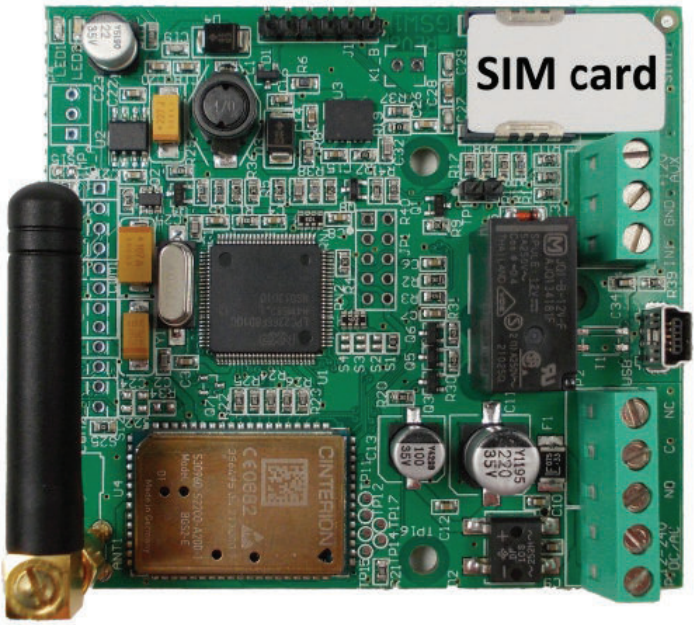
ICE-MOBILE SWITCH

Simple Universal GSM controller



INSTALLATION MANUAL

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1 FOR YOUR SAFETY

Read these simple guidelines. Not following them may be dangerous or illegal. Read the complete user guide for further information.

SWITCH ON SAFELY

Do not switch the unit on when use of wireless phone is prohibited or when it may cause interference or danger.

INTERFERENCE

All wireless phones and units may be susceptible to interference, which could affect performance.

SWITCH OFF IN HOSPITALS

Follow any restrictions. Switch the unit off near medical equipment.

SWITCH OFF IN AIRCRAFT

Follow any restrictions. Wireless devices can cause interference in aircraft.

SWITCH OFF WHEN REFUELING

Do not use the unit at a refueling point. Do not use near fuel or chemicals.

SWITCH OFF NEAR BLASTING

Follow any restrictions. Do not use the unit where blasting is in progress.

USE SENSIBLY

Use only in the normal position as explained in the product documentation. Do not touch the antenna unnecessarily.

2 INTRODUCTION

ICE-MOBILE SWITCH is a universal remote controller based on GSM technology. It is designed as unlimited range, wire free, low cost, and highly robust remote control system.

As all other devices from portfolio ICE-MOBILE SWITCH supports alarm detection, stay-alive messages, credit checking etc...

3 FEATURES AND APPLICATIONS

Features:
⇒ Built-in 2 or 4 band GSM module
⇒ Up-to 1 alarm inputs
⇒ 1 outputs (relay supported)
⇒ Up to 50 telephone numbers for CLIP support
⇒ Programming by USB SIM Key editor
⇒ Programming by USB on the ICE-MOBILE SWITCH
⇒ Programming by SMS command
⇒ Anti-tampering input

Applications:
⇒ Free of charge remote control (CLIP)
⇒ Simple alarm support

4 START UP

VERY IMPORTANT	USE A **TYPICAL SIM CARD** (mini-SIM, see the picture) **WITH MEMORY FOR UP TO 250 CONTACTS!**

⇒ Insert SIM card to be used for ICE-MOBILE SWITCH in your personal mobile phone.

IMPORTANT	ERASE THE PIN CODE!

⇒ Insert SIM card in ICE-MOBILE SWITCH device. The unit must be switched OFF when you insert the SIM!
⇒ Connect inputs and outputs to ICE-MOBILE SWITCH.
⇒ Connect the antenna to antenna connector.
⇒ Connect power cable to ICE-MOBILE SWITCH device
⇒ Connect device to source power supply voltage.
⇒ Wait until LED1 (blue) starts flashing. This is set in around 1 minute.
⇒ ICE-MOBILE SWITCH unit is now ready to operate.

IMPORTANT	Before sending any SMS commands to ICE-MOBILE SWITCH device, device must be powered ON and in normal operation!

5 LED DISPLAY

Green LED (LED1)

- Indicates the level of the GSM signal from 1 to 5 LED flashes (1 is weak signal, 5 is excellent signal)

Red LED (LED2)

- LED 2 is used to indicate ongoing traffic on the GSM interface.

Yellow LED (LED3)

- Short flashing indicates that the GSM module is ON, but it is not yet connected on the GSM network. After connection, yellow led is flashing with short pulse (0,5s) ON and a long pulse OFF(5s).

