User Manual

STCM MH2

Remote reading master for M-Bus devices

SITECdomus system

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INTRODUCTION

The STCM MH2 is an M-Bus network hub, designed to gather data from connected meters and send it, via e-mail, to the user.

Internet connection for the sending of data occurs by using an Ethernet connection or the internal GSM/GPRS modem.

The reading values are sent via e-mail, and are available in an attached, ".csv" file - formatted and directly readable in Excel (or an equivalent program).

Alternatively, readings may be made locally, using the "STCU Reader" user program, provided separately.

The device may be remotely configured and commanded by sending specific SMS, or locally using the "STXM Reader" software.

TECHNICAL SPECIFICATIONS

- Power supply: 230Vac 50/60Hz, 15 W (Max.).
- GSM/GPRS Quad Band Modem.
- RJ45 connector for Ethernet connection.
- LED GSM field intensity indicator.
- LED Internet status indicator.
- M-Bus line status indicator led.
- 3 digital inputs (contact).
- 2 relay outputs 6(2)A 250Vac with changeover contact.
- USB port for local device reading and configuration.
- M-Bus Master Port (2400 Baud) protected against overload and short-circuits.
- Device for 60 meters (expandable up to 500, by means of STAM amplifiers).
- Operating temperature: 0 – 45 °C.

FUNCTIONAL SPECIFICATIONS

- Meter and/or device reader with M-Bus interface.
- Reading data sent via e-mail.
- Reading data sent in ".csv" format, in table form, directly readable in Excel (or equivalent program).
- Free supply of SMTP for avoiding possible spam problems with standard SMTP servers.
- Possibility of sending data with Ethernet connection or GPRS.
- Automatic configuration of network parameters.
- Remote device configuration by means of a simple web browser or by sending specific text messages, or locally by means of PC and "STXM Reader" software.
- Set-up of up to two schedulers to automatically send readings daily, weekly or monthly, as well as sending the meter values to configured e-mail recipients.
- The user, via the internet connection to the remote system, can:
  1) Verify the status of the control unit (alarms, data).
  2) Request the sending of the current system readings.
  3) Configure the device.
  4) Command available output relays (configurable in on/off or impulsive mode).
- The remote system, if configured, upon an input status change, sends a warning text message - the text of which may be set up by the user - to the telephone numbers set up.
- Verifies device alarms (failures or tampering), able to be set-up via the scheduler, with reports of possible anomalies via text message to the telephone numbers set up.
- A name may be assigned to each device.
- "STCR-IO" (IO M-Bus) device manager.

DIMENSIONAL CHARACTERISTICS

- Fastening: Fastening on DIN EN 607 rails.
- Color: Grey RAL 7035.
- Material: Self-extinguishing PPO.
- Dimensions: 9 DIN modules.

PRODUCT CODE

- STCM-032-MH2   Master M-Bus for 32 meters and sending of readings via E-Mail, connected with Ethernet connection or GPRS.
- STCM-060-MH2   Master M-Bus for 60 meters (expandable up to 500 with STAM amplifiers) and sending of readings via E-Mail, connected with Ethernet connection or GPRS.

RELATED PRODUCTS

- ST-AM-120-01   Amplifier module for extending network to an additional 120 devices.
- ST-AM-250-01   Amplifier module for extending network to an additional 250 devices.
- ST-SWL-C01   Software for local reading of meters (STCU Reader).
- ST-SWC-C2   Software for local hub configuration (STXM Reader).
- SG-PRG-USB   Mini USB B – USB A cable (provided).
- SG-ANT-AD1   Directional Antenna.
- SG-ANT-AM1   Stylus Antenna with magnetic base (provided)
- STCR-IO-001   M-Bus slave device with a relay output and an input.

For a complete list of products or updates, please visit www.teleletture.it.

SIM-CARD

The SIM card must be full-size; it is not provided with the equipment, and must be purchased from a mobile phone operator. The PIN must be disabled prior to its insertion into the device.

The SIM must have internet data enabled: this service is necessary for sending e-mail, which uses a few kilobytes, and the connection lasts only a few seconds.

The device also uses text messages for alarms and remote commands.

Consider the above-mentioned elements when choosing your contract.

Normally a M2M (Machine To Machine) contract is best for this use.

With the device off, insert the SIM card into the slot, as indicated by the serigraph on the device:

- Insert the SIM into the slot at the bottom right until you hear a click.
- To extract the SIM, push it until you hear a click.

CONFORMITY TO REGULATION STANDARDS

- Low Voltage Directive.
- EMC Directive.

SUPPORTED DEVICES

Currently the following meters are supported:

Manufacturer	Model
Zenner	ZELSIUS
	MULTIDATA S1
	MULTIDATA WR3
	IZM 972
	MULTIPULSE
	ZELSIUS C5
EngelMann	SensoStar 2C US
	SensoStar 2
Actaris	Integral-V MaXX
AR Therm	Excelsius
Siemens	WFN 21 e WFH 21
	AEW 310.2
	UH 50
	WFN 532
Relay	Padpulse M2
Qundis	G20
IME	CE4DT1 (M-Bus)
Apator	ELF
Socomec	Countis E26

(Other devices, not included on the list, may have been added after the printing of this manual, or may be compatible even if not listed. Contact Sitec Srl to verify or add other devices).

