HUEGLI TECH AG (LTD)
The Engine & Genset Control Company

InteliSys

Typical Applications and Features

Typical Applications

- Middle sized and large (cogeneration) sets

- Rental Sets with flexible application range

- Middle speed engines

- Low speed engines

- Gas engines driven gensets

- Dual fuel engines

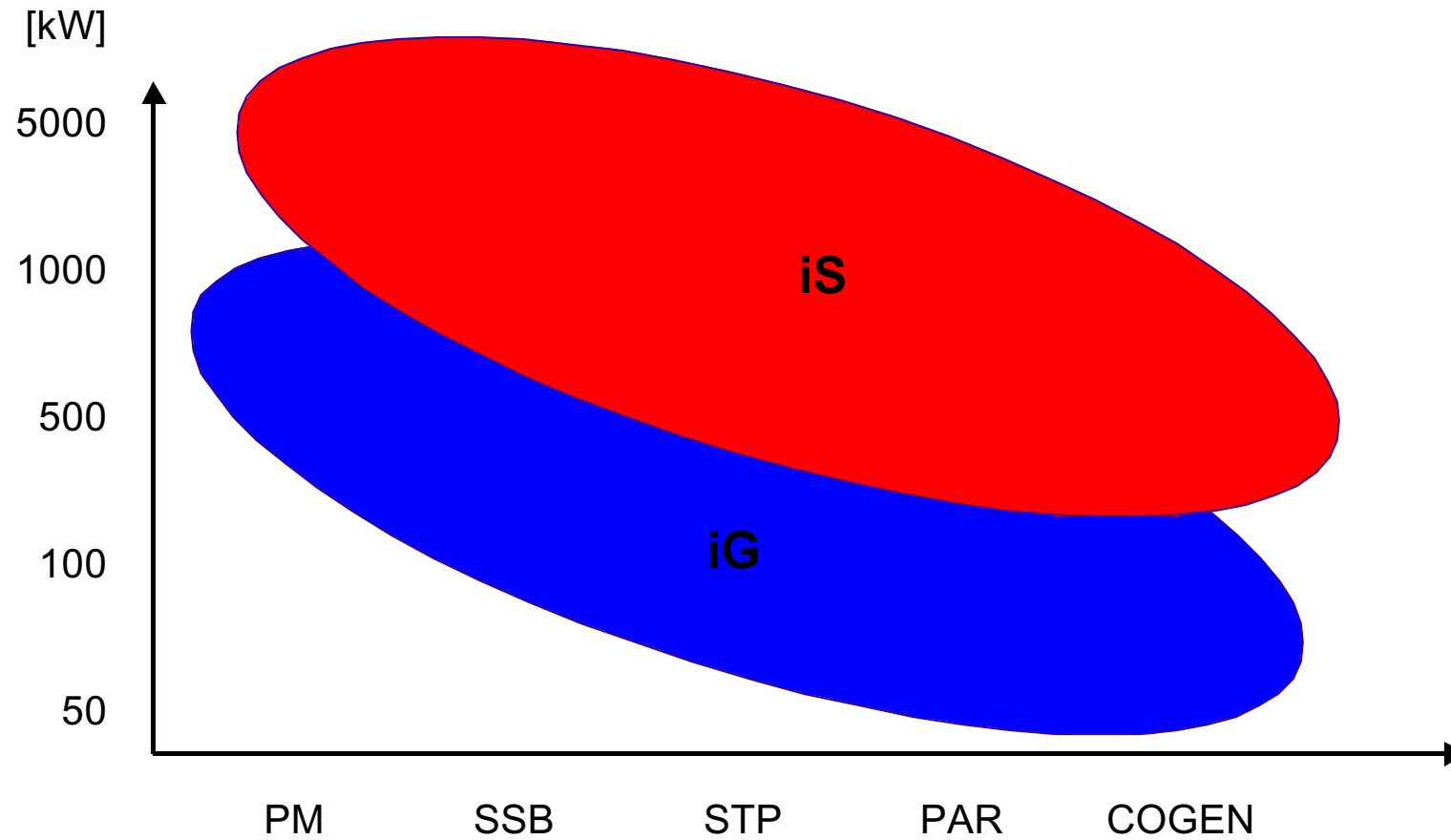- Heavy fuel engines

- Smaller turbines (<2MW)

