SED-30 4G

August 2024, V149

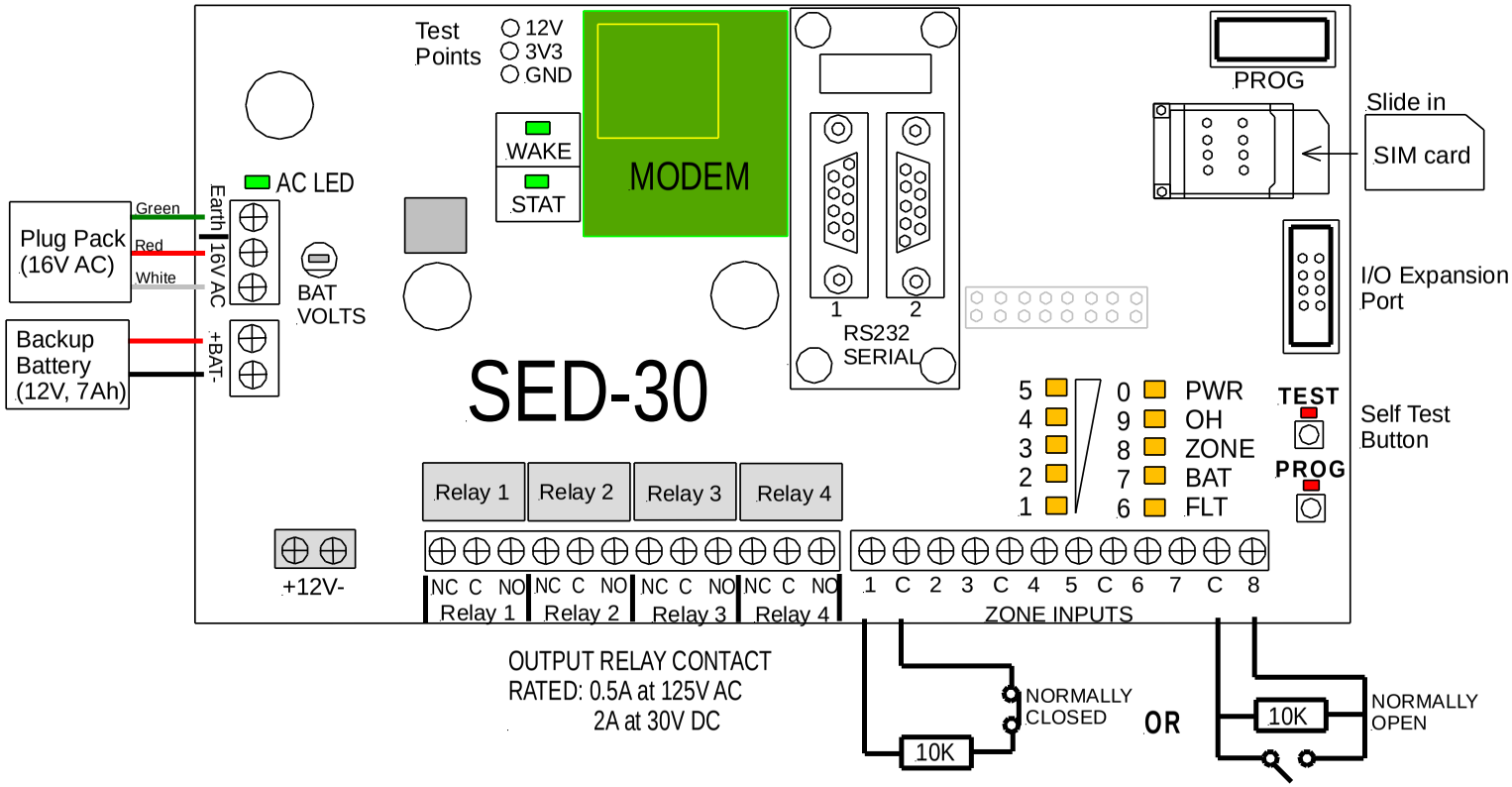
SMS I/O Control Board
Installation & User Manual

WARNING: PLEASE READ INSTALLATION INSTRUCTIONS FIRST

PRODUCT WARRANTY
This product is covered by a 12 month, back to base warranty from date of purchase and proof of purchase should be supplied. The warranty does not cover damage that has resulted from the improper installation or improper use of this product. The warranty does not cover lightning damage, product misuse, electrical surges or acts of God.

LIMITATION OF LIABILITY
Sec-Eng Systems Pty Ltd does not accept any liability for the loss or damage to property or persons in relation to goods supplied. This disclaimer is only limited to the warranty of the goods supplied and the intended use.

TABLE OF CONTENTS

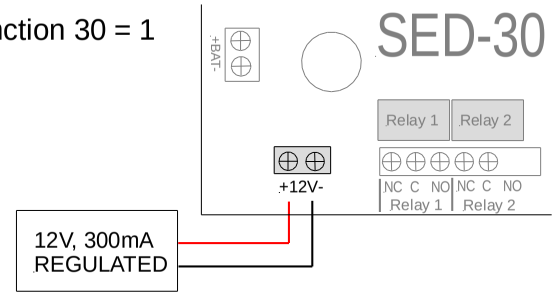


NOTE: BY DEFAULT (FUNCTION 29=3),
ALL ZONES MUST HAVE 10K RESISTORS FITTED

OPERATING FROM A 12V DC SOURCE

The SED-30 can be powered by a regulated 12V DC supply.

