1.eHouse home automation

eHouse system was designed for interfacing software applications and all sort of electric and electronic devices. Main application of eHouse are:
✔ Home Automation
✔ Smart Home
✔ Building / Facility Management
✔ Office Automation
✔ Access Control & Limitation
✔ Security Systems
✔ Safety Systems
✔ Hotel automation
✔ Measurement systems
✔ Electronic Houses
✔ Low voltage house installations
✔ Control systems
✔ Visualization and graphical control
✔ Systems integration

2.eHouse 1 – RS-485 Architecture

eHouse 1 system is based on RS-485 full duplex (long distance industrial serial interface) which can be up to 1200m long for single segment (UTP-8 cable put serially). Up to 250 controllers can be installed in single eHouse 1 network segment. Maximal distance or total controllers amount can be expand by using RS-485 bus expander and creating more than one "eHouse 1" network segment. Maximal amount of controllers for multi-segment installation is about 65000.

"eHouse 1" works under PC, computer board, micro-controller or CommManager supervision as managing host. eHouse 1 data bus is connected to the host via RS-232C/RS-485 Converter. It also can be connected to USB port via additional RS232C/USB dongle. "eHouse 1" is supported by PC computer and eHouse package application expanding seriously controllers firmware functionality and assuring multiple communication gateways as eMail, FTP, LAN, Internet TCP/IP, UDP, BlueTooth, WiFi, WWW, SMS.

Spectrum of application is very large and eHouse1 can be installed in:
✔ office
✔ hotel
✔ pension

✔ hostel
✔ school
✔ swimming pool
✔ sport facilities
✔ special rooms and objects
✔ home
✔ flat
✔ any other building and premises

eHouse RS-485 Comfort Installation contains one RoomManager for each room

2.1. RoomManager (RM)

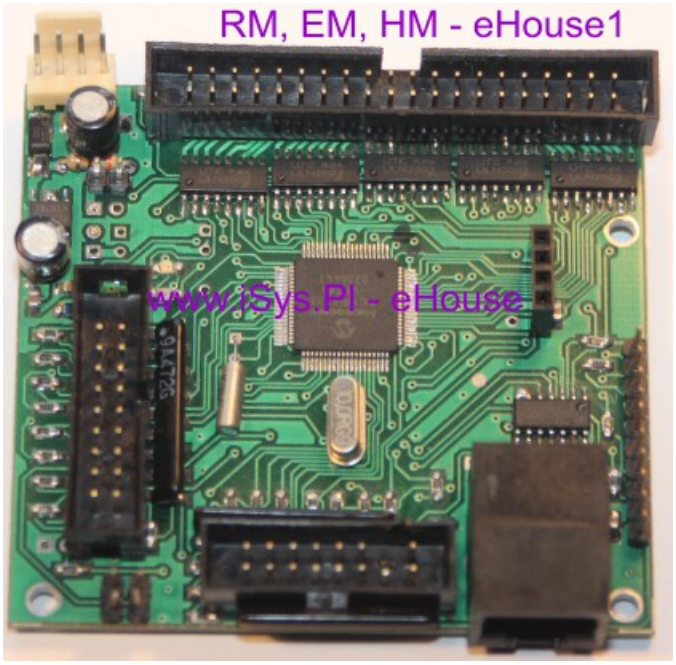
RoomManager is the self contained micro-controller module with build in peripherals for managing and integration electric, electronic, heating, lighting devices in the room. RoomManager is optimized for decentralized home automation system implementation and should be installed in each controlled room (for comfort version) or at least one on the floor (in low budget installation). It can be used as I/O, measurement module and controlled fully by external PC, controller, computer board application with dedicated algorithms in special or Vendor's applications.

2.1.1 Main Features of RoomManager

✔ RS-485 interface for eHouse 1 network between eHouse system modules and PC or controller
✔ Can work under supervision of PC, Computer/Controller Board
✔ RoomManager implements whole logic for all external devices (actuators) without build in logic for cost effective
✔ Decentralized installation of RM and Power Relays in the controlled room several times minimize cost on cables an installations in comparison of Centralized installation
✔ Measuring Temperature / Control Heat max. 7 independent segments
✔ Measuring light level / Control Light Level
✔ Turn On/Off Any electric, electronic device max (24, 32*)
✔ Disable/Enable power sockets
✔ Control HiFi, Audio-Video, TV-SAT, Air-Condition via Infra Red IR (:Learn and execute IR controller Signals)
✔ Possibility to connect external Mifare card reader in hotel, office applications
✔ Possibility to connect BlueTooth expansion range module (*)

2.1.2 Resources of RoomManager

✔ 24-32 programmable digital outputs (directly for driving relays)
✔ 12 programmable digital inputs for connecting sensors, switches, etc.
✔ 8 programmable ADC inputs (measurement)
✔ 3 PWM outputs for controlling light level (DC dimmer)
✔ RS485 interface for communication over “eHouse 1” bus
✔ RS232-TTL interface for installation extension modules to controllers (Mifare, BlueTooth or dedicated for Vendors)
✔ programmable calendar and scheduler (248 positions) for unattended running of local eHouse events
✔ IR infra red receiver compatible with Sony (SIRC) system for controlling RoomManager's by standard
or universal remote controllers
✔ IR Infra red transmitter for controlling Audio, Video, HiFi systems by remote controller signal emulation
✔ controlling Winamp media player application installed on PC (eHouse system server) via Sony IR Remote Controller
✔ 24 programs of work incorporating settings of all outputs, analog input levels, dimmers
✔ up to 250 RM can be installed in eHouse System (1 RS-485 network segment)
✔ up to 65000 RM can be installed in eHouse System (multiple RS-485 network segment with bus extenders)



Picture for information only Not for Reference may be changed during production and development.
Pictures not in 1:1 scale.
Size for information only is subject to change during production and development:
80mm*80mm*20mm – module without Dimmers Drivers. Size is subject to change during production.
85mm*110mm*20mm – module with Dimmers Drivers. Size is subject to change during production.

Connecting socket is subject to change during production and development
✔ Modules can be painted with insulation materials on demand
✔ Modules may be RoHS or not on demand

iSys - Intelligent Systems

http://www.isys.pl/
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