FRONT PANEL, TERMINAL BOX AND CONNECTION DIAGRAMS

dis.n.117 rev.0
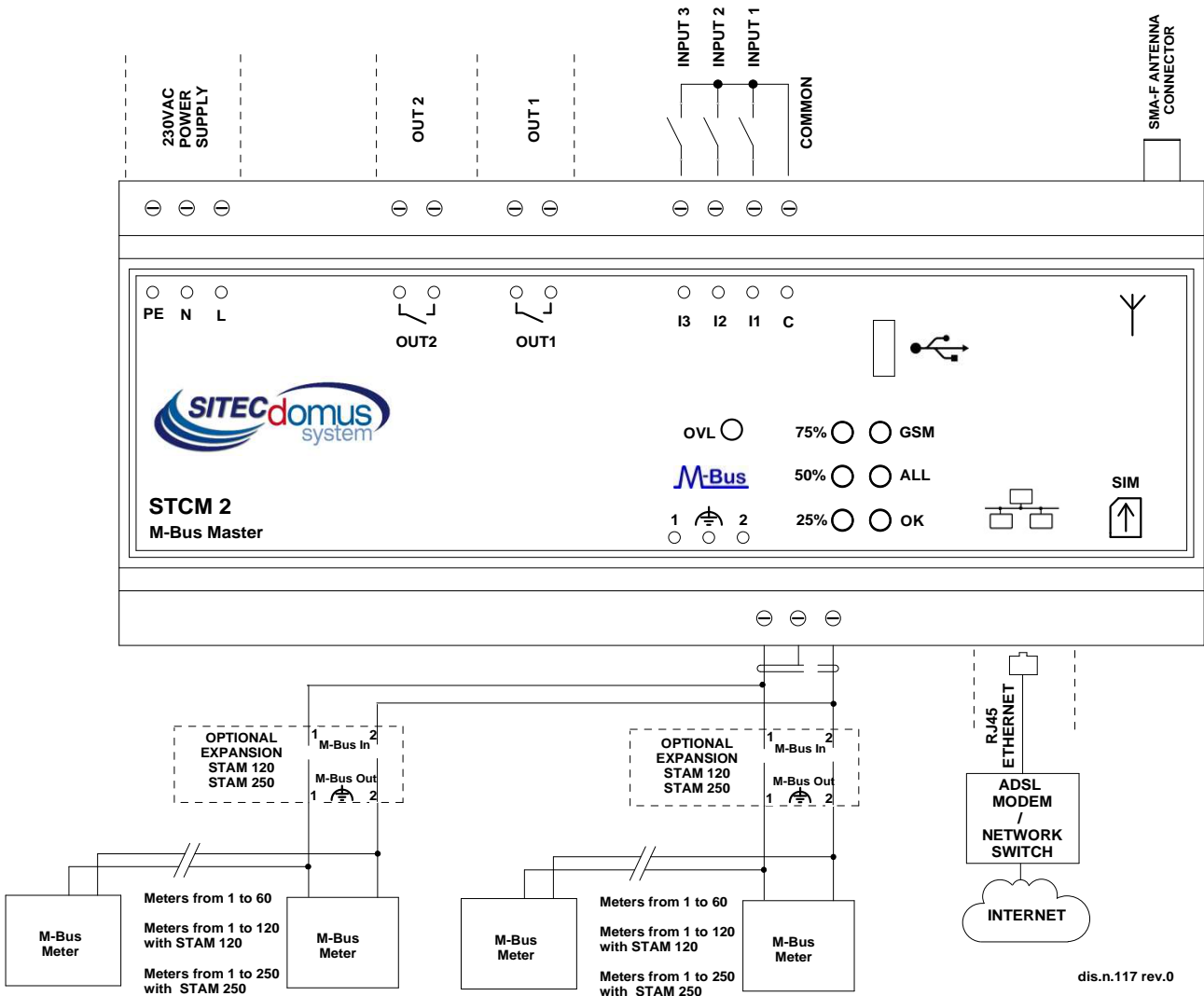
- Device Power Supply:
    - PE   Ground.
    - N   230 VAC 50 Hz Power Supply.
    - L   230 VAC 50 Hz Power Supply.
- Output relay controlled by text message:
    - Out1   Contact normally open relay 1.
    - Out2   Contact normally open relay 2.
- Signal input, able to be configured and disabled remotely:
    - I1   Input 1.
    - I2   Input 2.
    - I3   Input 3.
    - C   Common input.

- SMA-F Antenna Connector.
- Connector clips for the M-Bus network:
    - 1   M-Bus.
    - ⏚   M-Bus shielded cable (do not connect to ground).
    - 2   M-Bus.
- SIM Housing (Push – push type):
    - Inserted by pushing the SIM until you hear a click.
    - Extracted by pushing the inserted SIM until you hear a click.
    - RJ-45 Ethernet Connector for Ethernet port.

FRONT PANEL DESCRIPTION

Front Panel "GSM" LED provides the following indications:

Status			Indication
⚪	Off		No power supply (device is not operational)
🔵	On steady		Not registered in the network or SIM not inserted.
🔵	Slow blink	(On 0.2s, Off 2s)	Registered in the network.
🔵	Fast blink	(On 0.2s, Off 0.6s)	Communicating.
🔵	Very fast blink	(On 0.1s, Off 0.2s)	Software upgrade failed.

If device is operating in Ethernet mode, "ALL" LED (alarm) provides the following indications:

Status		Indication
🔴	"ALL" on	Ethernet cable not connected or damaged.
🔴	"ALL" fast blink (On 0.5s, Off 0.5s)	Impossible to obtain network parameters.
🔴	"ALL" normal blink (On 0.5s, Off 2s)	Gateway non accessible.
🔴	"ALL" slow blink (On 0.5s, Off 4s)	No internet connection.

"OK" LED provides the following indications:

Status		Indication
🟢	"OK" on (GPRS mode)	Hub is functioning correctly and the sending of data occurs by using GPRS network.
🟢	"OK" on (Ethernet mode)	Hub is functioning correctly and the sending of data occurs by Ethernet connection. This mode differs from ''mode 1'' because the ''OK'' led slowly blinks every 5 seconds.
🟢	"OK" fast blink	Hub is in start-up phase.
🟢	"OK" slow blink	Hub is reading device data.

The three LEDs on the left provide information as to GSM signal intensity:

Status		Indication
🟢	"75%" On for a moment	GPRS connection is active.
🟢	"75%" On	Signal level above 75%.
🟡	"50%" On	Signal level above 50%.
🔴	"25%" On	Signal level above 25%.

When there is a problem in the GSM/GPRS System, these 3 LEDs, indicate every 5 seconds alternatively to the GSM signal level, the type of problem found as indicated in this table.

Status	Indication	Possible causes
🔴 "25%" Fast blink	No GSM registered	SIM not inserted PIN problems
🟢 "75%" Fast blink 🔴 "25%" Fast blink	Registration denied	SIM not enabled SIM account blocked Device IMEI blocked
🟢 "75%" Off for a moment 🟡 "50%" Off for a moment 🔴 "25%" Off for a moment	Registered in roaming	The area is not covered by SIM operator
🟢 "75%" On for a moment 🟡 "50%" On for a moment 🔴 "25%" On for a moment	Status unknown	Device is powering up. Modem problems

OVL (Overload) LED provides the following indications:

| Status	Indication	Possible causes
🔴 Fast blink	Overload	M-Bus network with more than 60 devices. Problems in the network connection to the devices.
🔴 On	Short-circuit	There is a short-circuit on the M-BUS network.

