

DI100TM

Dialer Interface For DTMF – Contact ID

Installation Instructions

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1. Introduction

DI100™ is a communication interface, communicating between any alarm panel with a dialer, and the KP alarm transmitter from the ATS/ATC family. It supports 64 Zones, 16 users and miscellaneous events. For full data see Table No.2.

The DI100™ connects between the alarm panel and the telephone line and in parallel to the ATS100™/ ATC100™ alarm transmitter

It works in several operational modes:

- One way radio communication.
- With or without telephone line.
- Single or multi partitioning.
- Radio protocol selecting.

The operational mode can be set easily by the four dipswitches SW1 (see Table No.1). The DI100™ supports up to 64 zones with 16 users. When using partitioning the DI100™ will support 12 users per partition, total number of 96 users with eight partitions.

2. Operational modes

2.1 One Way

At the one-way operation mode the DI100™ will send the Kiss-off signal immediately after receiving a valid message from the alarm panel.

2.2 Telephone line option

DI100™ connects sequentially between the telephone line and the alarm panel. It has low impedance, so it neither influences the telephone line nor the communications between the alarm panel and the Central Monitoring Station, via the telephone line.

While operating at mode “With Tel-Line”, the DI100™ will sniff the line till it receives its dialing number “11”, when detected, the DI100™ will disconnect the Telephone line and hook itself to the alarm panel simulating a CMS. It will handshake with the panel, obtaining the event details and then kiss-off the panel for goodbye.

While in “Without Tel-Line” operating mode the DI100™ will simulate the dial-tone continually till the panel seizes the line and starts the dialing process, at this point the DI100™ will start communicating immediately as described previously.

To change the operational mode use SW1-2;

- Off – Without Tel-Line.
- On – With Tel-Line.

<p>Remark – After changing, you have to reset the unit for proper operation</p>
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2.3 Telephone Line cut

While operating the DI100™ with a telephone line, the internal TLM on the DI100 will monitor the line.

If the line was damaged the DI100™ will perform two operations:

- Transfers an internal event code to the transmitter.
- Changes the operational mode to no telephone line.

So the DI100™ keeps sending full information. The DI100™ changes to normal mode only after 12 minutes and stays at this mode if the line is restored. Otherwise, it will change to no telephone line for another 12 minutes while reporting the internal event code again (See Para 3.1).

Remark – While in the trouble mode the DI100™ is sending C.M.S messages as well, so, it is important to program Contact-ID reporting protocol for the C.M.S.

2.4 Partitioning

In case you need to divide your alarm panel installation for more than one partition the DI100™ will support any number of partitions. The DI100™ will then gain the partition account number as programmed to the panel and transfer it to the ATS100/ATC100 for transmission. The account number you program into the panel is then restricted into the ATS100/ATC100 accounts' range and method. In case of overflow in the account numbers the DI100™ will initiate an internal event code to the transmitter (See Para 3.2).

To change the operational mode use SW1-3;

- Off – No Partitioning.
- On – Partitioning supported.

Remark – For this operational mode you have to use a special version of ATS100 software

2.5 Radio protocol

While operating with **partitioning** you should set the radio protocol used by the ATS100 on your radio network, on which KP equipment can operate with one of three basic protocols, LARS or LARS-I.

LARS – This protocol uses Octal numbering for the account number with a group letter. The DI100™ will translate the programmed account number of the partition to a number at this method.

The unit's digit, 0 to 9, will be translated to a letter from A to J.

The rest of the digits, 000 to 511, will be translated to Octal, 000 to 777.

The following example will show you how to convert it easily;

Programmed partition account number – 1024

LARS transmitted account number – 146E

Therefore, the total range of accounts you can program on the alarm panel for the partitions is 0000 to 5119.

LARS-I – This protocol uses the same numbering method like the alarm panel (Decimal) but its boundaries are from 0000 to 8191.

LARS-II – Full contact ID, all the information from the panel is transmitted

To change the operational mode use SW1;

- Off – LARS/LARS-I.
- On – LARS-II.