- Do not connect a backup battery as the charging circuit will be disabled.
- Set Function 30 = 1



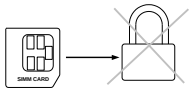
SIM CARD OPERATION

The SED-30 requires a MICRO size SIM card to operate.

Before fitting into the SED-30 ensure that the SIM is active and not pin locked.

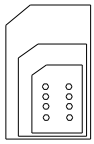
This may require the SIM to be tested in a mobile phone first.

If the SIM PIN request is set, it must be disabled (using a mobile phone) before it can be used in the SED-30.



Warning: Ensure you have the correct PIN number. Entering the wrong PIN will PUK lock the SIM which will then need to be returned to the vendor for reprogramming.

IMPORTANT: It is not recommended to use a multi breakout type SIM. If you do, make sure the center part of the SIM is secure and does not lift off the holder when installed.



INSTALLATION AND WIRING

1. Check the SIM card for operation before inserting into the SED-30. (Fit SIM card as shown on page 3).
2. Install the antenna supplied.
3. Fit the included 8 x 10K ohm resistors into zone input 1-8 (required on a default system, Function 29=3).
4. Connect supplied AC plug pack:
   - Red and White wires into the “16V AC” terminals (any orientation)
   - Green wire into the “Earth” terminal
5. Fit a backup battery 12V, 7Ah (optional).
6. Power up the system and check the LEDs for system status (see page 5).

   When system is ready the P LED should be on constant (not flashing) and LEDs 1-5 indicating the signal strength (minimum 2 bars required). If not see fault guide on page 5.

TERMINAL CONNECTIONS

Power

16V AC	Input from 16V AC plug pack (Red & White)
EARTH	Earth connection from 16V AC plug pack (Green)
+BAT-	Backup battery (12V, 7Ah)
+12V-	12V, 1A output (when powered by plug pack) **OR** 12V power input for DC source

Relays (Rated: 0.5A at 125V AC, 2A at 30V DC)

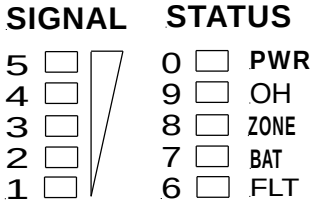
NC	Normally closed contact
C	Common
NO	Normally open contact

Zone Inputs

C	Common for zone inputs
1 to 8	10k ohm end of line resistor required (Default set up, Function 29=3)

LED INDICATION

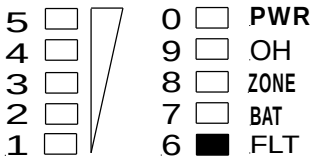
LED Number	Description
1-5	Signal strength
6 (FLT)	Fault (see fault guide below)
7 (BAT)	Slow Flash= Battery low/fail Off = Battery OK
8 (ZONE)	On = Zone(s) unsealed Off = Zone(s) sealed
9 (OH)	Flashing = Sending/receiving SMS
0 (PWR)	On = System ready, Slow Flash = No AC Fast Flash= System initialising
STAT	Slow Flash = Network registered On or Off= No network registration
WAKE	On = Modem on Off = Modem off



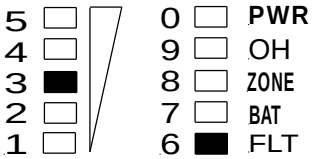
FAULT GUIDE

A fault condition on the SED-30 is indicated when **LED 6** (FLT) is illuminated. The signal LEDs (1-5) will provide more information on the type of fault being reported.

LED1 ON = Not Applicable
LED2 ON = No SIM card
LED3 ON = No GSM signal or registration
LED4 ON = Not Applicable
LED5 ON = General Fault



FLT(6) + LED 3 indicate the SED-30 cannot connect to the mobile network, check the following:



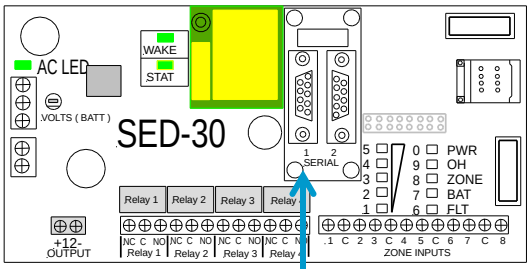
- SIM card is not PIN locked (test in a phone)
- SIM card is active and enabled for SMS
- SIM card is fitted correctly (If it's a multi breakout type make sure SIM center section hasn't lifted off the holder - test by holding down with finger)
- Antenna is installed correctly
- Good mobile signal is available at location

Please Note: If the SED-30 cannot connect to the network after several attempts it will reboot and reset the LEDs.

For further assistance contact Sec-Eng Systems for technical support.

PROGRAMMING VIA SMS

Send the SED-30 SMS messages with programming commands from a mobile phone. The SMS is sent to the phone number of the sim card installed in the SED-30 **(see below on how to program).**



PROGRAMMING VIA PC (RS-232)

Connect the SED-30 to a PC or Laptop using the DB9 serial port (labelled 1).
A USB-Serial adaptor may be required if the PC does not have a serial port.

