(http://nethix.com)

Commands manual

1. Overview

This is a technical manual that describes all
the **SMS** commands accepted by the WE120. The user manual (we120_manual.html#we120-manual) descr
device characteristics and usage.

The WE120 can be completely managed by these SMS commands that can be sent by any mobile phone. H
the easiest and fastest manner for interfacing with the WE120 is through its App (we120_manual.html#w
manual-setup-configuration-modes-app).

A third alternative for managing the WE120 is by using the Genesys 3 (we120_genesys3.html#we120-gen
This application requires to connect the WE120 to a computer.

2. Commands description

2.1. Status and configuration

Command	Description
STAT	Send the status of the device
CONFIG	Send the device configuration
VERSION	Read hardware and firmware versions
NAME	Set device name
NUMBER	Set the device telephone number

Command	Description
CENTER	Set the number of the Service Centre of the SIM Provider
PASSWORD	Change administrator password
ALARM	Enable/disable sending of alarms on input change
RESETALARM	Enable/disable sending of periodic alarms
CONFIRM	Enable confirm messages
HELP	Send the command list

2.2. Users management

Command	Description
USERS	Send the list of registered users
ADD	Add a new registered user
DELETE	Delete a user
ALL	Allow all users/numbers to access and program the device
PROPERTIES	Send the list of properties of a user

2.3. Analog inputs

Command	Description
CONF AI	Configure analogue inputs
ALARMAI	Enable analogue inputs alarms
STAT AI	Read analogue inputs status

2.4. Thermostat

Command	Description
SETTHERM	Configure thermostat mode
THERM	Enable/disable thermostat
MESSTHERM	Configure a message related to thermostat activation
STATTHERM	Read thermostat status

2.5. Digital inputs

Command	Description
CONF DI	Configure digital inputs
ALARMDI	Enable digital inputs alarms
STAT DI	Read digital inputs status
COUNTER	Enable counter mode
START	Start counter
STOP	Stop counter

2.6. Digital outputs

Command	Description
CONF DO	Configure digital outputs
ON	Switch on the selected output
OFF	Switch off the selected output
ONRING	Enable outputs with a voice call (ring)

2.7. I/O expanders

Command	Description
EXPADD	Add I/O expander
EXPDEL	Delete all I/O expanders

2.8. Diagnostics

Command	Description
LOOP	Send periodically the WE120 status
RING	Enable status sending with a voice call (ring)
SIGNAL	Read GSM signal strength
BOOT	Send device status at start up

2.9. Advanced commands

Command	Description
SETPORT	Set serial port communication parameters
MODEMONLY	Disable all remote control functions
EXECUTECOMMAND	Run a command after alarm occurred
DEFAULT	Restore factory defaults

2.1. Status and configuration

STAT

STAT <I/O type> <I/O numero>

Send the status of all the device's I/O (digital inputs, relay outputs, analog inputs) or the status of the sel
I/O channels

<I/O type>	DI (digital input), DO (digital output) or AI (analog input) (optional)
<I/O numero>	Number of the input/output selected (optional)

Example:

```
STAT
```

Response:

```
ALARM:OFF DI3:Off DI4:Off MOTOR:ON D02:On  TEMPERATURE:-1,0 C LEVEL:0,0 M
```

Example:

```
STAT DI
```

Response:

```
ALARM:OFF DI3:Off DI4:Off
```

Example:

```
STAT AI 1
```

Response:

```
TEMPERATURE:9,5 C
```

NAME

NAME <password> <device name>

Give a name to the WE120. The name will appear at the top of every alarm or status message sent by the device.

<password>	Administrator password
<device name>	The name assigned to the device

Example:

```
NAME 0000 telecontrol
```

Give the name telecontrol to the WE120.