INSTALLATION AND TESTING

- Place hub at least two meters from power devices (pumps, inverters, etc.).
- Fasten hub using the DIN rail support.
- Make the connections following the directions in the chapter: "Front Panel, Terminal Box and Connection Diagrams".
- Verify the insulation of the M-Bus cable with respect to the mass or other voltages.
- Verify there are no short-circuits in the wiring.
- After having entered the SIM number, insert the card (verify that the PIN is disabled and that data is active if you wish to use the device in GPRS mode) and connect the antenna.
- Plug in the device and wait for the green "OK" LED to stop blinking.
- Verify that the "OVL" LED is off. Otherwise, check the ground wires and other voltages, and ensure that the network is free of short-circuits;
- Verify that the "GSM" LED is blinking slowly (On 0.2s, Off 2s), otherwise make sure there is a sufficient signal level (verify by using a mobile phone which uses a SIM of the same operator as the one installed).
- If the signal level is too low, bring the antenna outside using an extension (optional accessory, supplied separately).
- If you want to configure the device via mobile phone, follow the procedure illustrated below. If you want to configure the device by connecting to the local network, before following the steps below, connect the device using the method "Connection via web browser" that you can find at the end of the paragraph:
  - Set the current date and time (command "TIME").
  - Set up the telephone number(s) for the sending of alarms (command "TEL").
  - Set the installation site name (command "SITO").
  - If used, configure the inputs (commands "INCFG" & "INDSC").
  - If used, configure the outputs (command "OUTCFG").
  - Set up the mode for sending email (command "SENDMAILVIA").
    If the method chosen for sending email is the Ethernet mode, verify that the ALL LED is correctly off. Otherwise, see "Front panel description" to understand the cause of the alarm.
  - Set up the addresses of e-mail recipients of the readings (command "MAILTO").
  - Set up the cc: e-mail recipients of the readings (command "MAILCC").
  - If used, try to simulate an alarm on one of the inputs and verify that the previously set up telephone numbers received a warning text message.
  - Create a list of devices (command "MBLISTA").
  - If necessary, name each device (command "MBNOME").
  - Try to read the data from the devices and verify that they are sent to the previously set up e-mail addresses (command "MBLEGGI").
  - Verify that all devices have been read.
  - Test the devices (command "MBTEST") and verify that there are no alarms.
  - To send the readings automatically, set up the scheduler with the desired frequency (command "SCHMBLEGGI").
  - To automatically test for the presence of an alarm in the device, set up the scheduler with the required frequency ("SCHMBTEST" command).
- Alternatively, you can also program the device with the "STXM Reader" software. Consult the specific manual for further details.
- Finally, you can configure the hub from a terminal (ex. HyperTerminal), sending any command described in the chapter "Configuration and Management Commands", by simply adding the prefix "AT+SMSSND=" to the desired command.

CONNECTION VIA A WEB BROWSER

- Connect the device using the USB port and obtain the IP address (command "ETHCFG?").
- Connect the PC to the same network as the hub.
- Open the browser and type the device's IP address in the address line followed by Enter:
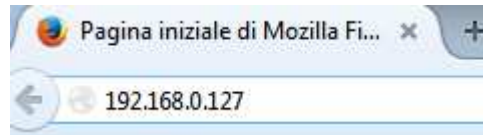
- The page that opens will look like this:

- Type the username and password and click "Connetti (*Connect*)". The default credentials are as follows:
    - Username: admin
    - Password: admin
- After the login, there is a window that allows you to send all the commands described in the chapter: "Configuration and Management Commands".
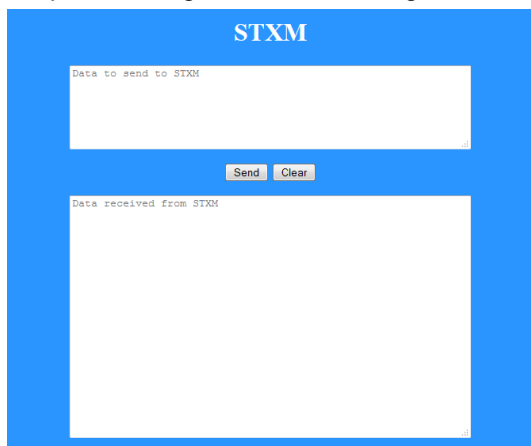
- Type the commands to be sent to the hub in the top window.
- The responses of the device will be shown in the bottom window.
- Once you have typed the command click the "Send" button, or hit Enter to send it.
- Click "Clear" to delete the received data from the window.

M-BUS WIRING

For the M-Bus wiring, refer to EN13757-2 (Annex E M-Bus Cable installation) and standards relating to the wiring of buildings.

To connect the meters to the master via the M-Bus network, we recommend using a twisted cable of at least 2x0.8 mm wires or equivalent (JYStY N*2*0.8 mm).

M-Bus cable must not be placed in the same conduit as the power cables.

We recommend respecting a distance of at least 2m from the inverter and other power devices in order to avoid possible electrical interference.

With the cable above the total length of the wired segment can be up to 2 km with 250 Unit Loads.

The shield must only be connected to the appropriate terminal of the concentrator base (see connection diagram), but must be opened by the side of the terminal for direct current (DC) and low-frequency signals.

CONFIGURATION AND MANAGEMENT COMMANDS

Device configuration and reading may be done remotely via the sending of a text message.

The first word to specify is the command (ex. **MAILTO** refers to the e-mail address of the recipients of the device readings), followed by possible parameters or indications.

DESCRIPTION OF A GENERIC COMMAND

There are three types of commands that can be sent to the device: help, set up, read:

Command Type:	Example	Description
Help	CMD=?	This mode allows you to receive a text message from the device, according to the indicated order and input syntax of the command parameters. To obtain this response, just add the suffix "=?" (ex. "MAILTO=?") to the desired command.
		The response includes the command itself followed by a list of options:
		• Values in () represent the parameter range or max length.
		• Values in <> represent optional parameters.
		• Values in (" ") are parameter names and are to be substituted with desired values.
Set up	CMD=parameter1,parameter2, …	Set up of one or more parameters.
		The parameter value or format varies depending on the command. In the case of multiple parameters, the values must be separated by a comma; therefore, the parameters themselves must not contain any commas.
Read	CMD?	Read the current values.

NOTE:
- Configuration parameters may not contain any commas, accented letters, parenthesis or symbols.
- If the parameters contain spaces, they are to be in quotation marks, ex. "Via Verdi".
- Null value parameters (ex. Cancellation of previously set-up parameters) are to be in quotation marks "".
- **In this manual**, the text in *italic* and enclosed in parentheses () is a translation of the commands responses. There aren't translations in the real responses.

Message Response

The device, where expected, sends a text message response confirming command execution or signaling any set-up errors based on the command used.

The response may contain 160 characters max, if it is longer it will be truncated. The missing part will be substituted by an ellipsis (…).

GENERIC COMANDS

DEVICE INFORMATION COMMAND – INFO

Command	Response	Description
INFO?	INFO: Via Rossi 2 STXM2 Sitec 1.7.5.0.20151123082634 Mode STCM M2	**Reads** the following information from the device: • Installation site • Device model • Manufacturer • Software version • Operating mode

INSTALLING SITE NAME CONFIGURATION - SITO

Configure the name of the device installation site:

Command	Response	Description
SITO=?	SITO: "Nome sito"(3-18)	**Help** for site name.
SITO="Via Verdi"	SITO: Comando eseguito (*Command executed*) Via Verdi	**Set up** site name.
SITO?	SITO: Via Verdi	**Read** the site set-up.

