Company Profile and Building Blocks

Daffue Electronic Solutions - DES was established in 2006 and in the past years grown ourselves in partnerships with other market leaders and is proud to be able to supply a comprehensive Building Block based system for the Competitive Worldwide market.

In this partnership we constantly striving for service excellence, product reliability and cutting edge innovation. With this mindset we secured projects as the preferred solutions provider for a range of small enterprises to large corporates.

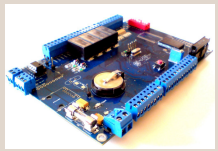
By using our Building Blocks and Software no control or management project is to big or to small and almost anything could be accomplished.

The main interface used to control and supervise the system from our unique Client Specific Software package is the USB-INT.

*The **USB-INT** is essentially a secure and robust RS485 interface with a build-in Weigand Reader Interface port and some inputs and outputs.*

*Additionally the **LAN-INT** provides the capability to interface RS485 and some IO over a 100BaseT Ethernet Port for remote or internet connectivity.*

*Using these interface Building Blocks the Host PC can configure, Control, Supervise and also collect information from the **MULTI-IO** or any of the following Building Blocks or even do diagnostics from anywhere.*



*The **MOD-LOG** Module is a 4Door Access Control, Alarm & Event Controller with Analog measurement features. It could be utilized to expand the systems capabilities or be used on its own.*

*The **AT-INT** is one of our Asset Management Modules. It interfaces directly to MOD-LOG for the control and storage of Asset Events. It is essentially an RF Asset Tag Reader for our small and compact self powered **A-Tag**. These **A-Tags** are used in Asset Management, Process Tracking and Guard or personnel Tracking applications.*

Other Building Blocks are also available for measurement or control.

DAFFUE ELECTRONIC SOLUTIONS

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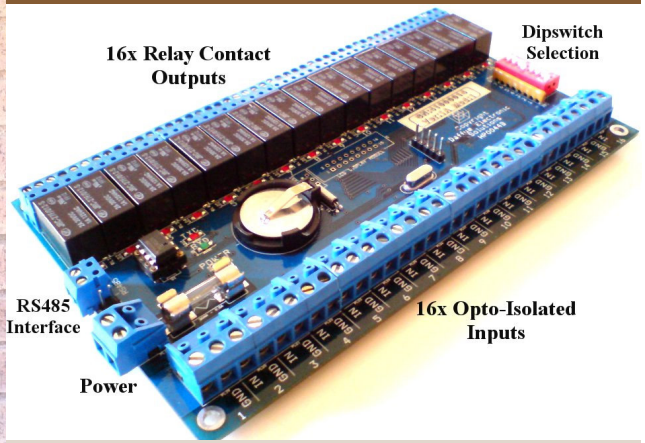
Dealer:

AUTONOMOUS BUILDING BLOCKS

MULTI-IO

Alarm and Automation Controller & Logger.
For Domestic and Commercial Environments.



Overview

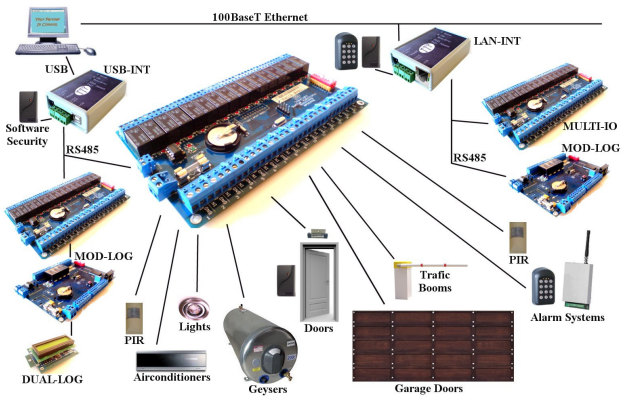
MULTI-IO is a autonomous intelligent controller dedicated to a high level of alarm monitoring, data and event collection and management.

The MULTI-IO was designed to operate as a online or offline controller, giving you the ability to program and setup the module, using a partnership developed PC based client specific software package, via the communication interface and then give the control over to the MULTI-IO.

The MULTI-IO stores all alarms and events in onboard memory and gives the PC or control system the ability to collect all these stored data via the same communication interface. The collected information could be used for a variety of purposes.

The flexibility of the MULTI-IO makes it suitable for use in the following applications and lots more:
- Alarm Monitoring
- Building Management
- Process Automation
- Etc.

Architecture



Key Features

Hardware Features.

- 9 to 18Volt DC Power Supply Input
- Half Duplex RS485 Interface
- 16x Opto-isolated Inputs
- Battery Backed Real Time Clock
- LCD Module Interface
- 16x Relay Contact Outputs

Embedded Software Algorithms.

- Programmable Event and Alarm Reflexes
- Programmable Time Zone Dependant Daily, Weekly and Holiday Programs
- Programmable Time Zone Dependant Alarm and Relay Definitions
- Collection of Stored Time and Date stamped Alarm and Event Transactions.
- etc.