Typical Features

- Engine Management

- Generator Management

- Mains Management

- Power Management

- Multiple Engine Management

- Heat Management

- Data Logging

- Remote Control / Telemetry

Differences to InteliGen

- Increase the number of inputs and outputs

- Longer history file + post mortem history

- Bigger graphical display

- SW configurable analogue inputs

- More computing power for complex applications

- High voltage measurement

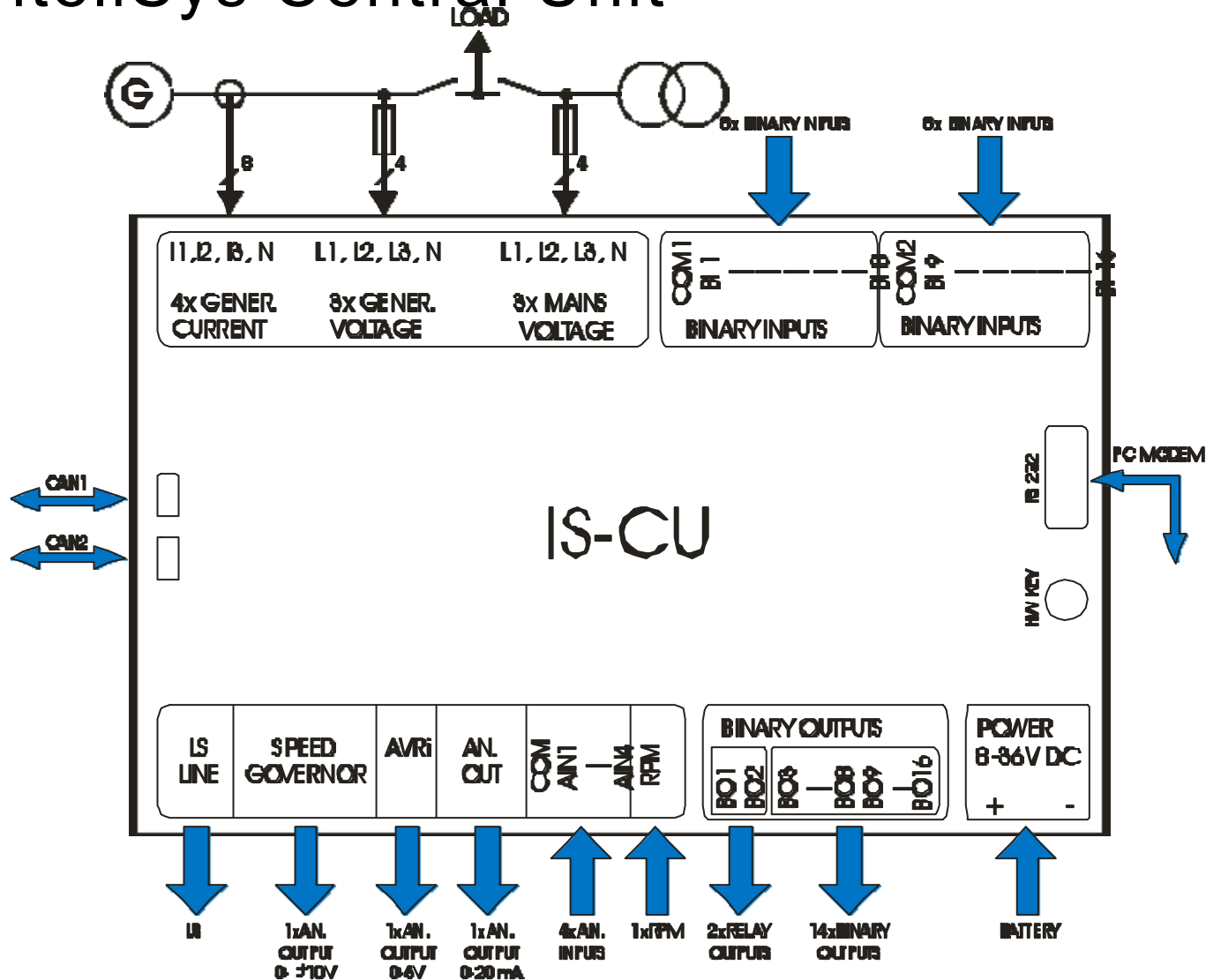- Building management functions (PLC)

Power Range IG/IS Controller

InteliSys Description

InteliSys Central Unit

Basic Wiring

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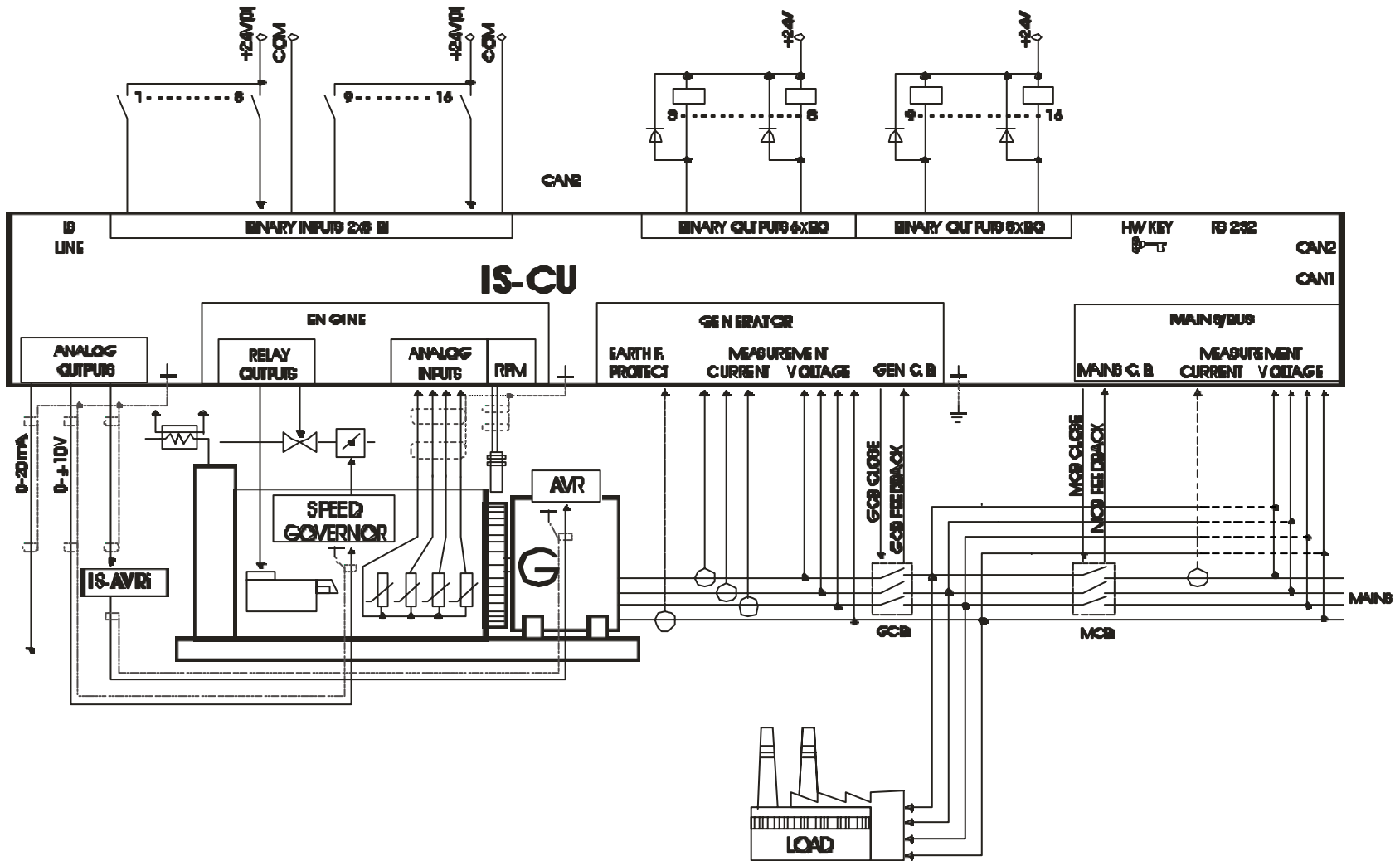
Engine Management

- Sequencing (start, stop, pre-lubrication, warm up, cooling, after cooling....)