NUMBER

NUMBER <password> <tel. nr.>

Store the telephone number of the SIM used

<password>	Administrator password
<tel. nr.>	Telephone number of the WE120 SIM card

Example:

```
NUMBER 0000 +393491234567
```

CENTER

CENTER <password> <tel. nr.>

Set SMS service center number (Network operator dependent)

<password>	Administrator Password
<tel. nr.>	SMS center number

Example:

```
CENTER 0000 +393492000200
```

Service center numbers:

TIM	+393359609600
Vodafone	+393492000200
Wind	+393205858500

CONFIG

CONFIG

Show the device configuration

Example:

```
CONFIG
```

Response:

```
Number: PIN: SMS Center.:
Alarm:1 Confirm:0 Users:1
AI:2 DI:4 DO:2
EXP: 0

DI0 DI m=2 0 1 dH=0 dL=0 al=00
DI1 DI2 m=0 Off On dH=0 dL=0 al=00
DI2 DI m=2 0 1 dH=2 dL=3 al=03
DI3 DI4 m=0 Off On dH=0 dL=0 al=00
DO0 D01 m=0 Off On act=0 delay=0
DO1 D02 m=0 Off On act=0 delay=0

AN0 AI1 min=0 max=1024 dec=0 um: alrm1=0 alrm2=0 del1=0 del2=0 al:00 in:0 out:0
AN1 AI2 min=0 max=1024 dec=0 um: alrm1=0 alrm2=0 del1=0 del2=0 al:00 in:2 out:1
```

Legend:

- m: mode
- dH : delay to send alarm "high"
- dL : delay to send alarm "low"
- min : minimum value
- max : maximum value
- dec: : number of decimal digits
- um : unit of measure
- alrm1 : enable alarme1
- rit1 : delay to send alarm 1
- alrm2 : enable alarme2
- rit2 : delay to send alarm 2

VERSION

VERSION

Show hardware and firmware version numbers

Example:

```
VERSION
```

Response:

```
Version Fw:1.0.5 Hw:1.0
```

PASSWORD

PASSWORD <old password> <new password>

Change the administrator password

<old password>	Administrator password
<new password>	New administrator password

Example:

```
PASSWORD 0000 1234
```

ALARM

ALARM <password> <ON/OFF>

Globally enable/disable sending of alarm messages

<password>	Administrator password
<ON/OFF>	Enable/disable

Example:

```
ALARM 0000 ON
```

RESETALARM

RESETALARM <password> <ON/OFF> <period>

Resend alarm messages every <period> seconds if alarm active

<password>	Administrator password
<ON/OFF>	Enable/disable
<periodo>	Delay for resetting alarms, in seconds

Example:

```
RESETALARM 0000 ON 60
```

Send alarm messages every 60 seconds (if alarms still active)

Example:

```
RESETALARM 0000 OFF
```

Disable alarm reset

CONFIRM

CONFIRM <password> <ON/OFF>

Send back a confirmation message every time the WE120 receives a command

<password>	Administrator password
<ON/OFF>	Enable/disable

Example:

```
CONFIRM 0000 ON
```

Response:

```
COMMAND [CONFIRM] EXECUTED
```

HELP

HELP

HELP

List all the available commands

Example:

```
HELP
```

2.2. Users management

USERS

USERS

Send the list of all the users stored inside WE120. This command is available only for administrators

Example:

```
USERS
```

Response:

```
Tel:+393331234567 Name:USER1 Lev:3
Tel:+393359876543 Name:ADMINISTRATOR Lev:3
Tel:+39XXXXXXXXX Name:SUPERVISOR Lev:2
```

ADD

ADD <password> <phone number> <username> <level> <alarms> <enable>

Add a new user. The user list can contain up to 30 registered users.

<password>	Administrator password
<phone number>	User telephone number
<username>	User name
<level>	User level

- 3: administrator
- 2: standard user
- 1: "read only" user

ADD <password> <phone number> <username> <level> <alarms> <enable>

<alarms>	User level
	• 0: no alarm • 1: notify alarms through SMS • 2: notify alarms through voice call (ring) • 3: notify alarms through SMS and voice call (ring)
<enable>	List of the I/O enabled for the specified user.