6 CLEAR ALL PROGRAMMED DATA FROM SIM

This is highly recommended when a SIM card you are going to use for the ICE-MOBILE SWITCH is not new and it already has some data stored in the phone book memory.

By sending this SMS to ICE-MOBILE SWITCH all programmed parameters and numbers are cleared:
;SDCLR;

After the command is received by the device all configuration parameters on the SIM card including the SMS are deleted. The procedure can take up-to 2 minutes, depends on the version of the SIM card.

The ICE-MOBILE SWITCH will restart after the configuration is deleted.

NOTE	By sending this command to the ICE-MOBILE SWITCH ALL DATA are erased from the SIM card, including SMS!

7 CONNECTION DIAGRAM

Before connection the ICE-MOBILE SWITCH please take a look at connection diagram.

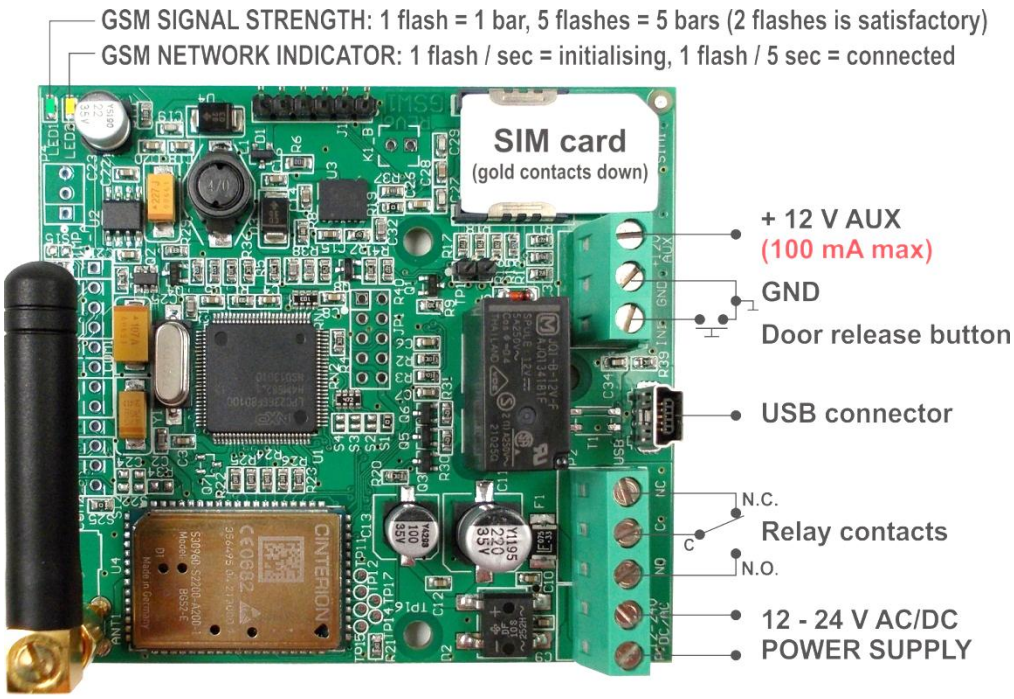

Figure 1: ICE-MOBILE SWITCH Connection diagram

8 PROGRAMMING ICE-MOBILE SWITCH

ICE-MOBILE SWITCH device supports different types of programming:

⇒ To program ICE-MOBILE SWITCH parameters put the SIM card into your personal GSM phone. Add programming parameters in **SIM Card "Phone Book"**.

⇒ You can program ICE-MOBILE SWITCH remotely by SMS command.

⇒ You can program ICE-MOBILE SWITCH with USB key and SIM manager.

⇒ You can program ICE-MOBILE SWITCH directly with the use of USB connection on the device. Please contact your reseller to receive the application running on PC for management of the ICE-MOBILE SWITCH and the appropriate USB drivers.

9 THE ICE-MOBILE SWITCH PARAMETERS

To support versatile functionality of ICE-MOBILE SWITCH different parameters are used. The parameters are divided in logical sections and are described in the following chapters.

9.1 ALARM SUPPORT

Alarm reporting is supported by group of different parameters. First section is used to define the relations needed for alarm to be trigged. The second section is used to report alarm.

9.1.1 ALARM TRIGGERING

Parameters are used to control (filter) the triggering of the alarm inputs.

9.1.1.1 IN parameters

Alarm and reset input can be triggered in 4 different ways. The status of the input can either be normal closed (N.C) or normal open (N.O.) with positive (+ 12V) or negative (GND) voltage.