Possible Applications.

- **Home or Office Alarm or Security System** - Alarm deactivates on Access Granted and zones armed again after exit.
- **Light and Air-conditioning system** - Activate according to RTC or PIR Access and monitors movement for deactivation and energy saving feature.
- **Door Interlocking** - Opens one door at a time, let one person into a booth then opens the other door for entry. Could be used with two booths, In and Out.
- **Home or Office Automation and energy saving system** - Full control of Alarm, Geysers, Air-conditioning, Garage Doors and Gate Motors, Lights and Garden Watering System.
  In Armed mode, lights are switched off or only minimal lights are switched using RTC dependant routines, geysers are off, garage or gate motor are inhibited or locked, PIRs are in Alarm active mode.
  With alarm in disarmed mode, PIRs are monitored for movement for Light activation using RTC routines, geysers are using RTC routines.

● A combination of these applications could be used to create a custom system.

Detailed Description:

The MULTI-IO is custom designed in South Africa for South African conditions to perform a high level of Access security and data integrity.

The MULTI-IO is known as the Alarm Module Building Block for the complete system.

Building Blocks are used to expand and strengthen the system to create a custom system architecture to fulfill the needs and requirements of any customer.

A Complete system consists of the following Building Blocks:

☐ **The Host PC** with Client Specific Software Package.
☐ **The Interface Module** or Modules.
☐ **Access, Asset, Event or Alarm Module** or Modules.
☐ **Alarm Controller Module**

■**The Host PC** using an Partnership Developed Software Package are in control or supervisory roll of the complete system.
Every Software version are Specifically Customized for the individual client to suit the unique requirement of each and every customer.

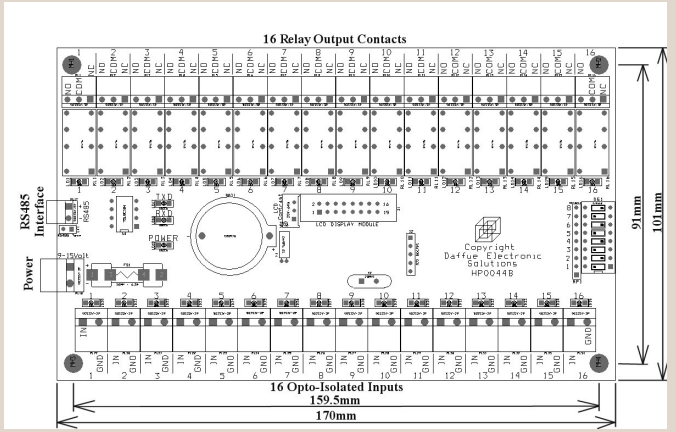
■**The Interface Module** is the unit handling the interface between the PC and the Building Blocks, and if required also securing the access to the Host Software Package. This module could be in the form of an USB interface or a LAN interface.

■**The Access, Asset, Event or Alarm Module** is the unit that control and log the Access to the clients premises and Events or Alarms happening around the Access points. This unit could be interrogated afterwards or in real-time to extract usable information for a variety of purposes.

■**The Alarm Controller Module** is the unit that monitors inputs and react to it or control other outputs and store the alarms for history or real-time interrogation.

This role is performed by the MULTI-IO.

○ A set of custom algorithms are factory programmed and could be field configured via the communication interface to perform a variety of tasks.
○ The MULTI-IO can operate in an online or offline configuration. This means that the unit can function with or without the Host PC being in an active control or supervisory state.
○ The Alarm feature are used for direct or delayed Alarm inputs. These alarms could also be RTC routine controlled.
○ The Output feature are used for direct Control or the RTC routine could be used to control Outputs.
○ All the Events and Alarms are Time and Date stamped and stored in the onboard memory. This transactions could be extracted and used for a variety of purposes on the Host PC.



Technical Specification.

Dimensions and Weight:
- Board Dimensions (Connectors Included): 170 x 101 x 18mm
- Mounting Hole Dimensions: 159.5 x 91mm @ 3mm Holes
- Board Weight Fully Populated: 183g

Operating Temperatures:
- Operating Temperature: 0 to +70°C
- Storage Temperature: -10 to +85°C

Power
- 12VDC ±25%@480mA

LCD Interface
- 1Line x 16 Character LCD Module Interface with Contrast Adjustment

Dipswitch
- 8Way Dipswitch for 1to16 Unit Selection and other function selections

Opto-isolated Inputs
- 16x Opto-isolated (Active Low) Monitored Inputs (uses: Alarm Input, ext.)

Relay Outputs
- 16x Relay Contact Output with NO, Common and NC all available. (uses: Alarm Outputs, RTC Controlled Outputs ext.)

Data Interfaces
- RS485 Half Duplex Interface (uses: Host PC communication, Peripheral Module Communication, ext.