Device for transmitting messages over cellular channel
Programming and connection manual

1. Device assignment and principle of operation

Module is designed for connection to cellular phones and transmission of alarm messages to ordinary telephones (speech transactions only) or cellular phones. It can be used together with Nokia 6110, 6130, 5110, 5130, and Siemens C35 phones.

The module can operate in one mode or in two modes simultaneously.

1. When one of three zones is actuated, the device dials on specified phone numbers and transmits textual (SMS), speech transaction or Email (if it is supported by used GSM network). The device supports operation with all types of sensors having output of "dry contact" type. User can set normally closed or normally open alarm output during device programming.
2. When the module is connected to digital communicator terminals of control panel, it can convert signals of Contact ID format into SMS messages and transmit them over cellular communication channel.

To program the module in the first operational mode use one of two methods: complete programming from computer (using cidconf.exe program) or partial programming from connected cellular device. Software functions on IBM PC/AT computers operated by Windows 95/98, NT, Win 2000, or WinXP. COM port of computer is used for programming.

Texts of short messages, speech phrases (in the form of wav file), and adjustment of Contact ID convector messages (second operational mode of the module) are programmed **only by means of personal computer.**

2. Technical specifications

2.1 Supply voltage - 12 V
2.2 Consumption current - 30мA, at 300мA battery charging
2.3 Three zones without current supervision
2.4 One transistor output 300мA

1. Supply voltage +12 Volt
2. Ground (GND)
3. Transistor output (PGM)
4. Zone 1 (Z1)
5. Zone 2 (Z2)
6. Zone 3 (Z3)
7. Microphone input (MIC)
8. Ground (GND)
9. Communicator input

Split for programming

Split for telephone connection

1 2 3 4 5 6 7 8 9
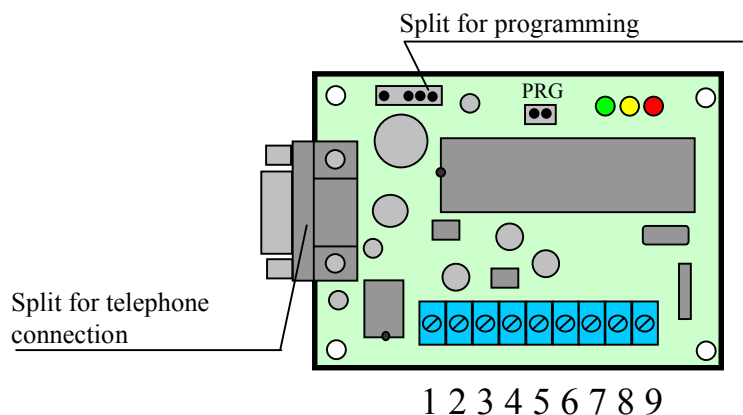
2. Connection

Connect/disconnect telephone to module only at power OFF.

Mount the module in dry place, close to battery backup. Place GSM terminal so that antenna was located at the farthest distance from wire communication devices.

Module supply +12V, GND terminals

Relay contacts (GND zone terminal) or transistor open collector may be connected to zones (Z1, Z2, Z3 terminals).

PIN-code of SIM-card must be switched OFF! Phone switches off at prolonged power absence. The device activates phone automatically at energizing.

PGM is a normally open transistor output changing to minus at activation. PGM stands up to 300mA current. The output is preserved with recover safety device.

Connect "Plus" of LED or buzzer to +12V connection terminal, and "Minus" - to PGM programmable output.

Communicator of control panel is connected to LINE and GND terminals. Polarity is of NO importance.

MIC terminal is for future use.

3. Module operation without control panel protocol converter.

Module stores 8 phone numbers, 6 short messages, 3 voice messages, total sound time is 12 seconds. It is possible to transmit textual SMS in specified period or once per day.

PGM output is activated at receipt of SMS with digital password.

Each zone has 1..4 phone numbers assigned, where voice message or SMS will be transmitted. Type of zone is break or shortage.

Phone numbers, zone function, number of short messages centre, password for PGM activation and textual SMS transaction time is entered in phone SIM-card. Information of notebook is transferred to nonvolatile memory of cellular dialer at power ON.

Texts of short messages and voice messages are programmed using personal computer; moreover, it is possible to transmit SMS characters using Cyrillic alphabet as well as Roman alphabet.