Use a terminal software program to connect with the SED-30.
uCon is a free licence program that can be downloaded from the link below:
www.umonfw.com/ucon/

Select the PC assigned com port and use the following connection settings:
Data=8, Parity=None, Stop Bit=1, Flow Control=None, Baud Rate=115200.

Once connected, hit the **Enter** key and you will be prompted with "**Password:"**
Type **zxcvbnm** (lower case) and then the **Enter** key. You will then see the response "**Level 3 OK"**.
You are now ready to program

HOW TO PROGRAM FROM A PC

With the SED-30 connected to a terminal session and the login password entered,
Type **?P** to display the full function list on screen (01-33).

To program any function, simply enter the function number, followed by the value to be set

Example: to program a Function 01 (client code) with 1234, enter:
011234

To review a function, enter only that function number. You can also use **?P** to view the updated function list.

TO DEFAULT THE SED-30 TO FACTORY SETTINGS, enter:
993030

HOW TO PROGRAM WITH SMS

Due to the limited number of characters that can be sent in a SMS, the ?P function list is separated in 4 parts as follows:

?p	Reads functions 01 to 10
?p1	Reads functions 11 to 26
?p2	Reads function 27
?p3	Reads functions 28 to 33

Just like with the PC programming method, to set a function send a SMS with that function followed by the value to be set.

Example: to program a Function 01 (client code) with 4321, send:
014321

A single function can be reviewed by sending a SMS with the function number only.

NOTE: The SED-30 contains a number of programmable functions which are application / version specific. Some of the functions listed in this section are not applicable to specific 4G versions of the SED-30. Contact Sec.Eng for more info.

Function 01 - Client code

Sets the account code that the SED-30 will use when the on-board Contact ID dialler is reporting to a monitoring company.

Options:
Any 4 digit number

Example : 019999

Function 0201 - Primary receiver number

Sets the primary phone number that the SED-30 will dial when reporting alarm conditions.
(NOT FOR SMS, see function 12)

Options:
Any phone number
up to 18 digits

Example : 02011234567

Function 0202 - Secondary receiver number

Sets the second phone number that the SED-30 will dial when reporting alarm conditions.
(NOT FOR SMS, see function 12)

Options:
Any phone number
up to 18 digits

Example : 02021234567

Function 0203 - Third receiver number

Sets the third phone number that the SED-30 will dial when reporting alarm conditions.
(NOT FOR SMS, see function 12)

Options:
Any phone number
up to 18 digits

Example : 02031234567

Functions 01 and 02 are only to be set if the system is reporting to monitoring company. For SMS Reporting see Function 12.

To delete a phone number stored in Function 02 replace with **0000** (four zeros)

SMS **?P** to view Functions 1-10

Function 04 – Dialer test time interval

Default = 24 (Daily)

Sets the time window between the SED-30 self test reports (Dialling and SMS)
The time is set in hourly intervals.

0 = No test call reports
24 = Test call every day
168 = Test call once a week

Options:
From 0 to 168 Hours

Example : 0424
(to make a test call every 24 hours)

Function 10 - Ademco event codes

Default = 0

Sets the starting number for the SED-30 on-board dialer reporting codes. In most cases reporting codes 250 and above are OK to use as the alarm panel does not need this many codes but in larger systems where code 250 is in use, the report codes for the SED-30 can be changed to 450 and above. Refer to page 19.

Options:
0 = Starting at 250
1 = Starting at 450
2 = Standard Event Codes

Example : 101

Function 1201 - Mobile phone 1 **Example : 12010406991991**

Any phone number up to 18 digits

The SED-30 can report events via SMS to 8 mobile phones.
Note: We only recommend this option for non-critical alarms or secondary monitoring purposes.

Enter the number of the first mobile phone to report to.
If left empty, Mobile Phone Reporting is disabled.

Example: To set the phone number set in function 12, field 01 to 5555
SMS the command **12015555**

To delete a phone number stored in Function 12 replace with **0000** (four zeros)

Function 1202 - Mobile phone 2 **Example : 12020406991992**

Any phone number up to 18 digits

Function 1203 - Mobile phone 3 **Example : 12030406991993**

Any phone number up to 18 digits

Function 1204 - Mobile phone 4 **Example : 12040406991994**

Any phone number up to 18 digits

Function 1205 - Mobile phone 5 **Example : 12050406991995**

Any phone number up to 18 digits

Function 1206 - Mobile phone 6 **Example : 12060406991996**

Any phone number up to 18 digits

Function 1207 - Mobile phone 7 **Example : 12070406991997**

Any phone number up to 18 digits

Function 1208 - Mobile phone 8 **Example : 12080406991998**

Any phone number up to 18 digits

SMS **?P1** to view Functions 11-26

Function 15 - SMS System reporting

Default = 0

This function determines what SMS system reports are sent by the SED-30.
Including AC Fail, Low Battery, GSM Test and Fail to Communicate.

Options:
0 = Disable SMS reporting
1 = Enable Option 1
2 = Enable Option 2
3 = Enable Option 3

Example : 151
(SMS system reporting enabled)

Option 1 = Sends all system messages
Option 2 = Sends all system messages except GSM Test
Option 3 = Sends all system messages except Battery Status

Function 16 - SMS Zone reporting

Default = 0

With this function enabled the SED-30 will generate a SMS message when zones 1- 8 are triggered and restored. See page 12 for changing the text of the SMS message.