2.6 Defining Users for a partition

The DI100™ can support up to 96 users. While operating with partitions, you should program users normally on the alarm panel with the following considerations;

- The DI100™ is dividing the users by 12 users per partition, so on the alarm panel you should program the users as shown on Table 1.
- On the Central Monitoring Station the received code will be the same for users 1,13,25,37,49,61,73 and 85, 91 for opening or C1 for closing, and correspondingly for all next user groups (See Table 1).
- For user 1, the received code (i.e. 91 or C1) would be received with the partition 1 account number, while for user 13 the codes (91 or C1) would be received with partition 2 account number, and so on for each partition.

Table 1: Users/Partitions Division

Users	Relate users to partition	C.M.S Received codes for	
		Open C	lose
1 - 12	1	91 to 9C	C1 to CC
13 - 24	2	91 to 9C	C1 to CC
25 - 36	3	91 to 9C	C1 to CC
37 - 48	4	91 to 9C	C1 to CC
49 - 60	5	91 to 9C	C1 to CC
61 - 72	6	91 to 9C	C1 to CC
73 - 84	7	91 to 9C	C1 to CC
85 - 96	8	91 to 9C	C1 to CC

3. Internal Events

Remark –While operating with partitioning all internal event codes would be transmitted with the ATS100/ATC100 account number.

3.1 Telephone Line cut

If the line is damaged the DI100 will initiate an event to the transmitter.

The event is "AF" in 4x2 protocols (LARS, LARSI) or "E351" in LARSII or contact ID.

3.2 Account Overflow

While programming the alarm panel accounts number you need to take in consideration the ATS100 addressing limitations in LARS or LARSI protocols. In case you program an account higher then defined here, an overflow will occur while reporting the event and the DI100™ will initiate an internal event code “**AE**”. Due to a wrong account the DI100™ will not have account number to send so this event code will be sent with the account of the transmitter.

3.3 Message Error

If during communication between the DI100™ and the alarm panel an error occurs, missing digits or check-sum error the DI100™ will wait for five retries before sending the message error event code “**BE**”.

3.4 Unsupported C_ID event code

Due to reporting on the radio at 4x2 formats we are limited to 256 event codes, therefore, some of the C_ID codes are not supported. In occurrence of unsupported event code, the DI100™ will initiate two types of internal event codes;

- For any C_ID code with qualifier 1 – “**FD**”
- For any C_ID code with qualifier 3 – “**ED**”

4. Preparation

4.1 Hardware Connections

The connection diagram illustrates how to connect the DI100™ to the alarm panel and the transmitter. For all other dialer and transmitter connections, refer to the respective User Manuals.

DI100™ starts operating automatically, as soon as the dialer supplies the 12 VDC AUX.

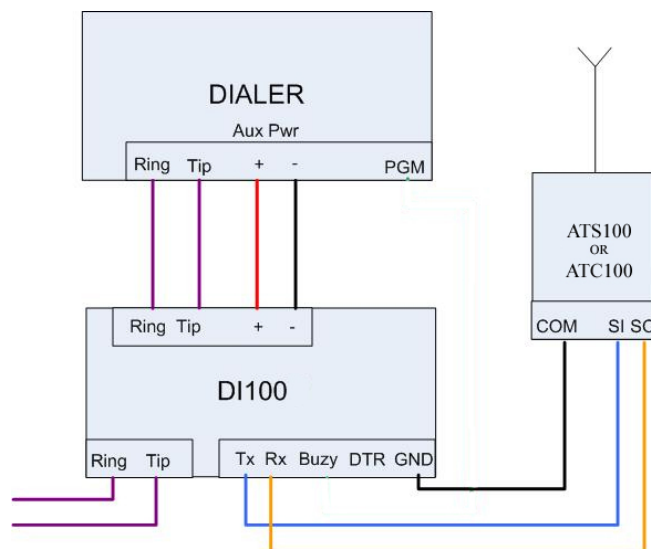


Figure 1: Connection Using a Telephone Line

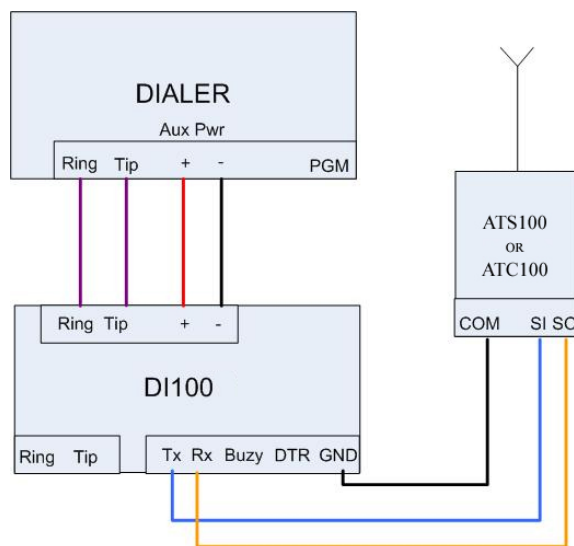


Figure 2: Connection without Using a Telephone Line

4.2 Set-up the communication

To establish communication between the dialer and the DI100™, program the alarm panel according to the description at Appendix A and according to the panel's installation manual.