- Speed measurement (overspeed protection)

- Engine measurements (temperatures, pressures..)

- Two level protections (Alarm + Slow Stop/Shut down)

- Measurement and protection of cylinder temperatures

- Dual engine support

- Temperaure derating

- Speed control in stand-by operation

- Turbocharger speed measurement

Generator Management

- **Generator measurements**
  - kVAr, kW, U1-U3, Hz, I1-I3, cos Fi

- **Generator protections**
  - Over/under frequency
  - Over/under voltage
  - Reverse power
  - Earth ground protection
  - Overload and overcurrent
  - Phase sequence supervision

- Forward synchronizing and closing of C.B.

- Voltage matching

- Paralleling of generator C.B. control with feed-back

- Voltage control in stand by operation

- Isolated / parallel / multiple engine transitions

Mains Management

- 3 Phase AMF
    - Over/under frequency
    - Over/under voltage
    - Voltage asymmetry
    - Vector surge protection of mains short drops-out
- Mains return timer
- Reverse synchronizing and paralleling
- Mains C.B. control with feed-back
- Load Surge Protection (VDEW)

Power Management

- Load control (constant, variable)

- Peak shaving

- Export to mains control

- Automatic starts and stops if various criteria are met
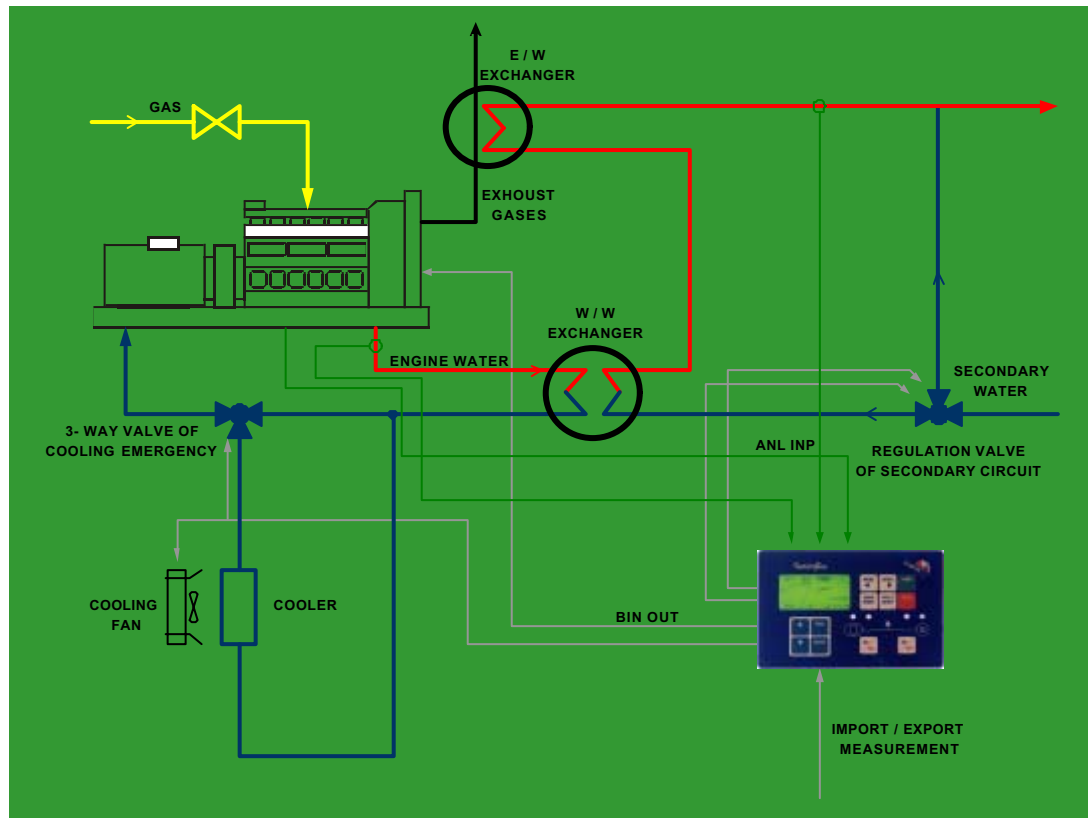
- Power factor control

Load Sharing and Power Management.