Options:
0 = Disabled
1 = Enabled

Example : 161
(SMS zone reporting enabled)

SMS **?P1** to view Functions 11-26

Function 17 - Zone Input configuration

Default = 0

Sets the operation of the 8 Zone Inputs on the SED-30.

Option 0 = Zones 1-8 24 Hour inputs
Option 1 = Zones (Arm/Disarm via SMS)
Option 2 = Zone 8 to operate as a key switch input for Arm/Disarm.
Short zone 8 for 1 second pulses to change state. EOL 10K resistor must be fitted across the zone.

Options:
0 = Option 0
1 = Option 1
2 = Option 2

Example : 171
(Zones set as 24hr input)

SMS **?P2** to view Function 27

Function 18 - SMS Zone Arming Confirmation

Default = 0

Enables arm/disarm confirmation SMS message of Zones 1- 8 (Function 17 = 1)
See page 12 for more details.

Options:
0 = Disabled
1 = Enabled

Example : 181
(SMS Confirmation Enabled)

SMS **?P3** to view Functions 28-33

Function 19 - Master Code

Default = 0000 (Disabled)

To restrict access to the SED-30 programming, enter a 4 digit PIN number here. This master code will then be required whenever the user wants to view or change any of the settings via SMS.

Options:
Any 4 digit number

Example : 192222
(Sets Master Code to 2222)

To enter programming mode after a Master Code has been set you must enter the master code first (**19code**) which will allow you into programming mode for 5 minutes.

Example cont. : SMS **191234 (**Will allows programming mode for 5 minutes)

Function 26 – Mobile Restricted Access

Default = 0

This sets the SED-30 to only respond to phone numbers that have been programmed in function 12. All other phone numbers will be ignored.

Options:
0 = No restricted access
1 = Restricted access

Function 270n - SMS Zone Grouping

Default = report all mobiles 12345678

This determines what zone number will report to which mobile number in Function 12

Example : 27012345678

To set the zones that you require in a message as shown:
Example 1: program 2701123 This sets Zone 1 to report to mobile 1, 2 & 3.
Example 2: program 27051 This sets Zone 5 to report to mobile 1 only.

Function 2701 - SMS Zone 1 grouping to mobile	**Default report all mobiles 12345678**
Function 2702 - SMS Zone 2 grouping to mobile	**Default report all mobiles 12345678**
Function 2703 - SMS Zone 3 grouping to mobile	**Default report all mobiles 12345678**
Function 2704 - SMS Zone 4 grouping to mobile	**Default report all mobiles 12345678**
Function 2705 - SMS Zone 5 grouping to mobile	**Default report all mobiles 12345678**
Function 2706 - SMS Zone 6 grouping to mobile	**Default report all mobiles 12345678**
Function 2707 - SMS Zone 7 grouping to mobile	**Default report all mobiles 12345678**
Function 2708 - SMS Zone 8 grouping to mobile	**Default report all mobiles 12345678**

Function 29 – Input Type **Global**

Default = 3

The SED-30 is based on traditional alarm inputs using end of line resistors. This can be changed on a global basis or individually – **See Function 33.**

Options:
0 = Analog
1 = Normally Closed
2 = Normally Open
3 = 10k Normally Closed

Function 30 – External DC

Default=0

This enables the unit to operate on external DC supply.
It disables the AC input and backup battery monitoring.
The 12V DC regulated supply is connected using the battery terminal.

Options:
0 = Normal operation
1 = Operate on DC

Function 32 – Input delay (all zones) Default = 0

This provides an alarm delay time for zone inputs 1-8.
When set and an input is triggered, the alarm will only be generated once the set time has expired.
Should the input status change before the delay time has expired, the timer count will reset.

Options:
0 = disabled
1-600 seconds

NOTE: The delay time doesn't apply when input restores (only on activation).

Use the following functions to individually set the input delay for zones 1- 8

Function 3201 - Zone 1 input delay	**Default = 0**
Function 3202 - Zone 2 input delay	**Default = 0**
Function 3203 - Zone 3 input delay	**Default = 0**
Function 3204 - Zone 4 input delay	**Default = 0**
Function 3205 - Zone 5 input delay	**Default = 0**
Function 3206 - Zone 6 input delay	**Default = 0**
Function 3207 - Zone 7 input delay	**Default = 0**
Function 3208 - Zone 8 input delay	**Default = 0**

Function 33 – Input Type **Individual** Default = 3

This allows the input type for zones 1- 8 to be set individually

Function 3301 - Zone 1 input type	**Default = 3**
Function 3302 - Zone 2 input type	**Default = 3**
Function 3303 - Zone 3 input type	**Default = 3**
Function 3304 - Zone 4 input type	**Default = 3**
Function 3305 - Zone 5 input type	**Default = 3**
Function 3306 - Zone 6 input type	**Default = 3**
Function 3307 - Zone 7 input type	**Default = 3**
Function 3308 - Zone 8 input type	**Default = 3**

Options:
0 = Analog
1 = Normally Closed
2 = Normally Open
3 = 10k Normally Closed

Function 35 – Unrestricted Output Control Default = 0

This function allows the user to control the relay outputs on the unit via SMS, without needing to enter the Master Pin Code first (function 19), if it has been set.