The module permanently supervises state of GSM terminal battery. When battery is discharged for ¾ the device automatically switches ON battery charging unit. At battery' total charge the module automatically disconnects charging unit from telephone, thus observing operational environment of the battery.

5. Module operation in mode of protocol converter of control panel

When the module is connected to digital communicator of control panel it can convert signals of Ademco contact ID format into SMS messages and transmit them over cellular communication channel. The message is displayed in the following way:

AAAA P CCC XX ZZZ

where AAAA is panel code, P - status (new event/restored), CCC- event ID, XX- number of guard or group subsystem, ZZZ – number of zone or user. Moreover, system user can adjust AAAA, XX and ZZ independently. For example, message in ID format - 1111 1 402 01 040 may be received by abonent as Cottage 1 System disarmed 1st floor Brown, which means: receipt of new event from cottage - user Brown disarmed first floor.

6. Brief description of program configuration

Configuration of **cidconf.exe** program is intended for preparation of "Cellular dialer" to operation by means of programming of necessary options, namely user messages, phone numbers, sound message and so on. Program operates on IBM PC/AT computers with Windows 95/98, NT, Win2000, WinXP operational systems. Computer serial port is used for programming.

Program capability:
- Reading of current configuration from device
- Visual image of current configuration
- Adjusting configuration according to module outputs
- Adjusting module operation as Contact ID protocol converter
- Downloading user configuration to device
- Recording voice messages
- Listening to recorded voice messages
- Saving configuration into file

7. Description of cidconf.exe program

«About program» menu displays version of program.

In **«File»** menu set number of serial port, where the module is connected. Connect cable for programming to COM-port of computer or to the module.

Press "Open port" button to start working with serial port. After successful port opening, the rest of operational buttons become deblocked.

When settings are entered into programming sheets, they can be loaded into the module and saved into file in "Project" section. Data of settings and voice messages can be saved into file with *.rom extension.

*.wav files of 8000Hz, 11025Hz, 22050Hz, 8bit and mono formats can be loaded into module. Six voice messages can be recorded in the module.

Total duration of messages is determined by sampling frequency of source sound file and corresponds to the table below:

Sampling frequency, Hz	Duration, seconds
22050	12
11025	24
8000	32

When sampling frequency is decreased, sound quality is deteriorated. Indicator of voice messages memory overload indicates presence of free memory space.

In **«Telephones»** menu, enter numbers of phones for transmission of voice messages (dialer) and transmission of short messages. "+" preceding phone number switches international format. Some cellular operators use only international format for transmission of short messages.

In **«Messages»** menu, enter text of short messages. It is possible to transmit data in Cyrillic letters.

«Zones» section relates only to three physical zones of the module. Select for each "Action" (in case of zone break) a number of phone and SMS message variant, as well as phone number and voice message variant. Remember to specify type of zone – break or shortage. At zone break up to 4 "Actions" may be executed. For each action, first, short SMS messages are transmitted and then dialer activates. Number of dialer complete cycles, that is from 3 up to 9, is programmed in "Properties" section.

In **«Properties»** menu, necessarily enter number of short messages center. If PGM output is used, specify its type, activation time and password (when SMS message is received, password is verified). In trigger mode, PGM output activates at receipt of SMS-password and switches off at repeated receipt of SMS-password. Enter number of dialer cycles. Specify

period of textual message. The message can be transmitted once per twenty-four-hours or several times per twenty-four-hours with different periods.

Some old analog exchanges improperly transmit signal of abonent answer. In this case, voice message is not sent. In order to avoid the case set "Voice message straight after answer".

NOTE: "Object name" section concerns only operation of the module in converter mode. In this section, enter name identifying your apartment, object or office.

In **«Communicator»** section, choose phone number for transaction of messages or dialer for each of 4 actions. Besides, select reports' types among suggested variants. To know what event group is responsible for events, refer to annex "Contact ID protocol" in the end of the manual. For converter to receive data from the panel, it is necessary to specify identification code of the panel (possible variants - Account Code or Object Code). Code specification is compulsory; otherwise, the panel will not transmit Report Codes. If guarded sections belong to different objects, it is possible to specify several codes like this, as many as sections used in control panel. Further it is necessary to program number of central station in the panel (one digit is enough for converter) and choose Contact ID protocol in the panel. Number is dialed in continuous-tone mode. Some panels have two variants of Contact ID protocol. First variant has automatic report generation. Here it is not necessary to program anything else by codes. Second variant – Contact ID programmed codes. In this case, it is necessary to specify three-digit code for each event in corresponding addresses of control panel. Choose them in "Codes" column of the annex.