Activation of the input/alarm is reported by INx values 0 to 2. It the user needs to receive information of the input/alarm restores use INx values 4 to 6. INx value 3 disables the input/alarm reporting.

⇒ IN = 0 – Normal Open – triggered with negative voltage (GND)
⇒ IN = 1 – Normal Close – breaking negative or positive voltage loop
⇒ IN = 2 – Normal Open – triggered with positive voltage (+ 12VCC)
⇒ IN = 3 – Not in use
⇒ IN = 4 => IN = 0 + input reset SMS
⇒ IN = 5 => IN = 1 + input reset SMS
⇒ IN = 6 => IN = 2 + input reset SMS

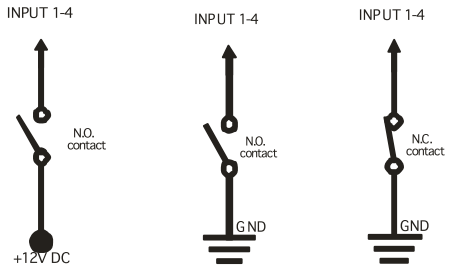

Figure 2: Input Connection diagram

9.1.1.2 ID parameters

ID parameter determines time period of the pulse length to trigger the alarm. The pulse time can be from 0,5 seconds to 9999 seconds. The default time is 0,5 seconds when the parameter value is 0.
Parameter is in seconds.

9.1.1.3 DD parameters

This parameter is used to define the delay between the time that alarm input is trigged and the time that alarm is reported.
Parameter is in seconds.

9.1.1.4 Table of parameters

Name	Comment
IN1	Mode of operation for input 1
ID1	Input time integration delay on input 1
DD1	Time delay for alarm reporting on input 1

Table 1: IN, ID and DD parameters

Example:

- **Direct programming on the SIM card**

ICE-MOBILE SWITCH PROGRAMMING TABLE		
SIM CARD PHONE BOOK		
Name	**Number**	**Description**
IN1	0	Alarm activated by connecting to GND
ID1	10	Input 1 has to be valid for 10 second to trigger the alarm

DD1	15	Reporting of the alarm on input 1 is delayed by 15s

Table 2: IN, ID, DD parameters example

- **Remote programming by SMS**
  ;IN1=0;ID1=10;DD1=15;

9.1.2 REMOTE REPORTING ALARM EVENTS

Parameters used to define the way to report the alarm event.

NOTE	ICE-MOBILE SWITCH device send SMS messages for reporting alarm events.

9.1.2.1 TN parameters

Telephone numbers for remote alarm reporting are listed as TN parameters. Remote alarm reporting on ICE-MOBILE SWITCH is done via SMS messages.

9.1.2.2 LN parameters

This parameter is used to link alarm event from inputs or any other source to the telephone numbers on TN list.

9.1.2.3 Table of parameters

Name	Comment
TN1	1st telephone number
TN2	2nd telephone number
TN3	3rd telephone number
TN4	4th telephone number
TN5	5th telephone number
LN1	Input & telephone No. linking for 1st alarm input (TN1 – TN5)
LN3	Periodic test SMS. No. linking (TN1 – TN5)
LN4	SIM card refill. No. linking (TN1 – TN5)
LN5	NAC list. No. linking (TN1 – TN5) (see note)

LN6	Log status. No. linking (TN1 – TN5)

Table 3: Remote alarm reporting parameters

Example:

- **Direct programming on the SIM card**

ICE-MOBILE SWITCH PROGRAMMING TABLE		
SIM CARD PHONE BOOK		
Name	**Number**	**Description**
TN1	042376678	1st telephone number
LN1	13	Input 1 reports alarm to TN1 & TN3
LN5	1	NAC event sent to TN1

Table 4: Remote alarm reporting example

- **Remote programming by SMS**
  ;TN1=042376678;LN1=13;LN5=1;

NOTE	When telephone number (calling or messaging ICE-MOBILE SWITCH) is not authorized, not acknowledge event occurs (NAC). The telephone number responsible for this event can be send to TN user for notification.

9.2 OUTPUT MANAGEMENT

ICE-MOBILE SWITCH supports the possibility to report alarms from inputs and any other events locally via 1 output. The behavior is defined using next parameters

9.2.1 OS parameter

ICE-MOBILE SWITCH device has 1 dedicated relay supported outputs. Outputs can be configured to different behavior:

⇒ OSx = 0 – Disabled
⇒ OSx = 1 – Bi-stable toggle mode
⇒ OSx = yyy – Mono-stable pulse mode (duration in seconds)

Typical connection for the output:

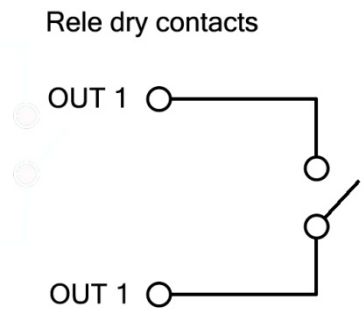

Figure 3: Output Connection diagram

9.2.2 OD parameter

OD parameter is used to link the alarm event directly to output. Direct linking can be done on input alarm events and some other internal events.