Options:
0 = Disabled
1 = Enabled

Note: This feature requires for at least one SMS phone number to be programmed in Function 12.

Function 36 – Phone Call Attempts (Voice Call Notify) Default = 6

This sets the number of phone call attempts made to the numbers listed in Function 2. When the call is answered the process will be terminated.
Example: When function 36 is set to 3 the SED-30 will make 3 phone call attempts using the numbers listed in function 2.

Note: This feature requires the Path function to be set to V (Voice Call Notify). See page 17 for path options.
To set, send the command **Path V**. To confirm the setting use **?Path.**

INPUT LABELS - ALARM TEXT MESSAGES

The text included in the SMS message sent when an input zone is triggered and reset can be customised by the user.

The default message will show:
"Zone XX Alarm"
"Zone XX Restore"

Note: XX is the zone number (i.e. 01, 02, 03)

To change the text use the following commands:
FORMAT FOR ALARM: INAXXcccc
FORMAT FOR RESTORE: INRXXcccc

Note: **cccc** is the message text (up to 60 characters is allowed)

Example: **INA01Rear Door Opened, INR01Rear Door Closed**
Zone 1 trigger will send "Rear Door Opened" and a reset will send "Rear Door Closed" .

?inXX will show the text set for the 4 zones, starting with zone XX (i.e. ?in01)

To restore to default, type **INA01** for alarm on zone 01 and **INR01** for restore on zone 01.

SMS ZONE ARM/DISARM FEATURE

The SED-30 input zones can be armed and disarmed with a SMS message.
This command will arm/disarm all zone inputs.

?ON Arms all 8 zones

?OFF Disarms all 8 zones

SMS commands must be typed as shown. (MUST BE IN UPPER CASE)

Important: Functions 16,17 & 18 must be set to **option 1** and with mobile phone numbers set in function 12 if necessary**.**

KEY SWITCH ARM /DISARM MODE (Zone 8 only)

When **option 2** is selected for function 17, zone 8 will operate as a arm/disarm key switch input.

A 10K resistor (EOL) must be fitted across the zone with short circuit pulses used to change the arm/disarm state.

INPUT TEST AND DIAGNOSIS (Digital Inputs)

The command **!in** will test and report if the zone inputs (1-8) are sealed or unsealed.

Values reported:

0	Short circuit (in alarm)
490 to 520	Sealed with 10K resistance (not in alarm)
980 to1020	Open circuit (in alarm)

OUTPUT CONTROL (Relays 1- 4)

You have the ability to control the relays via SMS messages or the PC serial port.
The relays can be turned ON and OFF permanently or for a set period of time.

This is done using the following commands:

out(relay number)on
out(relay number)off

Example: controlling relay 1
out1on To turn relay 1 on
out1off To turn relay 1 off

A single message can be sent to perform multiple tasks by using a comma to separate the commands.

Example: turn relay 1 off and turn relay 2 on.
out1off,out2on

Note: There is no limit to the number of commands included in a single SMS. A comma is not required at the end of the message.

Changing the relay status for a set period of time:
Out(relay number)on(time period)

Examples :

Turn relay 1 on for 5 second	**out1on5**
Turn relay 1 on for 2 minutes	**out1on2m**
Turn relay 1 on for 1 hour	**out1on1h**
Turn relay 1 on for 10 minutes 30 seconds	**out1on10m30**
Turn relay 1 hour and 10 minutes	**out1on1h10m**
Turn relay 1 hour, 10 minutes and 30 seconds	**out1on1h10m30**

The 'h' and the 'm' must be lower case.

OUTPUT LABELS & STATUS

The names of the outputs cannot be changed however a label can be added to give a descriptive comment for each of the 4 relay outputs. This can then be checked using the SMS command ?OUT.

The labels are added with the following command:
OUTnXcccc **X** is the output number (i.e. 1, 2, 3, 4)
cccc is the label text (up to 16 characters)

Example: Output 1 to be labelled as Water Pump
OUTn1Water Pump

The **?OUT** command is used to check the output labels, current output status (On/Off) and the time remanning if the output is controller with timer feature (see Output Control section).

Example: ?OUT
Out01 : On 00:00:00 Water Pump
Out02 : Off 00:00:00 Generator
Out03 : On 00:00:00
Out04 : Off 00:00:15 Door Lock
Output:Status Timer(h:m:s) Label

LINKING INPUTS TO OUTPUTS

This allows for the inputs to be linked with the outputs on the SED-30.

When an input is triggered it can turn on an output which will remain in on until the input is either restored or a set timer period expires,

Multiple inputs can be linked to a single output using the following commands.

iXXoY	Link input **XX** to output **Y - ** Restore output when input is sealed
iXXoYtZ	Link input **XX** to output **Y** - Restore output a **Z** time

Note: The character 'o' is for output, not the decimal '0' (zero).

Examples:

To link input 1 to relay 1	i01o1
To link input 1 & 3 to relay 2	i0103o2
To link input 2 to relay 2 but for 10 minutes	i02o2t10m
To link input 3 to relay 4 but for 20 seconds	i04o4t20s
To clear linking for output 1	i00o1

?i will show the current linking status set on the unit.