Note on groups of events. "Restorations" group is responsible for repeated transaction of SMS-message in case of reverting of some parameter to initial condition (Alarm or Breakage). For example, after "Zone Alarm", in case of zone restoration to initial state "Zone restoration" message is transmitted. In other words, number of SMS messages doubles. Choose only necessary types of events for every action.

Note on guarding sections. If system having several sections is armed/disarmed, panel communicator transmits arbitrary messages on each section. In other words, the module transmits several SMS messages consecutively.

Note on "SMS view": Messages may be developed using Cyrillic, Roman or pseudo-Cyrillic characters. When SMS view is selected, its content is displayed in information line.

Note on events group of panel communicator. It is possible to set in control panel, which events will be transmitted (to module – in our case) and which events will not be transmitted. It is especially important, when protocol of Contact ID programmed codes is selected. At least they should coincide with groups specified in the module; otherwise, messages are not transmitted: module is ready to transmit messages and panel communicator transmits nothing.

Note on Cyrillic texts. When using Cyrillic alphabet, it is possible to receive only event name and name of zone or user. Information on object name, object code and guarding section is absent. It is also possible to choose individual variant on every Action according to "Events group" or "SMS view".

In **«Symbols»** menu, specify in corresponding columns names of zones, sections and users, registered in system. If zone name is not specified, the module transmits its number. In "Sound" column select sound message for dialer. To do this, click on cross-cell of "Sound" column and zone line. The module can transmit two different sound messages consecutively. For example, voice message "1" is selected for section "1", and voice message "2" – for zone "1". In this case, message "1" is transmitted on any alarm in section "1". When alarm is in zone "1", messages "1" and "2" are transmitted consecutively.

«Eventlog» contains list of events occurred in the system. To view the list, press "Read eventlog" button. Eventlog data can be saved into a file with *.csv extension.

Note on date and time: In Nokia phones time is set from telephone menu. Day and month (Windows' current date) are loaded automatically into the module from PC. When programming cable is pulled off, the date is transferred to telephone. In Siemens phones date and time are set from telephone menu.

8. Modifying cellular phone parameters (without converter)

It is possible to modify some parameters using SIM-card phone book if PC is inaccessible. There is an example of the device programming below.

To access to SIM-card phone book choose MENU>Phone book>Set new>Name

All names are set in capital Roman letters!

Phone number of short messages center +38050000501. Name: **MCN**, Number: +38050000501

Time of transmission of textual SMS 16:00. Name:**TST**, Number:16#.

Period for transmission of textual SMS is 6 hours. Name:**TST**, Number: 06*.

NOTE! Number is set in three figures. It is necessary to set time in telephone for proper system operation.

Password for PGM activation: 12345. Name: **PSW**, Number: 12345.

PGM is activated at receipt of SMS or Email, which will contain 12345 sequence of numbers.

Phone numbers:

Number 1 of phone 123-45-67. Name:**PH1**, Number:1234567

Number 2 of phone 322-22-32. Name:**PH2**, Number:3222232

Number 3 of phone 777-77-77. Name:**PH3**, Number:7777777

Actions on zone actuation are described in eight figures, where first four figures determine SMS transmission, last four figures – dialer. Zero means absence of action. Zone number determines number of transmitted SMS or voice message. When using **cidconf.exe program** this restriction is lifted.

For example:

Actions on actuation of zone 1 – dial number 1, transmit message on number 2. Recording in phone book:

Name:**ZN1**, Number:20001000

Actions on actuation of zone 2 – dial numbers 1, 2 and 3. Transmit message on numbers 1 and 3. Recording in phone book:

Name:**ZN2**, Number:13001230

Actions on actuation of zone 3 – dial number 2. Transmit messages on numbers 1, 2 and 3. Recording in phone book

Name:**ZN3**, Number:12302000. **Zero, as in 12032000, should NOT disrupt sequence of actions**.