DATE AND TIME SET-UP COMMAND - TIME

Command for setting-up or reading the device date and time:

Command	Response	Description
TIME=?	TIME: "dd/MM/yyyy hh:mm:ss"	**Help** for date and time format.
TIME="10/01/2011 14:16:00"	TIME : Comando eseguito (*Command executed*) 10/01/2011 14:16:00	**Set up** device time and date. Parameter is to be placed in quotes (" ").
TIME?	TIME: 10/01/2011 14:17:00	**Read** current date and time on device.

READING LANGUAGE SET-UP COMMAND - LANGUAGE

Available for software versions 1.2.4.0 and higher.

Command for setting up the language in which you desire to receive the reading data:

Command	Response	Description
LANGUAGE=?	LANGUAGE: [it-IT][en-GB]	**Help** for device language.
LANGUAGE=en-GB	LANGUAGE: Comando eseguito (*Command executed*) Il dispositivo sarà riavviato per rendere effettive le modifiche	**Set up** the language for the readings. Languages available for the device: • it-IT: Italiano. • en-GB: English. To render the changes effective, the device will automatically be rebooted a few seconds after command execution.
LANGUAGE?	LANGUAGE: it-IT	**Read** the device's current language set-up.

SMS TELEPHONE NUMBER CONFIGURATION - TEL

Configure a list of up to 4 telephone numbers to which the text messages of input status changes and other warnings are to be sent.

Command	Response	Description
TEL=?	TEL: 'Telefono1'(20),<'Telefono2'(20)>,<'Telefono3'(20)>,<'Telefono4'(20)>	**Help** for telephone number (4 numbers max.).
TEL=+393351234567,+393356666666	TEL: Comando eseguito. =+393351234567,+393356666666 (*Command executed*)	**Set up** 2 telephone numbers
TEL?	TEL=+393351234567,+393356666666	**Read** the telephone numbers set-up.
TEL=""	TEL: Comando eseguito (*Command executed*)	**Delete** all numbers.

ENABLED TELEPHONE NUMBER CONFIGURATION - TELDIAG

Available for software versions 1.7.4.0 and higher.

Configure up to 4 telephone numbers that are enabled to perform some special commands (eg all management commands for the STCR-IO devices). To set the phone numbers, you must connect to the device locally with the configuration software "STXM Reader". Changing this parameter from remote is not allowed for safety reasons. Following, the attempt to change via SMS:

Command	Response	Description
TELDIAG=333987654	TELDIAG: Comando eseguibile solo localmente (*executable only locally*)	The attempting to change enabled phone numbers is failed.

CONFIGURATION TO SELECT THE MAIL SENDING MODE– SENDMAILVIA

This command selects the mode by which you want to send the data via email. The available options are GPRS or Ethernet.

Type	Command	Response	Description
Aiuto (*Help*)	SENDMAILVIA=?	SENDMAILVIA: 0 = GPRS, 1 = Ethernet	Command format: 0 = Mode for sending email via GPRS; 1 = Mode for sending email via Ethernet connection;
Imposta (*Set up*)	SENDMAILVIA=1	SENDMAILVIA: Comando eseguito *(Command executed)*	Configuration of the mode for sending emai;
Leggi (*Read*)	SENDMAILVIA?	SENDMAILVIA: 1	Read the setup mode for sending email;

READING LANGUAGE SET UP COMMAND - LANGUAGE

Available for software versions 1.2.4.0 and higher.

Command for setting up the language in which you desire to receive the reading data:

Type	Command	Response	Description
Aiuto (*help*)	LANGUAGE=?	LANGUAGE: [it-IT][en-GB]	Languages available for the device: • it-IT: Italiano. • en-GB: English.
Imposta (*Set up*)	LANGUAGE=en-GB	LANGUAGE: Comando eseguito (*Command executed*) Il dispositivo sarà riavviato per rendere effettive le modifiche	Change the language to English. To render the changes effective, the device will automatically be rebooted a few seconds after command execution.
Leggi	LANGUAGE?	LANGUAGE: it-IT	Show the device's current language set-up.

DEVICE COMMANDS

DEVICE LIST COMMAND - MBLISTA

Command for the creation of the device list.

Command	Response	Description
MBLISTA=? *** Software ≥ v1.2.0.0**	+MBLISTA:<ADD,"SN(8);Ind.;Ver.;Costr.;Tipo;<Nome(12)>"><DELETE,SN(8)><DELETEALL>	**Help** for command format • ADD: add a device to the list. • DELETE, SN(8): Delete device specified by the "SN" parameter from the list; • DELETEALL: Delete all devices from the list; • - no parameter: search device;
MBLISTA	MBLISTA: Lista dispositivi creata, trovati 3. (*List of devices have been created, found 3*).	**Create** a list of connected devices.
MBLISTA=ADD, "12345678;5;SIT;14;2;Disp1" *** Software ≥ v1.2.0.0**	+MBLISTA: Comando eseguito (*Command executed*) Lista dispositivi: aggiunto 1 dispositivo, totale 4 (*List of devices: 1 devide added, total 4*)	**Added** device with SN 12345678 to the list. In the second parameter specify the device information: • SN(8): Serial number; • Ind.: primary address; • Ver.: Version; • Costr.: Manufacturer; • Tipo: Device type; • Name(12): Add a brief device description (12 character max.);
MBLISTA=DELETE, 12345678 *** Software ≥ v1.2.0.0**	+MBLISTA: Comando (*Command*) Lista dispositivi: cancellato 1 dispositivo, totale 3 (*List of devices: 1 device deleted, total 3*)	**Deleted** device with SN 12345678 from the list.
MBLISTA=DELETEALL *** Software ≥ v1.2.0.0**	+MBLISTA: Comando eseguito (*Command executed*) Lista dispositivi cancellata: totale 0 (*List of devices deleted: total 0*)	**Deleted** the entire list of devices.
MBLISTA?	MBLISTA: Dispositivi:6 (*Devices: 6*) Idx Sn Ind Fab Ver Typ Desc 0 05601122 0 LSE 4 7 GAS 1 05601123 0 LSE 4 6 ACQUA 2 07891362 0 LSE 16 ...	**Read** the devices found list. The response may be 160 characters max, if longer it will be truncated. The missing part is substituted by an ellipsis (…).

SET-UP DEVICE NAME COMMAND - MBNOME

Command for assigning name to the device(s).