9.2.3 OP parameters

Parameters are used to invert the polarity of the outputs.

⇒ 0 – normal
⇒ 1 – inverted

9.2.4 Table of parameters

Name	Comment
OS1	Mode of operation for output 1
OD1	Input 1 direct link to outputs
OD3	GSM network problem direct link to outputs
OD4	NAC direct link to outputs
OP1	Invert control for output 1

Table 5: Output management parameters

Example:

- **Direct programming on the SIM card**

ICE-MOBILE SWITCH PROGRAMMING TABLE		
SIM CARD PHONE BOOK		
Name	Number	Description
OS1	14	Mono-stable pulse mode (14s pulse)
OD1	1	Input 1 activates output 1
OP1	1	Output 1 inverted

Table 6: Output management parameters example

- **Remote programming by SMS**
  ;OS1=14;OD1=1;OP1=1;

9.3 SECURITY LEVEL - SL

SL parameter from 0 to 5 defines which telephone number stored in the phone book from TN1 – TN5 can enter into programming and remote control of the ICE-MOBILE SWITCH (dialing the ICE-MOBILE SWITCH phone number or sending the SMS).

NOTE	When the SL level is 0, an access to the ICE-MOBILE SWITCH is possible from any phone!

IMPORTANT	Before any SL number is programmed the ICE-MOBILE SWITCH can accept ALL CALLS. Remote SMS programming and remote controlling is possible from any phone!

Name / value	Comment
SL = 0	All calls and SMS are accepted
SL = 1	Only number stored under parameter TN1 has access to unit
SL = 2	Numbers stored under parameters TN1 to TN2 have access to unit
SL = 3	Numbers stored under parameters TN1 to TN3 have access to unit
SL = 4	Numbers stored under parameters TN1 to TN4 have access to unit
SL = 5	Numbers stored under parameters TN1 to TN5 have access to unit

Table 7: SL parameter

Example:

- **Direct programming on the SIM card**

ICE-MOBILE SWITCH PROGRAMMING TABLE		
SIM CARD PHONE BOOK		
Name	Number	Description
SL	3	No. stored under parameters TN1 to TN3 have access to unit

Table 8: SL example

- **Remote programming by SMS**

;SL=3;

9.4 PREPAID CARD CREDIT AND VALIDITY INFORMATION

ICE-MOBILE SWITCH can be used with prepaid SIM cards and its limitations. To be able to overcome this limitation of the prepaid SIM cards, ICE-MOBILE SWITCH offers the possibility of automatic checking mechanism for credit and time expiration.

NOTE	ICE-MOBILE SWITCH automatically sends warning SMS when the credit reaches low level defined by LCV parameter or SIM card validity is near to expiration.

NOTE	For support of different GSM providers contact support.

9.4.1 Programming prepaid card credit and validity string

To be able to support credit and time validity checking different parameters are used.

9.4.1.1 LCV and SCV parameter

LCV is used to set the limit for low credit event. If the credit on prepaid SIM cards falls below this limit SMS is send.

SCV the period of valid operating time varies with different GSM network providers. The value can be programmed from 1 to 360 days. The default value does not presume any kind of expiry warning.
For example in Slovenia SCV are 90 and in Italy 360 days

9.4.1.2 CC1, CC2 and CC3 parameters

Number used to check low credit value. They are provided from the GSM providers.

⇒ CC1 - This method can be used by any GSM provider that supports Unstructured Supplementary Service Data
⇒ CC2 - This method is dedicated to Italian TIM mobile provider
⇒ CC3 - This method is dedicated to Italian Vodafone mobile provider

9.4.1.3 CREF, CTIM, CVODA parameters

Parameters are used to find the credit value of the prepaid SIM card. Strings under these parameters are used to pars the replay message from the GSM provider.