Actions on test SMS. Transmit messages on numbers 1, 2 and 3. Recording in phone book Name:**ZN4**, Number:12300000.

Default SMS messages:

1. Alarm in zone 1 (Nokia Alarm Module)
2. Alarm in zone 2 (Nokia Alarm Module)
3. Alarm in zone 3 (Nokia Alarm Module)
4. This is test message (Nokia Alarm Module)

To switch on "Programming" mode don PRG jumper. Programming is executed only in stand-by mode. Interrupted signal sounds about one minute, which means the device reads information from phone notebook First hundred of SIM-card cells is interrogated. When sound stops, take off the jumper.

9. Annunciation

№	Annunciation	State
1	Short flashes of yellow LED	Standby mode
2	Short flashes of red LED	GSM network lack
3	Blinking yellow LED	Dialer
4	Frequently blinking yellow LED followed by long steady red LED	The module receives Contact ID message
5	Steady yellow LED	SMS transmission
6	Steady red LED and blinking yellow LED	Voice message transmission
7	Blinking red LED and discretely beeping buzzer	NO connection with telephone
8	Discretely beeping buzzer	Configuration is loaded from telephone
9	Successively flashing green, yellow and red LEDs	Programming cable is connected

10. Possible lapses in system operation

1. SMS messages cannot be transmitted on 3 physical zones of module: Verify whether abonent phone numbers are specified, Number of Messages Center is set and set correctly, SMS messages are specified.
2. SMS messages cannot be transmitted in converter mode: Verify whether the panel has specified Account Code, phone number of Central Station, and whether Contact ID protocol is selected and module has set names of zone, section, user, and abonent phone numbers and number of Messages Centre is set and set correctly.
3. Voice message cannot be transmitted: module memory has no voice message recorded or the message is set different event for transmission.
4. Noise when listening to voice message: phone is mounted close to the module.
5. Module is deenergized and phone switched off, but the phone does not switch on at energizing: PIN code of SIM card is ON, or phone battery is defective.

11. Example of dialer connection

Operation without Contact ID converter. Below there is given an example of dialer connection to DSC PC1565 control panel (Canada). To zone 1 of dialer, connect control panel output activated on Alarm. Zones 2 and 3 are used for transmission of information about armed or disarmed system.

№ Zone	Zone type	Voice message	Text message
1	shortage	Signaling is on...	Signaling is on.......
2	shortage	—	System is armed
3	break	—	System is disarmed

It is necessary to program the following PC1565 sections:
[009] Programming PGM outputs 1 and 2 .
01 Output of intrusion and fire signal
05 Mode of group/system arming
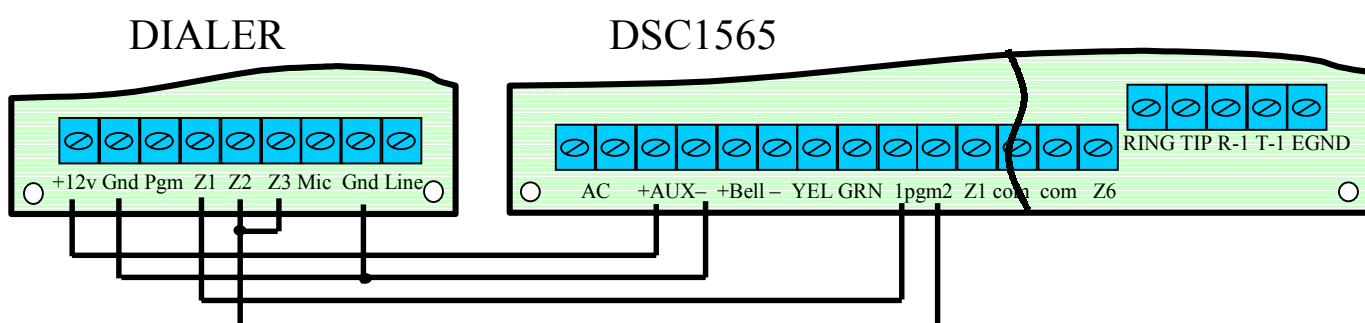
Contact ID converter mode. DSC PC1565 control panel (Canada) is connected to emulator of dialer telephone line.

It is necessary to program the following PC1565 sections

[301] first telephone number.

