PEGASO

TRAFFIC CONTROLLER

PEGASO is a new generation traffic controller designed for medium size plants. A series of plug-in modules connected via a double bus system, allows to realize a processors network with distributed intelligence, high reliability and security.

The controller firmware, based on Linux operating system, makes it a peripheral unit suitable for any kind of applications, guarantying also a higher level of performances.

The controller is able to act as a peripheral of an UTC system or as a stand alone unit, capable of executing an accurate monitoring of its plant, managing also:

- Statistical and Log file archive generation (Traffic data, Emergency and Activities).
- Automatic remote message dispatch, via GSM or Dial-up telephone line.
- Remote configuration, diagnostics and file transfer operation managed by an integrated Web Server .

PEGASO is equipped with several COM ports, (RS232, RS485, USB, ETHERNET) so that it can be used with many communication networks.

GENERAL CHARACTERISTICS

PEGASO has been designed:

- To act as a traffic control unit able to manage the crossing with autonomous decisions affected by traffic flow variations.
- To be an information collector and therefore to control, monitor and transmit the information to the devoted Corporate Body.
- To be used as a PLC in many and different applications.

For such a purpose, the controller realizes the following main functions:

- Management of a single plant, or of a network of plants, by means of a programmable control algorithm that generates in real time the green times according to the traffic status.
- Monitoring of all the connected signal-head lamps in order to verify the correct functionality so to signal the failure of a single lamp.
- Signal Head Dimming facilities.
- Traffic data management, by volume or by class of vehicles, through traditional loop sensors or non invasive sensors such as infrared or microwaves.
- Archive of: Traffic data- Alarms- Activities
- Automatic alarm messages dispatch to remote sites by means of GSM/GPRS cellular network.
- Automatic adjustment of the CPU real time clock through a GPS interface, assuring the necessary high precision to realize wireless Green Wave systems.

CONTROLLER CAPABILITIES

PEGASO can manage a maximum of:
- 16 Phases (48 power outputs)
- 16 loop Detectors
- 36 Digital Inputs
- 20 Relay output
- 64 Digital output
- 32 Plans, selectable by remote or internal weekly and annual calendar.

DIAGNOSTICS

PEGASO is equipped with a resident diagnostics on-line and off-line software to facilitate trouble-shooting in case of failure, identifying:

- The kind of failure
- The faulty card
- The involved outputs
- Loop failure
- Input failure

The diagnostic allows also to access the inside registers for examining in details the unit working condition. User configurable file LOG as well as automatic message dispatch will help trouble-shooting.

MMI Interface

SECURITY

PEGASO security functions are based on a redundant control circuit system composed by:

- Voltage and current sensors applied to each output (redundant voltage sensor on green lamp).
- A processor exclusively dedicated to security function for green and red output, operating on a separated bus performing intergreen and red conflict monitoring.
- I/O card processors performing:
  - Light diagram congruence control
  - Current check
  - Load measure to detect bulb failures
- Communications control between processors monitored one by the other.
- CPU processors performing:
  - Redundant congruence control
  - Filter action on logic command to respect the intergreen matrix
  - Time out control

CONFIGURATION SOFTWARE

PEGASO can be on site or remotely programmed via a friendly GUI (Graphic User Interface) either by a resident keyboard, or via PC, where a proprietary software, running under WINDOWS, is available for programming support. USB memory key facility can be used for memory upload and download operation.

Controller configuration can be done by a simple parameter insertion to cover standard functions or by writing an user application software to carry out special functions on customer demand.
Configuration data and firmware are resident on EEPROM FLASH memories.

MODULARITY

PEGASO can be equipped with the following basic and optional cards:

MMI INTERFACE
The MMI interface is based on a customized keyboard and on a 3.5" graphic display managed by an interactive software that can perform :

- Controller Command
- Controller Configuration
- Controller Diagnostic

The MMI is available in different languages.

CPU
Mono Eurocard equipped with:

- 32 bit ARM916 bit Industrial Processor
- 64 Mb RAM
- 128 Mb EEPROM FLASH
- 1 ETHERNET port
- 2 USB port
- 3 RS232/RS485 port

DETECTOR
Mono Eurocard self-tuning loop detector at 4 channels, connected to the CPU with a separate Bus and completely software configurable via controller parameters.

I/O CARD
Double Eurocard performing:

- 4 Signal Groups (12 single outputs)
- 4 Digital Inputs Interface circuits

OPTIONAL CARDS

The controller can be equipped with a series of optional cards:

PIG 16 I   :16 digital input extension
PIG 10 U   :10 Relay
OUT32D   :32 Static Digital Output
AUX   :where are integrated-GPS Interface-GPRS/GSM-Bluetooth module
PS240   :Interface card for wireless VSN240 vehicle detecting system

STRUCTURAL CHARACTERISTICS

CABINET

- Material   :Fibreglass reinforced Polyester
- Dimensions   :1090x590x320 mm
- Protection degree :IP55
- Colour   :RAL 7032

RACK
Pegaso is structured with one rack for logic and power supply cards and one or two racks for I/O cards. Each rack is complete of a pcb back panel for the logic signal connection between cards.

A series of connectors mounted on pcb back panel, are devoted to the interconnections wiring so to create a further modularity condition for an easy I/O extension and a complete maintenance plug-in feasibility.

STANDARD EQUIPMENT	STANDARD WIRING
• 1 Power supply card	• 8 Phases (24 Outputs)
• 1 CPU card	• 8 Digital inputs
• 1 I/O card	• 8 Loops

I/O WIRING EXTENSION
Extension to 16 groups is realized by simply adding the I/O motherboard, that is a module complete of:

- Inter-wiring connectors
- Rack for 2 I/O cards
- Fuse holder and terminal points for 16 Groups and 8 Inputs

TECHNICAL CHARACTERISTICS

- Main Supply   :230V/110Vac - 20% +15% (42 Vac available on request)
- Consumption (lamps excluded) :50 VA
- Maximum controller load   :5000 W
- Max. load for each output   :800 W
- Output fuse   :4A type EF
- Hold-up time   :100 ms
- Operating temperature   :-25 +70°C

CONFORMITY STANDARDS

PEGASO complies with the following standards:
CENELEC HD638 S1
CEN EN 12675
CEI EN 214_9

RACK for locic and power supply cards

Technical specifications subject to change without notice.