⇒ CREF - Pars string for the replays received from CC1 number
⇒ CVODA - Pars string for the replays received from CC2 number
⇒ CTIM - Pars string for the replays received from CC3 number

9.4.1.4 Table of parameters

Name	Comment
LCV	Low credit value, bottom limit for low credit event.
SCV	SIM card validity time (in days)
CC1	Credit number for credit check universally used
CC2	Credit number for credit check dedicated for Italian TIM mobile provider
CC3	Credit number for credit check dedicated for Italian Vodafone mobile provider
CREF	String for parsing replay message from CC1 number
CVODA	String for parsing replay message from CC2 number
CTIM	String for parsing replay message from CC3 number

Table 9: Prepaid card validity parameters

Example:

- **Direct programming on the SIM card**

GSW PROGRAMMING TABLE
SIM CARD PHONE BOOK

Name	Number	Description
CC1	*448#	Si.mobil
CC2	4916	TIM Italy
CC3	404	Vodafone Italy
LCV	4	Low credit message will be send bellow 4

Table 10: Credit example

- **Remote programming by SMS**
  ;CC1=*448#;CC2=4916;CC3=404;LCV=4;

9.5 SET-UP PARAMETERS

Different parameters are used to support versatile functionality of ICE-MOBILE SWITCH.

9.5.1 UDC parameter

Parameter is used to synchronise ICE-MOBILE SWITCH clock to GSM network clock. User must enter the number of the ICE-MOBILE SWITCH SIM card (telephone number of ICE-MOBILE SWITCH device).

9.5.2 TST parameter

A test SMS is sent periodically. ICE-MOBILE SWITCH can send the test message in the interval ranging from 1 hour to 8760 hours.

Example:

To send test SMS TST value is set to 12, the numbers linked to “LN5” receive a test message every 12 hours.

9.5.3 MNF parameter

When it is necessary to fix the GSM network to one provider the user can use the MNF parameter. The MNF parameter switches automatic network searching to manual.

Example:

MCC/MNC code for Simobil is 29340, Mobitel is 29341, TIM is 22201, and Vodafone
Italy is 22210.
More information about national MCC/MNC codes can be acquired at:
http://en.wikipedia.org/wiki/Mobile_Network_Code

9.5.4 ARST parameter

ARST parameter defines periodic of auto restart time (in hours) of the ICE-MOBILE SWITCH device.

9.5.5 ADF parameter

Parameter is used to define voice refresh function, to prevent blocking of SIM in some GSM networks.

NOTE	If this function is enabled ICE-MOBILE SWITCH device will make voice call to TN1 number.

9.5.6 LNG parameter

LNG parameter switches between the preprogrammed languages:

- ⇒ 0 - English
- ⇒ 1 - Italian
- ⇒ 2 - Slovenian
- ⇒ 3 - Croatian
- ⇒ 4 - Dutch
- ⇒ 5 - German
- ⇒ 6 - Spanish

9.5.7 BUZ parameter

Parameter is used to control buzzer functionality on ICE-MOBILE SWITCH. Buzzer is used to audio support some events on ICE-MOBILE SWITCH.

9.5.8 Table of parameters

Name	Comment
UDC	Tel. number of ICE-MOBILE SWITCH device
RAN	Auto answer ring number
TST	SMS test time out
MNF	Manual GSM provider selection
ARST	Time out control for automatic system restart
ADF	Auto dial functionality (Call TN1)
LNG	Language selection
BUZ	Buzzer control

Table 11: Set-up parameters

Example:

- **Direct programming on the SIM card**

ICE-MOBILE SWITCH PROGRAMMING TABLE
SIM CARD PHONE BOOK

Name	Number	Description
MNF	29340	Manual fixing of the GSM provider (Simobil)
LNG	1	Switch on Italian language
ADF	90	Make voice call every 90 days
TST	24	24 hours periodic test SMS
BUZ	0	Mute buzzer

Table 12: Set-up parameters example

- **Remote programming by SMS**

;MFN=29340;LNG=1;ADF=90;TST=24;BUZ=0;

9.6 SMS MESSAGES EDITOR

You can write and send a short SMS message for each alarm input. The default message is English, but it is possible to change language with LNG parameter. Each message is built from 3 parts and user can write the first (User Location) and the second (alarm event) part of the message. Unit adds the third part (alarm event description) automatically. Language of the 3rd part may be changed by **LNG** parameter. The message is stored in the SIM phone book so you should add any number for correct operation.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
#	0	U	S	E	R		L	O	C	A	T	I	O	N	
#	1	I	N	P	U	T		1							

NOTE	Message should not be longer than 14 characters! Space is also counted as one character!

9.6.1 Table of parameters

Name	Comment
#0	User location, same for all alarm messages
#1	Input 1, second part of message

Table 13: Message parameters.

Example:

- **Direct programming on the SIM card**

ICE-MOBILE SWITCH PROGRAMMING TABLE		
SIM CARD PHONE BOOK		
Name	**Number**	**Description**
#0House	1	Location definition
#1Kitchen	1	Alarm input is from the kitchen

Table 14: Message parameters example

- **Remote programming by SMS**
  ;#0HOUSE=1;#1KITCHEN=1;

9.7 CLIP

CLIP is used to provide the “free of charge” options to control the outputs.