- Isochronous load sharing

- Multiple engines power management support

- Automatic start/stop of the engines

- Optimization of number of running engines

  - Predefined sequence

  - According to motorhours

  - According to kW-motorhours

- Load Shedding
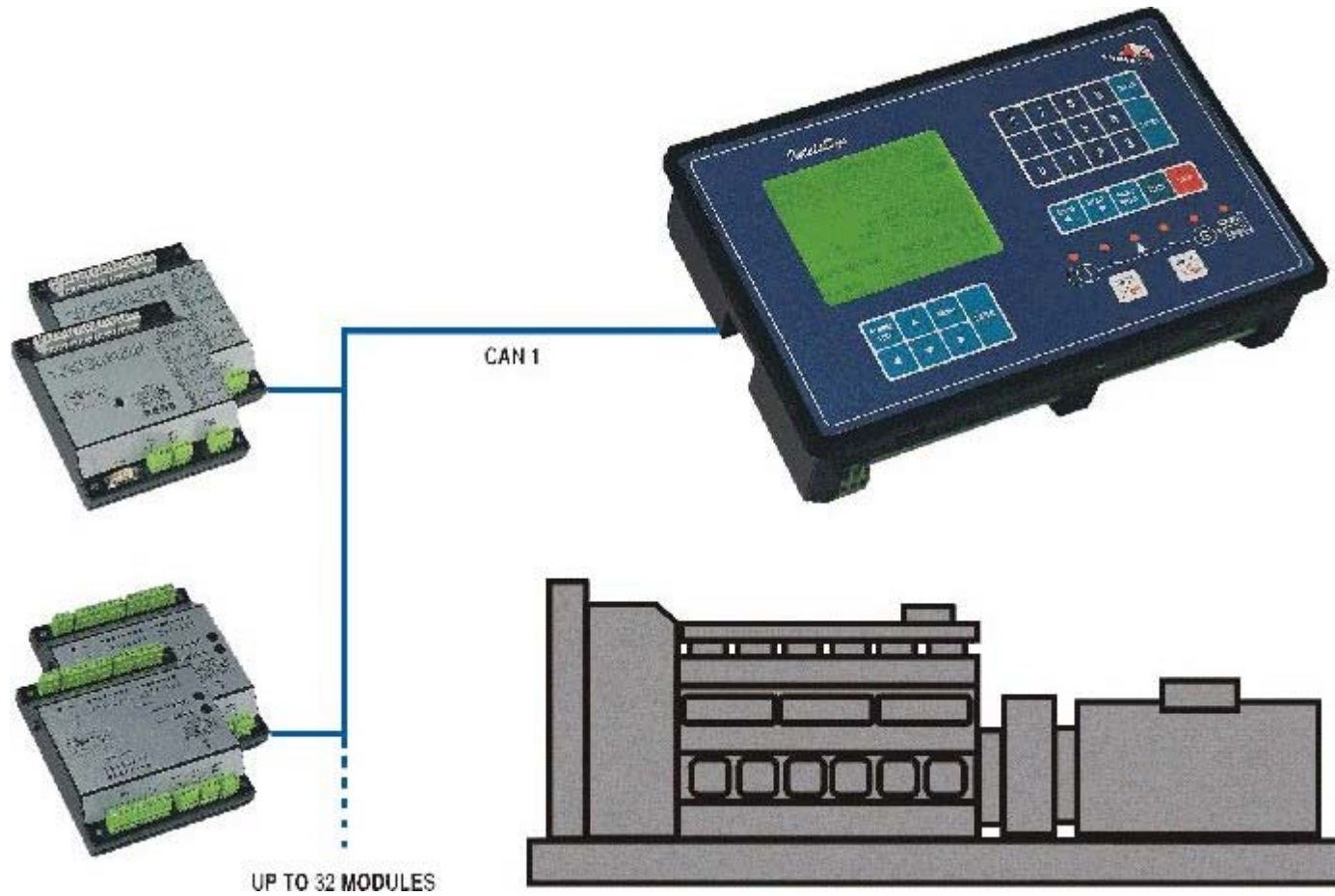
- Reactive Power Control (PF and VAR sharing)

Heat Management (CHP)

- Load control according to the temperature

- 8 PID loops

- 8 comperators

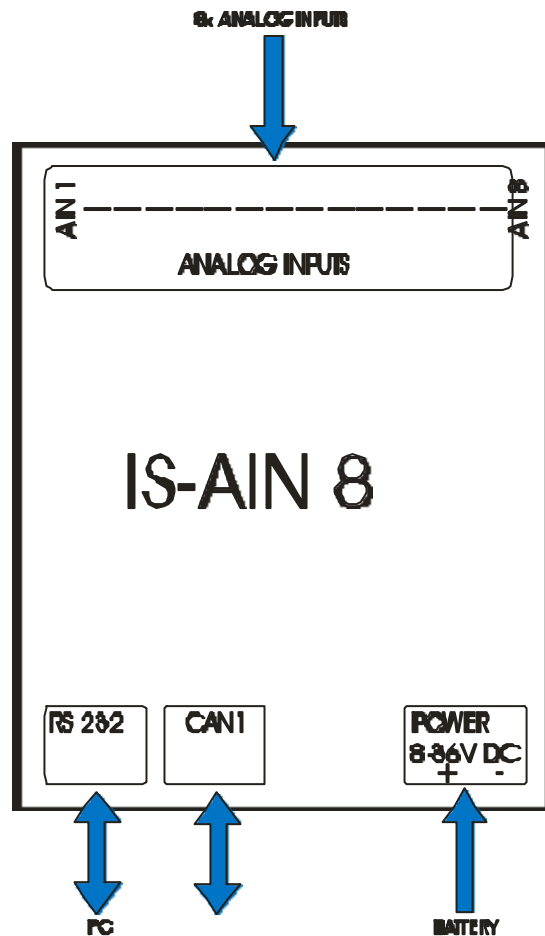- 8 switches

- 8 timers

User configurable

InteliSys, Expandable Concept
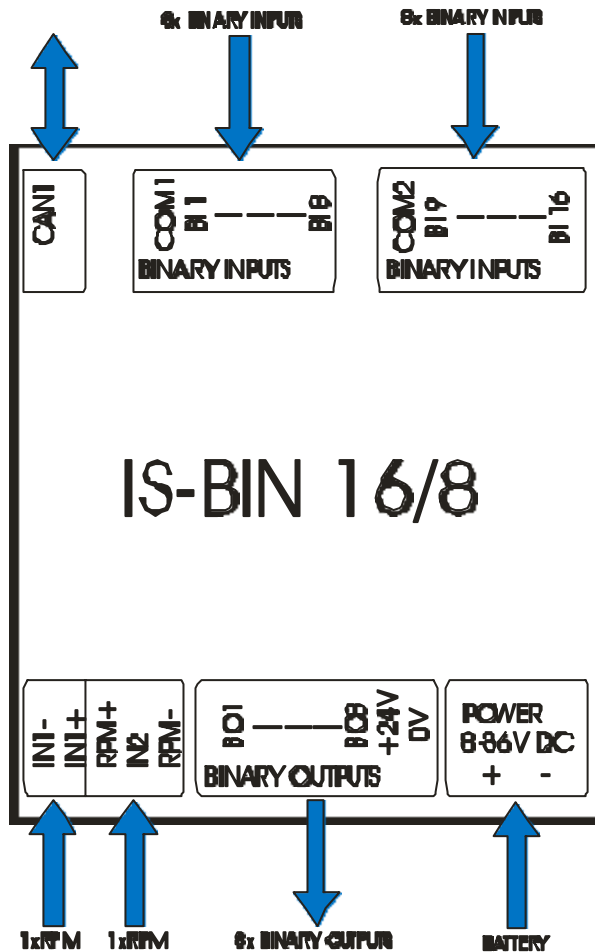

CAN 1

UP TO 32 MODULES

Extension Module, Analogue Inputs

- 8 software configurable inputs
  - voltage, current sensors
  - PT100, PT1000, 4-20mA, thermocouples, 0-5V.....
- Measurement accuracy +-1%
- Possibility to add new sensors
- 2 or 3 wire resistive sensors
- Programmable curves
- Possibility to be mounted on the genset
- Up to 10 units can be connected to InteliSys