REPORTING PATH

The SED-30 has the ability to communicate and report alarms via multiple path.
This is set in the **PATH** command, where a single or multiple paths of communicating can be selected.

PATH OPTIONS
5: Pegasus GPRS
6: Pegasus ETH
A: CSV/IP GPRS
B: CSV/IP ETH
V: Voice Call Notify

To set the path send the command **Path** followed by the number of the path option. Multiple paths can be listed.

Example: To set the path to Voice Call Notify, send the command **Path V**.

Use the command **?Path** to confirm the current path selection.

CSV IP ALARM PROTOCOL

The SED-30 is capable of reporting Contact ID alarms via the CSV IP protocol to monitoring companies providing this service.

CSV alarms are generated by the SED-30 via the input zones or system fault conditions.

Setting up CSV reporting can be done by SMS commands or connecting to a PC using the programming serial port.

The Command **?CSV** will report all the CSV related setting currently configured on the SED30.

To set up:

1. Set the 4 digit client code in the field **CSVclient ###**
   Example: **CSVclient 8888**

2. Set the IP address and port of the monitoring company's CSV server using the command **CSVIP IP:PORT**
   Example: **CSVIP 123.101.0.5:5000**

3. Set the **Path** function to A
   Example: **Path A**

4. By default the SED-30 will use TCP for communication, if UDP is required then use the commanded **CSVTCP**
   Example: **CSVTCP 1** for TCP (default)
   CSVTCP 0 for UDP

5. Set the **APN** according the sim card service used in the SED-64.
   Example:
   For Telstra use **APN telstra.internet**
   For Optus use **APN connect**
   For Vodafone use **APN live.Vodafone.com**

6. If required by the monitoring company, a username and password can be set up for CSV authentication. Otherwise leave as the default user and pass
   Example: **CSVUSER #####**
   CSVPASS #####

7. Enable the data communication on the SED-64 by setting **GPRS** to 1
   Example: **GPRS 1**

At this point the SED-30 will start reporting via alarm via CSV.
To test use the command **?T** to activate a test alarm and check with the monitoring company.

ANALOG INPUT SETUP – For water level monitoring

The analog input feature on the SED-30 is designed for water tank level reporting and is compatible with sensors that output 4-20mA or 0-5V.
To set up follow the steps below:

1. Set Function 29 to 0 to make all inputs analog. Or use Function 33 to set them individually.

2. Wire the output signal from the sensor to an input on the SED-30. If using 4-20mA sensor, fit a 270ohm resistor in parallel with that input (between the input and common terminal) to generate a 0-5V signal.

3. Calibrate the sensor by entering the raw input reading for 0% and 100% levels.
   AN*x*MIN*z* *x*=input *z*=raw input value with water level at minimum (0%)
   AN*x*MAX*z* *x*=input *z*=raw input value with water level at maximum (100%)

   To determine these values (*z*), do a physical test with the water level at 0% and 100%
   Use the command **!IN** to read the current raw value for the inputs.

4. Set the value which is represented by the 100% level (i.e. for a 200L tank, set *w* to 200)
   AN*x*TOP*w* *x*=input *w*=value up to 65000

5. Set the low and high alarm levels (in percentage)
   AN*x*LO*y* *x*=input *y*=level (in %) for low alarm
   AN*x*HI*y* *x*=input *y*=level (in %) for high alarm

   - To disable low level alarms, set AN*x*LO*y* to 0%
   - To disable high level alarms, set AN*x*HI*y* to over 100% (A maximum of 230% can be set)

6. Set auto reporting interval (SMS) - Optional
   ANREP*x*h*y*m*z* *x*=hours *y*=minuets *z*=seconds (Note: h & m must be lower case)

   - To disable interval reporting, set time to 0:00:00 (default)

Use the command **?AN** to check the current settings:
01 **:** 120-920 **,** 20-80% **,** 200 **,** 0 **,** 0 , 0:00:00
*(input) **:** (Min-Max values) **,** (Low-High alarm) **,** (value for 100%) **,** (Decimal value) **,** (Current loop resistance) (auto reporting hrs:min:sec)*

Note: for this configurations the Decimal value and Current loop resistance parameters do not need to be changed (leave as 0 and 0).

Use the command **?ANREP** to check the current input readings:
1 **:** 48% **,** 96 **,** OK
*(input) **:** (current reading in %) **,** (current reading in relation to max value) **,** (input status OK/Alarm)*

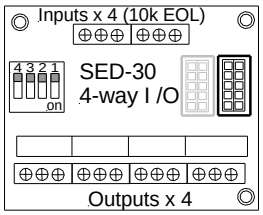
7. **For SMS Reporting, Functions 12, 15 ,16 and the Alarm text (page 12) must also be set.**

8. To include the input value readings in the alarm SMS reported, use the following commands:
   AN*x*ON To enable value reporting for input *x* in the alarm SMS
   AN*x*OFF To disable value reporting for input *x* in the alarm SMS

INPUT & OUTPUT EXPANSION BOARD (Optional)

SED-4 WAY I/O board allows for an additional 4 inputs and 4 outputs to operate via the SED-30.

A maximum of four I/O boards can be connected to a single SED-30 giving a total of 24 inputs and 20 outputs.