4.3 Setting the Dipswitches

Set the DI100 T™ dipswitches according to the panel configuration, programming and connections.

Table 2: Dipswitch Settings

SW	Function	ON	OFF
1	Protocol	Contact -ID	4x2
2	Tel-Line	With Telephone line	Stand alone
3	Partitions	Support partitioning	Normal operation
4	Protocol	LARS-II	LARS/LARS-I

Table 3: Technical Specifications

Operating Voltage	8 - 15 VDC
Current Consumption	15mA
Operating Temp.	32°F - 122°F (0°C - 50°C)
Storage Temp.	-4°F - 158°F (-20°C 70°C)
Weight 0.	11 lbs. (50 gr.)

Table 4: Event Codes Translation List

Contact ID Event Description	Contact ID Event Code	4x2 Event code	Remarks
Medical Panic Alarm 1	100	D2	
Zone Fire Alarm	1 110	1 (Z)	
Zone Fire Restore	3 110	5 (Z)	
Zone Smoke Alarm	1 111	1 (Z)	
Zone Smoke Restore	3 111	5 (Z)	
Zone Combustion Alarm	1 112	1 (Z)	
Zone Combustion Restore	3 112	5 (Z)	
Zone Water Flow Alarm 1	113	1 (Z)	
Zone Water Flow Restore	3 113	5 (Z)	
Zone Heat Alarm	1 114	1 (Z)	
Zone Heat Restore	3 114	5 (Z)	
Panic Alarm 1	115	D1	
Zone Duct Alarm	1 116	1 (Z)	
Zone Duct Restore	3 116	5 (Z)	
Zone Flame Alarm	1 117	1 (Z)	
Zone Flame Restore	3 117	5 (Z)	
Zone Alarm	1 118	1 (Z)	
Zone Restore	3 118	5 (Z)	
Fire Panic Alarm	1 120	D3	
Fire Panic Alarm	1 122	D3	
Duress Alarm	1 121	D4	
Zone Burglary Alarm	1 130	1 (Z)	
Zone Burglary Restore	3 130	5 (Z)	
Zone Perimeter Alarm	1 131	1 (Z)	
Zone Perimeter Restore	3 131	5 (Z)	
Zone Interior Alarm	1 132	1 (Z)	
Zone Interior Restore	3 132	5 (Z)	
Zone 24h Alarm	1 133	1 (Z)	
Zone 24h Restore	3 133	5 (Z)	
Zone Entry/Exit Alarm 1	134	1 (Z)	
Zone Entry/Exit Restore	3 134	5 (Z)	
Zone Day Alarm	1 135	1 (Z)	
Zone Day Restore	3 135	5 (Z)	
Zone Outdoor Alarm	1 136	1 (Z)	

