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STMicroelectronics
STEVAL-IAC001V1

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Datasheet of STEVAL-IAC001V1 - BOARD EVAL CENTRAL UNIT ALARM
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STEVAL-IAC001V1

Modular alarm system solution

Data Brief

Features

- Expandable 11 inputs/ 7 outputs
- 16 configurable partitions
- Autobalance of inputs
- Encrypted communication bus
- External activation/set-up device
- PC GUI for easy set-up
- Bus-based system

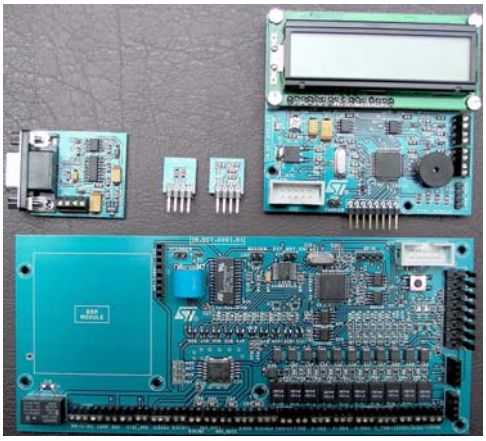
General description

The Central Unit for Alarm System (CUAS) Evaluation Board is a complete reference system addressing the low/middle end security segment.

It is a complete hardware and software alarm platform based on BUS network. The whole system consists of four boards: CU board, CM (Control Module) board, PS (Power Supply) board and PC interface board. There is also a PC GUI software which could be easily used in order to set up all the CU parameters and execute certain system tests.

It is possible to expand the system using I/O Expansion boards (Inputs and Outputs expansion), a GSM board, which the connector is already in the CU Board (for the CU management through a GSM telephone) and other modules such as RF-ID, smart-card or Keyboard connected through the BUS.

The Central Unit which can manage a certain number of inputs (where are typically connected the sensors and the detectors, called zones) some outputs (where are connected devices like sirens, indicators, etc) and some devices



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connected to the communication bus for the system management and configuration (i.e. RFID Keys, Smart Cards, Expansion Modules, GSM, Keyboards, RF module …)

Each zone of an alarm system can be configured, logically regrouped, separately processed and associated to a group of outputs in a different way. The outputs are also configurable in terms of timing, working mode and normal status (High or Low).

This CU consists of 8 zones by 8 zones directly hardwired on the CU board, but it is possible to expand the number of zones by connecting one or more I/O Expansion module through the BUS; There are seven hard-wired outputs:

four separately driven by a solid state relay (SSR - VN340SP) which can deliver up to 1A for each output, normally used for the sirens connection and for external devices (auxiliary outputs), two outputs are transistorized and typically used to indicate the system status (alarm condition, CU status, etc.), one output is a micro relay for a general purpose use (i.e. for the connection of a videotape, external GSM, etc.).

Other special inputs are also available on the CU board, such as the TAMPER line used to indicate

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any system tampering; this line is normally connected in series with all the TAMPER input of each sensor or device connected to the CU. A fire/smoke line is also present on the CU board and is used to continuously monitor any fire or smoke sensor immediately signaling any leak depending on line configuration, but independently of the CU status.

The system operates using a 4-wire communication bus (2 wires for power, 2 for communication) using the RS-485 standard that guarantees good noise immunity.

ST components

- ST72321BJ9 8-bit microcontroller
- VN340SP-E smart power solid state relay
- M41ST95W Serial RTC
- SMP100LC Trisil
- ST2378E Level translator

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1 Revision history

Table 1. Revision history

Date	Revision	Changes
09-Oct-2006	1	First issue

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