

PRODUCT GUIDE



Control Systems

Electronic edition – section I.

Gen-set Controllers
Engine Controllers
Product Comparison Table





Welcome to our comprehensive product guide

I am pleased to introduce the electronic edition of our product guide. We have divided the guide into three separate sections based on our product range, with each one providing a convenient source of detailed information on our wide range of ComAp products, software and accessories.

We have developed the guide to help all those people who are sourcing and specifying engine control products, but want more detailed information about products and how and where they can be used successfully. The three sections of the guide combine practical and useful data with informative and factual feedback from professionals who have been using the products in the field.

The product guide itself has been designed to make your life easy. The first section details our complete range of controllers for generators and engines.










The second section profiles our wide selection of customized software tools and control accessories. The third section illustrates a range of product applications, demonstrating which product type is suitable for typical as well as unusual situations.

I hope these electronic editions of the product guide provide everything you need to know about ComAp products, however, if you would like to receive a printed copy of the complete product guide send your request to info@comap.cz

Regards

Libor Mertl – Managing Director

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High performance gen-set controllers

ComAp offers a significant and proven range of generator controllers that provide innovative and easy to use features. From the simplest to the most complex application, ComAp products guarantee total integration with your engine system, providing flexible solutions capable of communicating and monitoring and using the latest technology on a wider range of leading electronic engines.

All ComAp controllers use a CAN bus connection combined with custom software to give you unrestricted access to hundreds of operational and diagnostic messages in an easily readable format, either on the controller screen or via a connected PC.

With growing demand for universal compatibility with electronic engines, ComAp has recently launched the **new NT 'New Technology'** range of generator controllers featuring increased memory and faster processor speed to enable them to manage the wider range of features on modern engines. The new models use one piece of software to cover a greater choice of electronic engines, which for end users has resulted in easier and quicker setting-up, simpler monitoring and more effective remote supervising and servicing.

Key range features:

- Engine specific solutions for CAT, Cummins, Deutz, GM, John Deere, MTU, Scania, Volvo Penta, and others
- Easily programmable either on screen or from a PC with free dedicated software
- Clear user-friendly LCD screen, displaying information in a choice of five languages
- Absolute precision of load sharing and speed control
- Remote control and monitoring via SMS messages, modem or internet
- Wide choice of extension modules
- Logical blocks for control of auxiliary equipment in the engine room

Industrial strength engine controllers

ComAp's highly flexible, sophisticated engine controllers feature outstanding control, monitoring and protection for diesel and gas engines as well as peripheral equipment. The extended product family offers individually tailored solutions for a wide range of engine specific applications from marine emergency generators and propulsion engines to land-based requirements including engine driven pumps, compressors and systems.

Key range features:

- Engine specific solutions for CAT, Cummins, Deutz, GM, John Deere, MTU, Scania, Volvo Penta, and others
- Central unit with clear user-friendly LCD graphic display
- Easily programmable either on screen or from a PC (All dedicated software FREE)
- Logical blocks for pump or compressor with active pressure control
- Clear user-friendly LCD screen, displaying information in a choice of five languages

- Wide choice of extension modules
- Remote control and monitoring via SMS messages, modem or internet

User-friendly PC software tools

The ComAp range of generator and engine controllers are complimented by an extensive suite of easy to use operating and monitoring PC software that delivers easy and comprehensive control and supervision of separate generators as well as whole sites. With this dedicated interface PC software, all of which is available free, users can configure controller features and custom set the properties and functions of the various extension modules that are available.

These PC configuration tools **LiteEdit**, **GenConfig** and **InteliMonitor**, **DriveConfig** and **DriveMonitor** are dedicated to the supervision of **InteliLite**, **IG/IS-NT** and **InteliDrive** controllers and, when operated from a PC, the software gives the user total control of the equipment, allowing them to modify, download, upload and save configurations, set parameter settings online, observe and save key values and events as well as maintain remote control using active and passive calls or SMS.