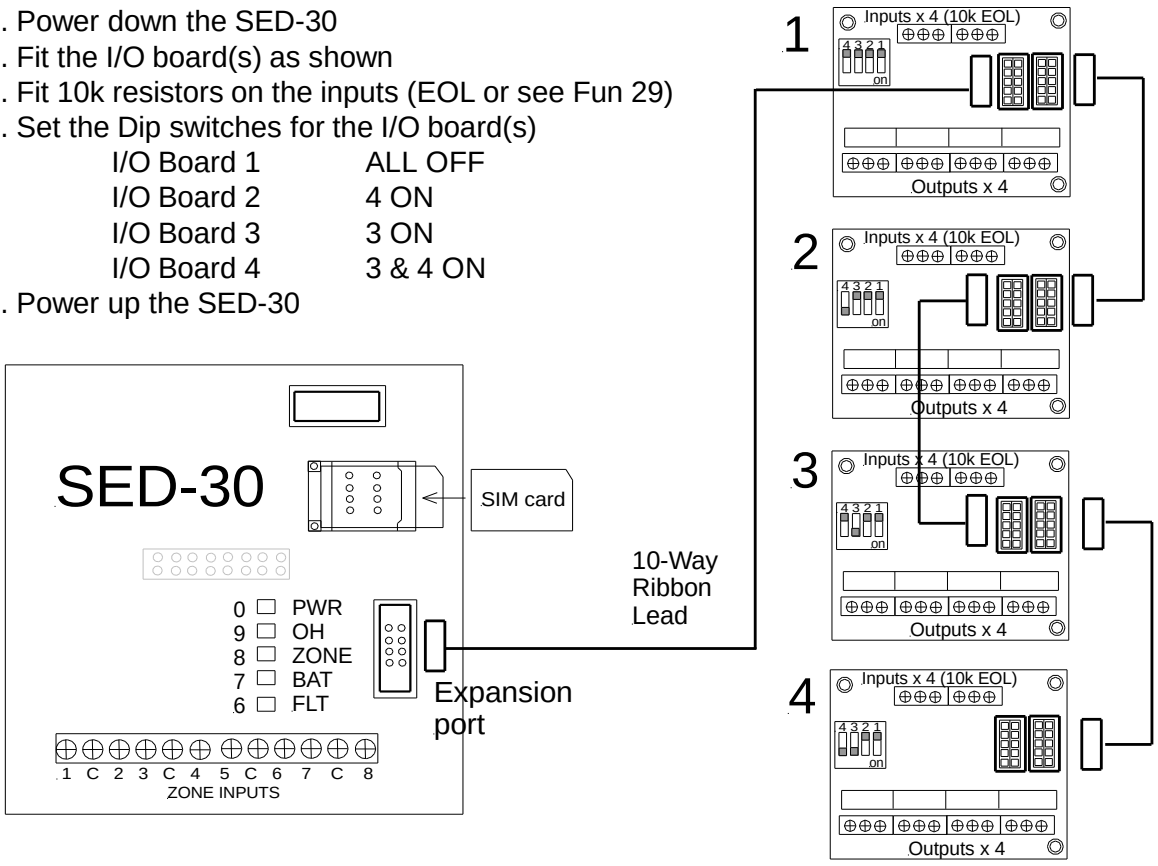
Part: SED-4 WAY I/O

INSTALLATION PROCESS

1. Power down the SED-30
2. Fit the I/O board(s) as shown
3. Fit 10k resistors on the inputs (EOL or see Fun 29)
4. Set the Dip switches for the I/O board(s)

I/O Board 1	ALL OFF
I/O Board 2	4 ON
I/O Board 3	3 ON
I/O Board 4	3 & 4 ON

5. Power up the SED-30



The extra input zones will be labeled 9-24

I/O Board 1	Zone 9-12
I/O Board 2	Zone13-16
I/O Board 3	Zone17-20
I/O Board 4	Zone 21-24

The extra relays will be labeled 5-20 and are controlled using the same commands as the first 4 relays (see page 13).

I/O Board 1	Output 5-8
I/O Board 2	Output 9-12
I/O Board 3	Output13-16
I/O Board 4	Output 17-20

LIST OF COMMANDS

SERIAL AND SMS COMMANDS

?s	Shows system status information **(*Master Cmd)**
?p	Shows programmed functions
	Serial - ?p shows all functions
	SMS - ?p (fun 1-10), ?p1 (fun 11-26), ?p2 (fun 27), ?p3 (fun 28-33)
?t	To generate a GSM test report. (via dialer and SMS)
?h	Shows the unit status history (of last 20 events)
?is	Indicates the input status
?out	Indicates status and labels of output relays.
!in	Shows raw input values
?isn	Indicates input status with input names
?inxx	Shows the text label for inputs, 4 inputs displayed at a time starting with input xx
inaXTEXT	Sets alarm TEXT for input X (01 to 08)
inrXTEXT	Sets restore TEXT for input X (01 to 08)
?i	Show input-output links
iXoY	input X (01 to 08) linked to output Y (1 to 4)
iXoYtTIME	input X linked to output Y pulse time
outYonTIME	output Y on for optional TIME
outYoffTIME	output Y off for optional TIME
SmsFast x	Set the SMS sending rate x (0=slow, 1=fast)
?acdly	View the AC fail report delay time
Acdly x	Set the AC fail report delay time to x (in seconds)
?anrep	Reports the current reading for all analog inputs **(*Master Cmd)**
?an	Reports the current settings for all analog inputs
ANxDECd	Display the value of input x (analog) as a decimal (d= number of decimal places)
ANxRESr	Resistor value (r) for current loop across input x (analog), 0 for voltage input otherwise 220-560 Ohm
?Path	Sets the reporting path of the SED-30. Contact Sec.Eng for more information
SMSmode	Sets Text or PDU mode for SMS messaging (default: Text)