Extension Module Digital Inputs/Outputs

- LED diodes for each input and output

- Electrically separated inputs and outputs

- Up to 8 modules can be connected to the InteliSys

- Possibility to be mounted on the engine

Communication Interfaces

CAN open 2 for multiple gen-set operation
• Up to 32 units supervision
• Engine CAN Bus Interface

RS232 for modem or PC
• Diagnostics
• Configuration/Parameter adjustment
• Modem/Internet Connection
• GSM/SMS handling
• History/Trends/Active calls
• SCADA

CAN open 1 for extension modules
• Up to 32 modules
• Inputs/Outputs
• Power measurements
• …Lambda control, governor, ignition
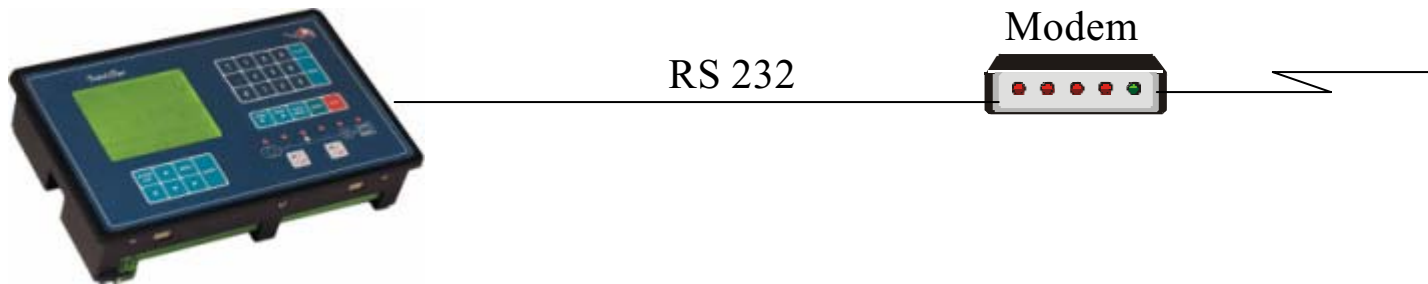
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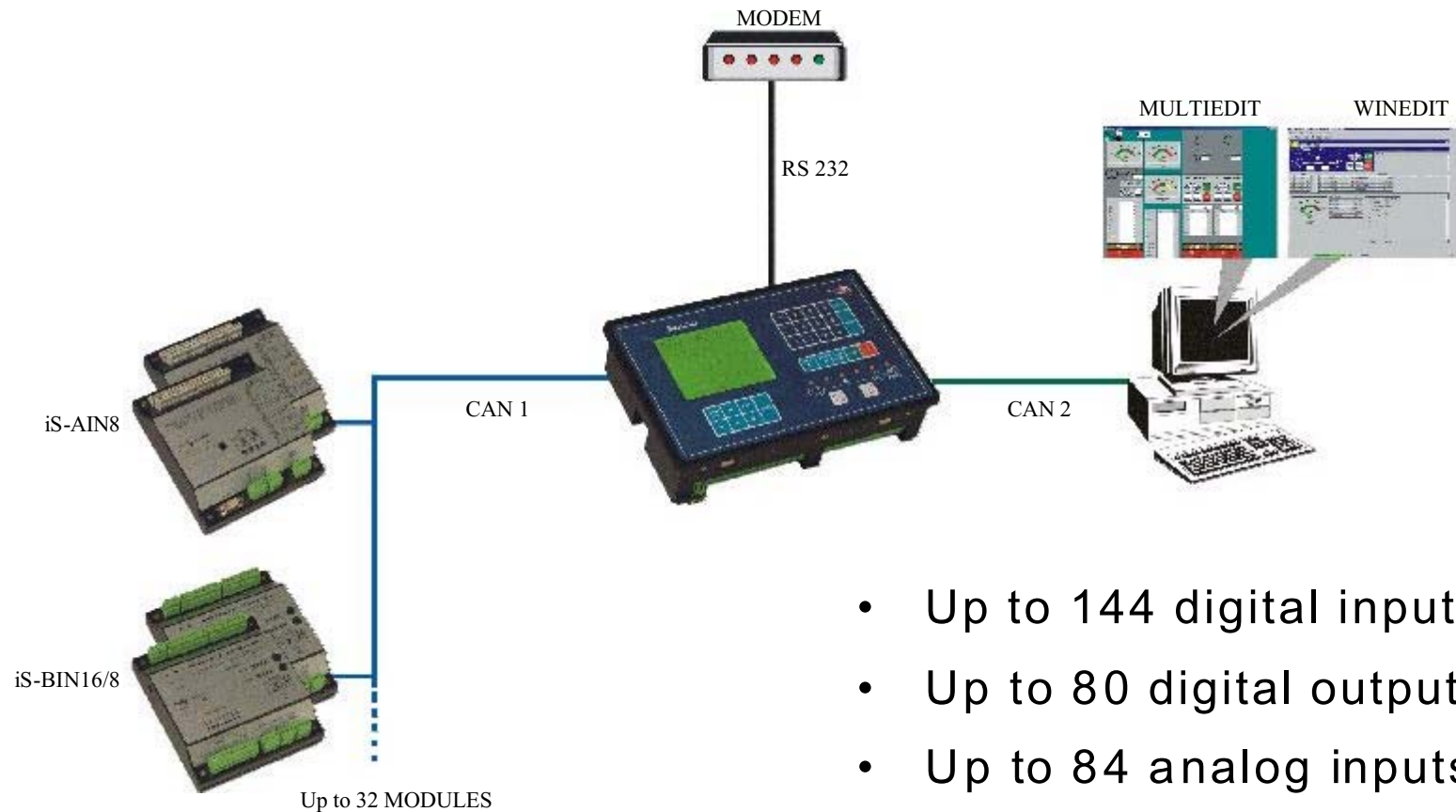
InteliSys - Application Examples