Key software features:

- Custom designed for optimum performance of ComAp products
- Configuration and supervision of generator controllers remotely
- Monitoring and archiving trends
- Fleet management of generators around the world
- All ComAp software is free with each controller

A wider choice of accessories

ComAp accessories and extension modules allow users to custom design solutions to meet individual project requirements, increasing the communication and remote monitoring functionality of the controllers. With our wealth of experience we have created an extensive family of additional modules and accessories that compliment our complete range of generator and engine controllers.

ComAp product applications

The product application section of the guide gives you practical information on which products are best suited to particular requirements, whether based on application or functional need. Use the product comparison table to make easy decisions about which products you should select. The guide covers:

- Gen-sets and engines
- Single gen-sets in standby applications
- Multiple gen-sets working in parallel to the grid
- Landfill gas installation
- Rental sets



New IntelliSys^{NT}

HIGH-END GEN-SET CONTROLLER

New Technology IntelliSys is an expandable controller for both single and multiple gen-sets operating in standby or parallel modes, especially in CHP and other complex applications. Detachable construction (consisting of IS-NT-BB and IS-Display) allows easy installation with the potential for many different extension modules designed to suit individual customer requirements.

A built-in synchronizer and digital isochronous load sharer allow a total integrated solution for gen-sets in standby, island parallel or mains parallel. Native cooperation of up to 32 gen-sets is a standard feature.

IntelliSys^{NT} supports many standard ECU types and is specially designed to easily integrate new ones.

A powerful graphic display with user-friendly controls allows any user whatever their ability to find the information they need. The display on the basic version is capable of displaying graphical languages (e.g. Chinese).

ComAp is able to offer customized firmware solutions.