Example:

```
ADD 0000 +393331111111 Admin 3 3
```

Store a new user called "Admin" as administrator (all I/O has been automatically enabled for this user). The receives the alarms through SMS and voice calls.

Example:

```
ADD 0000 +3933388888888 Utente2 2 1 DI1,3
```

Insert a new user called "User2" as a standard user. This user receives the alarms through SMS, and has the capability to control DI1 and DI3.

DELETE

DELETE <password> <username/phone number>

Delete an entry from the users list	
<password>	Administrator password
<username/phone number>	Name or telephone number of the user to delete from the list

Example:

```
DELETE 0000 supervisor
```

Delete "supervisor" user

Example:

```
DELETE 0000 +3933388888888
```

Delete user with tel. no. +3933388888888

PROPERTIES

PROPERTIES <password> <username/phone number>

Allow every user or every telephone number to configure and program the device, even if not included in registered users list.

<password>	Administrator password
<username/phone number>	Name or telephone number of the user

Example:

```
PROPERTIES 0000 Mario
```

Send the list of the input and outputs enabled for the user "Mario"

ALL

ALL <password> <ON/OFF>

Configure analogue inputs

<password>	adminsitrator password
<ON/OFF>	Enable/disable

Example:

```
ALL 0000 ON
```

Everybody is allowed to configure and control the device.

Example:

```
ALL 0000 OFF
```

Only registered users, included in the user list, can send and receive SMS messages to/from the device

2.3. Analog inputs

CONF AI

CONF AI <password> <n> <label> <min> <max> <decimals> <UM>

Configura l'ingresso analogico specificato

<password>	adminsitrator password
<n>	Number of the analog input
<label>	Name to assign to the selected analog input
<range min>	Minimum value. Insert a value without decimal point
<range max>	Maximum value. Insert a value without decimal point
<decimals>	Number of decimal places to consider
<UM>	Unit of measure

Example:

```
CONF AI 0000 1 level 0 1000 1 cm
```

Set analog input 1, named "level", ranging from 0 to 1000 cm., with 1 decimal digit.

Example:

```
CONF AI 0000 2 temp –2000 10000 2 t
```

Set analog input 2, named "temp" with a range between –20,00 and 100,00 °C.

STAT AI

STAT AI <n>

Read status of selected analog input, or all analog inputs if no input channel specified.

<n>	input number

Example:

```
STAT AI
```

Response:

```
AI:345 AI2:23,00
```

Example:

```
STAT AI 2
```

Response:

```
AI2:23,00
```

ALARMAI

ALARMAI <password> <n> <A/B> <value> <H/L> <delay> <out> <mode> <message>

Set an alarm on specified AI	
<password>	adminsitrator password
<n>	input number
<A/B>	Two alarms can be set for every analog input: A (first alarm) and B (second ala
<value>	Value of the alarm threshold
<H/L>	H if alarm has to occur when AI is above the threshold, L if alarm has to occur AI is below the threshold
<delay>	Delay in seconds after which the alarm is send through SMS
<out>	Digital output to activate in case of alarm • 0: none • 1: DO1 • 2: DO2 • n: DOn for output n, included I/O expansions
<mode>	• 1: turn on the input • 2: turn off the input • 3: turn on when alarm condition met, off if not met
<message>	Text for the alarm SMS

Example:

```
ALARMAI 0000 1 A 500 H 5 1 3 Hi value alarm
```

Set the first alarm (A) on AI1, when its vaue goes above 50.0 for at least 5 seconds.

Example:

```
ALARMAI 0000 1 B 100 L 15 0 1 Normal value
```

Set the second alarm (B) on AI1, when its value goes lower than 10.0 for at least 15 seconds. No output is affected.