9.7.1 CLPEN parameter

Parameter used to enable CLIP functionality.

9.7.2 CLPOU parameter

Parameter used to choose which output will be controlled by the CLIP functionality.

9.7.3 CLPI parameter

This parameter, if set, is a precondition for CLIP function to control the output. The input define by the CLPI parameter must be active for CLIP function to control the output.

9.7.4 CLP1 ... CLP50 parameter

Set of telephone number, which can control the output. The number not on CLP list is not able to control the output using clip functionality.

9.7.5 Table of parameters

Name	Comment
CLPEN	Enable CLIP functionality

CLPOU	Control output pin when CLIP event
CLPI	CLIP input activation condition
CLP1	CLIP number 1
.	.
.	.
.	.
CLP50	CLIP number 50

Table 15: CLIP parameters

Example:

- **Direct programming on the SIM card**

ICE-MOBILE SWITCH PROGRAMMING TABLE		
SIM CARD PHONE BOOK		
Name	**Number**	**Description**
CLPEN	1	Enable CLIP functionality
CLPOU	2	CLIP control output 2
CLPI	0	No input activation condition
CLP1	040414414	CLIP number 1
CLP2	042340880	CLIP number 2

Table 16: CLIP parameters example

- **Remote programming by SMS**

;CLPEN=1;CLPOU=2;CLPI=0;CLP1=040414414;CLP2=042340880;

9.7.6 Table of parameters

Name	Comment
LOGN	Number of log events for printing out
LOGI	Log interface

ALC	Automatic log clear

Table 17: LOG parameters

Example:

- **Direct programming on the SIM card**

ICE-MOBILE SWITCH PROGRAMMING TABLE		
SIM CARD PHONE BOOK		
Name	**Number**	**Description**
LOGN	5	5 log events will be printed out on PLOG command
LOGI	0	Nonvolatile memory on ICE-MOBILE SWITCH
ALC	1	Log is auto cleared when full

Table 18: LOG parameters example

- **Remote programming by SMS**

;LOGN=5;LOGI=0;ALC=1;

9.8 SPECIAL SMS COMMANDS

These commands can only be issued only over SMS message, and are used to control some special functions of ICE-MOBILE SWITCH device.

9.8.1 ORC command

Command is used to control outputs directly via SMS message

9.8.2 SDCLR command

To clear all data on SIM card SDCLR command is used.

9.8.3 LCRL command

Command clears log on ICE-MOBILE SWITCH device.

9.8.4 CLPCLR command

Command is used to delete all CLP numbers.

9.8.5 MRES command

Command is used to manually restart GSM module on ICE-MOBILE SWITCH device.

9.8.6 SSRES command

Command is used to manually restart ICE-MOBILE SWITCH device.

9.8.7 Table of parameters

Name	Comment
ORC1	Control of output 1
SDCLR	Delete all SIM content
LCRL	Delete log on ICE-MOBILE SWITCH device
MRES	Manual reset of GSM module
SSRES	Manual reset of ICE-MOBILE SWITCH device

Table 19: SMS commands.

Example:

- **Remote programming by SMS**

SMS command	Description
;ORC1=1; or ;ORC1=ON;	Activate output 1
;ORC1=0; or ;ORC1=OFF;	Deactivate output 1
;SDCLR;	Clear all data on SIM
;LCLR;	Delete log on ICE-MOBILE SWITCH device
;MRES;	Manual reset of GSM module
;SSRES;	Manual reset of ICE-MOBILE SWITCH device

Table 20: SMS commands example.

10 PRINT-OUT OF THE PARAMETERS

The user can check the settings of ALL parameters on the ICE-MOBILE SWITCH.

10.1 RECEIVE ALL PARAMETERS (PALL)

By sending this command to ICE-MOBILE SWITCH you receive SMS messages with all parameters that are currently programmed in the unit:
;PALL;

10.2 CHECK SW REVISION (PSW)

By sending this command to ICE-MOBILE SWITCH you receive SMS messages with current SW version running on ICE-MOBILE SWITCH device:
;PSW;

10.3 CHECK SIGNAL QUALITY (PSQ)

By sending this command to ICE-MOBILE SWITCH you receive SMS messages with signal quality ICE-MOBILE SWITCH device is connected to network:
;PSQ;

10.4 RECEIVE TELEPHONE NUMBERS (PTN)

By sending this command to ICE-MOBILE SWITCH you receive SMS message with all currently programmed telephone numbers:
;PTN;

10.5 RECEIVE LINKS (PLN)

By sending this command to ICE-MOBILE SWITCH you receive SMS message with all currently programmed links:
;PLN;