Command	Response	Description
MBNOME=?	MBNOME: 'SN1(8)',"Nome1(12)"<,<'SN2(8)',"Nome2(12)">, … >	**Help** for command format.
MBNOME=05601122,"App 1",05601123,"App 2"	MBNOME: Comando eseguito (*Command executed*) 05601122,App 1 05601123,App 2	**Set up** device name. You can insert one or more SN-Name combinations (maximum 160 characters).
MBNOME?	MBNOME: Nome dispositivi:6 Sn Desc 05601122,App 1 05601123,App 2 07891362,App 3 11282011,App 4 *28458570,App 5 *29400599,App 6	**Read** device names. The SNs indicated with "*" (asterisk) have been removed from the list.
MBNOME=CLEAR	MBNOME: Comando eseguito (*Command executed*)	**Delete** all names.
MBNOME=CLEAN	MBNOME: Comando eseguito (*Command executed*)	**Delete** all names not associated with any device.

READ DEVICE DATA AND SEND E-MAIL TO RECIPIENTS COMMAND - MBLEGGI

Command to read the device data and send it to configured e-mail recipients.

Command	Response	Description
MBLEGGI	MBLEGGI: Invio mail eseguito (*Send mail executed*)	**Read** the devices and send the data via e-mail.

Command to read the data of the devices with specific mode.

Command	Response	Description

MBLEGGI=?
 	
* Software ≥ v1.2.0.0
	MBLEGGI=<Mode (ALLDATA, NOTRANS, ALLNOTRANS),> <SN,> <Indirizzo mail>	**Help** for command format.
		There are three parameter options:
		<**MODE**>: Select the reading mode:
		    ALLDATA: reads all data of the device, besides that of default (ex. histories if present);
		    NOTRANS: reads all the device data, without translating it;
		    ALLNOTRANS: Reads all the device data, besides that of default (ex. histories if present), without translating it;
		Should the parameter not be there, the e-mail sending mode will be the common one. Inserting this parameter doesn't guarantee sending the e-mail if there are more than 300 devices.
		<**SN**>: Reads only the device with the secondary address: <SN>. If this parameter is not there, all devices are read.
		<**Indirizzo mail**>: Set up the mail address to which the reading should be sent. If this parameter is not there, the reading will be sent to the addresses configured with the commands MAILTO and MAILCC.

MBLEGGI=ALLDATA, 12345678,m.bianchi@aaa.it	MBLEGGI: Invio mail eseguito (*Send mail executed*)	**Read** data according to the device's "ALLDATA" mode having SN "12345678", and send e-mail to "m.bianchi@aaa.it"
MBLEGGI=NOTRANS, m.bianchi@aaa.it	MBLEGGI: Invio mail eseguito (*Send mail executed*)	**Read** data according to the "NOTRANS" mode of all devices ("SN" not selected), and send e-mail to "m.bianchi@aaa.it"
MBLEGGI=m.bianchi@aaa.it	MBLEGGI: Invio mail eseguito (*Send mail executed*)	**Read** data according to the normal mode ("Mode" not selected) of all the devices ("SN" not selected) and send data to "m.bianchi@aaa.it"

AUTOMATIC READING SCHEDULER SET-UP - SCHMBLEGGI

The device has two schedulers (SCHMBLEGGI and SCHMBLEGGI2) for the automatic readings of device data, which are able to be configured to different modes (see "Scheduler Configuration").

Command	Response	Description
SCHMBLEGGI=? or SCHMBLEGGI2=?	SCHMBLEGGI: N (Disab.) M,<'mesi'>,'GM','hh:mm' E,<'mesi'>,'GO'(1-5),'GS'(1-7),'hh:mm' W,<'mesi'>,'GS'(1-7),'hh:mm' D,'hh:mm' O,'mese','GM','hh:mm'	**Help** for command format.
SCHMBLEGGI =M,1,09:00	SCHMBLEGGI: Comando eseguito (*Command executed*) 'M,1,09:00' Mesi<All> giorno 1 alle 09:00 Prossima: 01/01/14 09:00	**Set up** reading by scheduler 1, on the 1st day of every month at 9.00
SCHMBLEGGI =M,010000000000,4,09:00	SCHMBLEGGI: Comando eseguito (*Command executed*) 'M,010000000000,4,09:00' Mesi<2> giorno 4 alle 09:00 Prossima: 04/02/14 09:00	**Set up** reading by scheduler 1 on the 4th of February at 9.00
SCHMBLEGGI2=W,010100100000,7,12:00	SCHMBLEGGI2: Comando eseguito (*Command executed*) 'W,010100100000,7,12:00' Mesi<2 4 7>Dom alle 12:00 Prossima: 14/07/13 12:00	**Set up** reading by scheduler 2 every Sunday in February, April and July at 12.00;
SCHMBLEGGI? or SCHMBLEGGI2?	SCHMBLEGGI: 'M,010000000000,4,09:00' Mesi<2> il giorno 4 alle 09:00 Prossima: 04/02/14 09:00	**Read** the set-up of scheduler 1 or 2 and inform the user as to the date of the next reading;

SYSTEM STATUS TEST COMMAND - MBTEST

Command for testing the status of the system for the signaling of alarms activated in the devices and for verifying their active presence on the network.

Command	Response	Description
MBTEST	MBTEST: Errore lettura (*Reading Error*) 14: Nessuna risposta (*No reply*) Codici Errore (*Error Codes*) 1: 8 (0x8) 1: 600 (0x258) Stato (*Status*) 5: Power low	**Check** the status of the system and devices, reporting any anomalies. In this case, the response indicates: 14 devices are not responding 1 device has an error code 8 1 device has an error code 600 5 devices have a low battery

To correctly interpret certain error codes, refer to the specific manual of the device manufacturer, where they are explained in detail.

SYSTEM TEST SCHEDULER SET-UP- SCHMBTEST

The device has a scheduler for the automatic, cyclical testing of the system status (ex: once a month) to warn the appointed staff of any alarm or defect in the device.

For configuration, see "Scheduler Configuration".

The test results are sent via text message to the number of the recipients previously set up with the "TEL" parameter. If there are no anomalies in the system, it is not sent any SMS.

Scheduler set-up and reading commands:

Command	Response	Description
SCHMBTEST=?	SCHMBTEST: N (Disab.) M,<'mesi'>,'GM','hh:mm' E,<'mesi'>,'GO'(1-5),'GS'(1-7),'hh:mm' W,<'mesi'>,'GS'(1-7),'hh:mm' D,'hh:mm' O,'mese','GM','hh:mm'	**Help** for command format.
SCHMBTEST=D,14:00	SCHMBTEST: Comando eseguito 'D,14:00' Giornalmente alle 14:00 Prossima: 14/06/13 14:00	**Set up** test by scheduler.
SCHMBTEST?	SCHMBTEST: 'D,14:00' Giornalmente alle 14:00 Prossima: 14/06/13 14:00	**Read** the scheduling set-up
SCHMBTEST=N	SCHMBTEST: Comando eseguito 'N' Disabilitato	**Disable** scheduler

SCHEDULER CONFIGURATION

Following is the format for setting-up schedulers:

[Scheduler name (ex: SCHMBLEGGI)]=[Type of scheduling], [parameters]

Scheduling types:

Type	Description
N = None/disabled	N = Scheduler disabled
D = Daily	D = Run once a day
W = Weekly	W = Run once a week
M = Monthly	M = Run every month on a predetermined day (1..31)
E = Monthly every	E = Run every month when needed on a certain day of the week (ex. 2nd Monday of the month)
O = One time only	O = Run only one time

The parameters which define the function have the following format:

Parameter	Range	Description
Mesi (*Months*)	GFMAMGLASOND 110000000000 Set to 1 for the desired month	**Month** To enable/disable months, type a 12-character string, each character corresponding to a month, from January to December, writing "1" for the months in which you want to receive a reading, and "0" for those you don't. Example: To schedule readings only in January and February, write: 110000000000
GM	1..31	**Day of the month** If it is set to 31, the scheduling for shorter months is run on the last day of the month
GS	1= Monday … 7 = Sunday	**Day of the week**
GO	1 = First … 4 = Fourth 5 = Last	**Recurrence of the day of the month** Ex: To schedule every final occurrence in the month of the desired day of the week: 5
hh:mm	[0…23] : [0…59]	**Time** Ex. 18:32

SCHEDULING EXAMPLES

Scheduling Disabled

Do not run any scheduling.

Format 'Sched'=*N*

Example SCHMBLEGGI= *N*   Disable scheduling

Daily Scheduling

Run one scheduling per day.

Format 'Sched'=*D,'hh:mm'*

Example SCHMBLEGGI= *D,*15:25   Every day at 15.25

Weekly Scheduling

Run one scheduling per week.

Format 'Sched'=W,'GS (1-7)','hh:mm'

Example SCHMBLEGGI=W,4,16:00   Every Thursday at 16:00

Weekly Scheduling only for certain months

Run one scheduling per week, only in certain months.

Format 'Sched'=W,<mesi>,'GS (1-7)','hh:mm'

Example SCHMBLEGGI=W,010000000000,4,16:00   Every Thursday in February at 16:00

Monthly Scheduling

Run one scheduling per month

Format 'Sched'=M,'GM','hh:mm'

Example SCHMBLEGGI = M,1,18:30   The 1st day of every month at 18:30

Monthly Scheduling only for certain months

Run a monthly scheduling only in certain months.

Format 'Sched'=M,<mesi>,'GM','hh:mm'

Example SCHMBLEGGI = M,100001000000,5,18:30   The 5th day of January and June at 18:30

Monthly Scheduling Every

Run a monthly schedule, on the week of the month set up, on the chosen day of the week.

Format 'Sched'=E,'GO','GS','hh:mm'

Example SCHMBLEGGI =E,5,7,14:00   The last Sunday of the month at 14:00

Monthly Scheduling Every only for certain months

Run one scheduling per month, on the week of the month set up, and the chosen day of the week. You can choose the months in which to run the scheduling.

Format 'Sched'=E,<mesi>,'GO','GS','hh:mm'

Example SCHMBLEGGI =E,001100000000,3,1,14:00   The 3rd Monday of March and April at 14.00

One-time Scheduling

Run a single scheduling.

Format 'Sched'=O,'M','GM ',''hh:mm"

Example SCHMBLEGGI =O,3,20,06:35   One time on March 20th at 06:35

E-MAIL PARAMETER CONFIGURATION COMMAND

E-MAIL RECIPIENTS CONFIGURATION - MAILTO

Command to configure the recipient(s) to which to send the e-mail with the reading values.

Command	Response	Description
MAILTO=?	MAILTO: "Indirizzo1",<"Indirizzo2">,... (120)	**Help** for command format.
MAIL-TO="m.bianchi@aaa.it,s.rossi@mail.com"	MAILTO: Comando eseguito (*Command executed*) m.bianchi@aaa.it,s.rossi@mail.com	**Set up** the E-mail recipient. (120 character max.) Should you want to set up additional e-mail recipients, separate the addresses by a comma as shown in the example.
MAILTO?	MAILTO: m.bianchi@aaa.it,s.rossi@mail.com	**Read** the e-mail recipients (there are no recipients in the default).
MAILTO=""	MAILTO: Comando eseguito (*Command executed*)	**Delete** e-mail recipient.

E-MAIL (CARBON COPY) RECIPIENT CONFIGURATION - MAILCC

Command for configuring the cc e-mail recipient(s).

Command	Response	Description
MAILCC=?	MAILCC: "Indirizzo1",<"Indirizzo2">,... (120)	**Help** for command format
MAILCC ="paolo@aaa.it,domus@gmail.com"	MAILCC: Comando eseguito (*Command executed*) paolo@aaa.it,domus@gmail.com	**Set up** the e-mail carbon copy recipients. (120 character max.) Should you want to set up additional e-mail recipients, separate the addresses by a comma as shown in the example.
MAILCC?	MAILCC: paolo@aaa.it,domus@gmail.com	**Read** the cc e-mail recipients (no recipients are set-up in the default).
MAILCC=""	MAILCC: Comando eseguito (*Command executed*)	**Delete** cc configuration.

DIAGNOSTIC E-MAIL ADDRESS CONFIGURATION - MAILTODIAG

Command to configure the recipient(s) to which to send the e-mail with information about the status of the system (command log file etc.).

Command	Response	Description
MAILTODIAG=?	MAILTODIAG: 'Indirizzo1',<'Indirizzo2'>,...'(120)	**Help** for command format.
MAILTODIAG=m.bianchi @aaa.it,s.rossi@mail.com	MAILTODIAG: Comando eseguito m.bianchi@aaa.it,s.rossi@mail.com	**Set up** the diagnostic e-mail recipients. (120 character max.) Should you want to set up additional e-mail recipients, separate the addresses by a comma as shown in the example.
MAILTODIAG?	MAILTODIAG: m.bianchi@aaa.it,s.rossi@mail.com	**Read** the diagnostic e-mail recipients.
MAILTODIAG=""	MAILTODIAG: Comando eseguito	**Delete** the recipients.

E-MAIL SUBJEXT CONFIGURATION - MAILSUBJ

Command to configure the subject of the e-mail.

Command	Response	Description
MAILSUBJ=?	MAILSUBJ: "Mail Oggetto"(5-50)	**Help** for command format (Min. 5 characters, 50 max.)
MAILSUBJ= "email di test"	MAILSUBJ: Comando eseguito (*Command executed*) email di test	**Set up** the e-mail subject.
MAILSUBJ?	MAILSUBJ: email di test	**Read** e-mail subject.

SMTP CONFIGURATION FOR SENDING E-MAIL - SMTPCFG

Command for configuring the connection to the e-mail server.

The default SMTP server is set to mail.teleletture.eu; a free service provided by Sitec in order to render the system more secure, and provide customer support. Changing this parameter is discouraged.