Enter any digit, for example 1.

[310] Group 1, abonent code.

Enter four-digit identificator of the main.

[360] Communicator - protocols.

03 DTMF Contact ID

[380] First system set-up of communicator

1 Communicator is ON

[381] Second system set-up of communicator

7 Contact ID uses automatic codes.

Dialer   DSC1565

+12v Gnd Pgm Z1 Z2 Z3 Mic Gnd Line   AC +AUX– +Bell – YEL GRN 1pgm2 Z1 com com Z6   RING TIP R-1 T-1 EGND
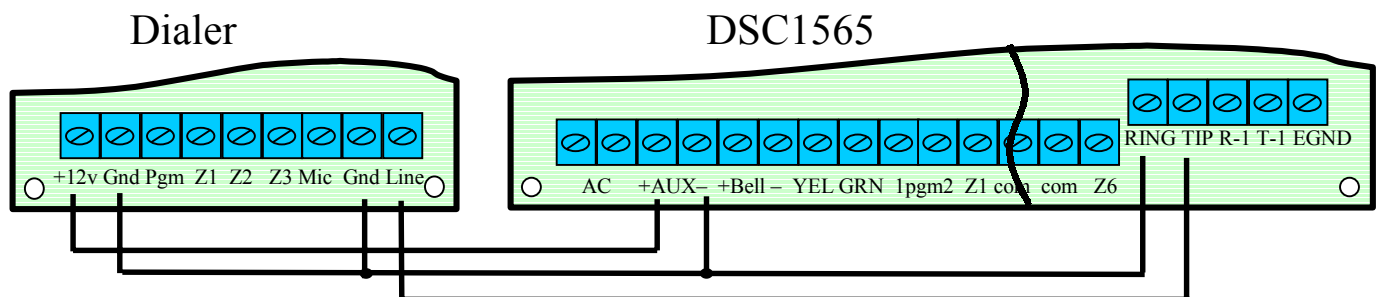
12. ANNEX. Table of Contact ID protocol

Code	Event
	Medical Alarms
100	Medical
101	Personal Emergency
102	Fail to report
	Fire Alarms
110	Fire
111	Smoke
112	Combustion
113	Water flow
114	Heat
115	Pull Station
116	Duct
117	Flame
118	Near Alarm
	Panic Alarms
120	Panic
121	Duress
122	Silent
123	Audible
124	Duress – Access granted
125	Duress – Egress granted

	Burglar Alarms
130	Burglary
131	Perimeter
132	Interior
133	24 Hour (Safe)
134	Entry/Exit
135	Day/night
136	Outdoor
137	Tamper
138	Near alarm
139	Intrusion Verifier
	General Alarm
140	General Alarm
141	Polling loop open
142	Polling loop short
143	Expansion module failure
144	Sensor tamper
145	Expansion module tamper
146	Silent Burglary
147	Sensor Supervision Failure
	24 Hour Non-Burglary
150	24 Hour Non-Burglary
151	Gas detected
152	Refrigeration
153	Loss of heat
154	Water Leakage
155	Foil Break
156	Day Trouble
157	Low bottled gas level
158	High temp
159	Low temp
161	Loss of air flow
162	Carbon Monoxide detected
163	Tank level
	Fire Supervisory
200	Fire Supervisory
201	Low water pressure
202	Low CO2
203	Gate valve sensor
204	Low water level
205	Pump activated
206	Pump failure
	System Troubles
300	System Trouble
301	AC Loss
302	Low system battery
303	RAM Checksum bad
304	ROM checksum bad
305	System reset
306	Panel programming changed
307	Self-test failure
308	System shutdown
309	Battery test failure
310	Ground fault
311	Battery Missing/Dead
312	Power Supply Overcurrent
313	Engineer Reset
	Sounder / Relay Troubles
320	Sounder/Relay
321	Bell 1
322	Bell 2