Single Engine Control (SPM, SSB)

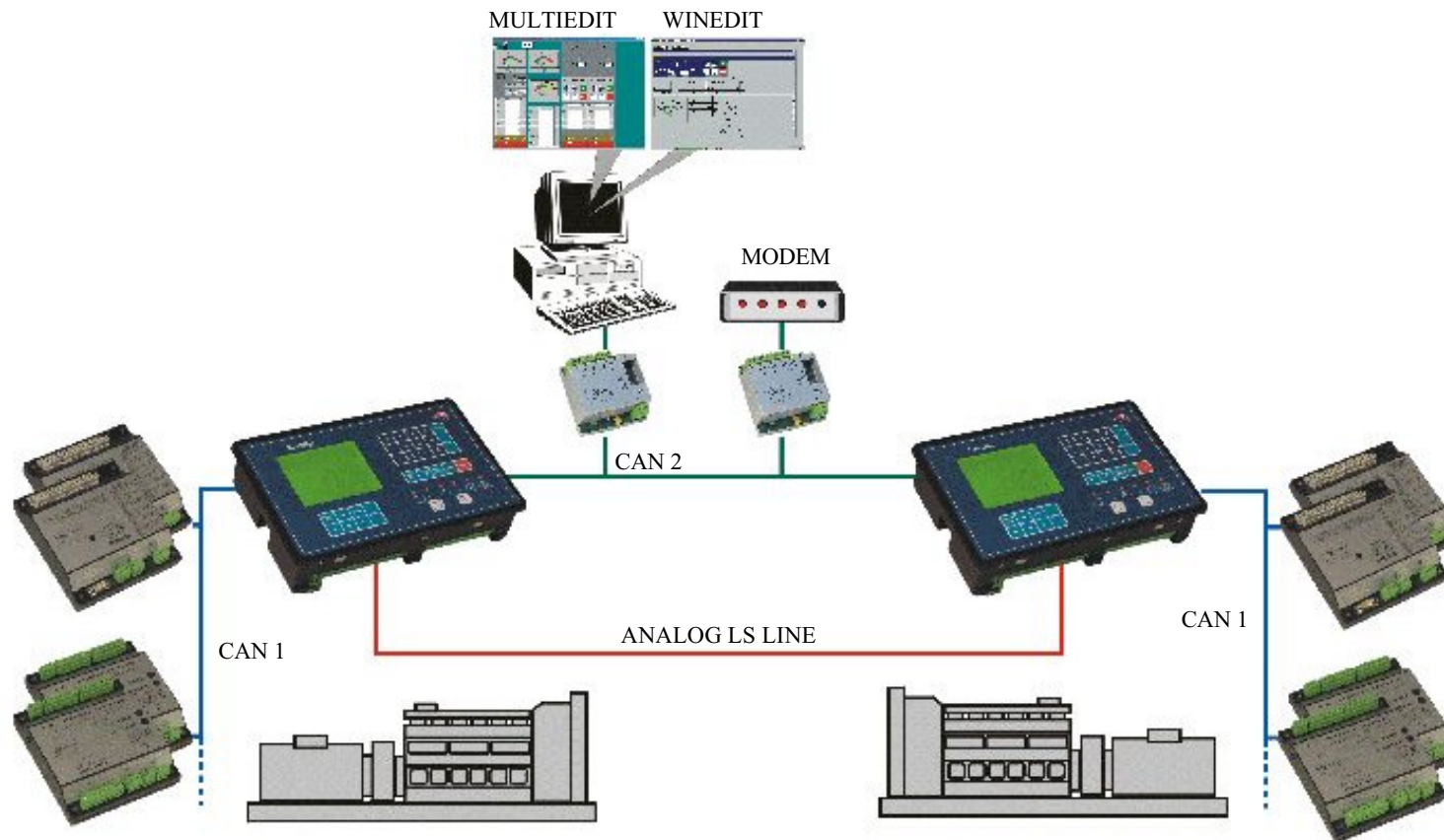- 16 Digital inputs

- 16 Digital outputs

- 4 Analogue inputs

Modem

RS 232

- 1 Analog output

- 1 RPM input

- All power measurements

Single Engine Control Expanded

MODEM

RS 232

MULTIEDIT   WINEDIT

iS-AIN8

CAN 1