Command	Response	Description
SMTPCFG=?	SMTPCFG: Host(100),<Usr(50)>,<Pwd(50)>,<AuthType(0=None 1=Clear 2=Mime64)>, <Port>	**Help** for command format • Host: Mail server name. • Usr: username (if required by administrator), • Pwd: password • Authtype: 0,1,2 • 0: no authentication • 1: clear authentication • 2: authentication mime64 • Port: E-mail server port number
SMTPCFG="smtp.net.vodafone.it","","",0,25	SMTPCFG: Comando eseguito (*Command executed*) "smtp.net.vodafone.it","","",0,25	**Set up** the e-mail server.
SMTPCFG?	SMTPCFG: "smtp.net.vodafone.it","","",0,25	**Read** the configuration already set up
SMTPCFG=""	SMTPCFG: Comando eseguito (*Command executed*) "mail.teleletture.eu","stcxrelay","****",2,25	**Set up** the default configuration

GPRS NETWORK CONFIGURATION COMMANDS

GPRS PARAMETER CONFIGURATION - GPRSCFG

Configuration of GPRS network access parameters (up to 4 settings are managed).

Command	Response	Description
GPRSCFG=?	GPRSCFG: Cid(1-4), Apn(100), <Usr(50)>, <Pwd(50)>, <FixedIP>, <Data compression(0-1)>, <Header compression(0-1)>	**Help** for command format.
GPRSCFG=1,"ibox.tim.it", "","","",0,0 (ex.)	GPRSCFG: Comando eseguito Usato: "","","ibox.tim.it","","","",0,0 Cid: 1,"ibox.tim.it","","","",0,0 Cid: 2,"","","","",0,0 Cid: 3,"","","","",0,0 Cid: 4,"","","","",0,0	**Set up** the GPRS configuration. Always use "1" as the first parameters.
GPRSCFG?	Usato:"","","ibox.tim.it","","","",0,0 Cid: 1,"ibox.tim.it","","","",0,0 Cid: 2,"","","","",0,0 Cid: 3,"","","","",0,0 Cid: 4,"","","","",0,0	**Read** the current (in use) configuration as well as those set up.
GPRSCFG=1,""	+GPRSCFG: Comando eseguito Usato: "22210","voda IT","web.omnitel.it","","","",0,0 Cid: 1,"","","","",0,0 Cid: 2,"","","","",0,0 Cid: 3,"","","","",0,0 Cid: 4,"","","","",0,0	**Deleting** CID 1, the device functions in Auto APN

Ex. TIM set-up   AT+GPRSCFG=1,"ibox.tim.it","","","",0,0

Ex. Vodafone set-up AT+GPRSCFG=1,"web.omnitel.it","","","",0,0

AUTO-APN Function

To set up the AUTO-APN function, send the command GPRSCFG=1,"". It will automatically configure with one of these cell phone operators: Tim, Vodafone, Wind. Some telephone contracts may require you to manually set the APN. Some telephone contracts may require you to manually set the APN. Inquire with your dealer when buying or with the telephone operator.

NETWORK PARAMETERS SET-UP COMMAND

NETWORK PARAMETER CONFIGURATION - ETHCFG

Configuration of access parameters to the Ethernet network.

Type	Command	Response	Description
Aiuto (*Help*)	ETHCFG=?	+ETHCFG: DHCP: (0=Statico, 1=Dinamico) IP: (0-255).(0-255).(0-255).(0-255) NetMask: (0-255).(0-255).(0-255).(0-255) Default Gateway: (0-255).(0-255).(0-255).(0-255) DNS1: (0-255).(0-255).(0-255).(0-255) DNS2: (0-255).(0-255).(0-255).(0-255)	Command format.
Imposta (con DHCP Statico) (*Set up – with static DHCP*)	ETHCFG=0,192.168.0.12, 255.255.255.0,192.168.0. 250,192.168.0.1,85.37.17. 44	+ETHCFG: +DHCP : 0 +IP : 192.168.0.12 +NETMASK : 255.255.255.0 +GATEWAY : 192.168.0.250 +DNS1 : 192.168.0.1 +DNS2 : 85.37.17.44	Should the DHCP parameter be set to 0 (Static), all the other network parameters must be inserted.
Imposta (con DHCP Dinamico) (*Set up – with dynamic DHCP*)	ETHCFG=1	+ETHCFG: +DHCP : 1 +IP : 192.168.0.12 +NETMASK : 255.255.255.0 +GATEWAY : 192.168.0.250 +DNS1 : 192.168.0.1 +DNS2 : 85.37.17.44	Should the DHCP parameter be set to 1 (Dynamic), there is no need to insert any other parameters, since the hub will independently see to obtaining the reset of the network parameters (default configuration).
Leggi (*Read*)	ETHCFG?	+ETHCFG: +DHCP : 1 +IP : 192.168.0.12 +NETMASK : 255.255.255.0 +GATEWAY : 192.168.0.250 +DNS1 : 192.168.0.1 +DNS2 : 85.37.17.44	Read current network configuration.

WEB PARAMETER CONFIGURATION - WEBCFG

Command for the configuration of parameters for the connection via a web browser.

Type	Command	Response	Description
Aiuto (*Help*)	WEBCFG=?	+WEBCFG: HTTP Port Number	Command format.
Imposta (*Set up*)	WEBCFG=9876	+WEBCFG: Comando eseguito (*Command executed*)	Example of port number set-up.
Leggi (*Read*)	WEBCFG?	+WEBCFG: 80	Read the configuration already set up (default value 80).

CHANGE NETWORK PASSWORD COMMAND – PASSWORD

Command for changing the access password to the device via web:

Type	Command	Response	Description
Aiuto (Help)	PASSWORD=?	+PASSWORD: [TRY,"Username","Password"],[SET,"Username in uso","Password in uso", "Nuovo Username (3-20)","Nuova Password (3-20)"]	Command format. - TRY,"Username","Password": Substitute "Username" and "Password" with the real credentials in order to verify that they are correct. - SET, "Username in use", "Password in use", "New Username", "New Password": Substitute "Username in use" and "Password in use" with the current credentials, and "New Username" and "New password" with the new credentials.
Verifica (*Verify*)	PASSWORD=TRY,admin,admin	+PASSWORD: Dati Corretti	The credentials are correct.
Verifica (*Verify*)	PASSWORD=TRY,sitec,teleletture	+PASSWORD: Dati Errati	The credentials are erroneous.
Modifica credenziali (*Change credentials*)	PASSWORD=SET, admin,admin, sitec,teleletture	+PASSWORD: Comando eseguito (*Command executed*)	Access credentials have been changed.
Modifica credenziali (*Change credentials*)	+PASSWORD=SET, stxx,stxx,sitec,teleletture	+PASSWORD: Dati Errati	Error in changing access credentials. The credentials used are erroneous.