323	Alarm relay
324	Trouble relay
325	Reversing relay
326	Notification Appliance Ckt. #3
327	Notification Appliance Ckt. #4
	System Peripheral Trouble
330	System Peripheral trouble
331	Polling loop open
332	Polling loop short
333	Expansion module failure
334	Repeater failure
335	Local printer out of paper
336	Local printer failure
337	Exp. Module DC Loss
338	Exp. Module Low Batt
339	Exp. Module Reset
341	Exp. Module Tamper
342	Exp. Module AC Loss
343	Exp. Module self-test fail
344	RF Receiver Jam Detect
	Communication Troubles
350	Communication trouble
351	Telco 1 fault
352	Telco 2 fault
353	Long Range Radio xmitter fault
354	Failure to communicate event
355	Loss of Radio supervision
356	Loss of central polling
357	Long Range Radio VSWR problem
	Protection Loop
370	Protection loop
371	Protection loop open
372	Protection loop short
373	Fire trouble Zone
374	Exit error alarm (zone)
375	Panic zone trouble
376	Hold-up zone trouble
377	Swinger Trouble
378	Cross-zone Trouble
	Sensor Trouble
380	Sensor trouble
381	Loss of supervision - RF
382	Loss of supervision - RPM
383	Sensor tamper
384	RF low battery
385	Smoke detector Hi sensitivity
386	Smoke detector Low sensitivity
387	Intrusion detector Hi sensitivity
388	Intrusion detector Low sensitivity
389	Sensor self-test failure
391	Sensor Watch trouble
392	Drift Compensation Error
393	Maintenance Alert
	Open/Close
400	Open/Close
401	O/C by user
402	Group O/C
403	Automatic O/C
404	Late to O/C
405	Deferred O/C
406	Cancel

407	Remote arm/disarm
408	Quick arm
409	Keyswitch O/C
441	Armed STAY
442	Keyswitch Armed STAY
450	Exception O/C
451	Early O/C
452	Late O/C
453	Failed to Open
454	Failed to Close
455	Auto-arm Failed
456	Partial Arm
457	Exit Error (user)
458	User on Premises
459	Recent Close
461	Wrong Code Entry
462	Legal Code Entry
463	Re-arm after Alarm
464	Auto-arm Time Extended
465	Panic Alarm Reset
466	Service On/Off Premises
	Remote Access
411	Callback request made
412	Successful download/access
413	Unsuccessful access
414	System shutdown command received
415	Dialer shutdown command received
416	Successful Upload
	Access control
421	Access denied
422	Access report by user
423	Forced Access
424	Egress Denied
425	Egress Granted
426	Access Door propped open
427	Access point Door Status Monitor trouble
428	Access point Request To Exit trouble
429	Access program mode entry
430	Access program mode exit
431	Access threat level change
432	Access relay/trigger fail
433	Access RTE shunt
434	Access DSM shunt
	System Disables
501	Access reader disable
	Sounder / Relay Disables
520	Sounder/Relay Disable
521	Bell 1 disable
522	Bell 2 disable
523	Alarm relay disable
524	Trouble relay disable
525	Reversing relay disable
526	Notification Appliance Ckt. #3 disable
527	Notification Appliance Ckt. #4 disable
	System Peripheral Disables
531	Module Added
532	Module Removed
	Communication Disables
551	Dialer disabled

552	Radio transmitter disabled
553	Remote Upload/Download disabled
	Bypasses
570	Zone/Sensor bypass
571	Fire bypass
572	24 Hour zone bypass
573	Burg. Bypass
574	Group bypass
575	Swinger bypass
576	Access zone shunt
577	Access point bypass
	Test/Misc
601	Manual trigger test report
602	Periodic test report
603	Periodic RF transmission
604	Fire test
605	Status report to follow
606	Listen-in to follow
607	Walk test mode
608	Periodic test - System Trouble Present
609	Video Xmitter active
611	Point tested OK
612	Point not tested
613	Intrusion Zone Walk Tested
614	Fire Zone Walk Tested
615	Panic Zone Walk Tested
616	Service Request
	Event Log
621	Event Log reset
622	Event Log 50% full
623	Event Log 90% full
624	Event Log overflow
625	Time/Date reset
626	Time/Date inaccurate
627	Program mode entry
628	Program mode exit
629	32 Hour Event log marker
	Scheduling
630	Schedule change
631	Exception schedule change
632	Access schedule change
	Personnel Monitoring
641	Senior Watch Trouble
642	Latch-key Supervision
	Misc.
651	Reserved for Ademco Use
652	Reserved for Ademco Use
653	Reserved for Ademco Use
654	System Inactivity