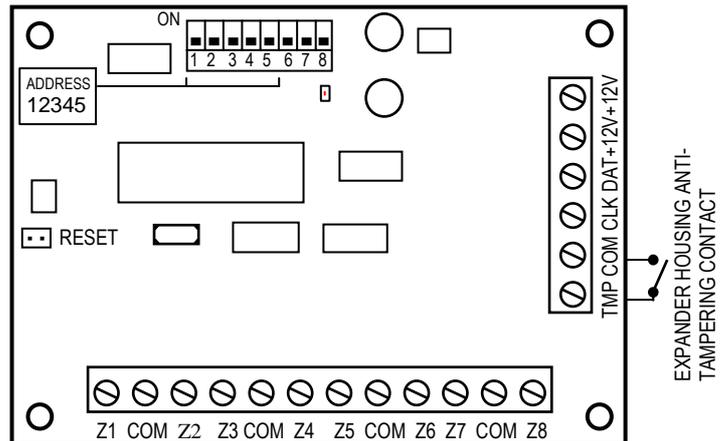


The CA-64 E expander is a device designed to work together with the INTEGRA and CA-64 alarm control panels. It allows extension of the alarm system by eight zones having identical features as the zones of the control panel main board. NO and NC type detectors may be connected to the expander. The zones can be configured to work with a single parameter (EOL - the circuit closed with a 2.2kΩ resistor) and with a double parameter (2EOL - the circuit closed with two 1.1kΩ resistors). Each of the zones can be individually programmed and assigned one of a few dozen types of response to violation.

## MODULE DESCRIPTION

### EXPANDER TERMINALS:

- Z1 to Z8** - zone line
- COM** - ground
- TMP** - expander anti-tampering circuit input (NC)
- CLK, DAT** - expander bus
- +12V** - supply output



The **set of switches** situated on the board serves to set up the individual expander address. Up to 32 modules of various types can be connected to one bus.

A **LED** is situated on the board to signal the communication process between the control panel and the expander. During normal work of the module, the LED blinks with changing frequency.

Two **RESET pins** are used in production process and are not to be shorted.

The **TMP input** is intended for connecting the anti-tampering contact of the expander housing and, if not used, it should be **grounded**.

## INSTALLATION

The zones modules may be installed in the following housings:

CA-64 OBU-EXA - an option to install two expanders of any type, without power supply;

CA-64 OBU - an option to install one zones expander without power supply and any module with power supply (the housing includes 50W transformer and place for 17Ah battery).

Begin installation of the housing with placement of distance pins inside.

## MODULE CONNECTION AND ACTIVATION

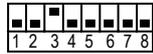
**NOTE:** Prior to commencement of the module connection, turn off power supply of the alarm system.

1. Fasten the expander board on pins in the housing and connect the bus leads (the first bus: CK1, DT1, COM, or the second bus: CK2, DT2, COM - as designated on the main board) and the detector leads. Supply voltage for the expander and detectors need not be provided from the control panel main board. A buffer power supply or another expander with power supply may be used for this purpose. The details of cable connections are presented in the alarm control panel manual.
2. Using the switches, set up the expander address and turn on the alarm system power supply (the LED on the expander board will flash with steady light).

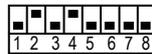
The address is to be set up with the switches from 1 to 5. The status of the other switches (6, 7, 8) is irrelevant. In order to determine the expander address, add up the numbers corresponding to the switches set to **ON** position, as per the table:

Switch number	1	2	3	4	5
<b>Numerical equivalent</b>	<b>1</b>	<b>2</b>	<b>4</b>	<b>8</b>	<b>16</b>

Examples of addressing :



address = 4



address = 2+8=10



address  
= 1+8+16=25

Five switches allow addresses to be assigned to 32 expanders (numbers from 0 to 31). Addresses of expanders connected to one bus may not be repeated, while the sequence of addressing is optional.

3. Call the function “*Expander identification*” (→Service mode; →Structure; →Hardware) from the keypad. The LED situated on the expander board should start blinking. After identification, all the **new** zones will have been programmed to factory defaults, the detector type being set to zero (no detector).
4. Using the DLOADX or DLOAD64 program, set the zone parameters.
5. End the service mode operation, saving data in the FLASH memory.

**NOTE:** In the process of identification, the control panel is saving in the expander memory a special (16-bit) number, which serves to check the expander presence in the system. Replacement of the expander with another (even one having the same address set up on the switches) without a new identification will trigger an alarm (module tamper - verification error)

## NUMERATION OF ZONES

The identification function automatically sets up numeration of zones in the system. Assigned numbers depend on a size of the control panel, which is connected with the module. For example in case of the INTEGRA 64 and CA-64 the numbers 1-16 belong to the main board zones. Further numbers are assigned to the first bus expander zones (from the lowest to the highest address of the zones expander), and then to the second bus expander zones. The zones numbers 49-64 may be assigned to LCD keypads. This should be borne in mind when installing new expanders in the system. If the new expander address is lower than the address of an expander previously installed in the system, or where an expander is added to the first bus, and there was already another connected to the second bus, the identification function - according to the principle described above - will shift the numeration of zones between the expanders (i.e. the new expander will take over the zone numbers of the previously installed expander, which, in turn, will be given the numbers of new zones added to the system). If this is the case, the previously assigned expander zones can be restored by means of the DLOADX or DLOAD64 program. To do so, call the function „*Advanced settings*” (→Structure; →Hardware, →Expander settings).

## TECHNICAL DATA

Number of zones..... 8  
 Nominal supply voltage..... 12V DC ±15%  
 Current consumption..... 15mA  
 Dimensions ..... 57x80 mm

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