color themes for certain settings and module status displays.

#### 5.7.1 Settings

ect Disconnect Restore	efault layout	
Connection ^	Software settings	
Connection type	User interface	*
Module register	Skin Language	
i loosie register	DevExpressStyle   English (US)	
Module settings ^		
General		
Receivers		
Inputs and events		
Outputs		
Module status ^		
Status monitoring		
System logs		
Event log		
Software settings ^		
Settinas		
About		

layout of the user interface.



The "Restore default layout" is button can be used to restore the factory default

- User interface:
  - Skin: the skin of the user interface can be changed using the drop-down menu, where you can choose out of several themes.
  - Language: the language of the user interface can be selected from this drop-down menu.

## 5.7.2 About

UALCOM SIA IP programm	ing software	_ 0
nect Disconnect		TEL
Connection	About	
Connection type Module register	T.E.L.L. Software Hungaria Kft www.tell.hu	
Module settings	DUALCOM SIA IP programming software v1.10.54.1988	
General		
Receivers		
Inputs and events		
Outputs		
Module status		
Status monitoring		
System logs		
Event log		
Software settings		
Settings		
About		

The manufacturer's website availability and software version number are available in the "*About*" menu.

## 5.7.3 LED signals (GPRS A and GPRS B)

Slow flashing green	Connected to GPRS network, idle state
Fast flashing green	Reporting through IP in progress
Flashing red	Start/restart in progress
Red is lit permanently	Error



\*The RX/TX port is not available in this version!

# 7 Installation guide

## 7.1 Mounting

- Test the GSM signal with your mobile phone, then after installation repeat the test with the module! It may happen that the signal strength is not sufficient in the given place where you wish to mount the module. In this case the planned installation place can be changed before mounting the device.
- Do not mount the unit in places where it can be affected by strong electromagnetic disturbances (e.g. near electric motors, etc.).
- Do not mount the unit in wet places or places with a high degree of humidity.
- Connecting the GSM antenna: the GSM antennas should be fixed in the FME-M connectors found on the panel. The antennas supplied with the module provide a good transmission under normal reception circumstances. In case of signal strength problems occurring occasionally and/or wave interference (fading), use another (directed) type of antenna or find a more suitable place for the module.
- Attention! Do NOT connect the metallic parts of the GSM antenna connector or the module's terminals directly or indirectly to the protective ground, because this may damage the module!
- Attention! If an input is not used but you configure it to normally closed (NC), you have to short the given input according to the settings (with a short wire or using a  $1k\Omega$  end-of-line resistor in case of EOL setting). Otherwise the given input may cause false alarms.

## 7.2 Putting into operation

- Disable voicemail and notification by SMS about missed calls on the SIM cards to be installed into the module.
- If you enable PIN code request on the SIM cards, then enter the PIN codes in the module settings as well.
- Do not forget to activate mobile data service for the SIM cards at the GSM service provider.
- Inserting the SIM cards:

Attention! Inserting or removing the SIM card when the module is powered up is strictly prohibited! In this case both the SIM card and the module may suffer breakdown that automatically implies loss of warranty!

• Insert the SIM cards into **SIM A** and **SIM B** sockets:



- 1. pull the metallic fastener slider of the SIM slot upwards (towards the upper edge of the panel) until it clicks
- 2. reach under the metallic fastener slider with your fingernail and open the socket
- 3. slide the SIM card into the opened part with the contacts facing down, as shown in the figure above
- Close back the opened part together with the SIM card
- Press down carefully and pull the metallic fastener slider downwards (towards USB connector) until it clicks
- Check the SIM cards to be inserted properly.
- Check the antennas to be fixed properly in the FME-M connectors.
- The device can be powered up. Make sure the power is sufficient for the operation of the module. The quiescent current of the module is 70mA, however it may increase up to 400mA during communication and output control.

## 8 Technical details

## 8.1 Technical specification

Supply voltage: Nominal consumption: Maximum consumption: Operating temperature: Transmission frequency: GSM phone type: Dimensions: Weight: 9-30V DC 70mA @ 12V DC, 40mA @ 24V DC 400mA @ 12V DC, 200mA @ 24V DC -20°C - +70°C GSM 900/1800 MHz Simcom SIM900 116 x 100 x 25mm 280g (packed: 300g)

## 8.2 Contents of the package

- DUALCOM SIA IP module
- 2pcs GSM 900/1800MHz antenna
- Plastic spacer support / snap fasteners
- Installation and application manual
- Warranty card