DIGITAL INPUT AND OUTPUT MANAGEMENT COMMANDS

INPUT CONFIGURATION FOR TEXT MESSAGE SENDING - INCFG

Configuration of the mode by which the remote system sends a text message to the telephone numbers previously set up, depending on the status change of the inputs.

Command	Response	Description
INCFG=?	INCFG: 'I1 Mode'(0-3),'I2 Mode '(0-3),'I3 Mode'(0-3) (Mode: 0=Disabilitato, 1=Attivazione, 2=Disattivazione, 3=Ogni variazione)	**Help** for input configuration. • 0: Disabled. • 1: Text message upon input activation. • 2: Text message upon input disabling. • 3: Text message upon each input variation.
INCFG=0,3,1	INCFG: comando eseguito (*Command executed*) 0,3,1	**Set up** the input configuration for sending SMS. • In1: Disabled. • In2: Text message upon each input variation. • In3: Text message upon input activation.
INCFG?	INCFG: 0,3,1 (Mode: 0=Disabilitato, 1=Attivazione, 2=Disattivazione, 3=Ogni variazione)	**Read** input configuration.

INPUT DESCRIPTION CONFIGURATION - INDSC

Configuration of the input's description field.

Command	Response	Description
INDSC=?	INDSC: 'Ingresso'(1-4), "Descrizione"(1-18)	**Help** for the command format. 'Ingresso'(*Input*): Number of which input to assign the "Descrizione" (*description*).
INDSC=3,"Allarme Intruso"	INDSC : Comando eseguito (*Command executed*) I1: Allarme *(Alarm)* I2: Allarme Fumi *(Smoke Alarm)* I3: Allarme Intruso *(Intrusion Alarm)*	**Set up** description associated with Input 3.
INDSC?	INDSC: I1: Allarme *(Alarm)* I2: Allarme Fumi *(Smoke Alarm)* I3: Allarme Intrusione *(Intrusion Alarm)*	**Read** descriptions that have been set up

The following shows the example of a message received upon the variation of the input status:

Input	Message received	Note
Attivazione IN1 (*IN1 Enabled*)	*Via Verdi* *I1:* > 1 Allarme*	Input "In1" has changed from 0 to 1. * Indicates an input variation > Indicates input activation < Indicates input disabling
Disattivazione IN1 (*IN1 Disabled*) Attivazione IN2 (*IN2 Enabled*)	*Via Verdi* *I1* < 0 Allarme* *I2* > 1 Allarme Fumi*	Input "In1" has changed from 1 to 0 and Input "In2" has changed from 0 to 1

RELAY OUTPUT CONFIGURATION – OUTCFG

Configuration of the operational mode of the outputs.

Command	Response	Description
OUTCFG=?	OUTCFG: 'Modalità uscita 1'(0-60), 'Modalità uscita 2' (0-60) (Modalità: 0=On/Off, 1-60=Durata modalità impulsiva)	**Help** for command format. List of values supported for outputs: • 0 normal On/Off mode; • 1÷60 Impulsive mode: the output remains active for the specified duration (from 1 to 60 seconds);
OUTCFG=0,9	OUTCFG : Comando eseguito (*Command executed)* 0,9	**Set up** output 1 type On/Off, while output 2 in impulsive mode with a duration of 9 seconds The first parameter sets up the operational mode of output 1, the second of output 2.
OUTCFG?	OUTCFG: 0,9	**Read** output configuration: • Out1: On/Off mode • Out2: impulsive mode, 9 second duration

RELAY SET-UP COMMAND - OUTSET

Command for activating/disabling the relay outputs.

Command	Response	Description
OUTSET=?	OUTSET: 'Uscita'(1-2),'Comando'(0-1) (Comando: 0=Off, 1=On)	**Help** for command format. The first parameter indicates the output number, while the second sets the status (0=OFF, 1=ON).
OUTSET=2,1	OUTSET: Comando eseguito Out1: 0 Out2: 1	**Set up** the output 2 to ON; If the output is configured to impulsive mode, after the configured time, it returns to being disabled.;
OUTSET=1,0	OUTSET: Comando eseguito Out1:0 Out2:1	**Set up** the output 1 to OFF.
OUTSET?	OUTSET: Out1: 0 Out2: 1	**Read** output status.

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READING THE CURRENT INPUT AND OUTPUT STATUS COMMAND – STATO

Request the input and output status command.

Command	Response	Description
STATO?	Via Verdi Stato I1: 1 Allarme *(Alarm)* I2: 1 Allarme Fumi *(Smoke Alarm)* I3: 1 Allarme Intruso *(Intrusion Alarm)* Out1: 0 Out2: 0	<u>Read</u> input and output status.

MORE COMMANDS

SNTP SERVER SETTING - SNTPCFG

Available for software versions 1.7.4.0 and higher.

The SNTP servers are systems that, when required, send current date and time accurately. The concentrator performs this operation before executing each reading, in order to synchronize its clock. The SNTP server set by default is: europe.pool.ntp.org. Changing this parameter is discouraged.

The following is how to change this parameter if necessary:

Command	Response	Description
SNTPCFG=?	SNTPCFG: <server>,<porta>,<fuso orario>	**Help** for command format. Server: Server: address of the SNTP server. Porta (*Port*): Porta del server. Fuso orario (*Time zone*): number of hours difference from GMT (-12…+12).
SNTPCFG=asia.pool.ntp.org,123,+7	SNTPCFG: asia.pool.ntp.org, 123, +7	**Set up** the configuration for the SNTP server.
SNTPCFG?	SNTPCFG: asia.pool.ntp.org, 123, +7	**Read** the configuration for the SNTP server.

SEND COMMAND LOG FILE COMMAND– CMDLOG

Available for software versions 1.7.4.0 and higher.

Each command received or sent by the device is saved to an internal file in "CSV" format, with specified date and time of sending / receiving. You can see that file by sending the specific command. The device will send via E-mail the log files, to the e-mail addresses set by the command "MAILTODIAG" (see command "MAILTODIAG" for more information).

Command	Response	Description
CMDLOG=SEND	CMDLOG: Invio mail eseguito (*e-mail sent*)	**Sends** the command log file via E-mail to the e-mail addresses configured by the command "MAILTODIAG".

MANAGING OF IO M-BUS DEVICES "STCR-IO"

The devices of STCM series are able to manage the STCR-IO devices, that are M-Bus slave with one input and one digital output, configurable as needed. The management of these devices can be done via the "STXM Reader" configuration software, or by sending special SMS to the concentrator.

See manual: "STCR-IO Management User Manual".

CONFIGURATION USING A PC

Device configuration may be done by connecting it to a PC (by means of a mini USB cable) and using the "STXM Reader" program.

WINDOWS DRIVER

When you connect the device to the PC's USB port, the installation of the Sierra Wireless driver is requested. For installing drivers refer to the help of the software "STXM Reader".

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