CAN 2
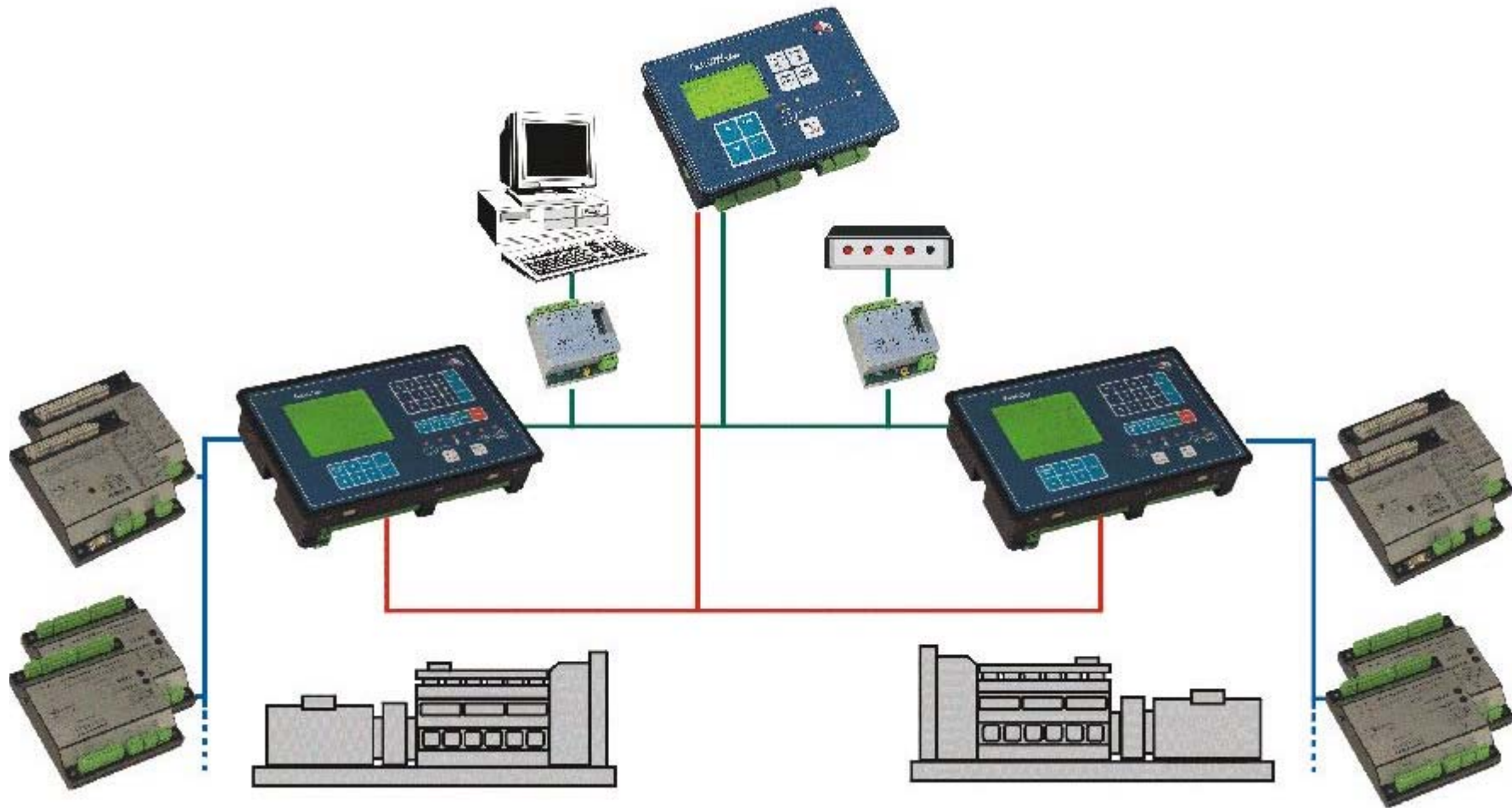
iS-BIN16/8

Up to 32 MODULES

- Up to 144 digital inputs

- Up to 80 digital outputs

- Up to 84 analog inputs

- All power measurements

Multiple Engine Control Expanded
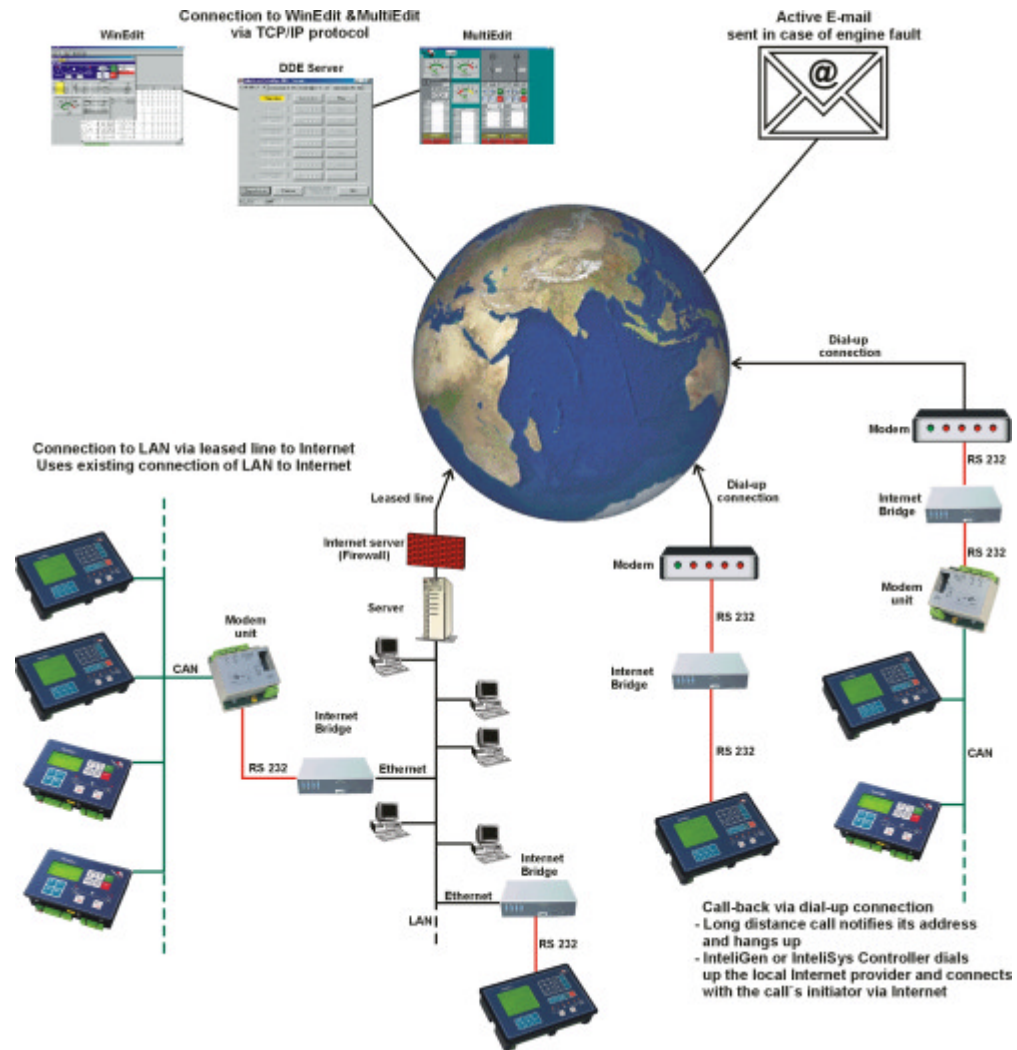
Multiple Engine Control Import/Export