Contact ID Event Description	Contact ID Event Code	4x2 Event code	Remarks
Zone Outdoor Restore	3 136	5 (Z)	
Zone Tamper Alarm	1 137	1 (Z)	
Zone Tamper Restore	3 137	5 (Z)	
Zone Alarm	1 138	1 (Z)	
Zone Restore	3 138	5 (Z)	
Zone Intrusion Alarm	1 139	1 (Z)	
Zone Intrusion Restore	3 139	5 (Z)	
Zone Alarm	1 140	1 (Z)	
Zone Restore	3 140	5 (Z)	
Zone Alarm	1 141	1 (Z)	
Zone Restore	3 141	5 (Z)	
Zone Alarm	1 142	1 (Z)	
Zone Restore	3 142	5 (Z)	
Zone Alarm	1 143	1 (Z)	
Zone Restore	3 143	5 (Z)	
Sensor Tamper Alarm	1 144	1 (Z)	
Sensor Tamper Restore	3 144	5 (Z)	
Expander Tamper Alarm	1 145	FE	
Expander Tamper Restore	3 145	EE	
24h Non-burglary Alarm	1 150	1 (Z)	
24h Non-burglary Restore	3 150	5 (Z)	
Gas Detect Alarm	1 151	1 (Z)	
Gas Detect Restore	3 151	5 (Z)	
Refrigerator Alarm	1 152	1 (Z)	
Refrigerator Restore	3 152	5 (Z)	
Loss of Heat Alarm	1 153	1 (Z)	
Loss of Heat Restore	3 153	5 (Z)	
Water Leakage Alarm	1 154	1 (Z)	
Water Leakage Restore	3 154	5 (Z)	
Foil Break Alarm	1 155	1 (Z)	
Foil Break Restore	3 155	5 (Z)	
Day Trouble Alarm	1 156	1 (Z)	
Day Trouble Restore	3 156	5 (Z)	
Low Gas Level Alarm 1	157	1 (Z)	
Low Gas Level Restore	3 157	5 (Z)	
High Temp Alarm	1 158	1 (Z)	

Contact ID Event Description	Contact ID Event Code	4x2 Event code	Remarks
High Temp Restore	3 158	5 (Z)	
Low Temp Alarm	1 159	1 (Z)	
Low Temp Restore	3 159	5 (Z)	
Aux Power Failure	1 300	FC	
Aux Power Restore	3 300	EC	
AC Fail	1 301	FA	
AC Restore	3 301	EA	
Battery Test Failure	1 309	FB	
Battery Restore	3 309	EB	
Bell Trouble	1 321	F9	
Bell Restore	3 321	E9	
Exp Module Failure	1 333	FE	
Exp Module Restore	3 333	EE	
Tel Line Fault	1 351	FF	
Tel Line Restore	3 351	EF	
Tel Line Fault	1 352	FF	
Tel Line Restore	3 352	EF	
Communication Fail	1 354	FF	
Communication Restore	3 354	EF	
Fire Trouble	1 373	F8	
Fire Trouble Restore	3 373	E8	
Sensor Trouble	1 380	D6	
Sensor Trouble Restore	3 380	D7	
Sensor Supervision Trouble	1 381/2	D6	
Sensor Supervise Trbl Rest	3 381/2	D7	
Sensor Tamper 1	383	1(Z)	
Sensor Tamper Restore	3 383	5(Z)	
Sensor Trouble Low Bat	1 384	D6	
Sensor Trouble Low Bat	3 384	D7	
Resent Close	3 400	DE	
Open	1 401	9 (U)	
Close	3 401	C (U)	
Open	1 402	9 (U)	
Close	3 402	C (U)	
Auto Arm	3 403	DC	
Cancel	3 406	DA	

Contact ID Event Description	Contact ID Event Code	4x2 Event code	Remarks
Remote Arm	1 407	F2	
Remote Disarm	3 407	E2	
Quick Arm	1 408	F1	
Quick Disarm	3 408	E1	
Key switch Open 1	409	9 (U)	
Key switch Close	3 409	C (U)	
Callback Request 1	411	D8	
Success Download	3 412	D9	
Access Denied	1 421	D0	
Access Denied	3 421	D0	
Early Open 1	451	F6	
Early Close	3 451	E6	
Late Open 1	452	F5	
Late Close	3 452	E5	
Partial Disarm	1 456	DF	
Partial Arm	3 456	E3	
Bell Disabled	1 521	F0	
Bell Enabled	3 521	E0	
Zone Bypassed 1	570/1/2/3	DB	
Forced Arm	3 574	E4	
Periodic Test 1	602	0F	
Time/Date Reset 3	625	E7	
Time/Date Inaccurate	1 626	F7	
In Program 1	627	AB	
End Program 1	628	BB	
No Message Translation for Qualifier 1	FD		Internal Event
No Message Translation for Qualifier 3	ED		Internal Event
Account Overflow		AE	Internal Event
Tel Line Cut		AF	Internal Event
Data/Message Error BE			Internal Event