2.4. Thermostat

SETTHERM

SETTHERM <password> <n> <label> <min> <max> <thr> <out> <ingresso>	
Configure an analog input for the thermostat feature	
<password>	administrator password
<n>	input number
<label>	Name assigned to the thermostat
<range min>	Minimum value – specify with decimal digits but without decimal point
<range max>	Maximum value – specify with decimal digits but without decimal point
<thr>	Threshold value for thermostat operation
<out>	Digital output selected
<ingresso>	Digital input that allows local disable of thermostat feature

Example:

```
SETTHERM 0000 1 home 700 -80 200 1 1
```

Set AI1 as a thermostat named "HOME" ranging between –8 and 70 °C, with a threshold at 20 °C. The ther may be disabled through input 1.

Example:

```
SETTHERM 0000 2 bedroom 700 -80 190 1 3
```

Set AI2 as a thermostat named "BEDROOM" ranging between –8 and 70 °C, with a threshold at 19°C. The thermostat may be disabled through input 3.

THERM

THERM <n/name> <ON/OFF> <temp>
Enable/disable the selected thermostat

THERM <n/name> <ON/OFF> <temp>

<n/name>	Analog input number or thermostat name
<ON/OFF>	• ON enable • OFF disable
<temp>	Optional temperature threshold

Example:

```
THERM home ON 22
```

MESSTHERM

MESSTHERM <n/name> <ON/OFF>

Enable/disable sending of a SMS when the thermostat is activated

<n/name>	Input number or thermostat name
<ON/OFF>	• ON enable • OFF disable

Example:

```
MESSTHERM home ON
```

STATTHERM

STATTHERM <n/name>

Send thermostat status, if configured

<n/name>	Input number or thermostat name

Example:

```
STATTHERM
```

Response:

```
THERM1:25,0 C
```

2.5. Digital inputs

CONF DI

CONF DI \<password\> \<n\> \<label\> \<mode\> \<mnem0\> \<mnem1\>

Configure digital input \<n\>

\<password\>	adminsitrator password
\<n\>	digital input number
\<label\>	Name assigned to the digital input
\<mode\>	NORMAL, COUNTER, RESET (when input active reset all outputs)
\<mnem 0\>	Label assigned to 0 state, i.e. "Idle"
\<mnem 1\>	Label assigned to 1 state, i.e. "Alarm"

Example:

```
conf di 0000 1 alarm normal idleactive
```

Set input 1 working in normal mode, named "alarm", possible states: "idle" and "active"

Example:

```
conf di 0000 3 flow counter
```

Set input 3 as a counter, named "flow"

STAT DI

STAT DI \<n\>

Read status of selected digital input, or all digital inputs if no input channel specified.

\<n\>	input number (optional)

Example:

```
STAT DI
```

Response:

```
MOTOR:IDLE ALARM:OFF DI3:Off DI4:Off
```

ALARMDI

Note

The allarms are disabled when the digital input variable is associated to an analogic thermostat variable.

ALARMDI <password> <n> <H/L> <delay> <message>

Set an alarm on a digital input

<password>	adminsitrator password
<n>	input number
<H/L>	• H if the alarm has to occur when input is closed • L if the alarm has to occur when input is open
<delay>	Delay in seconds before sending the SMS message
<message>	Text that will be contained in the alarm SMS

Example:

```
alarmdi 0000 1 H 5 Warning: alarm!!
```

Set an alarm when input 1 goes high for at least 5 seconds. Send the SMS "Warning: alarm!!"

COUNTER

COUNTER <password> <n> <start> <send> <end> <out>

Configure a digital input to operate as a counter.

<password>	adminsitrator password
<n>	input number
<start>	Counter start value
<send>	Frequency of SMS notify of counter value. Write 0 to disable.
<end>	Counter limit. When reached the device starts counting from 0 and sends and
<out>	Digital output to set when the counter reaches its programmed limit (optiona

Example:

```
conf di 0000 3 flow counter
counter 0000 3 1000 24 15000 2
```

Configure the counter on DI3 to start counting from 1000, send an SMS containing its value every 24 hour: stop at 15000 and send an SMS to all the enabled users; then restart from 0.