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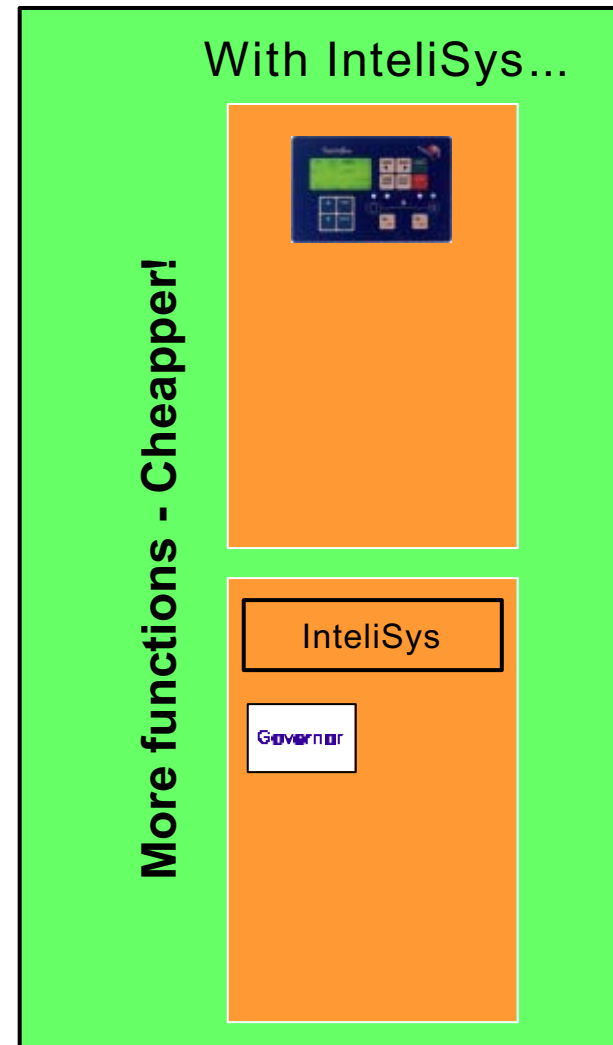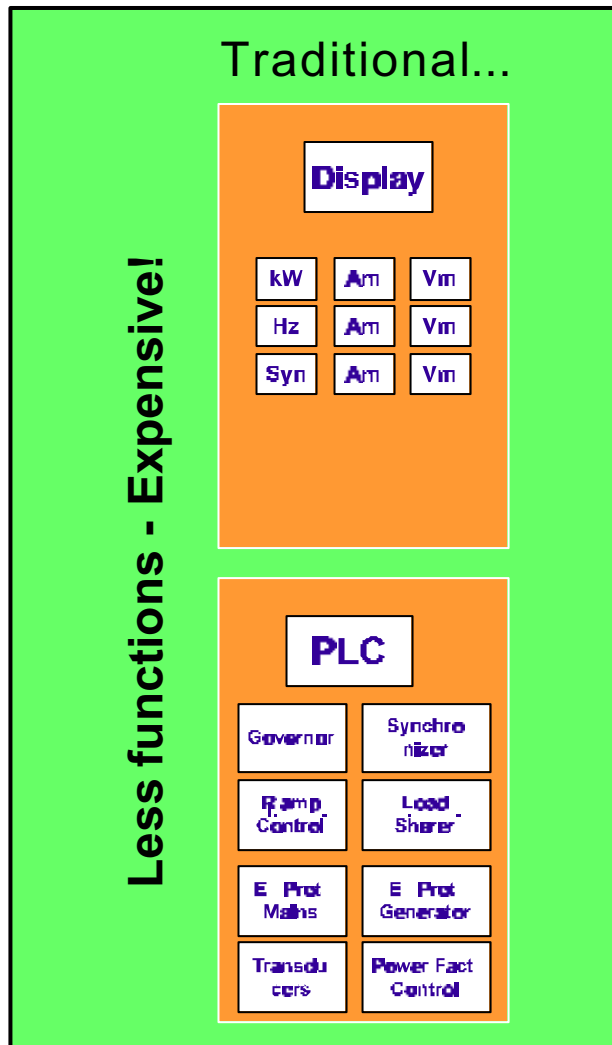## InteliSys-Additional Features

Networking

Data Logging

- Cumulative running h, kWh, kVArh, fuel consumption

- Event capture history of the engine operation for back tracing

- 5 Independent post mortem and pre mortem histories with 1sec sampling frequency

- PC / modem / CAN data transfer possibilities

0	AUTOMATIC MODE	10:28:54	99-10-22	0.00	0
-1	NET MODE - ON	10:28:53	99-10-22	0.00	0
-2	TIME FOR SERVICE	10:28:48	99-10-22	0.00	0
-3	SYSTEM SWITCHED ON	10:28:48	99-10-22	0.00	0
-4	SYSTEM SWITCHED OFF	23:19:31	99-10-06	0.00	0
-5	COMMAND STOP	23:18:11	99-10-06	0.00	0
-6	REMOTE STOP - MODEM	23:18:11	99-10-06	0.00	0

IS - Instant switchboard savings!

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Traditional...

Less functions - Expensive!

Display

kW	Am	Vm
Hz	Am	Vm
Syn	Am	Vm

PLC

Governor	Synchro nizer
Ramp Control	Load Sharer
E Prot Mains	E Prot Generator
Transdu cers	Power Fact Control

With InteliSys...

More functions - Cheapper!

InteliSys

Governor

Your benefits

- Versatile product for total gen-set control

- Highest technology design

- Graphical user interface

- Expandable and configurable

- Sophisticated data logging and

- Telemetry functions

- Switchboard and labour savings

Invest into the future... SAVE your money now!