Appendix A

Programming the PARADOX – DIGIPLEX Alarm Panel for DI100

Section	Required Programming Value	Information Description	Default Value	Page in the Programming Manual
3036	3,4,5,6 =ON	Dialer Option 1	1,2,3,7,8 = OFF 4,5,6 = ON	28
3061	1 1 1 1 (Example)	Account Number Partition 1	-----	30
3070	5	Reporting Format Contact ID	-----	30
3071	11	Telephone #1	-----	30
3123	1,2,3 = ON	Panic 1 (Key 1 & 3) Panic 1 (Key 4 & 6) Panic 1 (Key 7 & 9)	1- 8 = OFF	35
4030	See Pages 39, 40, 41, 42	Automatic Report Code Programming	-----	39

Programming the FBI – OMNI-624 Alarm Panel for DI100

Submode - Question	Required Value	Information Description	Default Value
1 - Q01	11	Primary CS Number	234A...
1 - Q68	FFFF	Open/Close Disable Users 17-32	0000
2 - Q25	2A2A till 9A9A	Zone 1/2 Report Codes	3132
2 - Q26	2A2A till 9A9A	Zone 3/4 Report Codes	3334
2 - Q27	2A2A till 9A9A	Zone 5/6 Report Codes	3536
2 - Q37	7ABA	Duress / AC Loss	AA88
2 - Q38	6ACA	Keypad * & # Bat Low	2299
2 - Q39	00AA	Open / Close	AAAA
2 - Q40	0AEA	Keypad 7 & 9 / Keypad 1 & 3	AAAA
2 - Q44	0AFF	Bypass / Trouble	AAFF