START

START <password> <n>

Start counter

<password>	adminsitrator password
<n>	input number

Example:

```
START 0000 1
```

STOP

STOP <password> <n>

Stop counter

<password>	adminsitrator password
<n>	input number

Example:

```
STOP 0000 1
```

2.6. Digital outputs

CONF DO

CONF DO <password> <n> <label> <mode> <mnem 0> <mnem 1> <delay> <pulse>

Configure digital ountput <n>

CONF DO <password> <n> <label> <mode> <mnem 0> <mnem 1> <delay> <pulse>

<password>	adminsitrator password
<n>	Output number
<label>	Name of the digital output
<mode>	Operating mode: • OPEN • CLOSE • PULSEO • PULSEC
<mnem 0>	Label of the output at state 0, i.e. "Idle"
<mnem 1>	Label of the output at state 1, i.e. "Alarm"
<delay>	Activation delay in seconds
<pulse>	Pulse width in seconds, when in pulse modes (optional)

Example:

```
conf do 0000 1 motor open 5
```

Set DO1 as a normally open digital output that closes after 5 seconds

ON

ON <n/name>

Turn on relay/output <n/name>

<n/name>	• n: output number • name: output name

Example:

```
ON 1
```

Switch on output 1

OFF

OFF <n/name>

Turn off relay/output <n/name>

<n/name>	• n: output number • name: output name

Example:

```
OFF motor
```

Switch off the output named "motor"

ONRING

ONRING <password> <n> <user> <mode>

Set the specified user to turn on the specified output with a voice call (RING)

<password>	adminsitrator password
<n>	Output number
<user>	User name or phone number
<mode>	• 0: disable this feature • 1: switch on with a RING • 2: switch off with a RING • 3: toggle output with a RING

Example:

```
ONRING 0000 1 admin 1
```

User "admin" can switch on output 1 with a ring.

2.7. I/O expanders

EXPADD

EXPADD <password> <type> <address>

Add an I/O expansion device to WE120 RS485 bus

EXPADD <password> <type> <address>

<password>	adminsitrator password
<type>	1: 16 DI 7: 6DId6O 10: 4AI
<address>	ModBus address assigned to I/O expander

Example:

```
EXPADD 0000 1 1
```

Enable WE120 to manage an 16DI ModBus expansion at address 1

EXPDEL

EXPDEL <password>

Disable all expansions	
<password>	adminsitrator password

Example:

```
EXPDEL 0000
```

Disable all expansions

2.8. Diagnostics

LOOP

LOOP <password> <user> <send>

Configure the device to periodically send its status to the specified user	
<password>	adminsitrator password
<user>	User's name or telephone number
<send>	Sending period, given in minutes. Set to 0 to disable this feature.

Example:

```
LOOP 0000 admin 60
```

Set WE120 to send the state SMS to the user "admin" every hour

SIGNAL

SIGNAL

Send back the quality of GSM signal (from 1 to 30)

Example:

```
SIGNAL
```

Response:

```
Signal GSM: 30
```

Very good GSM signal

BOOT

BOOT <password> <ON/OFF>

Configure the device to send its state at startup to all administrator users

<password>	adminsitrator password
<ON/OFF>	• ON: enable • OFF: disable

Example:

```
BOOT 0000 ON
```

Enable all the administrators to receive the state SMS after every system boot

RING

RING <password> <user> <ON/OFF>

Set the specified user to receive the SMS state after a voice call to WE120

RING <password> <user> <ON/OFF>

<password>	adminsitrator password
<user>	User's name or telephone number
<ON/OFF>	• ON : enable • OFF : disable

Example:

```
RING 0000 admin ON
```

Enable the WE120 to send the state SMS to "admin" after a voice call

2.9. Advanced commands

DEFAULT

DEFAULT <password>

Restore factory configuration and reset device

<password>	adminsitrator password

Example:

```
DEFAULT 0000
```

MODEMONLY

MODEMONLY <password> <ON/OFF>

Disable all WE120 remote control features and enable GSM modem only.