10.6 RECEIVE INPUT PARAMETERS (PIN)

By sending this command to ICE-MOBILE SWITCH you receive SMS message with all currently programmed Input parameters:
;PIN;

10.7 RECEIVE INPUT FILTER VALUE (PID)

By sending this command to ICE-MOBILE SWITCH you receive SMS message with all currently programmed Input filters:
;PID;

10.8 RECEIVE OUTPUT FILTER VALUE (POD)

By sending this command to ICE-MOBILE SWITCH you receive SMS message with all currently programmed direct output links:
;POD;

10.9 RECEIVE DELAY BEFORE DIAL VALUE (PDD)

By sending this command to ICE-MOBILE SWITCH you receive SMS message with all currently programmed Input filters:
;PDD;

10.10 RECEIVE ACCESS TELEPHONE NUMBERS (PSL)

By sending this command to ICE-MOBILE SWITCH you receive SMS message with programmed SL level:
;PSL;

10.11 RECEIVE OUTPUT PARAMETERS (POS)

By sending this command to ICE-MOBILE SWITCH you receive SMS message with all currently programmed Outputs parameters:
;POS;

10.12 RECEIVE ALL PROGRAMMED SMS MESSAGES (P#)

By sending this command to ICE-MOBILE SWITCH you receive SMS message with all currently programmed alarm SMS messages:
;P#;

10.13 RECEIVE SET UP PARAMETERS VALUE (PPA)

By sending this command to ICE-MOBILE SWITCH you receive SMS message with all currently programmed Setup parameters:
;PPA;

10.14 RECEIVE CREDIT PARS PARAMETERS (PCREF)

By sending this command to ICE-MOBILE SWITCH you receive SMS message with all currently programmed credit parse parameters:
;PCREF;

10.15 RECEIVE CREDIT CHECK TELEPHONE NUMBERS (PCN)

By sending this command to ICE-MOBILE SWITCH you receive SMS message with programmed numbers for credit checking:
;PCN;

10.16 RECEIVE ALL CLIP PARAMETERS (PCLP)

By sending this command to ICE-MOBILE SWITCH you receive SMS message with all currently programmed CLIP functionality related parameters:
;PCLP;

NOTE	User can use ;PCLP=x,y; to limit the number of CLIP numbers to be printed. x = start number y = end number Example ;PCLP=1,30; Prints first 30 CLIP numbers

10.17 STATE OF THE CREDIT FOR THE PREPAID CARD

By sending this command to ICE-MOBILE SWITCH you receive SMS message with Credit amount on your prepaid SIM card:
;PCCX;
Where X is the number of programmed prepaid card provider.

10.18 STATE OF THE OUTPUTS (PORC)

By sending this command to ICE-MOBILE SWITCH you receive SMS message with current outputs state.
;PORC;

10.19 MANUAL GSM MODULE RESTART (MRES)

By sending this command to ICE-MOBILE SWITCH shuts down GSM module and after a few second it switches the power of the GSM module ON again. The unit reboots all parameters from the SIM card.
;MRES;

10.20 RECEIVE STATUS OF INPUTS (INS)

By sending this command to ICE-MOBILE SWITCH you receive SMS message with current input state.
;INS;

10.21 RECEIVE ICE-MOBILE SWITCH LOG

By sending this command to ICE-MOBILE SWITCH you receive SMS message with log on ICE-MOBILE SWITCH device.
;PLOG;

11 CHANGING PARAMETERS USING THE SMS COMMAND

All programming parameters for ICE-MOBILE SWITCH can also be sent by SMS command. Each SMS command should start and stop with semicolon. If the confirmation SMS is needed, put "+" at the beginning of the command SMS.

The first SMS is SMS with telephone numbers (TN1 – TN5). If you would like to check which telephone numbers are programmed in ICE-MOBILE SWITCH please use the following command:
;PTN;

Return SMS is (example):
;TN1=0;TN2=0;

If you would like to enter telephone numbers in to ICE-MOBILE SWITCH you can use the following example:
;TN1=040713470;TN2=+38643364850;

If you would like to receive confirmation SMS write "+" before SMS command:
;+TN1=040713470;TN2=+38643364850;

Return SMS from ICE-MOBILE SWITCH is:
;TN1=040713470;TN2=+38643364850;

NOTE	You can use the same programming procedure for all parameters.

It is also possible to change different parameters with one SMS. Consider that the SMS message should not be longer than **160 characters** (included space characters).