Programming Instructions of ROKONET ORBIT-PRO with Telephone Line

LOCATION	DESCRIPTION	DATA																																																																																																																				
5,1,1	Phone Number 1 (16 digits) 5 to enter 'TELEPHONE NUMBERS' 1,1 to enter 'Tel. No. 1 then type data	11 enter																																																																																																																				
5,2	Account Code for costumer's central station (6 digits) Account Code sent when Phone#1 is dialing.	1,2,3,4,5, 6 enter																																																																																																																				
5,3,1	Communicator Format For Phone#1 (1 segment) This location contains communicator format (Ademco Contact ID) used to transmit to receiver connected to the Phone#1. There is no default.	0420																																																																																																																				
5,5,05	Dial Tone (default)																																																																																																																					
5,5,04	Call delay – yes (default)																																																																																																																					
5,6,1	Sets the number of times the ORBIT-Pro will redial After failing to establish successful communication	2																																																																																																																				
	Event Description	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">Programm</th> <th colspan="2" style="text-align: center;">Transmit</th> </tr> <tr> <th style="text-align: center;">Alarm Code</th> <th style="text-align: center;">Restore Code</th> <th style="text-align: center;">Alarm Code</th> <th style="text-align: center;">Restore Code</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">6,1,1,3</td> <td style="text-align: center;">Fire key</td> <td style="text-align: center;">33</td> <td style="text-align: center;">33</td> <td style="text-align: center;">D1</td> <td></td> </tr> <tr> <td style="text-align: center;">6,1,1,1</td> <td style="text-align: center;">Medical key</td> <td style="text-align: center;">3A</td> <td style="text-align: center;">3A</td> <td style="text-align: center;">D2</td> <td></td> </tr> <tr> <td style="text-align: center;">6,1,1,2</td> <td style="text-align: center;">Panic key</td> <td style="text-align: center;">34</td> <td style="text-align: center;">34</td> <td style="text-align: center;">D3</td> <td></td> </tr> <tr> <td style="text-align: center;">Alarm - 6,2,1 Reset - 6,2,2</td> <td style="text-align: center;">Zone 1</td> <td style="text-align: center;">38</td> <td style="text-align: center;">38</td> <td style="text-align: center;">11</td> <td style="text-align: center;">51</td> </tr> <tr> <td></td> <td style="text-align: center;">Zone 2</td> <td style="text-align: center;">38</td> <td style="text-align: center;">38</td> <td style="text-align: center;">12</td> <td style="text-align: center;">52</td> </tr> <tr> <td></td> <td style="text-align: center;">Zone 3</td> <td style="text-align: center;">38</td> <td style="text-align: center;">38</td> <td style="text-align: center;">13 5</td> <td style="text-align: center;">3</td> </tr> <tr> <td></td> <td style="text-align: center;">Zone 4</td> <td style="text-align: center;">38</td> <td style="text-align: center;">38</td> <td style="text-align: center;">14</td> <td style="text-align: center;">54</td> </tr> <tr> <td></td> <td style="text-align: center;">Zone 5</td> <td style="text-align: center;">38</td> <td style="text-align: center;">38</td> <td style="text-align: center;">15</td> <td style="text-align: center;">55</td> </tr> <tr> <td></td> <td style="text-align: center;">Zone 6</td> <td style="text-align: center;">38</td> <td style="text-align: center;">38</td> <td style="text-align: center;">16</td> <td style="text-align: center;">56</td> </tr> <tr> <td></td> <td style="text-align: center;">Zone 7</td> <td style="text-align: center;">38</td> <td style="text-align: center;">38</td> <td style="text-align: center;">17</td> <td style="text-align: center;">57</td> </tr> <tr> <td></td> <td style="text-align: center;">Zone 8</td> <td style="text-align: center;">38</td> <td style="text-align: center;">38</td> <td style="text-align: center;">18</td> <td style="text-align: center;">58</td> </tr> <tr> <td style="text-align: center;">6,6,5</td> <td style="text-align: center;">Quick armed</td> <td style="text-align: center;">67</td> <td style="text-align: center;">-</td> <td style="text-align: center;">E1</td> <td style="text-align: center;">-</td> </tr> <tr> <td style="text-align: center;">6,7,1</td> <td style="text-align: center;">User disarm</td> <td style="text-align: center;">-</td> <td style="text-align: center;">63</td> <td style="text-align: center;">-</td> <td style="text-align: center;">90</td> </tr> <tr> <td style="text-align: center;">6,4,1,0</td> <td style="text-align: center;">Box tamper</td> <td style="text-align: center;">47</td> <td style="text-align: center;">-</td> <td style="text-align: center;">10</td> <td style="text-align: center;">50</td> </tr> <tr> <td style="text-align: center;">6,4,1,2</td> <td style="text-align: center;">Bellb trouble</td> <td style="text-align: center;">56</td> <td style="text-align: center;">56</td> <td style="text-align: center;">F9</td> <td style="text-align: center;">E9</td> </tr> <tr> <td style="text-align: center;">6,4,2,1</td> <td style="text-align: center;">Low battery</td> <td style="text-align: center;">54</td> <td style="text-align: center;">54</td> <td style="text-align: center;">FB</td> <td style="text-align: center;">EB</td> </tr> <tr> <td style="text-align: center;">6,3,1,1</td> <td style="text-align: center;">Keypad tamper</td> <td style="text-align: center;">48</td> <td style="text-align: center;">48</td> <td style="text-align: center;">FE</td> <td style="text-align: center;">EE</td> </tr> <tr> <td style="text-align: center;">6,4,1,4</td> <td style="text-align: center;">AC trouble</td> <td style="text-align: center;">53</td> <td style="text-align: center;">53</td> <td style="text-align: center;">FA</td> <td style="text-align: center;">EA</td> </tr> </tbody> </table>	Programm		Transmit		Alarm Code	Restore Code	Alarm Code	Restore Code	6,1,1,3	Fire key	33	33	D1		6,1,1,1	Medical key	3A	3A	D2		6,1,1,2	Panic key	34	34	D3		Alarm - 6,2,1 Reset - 6,2,2	Zone 1	38	38	11	51		Zone 2	38	38	12	52		Zone 3	38	38	13 5	3		Zone 4	38	38	14	54		Zone 5	38	38	15	55		Zone 6	38	38	16	56		Zone 7	38	38	17	57		Zone 8	38	38	18	58	6,6,5	Quick armed	67	-	E1	-	6,7,1	User disarm	-	63	-	90	6,4,1,0	Box tamper	47	-	10	50	6,4,1,2	Bellb trouble	56	56	F9	E9	6,4,2,1	Low battery	54	54	FB	EB	6,3,1,1	Keypad tamper	48	48	FE	EE	6,4,1,4	AC trouble	53	53	FA	EA
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	Zone 8	38	38	18	58																																																																																																																	
6,6,5	Quick armed	67	-	E1	-																																																																																																																	
6,7,1	User disarm	-	63	-	90																																																																																																																	
6,4,1,0	Box tamper	47	-	10	50																																																																																																																	
6,4,1,2	Bellb trouble	56	56	F9	E9																																																																																																																	
6,4,2,1	Low battery	54	54	FB	EB																																																																																																																	
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