<password>	adminsitrator password
<ON/OFF>	• ON: enable • OFF: disable

Example:

```
MODEMONLY 0000 ON
```

Disable remote control features

SETPORT

SETPORT <password> <port> <baudrate> <parity> <data bits> <stop bits>

Set the communication parameters of the specified port

<password>	adminsitrator password
<port>	Serial port (232 or 485)
<baudrate>	Baud rate (4800, 9600, 38400, 57600, 115200)
<parity>	Parity (N=none, E=even, O=odd)
<data bits>	Data bits
<stop bits>	Stop bits

Example:

```
SETPORT 0000 232 9600 N 8 1
```

Set WE120 RS232 serial port to 9600 baud, no parity, 8 data bits and 1 stop bit

EXECUTECOMMAND

EXECUTECOMMAND <password> <n> <H/L> <user> <command>

Configure the device to execute the specified command every time the input <n> is in alarm condition <H
The reply of the command is forwarded to the specified user.

<password>	adminsitrator password
<n>	digital input number
<H/L>	• H – condition is true when input is high • L – condition is true when input is low
<user>	User's name or phone number
<command>	Command string

Example:

```
EXECUTECOMMAND 0000 1 H admin STAT AI
```

Enable WE120 to send the output of command "stat ai" to "admin" user.

> **Hint**
>
> NOTE: the specified digital input must be enabled with ALARMDI command

3. Safety guidelines

- Nethix products support SIM cards from providers of all around the world, particularly from Europe and Asia. However, there could be some incompatible SIM cards.
- The device cannot receive/send SMS nor RING if the SIM card is not enabled to GSM services and ne or credit is not available (if prepaid card is used).
- Verify that the device is operated in an area covered by GSM network with sufficient signal strength granting proper functioning.
- In case of questions or doubts regarding the cost of the SMS service consult your Network Provider.
- This device is only suitable for being installed by a qualified operator
- Nethix is not responsible for improper use and/or its side effects
- Nethix products are designed for typical use in industrial automation and/or home applications.

If you plan to use Nethix products in special applications where anomalies and discontinuity of service can serious effect on human life or can cause physical or material damages, or where extremely high levels of reliability are required (for example in aerospace systems, in atomic energy control systems or n electro-m devices), please contact Nethix for support to your particular application. Nethix is not responsible of dam caused from its products if such applications are not previously authorized.

The product shall not be treated as household waste. It shall be instead handed over to an appropr

collection point for the recycling of electrical and electronic products. For further information about recyc this product, contact the local city office and/or the local waste disposal service.

4. Warranty and support

Nethix warrants to the buyer that the product will be defect-free within two years (24 months) from the d purchase.

During warranty time, and against presentation of purchase invoice, the product will be repaired or replac Nethix's discretion, without any additional costs as regards spare parts and repair, if the damages are prov be manufacturing defects.

Warranty will be voided if the product has not been used properly.

In case of technical problems the user can ask for support:

- Contacting the reseller or distributor
- Sending and email request to support@nethix.com (mailto:support%40nethix.com)

5. Return and repair

Product return to **NETHIX** must be previously authorized, requesting a **RMA** number.

Please send an Email at Nethix containing all following information:

- Complete customer's name and address
- Distributor's or Reseller's name and address
- Date of purchase
- Product P/N and S/N as displayed on the product or the package
- Detailed description of fault and/or reason for return

Nethix will communicate the RMA number, in order to start the return procedure of the product. The deliv the goods shall be arranged DDP at Nethix premises. Products returned without factory seals will be automatically treated as out-of-warranty repair services.

nethix.com (http://nethix.com)

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