If you would like to change the following parameters **TN1, IN1, OS1, ID1, LN1** and would like to receive confirmation SMS, try next example:
;+TN1=+38640713470;IN1=1;OS1=15;ID1=120;LN1=1;

Send SMS message to ICE-MOBILE SWITCH telephone number and in a few seconds you receive SMS message from ICE-MOBILE SWITCH. The sentence of the SMS must be the same as the one you have sent to ICE-MOBILE SWITCH before.

12 DEFAULT SETTINGS ON ICE-MOBILE SWITCH

ZEUS4-VD PROGRAMMING TABLE		
Name	**Default Value**	**Short Description**
TN1	Empty	Telephone number 1
TN2	Empty	Telephone number 2
TN3	Empty	Telephone number 3
TN4	Empty	Telephone number 4
TN5	Empty	Telephone number 5
IN1	0	Input 1 control
OS1	5	Output 1 mode
OD1	0	Input 1 direct output link
OD3	0	GSM network failure direct output link
OD4	0	NAC direct output link
LN1	Empty	Input 1, link to tel. numbers
LN3	Empty	Periodic SMS, link to tel. numbers
LN4	Empty	SIM card validity and credits status, link to tel. numbers
LN5	Empty	NAC, link to tel. numbers
LN6	Empty	LOG status, link to tel. numbers
ID1	0	Input 1 delay filter on input
DD1	0	Input 1 delay before dialing
RAN	0	Auto answer ring number
SL	0	Security level
#0	“User Location”	SMS main head text
#1	“Input1”	SMS input 1 text
CC1	Empty	Check credit Num 1
CC2	Empty	Check credit, TIM Italy
CC3	Empty	Check credit, Vodafone Italy
UDC	Empty	Tel. number of ZEUS4 device
SCV	0	SIM card time validity
TST	24	Periodic test SMS timeout
MNF	0	Network connection type
LCV	4	Low credit value
LNG	0	Language selection
LOT	60	Connection time out value
LOGN	5	Number of log events for printing out
LOGI	0	Log interface
ALC	1	Automatic log clear
ADF	90	Auto dial
ARST	0	Automatic reset timeout
OP1	0	Output 1 invert
BUZ	1	Buzzer function

ZEUS4-VD PROGRAMMING TABLE		
Name	**Default Value**	**Short Description**
SPO	1	SIM card starting position
CREF	“EUR”	Parse text(contact support)
CTIM	“EURO”	Parse text(contact support)
CVODA	“DISPON. E.”	Parse text(contact support)
CLPEN	1	Enable CLIP functionality
CLPOU	1	Control output pin when CLIP event
CLPI	0	Clip input condition
CLPRI	0	Clip restore function
CLPRT	25	Clip restore function time out
CLP1	Empty	CLIP number 1
.	.	
.	.	
.	.	
CLP50	Empty	CLIP number 50

Table 21 ICE-MOBILE SWITCH default settings

13 PARAMTERES PRINT-OUT COMMANDS

ICE-MOBILE SWITCH PRINT TABLE	
Name	**Short Description**
PALL	Prints all parameters available on ICE-MOBILE SWITCH.
PSW	Prints SW version of ICE-MOBILE SWITCH.
PSQ	Prints GSM network signal quality of ICE-MOBILE SWITCH.
PTN	Prints TNx numbers
PLN	Prints LNx links.
PIN	Prints INx parameters.
PID	Prints IDx parameters.
POD	Prints ODx parameters.
PDD	Prints DDx parameters
PSL	Prints SL parameter.
POS	Prints OSx parameters.
P#	Prints #x parameters.
PPA	Prints various setup parameters.
PCLP	Prints CLIP parameters.
PLOG	Prints log of the ICE-MOBILE SWITCH.
PCREF	Prints credit pars parameters.
PCN	Prints credit request numbers.
PCC1	Prints credit for ICE-MOBILE SWITCH (universal request).
PCC2	Prints credit for ICE-MOBILE SWITCH. (TIM Italy).
PCC3	Prints credit for ICE-MOBILE SWITCH. (VODAFONE Italy).
INS	Prints status of the inputs.
PORC	Prints (controls) the status of outputs.
PDEA	Prints intercom button 1 parameters.

Table 22: ICE-MOBILE SWITCH parameters print out commands

14 TECHNICAL SPECIFICATIONS

Description	Value
Power Supply	12 - 24V AC/DC
Current consumption - peak	2A
Current consumption - transmitting mode	250mA
Current consumption - idle mode	40mA
Quad band GSM module	850/900/1800/1900 MHz
PCB dimensions	82 x 75 mm
Unit dimensions	145 x 90 x 58 mm
Built-in Antenna SMA	1
Weight (in IP56 Box)	180 gr.
Alarm inputs	1
Alarm relay outputs	1
12V DC Power Supply input	Yes
12-24V AC/DC Power Supply input	Yes

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