SERIAL ONLY COMMANDS

version	Software version (date & time)
load	Load new software
pwd	Re-enter password
help	Shows supported commands
993030	**To default the SED-30 (*Master Cmd)**

* Master Cmd refers to commands the system will always respond to even if a Master Code (Fun. 19) has been set. Other commands will require the system to be unlocked first**.**

SED-30 FULL FUNCTION LIST	
FUNCTION	**DISCRIPTION**
01	Client Code
02	Receiver Numbers
04	Test Report Time
10	Ademco Event Codes
11	Software Version (Read only field)
12	SMS Phone Numbers
15	SMS System reporting
16	SMS Zone Reporting
17	Zone Input Configuration
18	SMS Arming Confirmation
19	Master Code
26	Mobile Restricted Access
27	SMS Zone Grouping
28	SMS Server
29	Input Type – Global
30	External DC power
31	Ascom Mode (Not supported)
32	Input Trigger Delay
33	Input Type – Individual
34	Re-register Attempts
35	Unrestricted Output Control
36	Phone Call Attempts

SED-30 Dialler Ademco Codes			
ALARM EVENT	**FUNCTION 10 = 0**	**FUNCTION 10 = 1**	**FUNCTION 10 = 2**
AC power fail (1hr delay)	**140 Sector 250**	140 Sector 450	**301 Sector 000**
Low battery (Less than 10.7v or no battery)	**140 Sector 251**	140 Sector 451	**311 Sector 000**
GSM test	**140 Sector 253**	140 Sector 453	**602 Sector 000**
Zone Input 1	**140 Sector 254**	140 Sector 454	**140 Sector 001**
Zone Input 2	**140 Sector 255**	140 Sector 455	**140 Sector 002**
Zone Input 3	**140 Sector 256**	140 Sector 456	**140 Sector 003**
Zone Input 4	**140 Sector 257**	140 Sector 457	**140 Sector 004**
Zone Input 5	**140 Sector 258**	140 Sector 458	**140 Sector 005**
Zone Input 6	**140 Sector 259**	140 Sector 459	**140 Sector 006**
Zone Input 7	**140 Sector 260**	140 Sector 460	**140 Sector 007**
Zone Input 8	**140 Sector 261**	140 Sector 461	**140 Sector 008**
Zone Input 9 (Expander 1)	**140 Sector 262**	**140 sector 462**	**140 Sector 009**
Zone Input 10 (Expander 1)	**140 Sector 263**	**140 sector 463**	**140 Sector 010**
Zone Input 11 (Expander 1)	**140 Sector 264**	**140 sector 464**	**140 Sector 011**
Zone Input 12 (Expander 1)	**140 Sector 265**	**140 sector 465**	**140 Sector 012**
Zone Input 13-16 (Expander 2)	**140 Sector 266-269**	**140 Sector 466-269**	**140 Sector 013-016**
Zone Input 17-20 (Expander 3)	**140 Sector 270-273**	**140 Sector 470-473**	**140 Sector 017-020**
Zone Input 21-24 (Expander 4)	**140 Sector 274-277**	**140 Sector 474-477**	**140 Sector 021-024**
Note: Restores are also sent for each code			

Technical Specifications

Dimensions:	235 x 250 x 80mm (Housing)
SIM Required:	MICRO size, SMS enabled
Power Pack Input:	230-240VAC
Power Pack Output:	16V AC 1.5A
External Power Supply:	12V
Current draw:	200mA, 12V DC
Backup Battery:	12V 7Ah gel cell (Not included)
Output Relay rating:	0.5A at 125V AC, 2A at 30V DC
Antenna connector:	SMA Female
Antenna supplied:	3dBi Omni directional
Modem:	UBLOX LARA R6 Cat-1 LTE
Network Connectivity:	VoLTE 4G with 3G and 2G fallback
	LTE frequency Bands B1(1920- 2170MHz), B3(1710-1880MHz), B5(824-894MHz), B7(25002690MHz), B8(880-960MHz), B28(703-803MHz)
	3G frequency bands B1(2100 MHz), B4(1700 MHz)

Certification

PTCRB, GCF, R&TTE & CE (Europe), FCC (US), IC (Canada), Giteki (Japan), A-tick & RCM (Australia), IDA (Singapore), Anatel (Brazil), NCC (Taiwan), CCC (China), KCC (S. Korea), AT&T (USA), DoCoMo, Softbank (Japan), Telstra (Australia), Vodafone (All Vodafone networks), Telecom NZ, Rogers, Bell Mobility, Telus (Canada), SKT (S. Korea), ICASA (S. Africa), AT&T (US).

ACMA - RCM Certified

TECHNICAL SUPPORT

Contact Sec-Eng Systems for technical support

Phone 02-9524 9952

Mon – Fri 9.00AM to 5.00PM AEST

WWW.SECENG.COM.AU