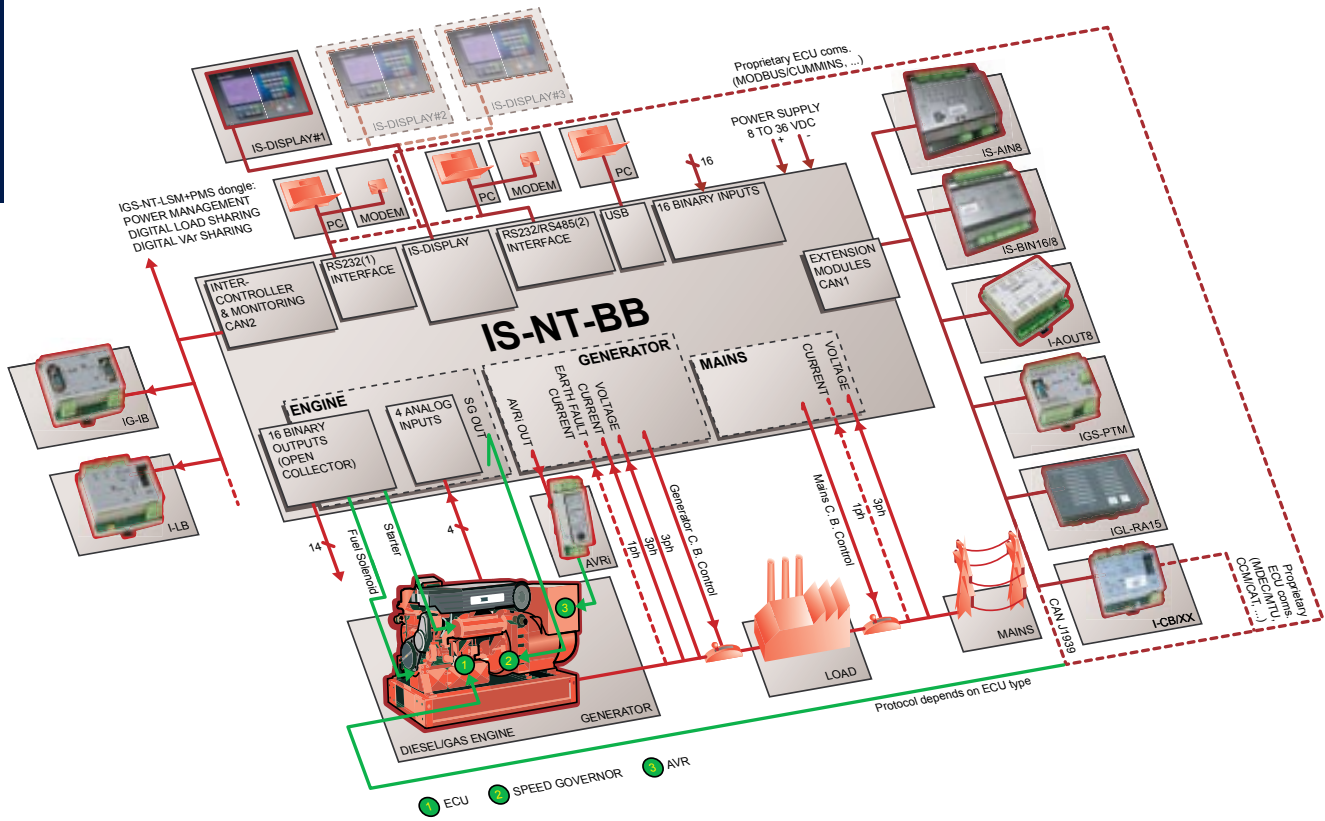
Benefits

- Support of engines with ECU (Electronic Control Unit)
- Excellent configurability to match customers' needs exactly
- Complete integrated gen-set solution incorporating built-in PLC and signal sharing via CAN bus – minimum external components needed
- Many communication options – easy remote supervising and servicing
- Perfect price/performance ratio
- Gen-set performance log for easy problem tracing

Features

- ▶ IntelliSys^{NT}
 - CHP support (programmable PID loops and other built-in PLC functions)
 - Support of engines with ECU (J1939, ModBus and other proprietary interfaces); alarm codes displayed in text form
 - Automatic synchronizing and power control (via speed governor or ECU)
 - Baseload, Import/Export, TempByPower
 - Peak shaving
 - Voltage and PF control (AVR)
 - Generator measurement: U, I, Hz, kW, kVAr, kVA, PF, kWh, kVAhr
 - Mains measurement: U, I, Hz, kW, kVAr, PF
 - Selectable measurement ranges for AC voltages and currents – 120 / 277 V, 0–1 / 0–5 A
 - Inputs and outputs configurable for various customer needs
 - 2× RS232/RS485 interface with ModBus protocol support; Analog/GSM/ISDN/CDMA modem communication support; SMS messages; ECU ModBus interface; secondary RS485 converter is isolated
 - Event-based history (up to 1000 records) with customer-selectable list of stored values; RTC; statistic values
 - Integrated PLC programmable functions
 - Interface to remote display units (3× IS-Display)
 - USB 2.0 slave interface
 - Dimensions 284 × 180 mm (front panel)
 - Sealed to IP65

HIGH-END GEN-SET
CONTROLLER



Integrated fixed and configurable protections

- 3 phase integrated generator protections (U + f)
- IDMT overcurrent + Shortcurrent protection
- Overload protection
- Reverse power protection
- Earth fault protection
- 3 phase integrated mains protections (U + f)
- Vector shift protection
- All binary/analog inputs free configurable for various protection types: HistRecOnly / Alarm Only / Warning / Off load / Slow stop / BreakerOpen&Cooldown / Shutdown / Mains protect / Sensor fail
- Additional 160 programmable protections configurable for any measured value to create customer-specific protections

Communication extension features

- IG-IB
- I-LB
- I-CR
- IntelliMonitor
- GenConfig

Extension modules

- up to 10x IS-AIN8
- up to 4x IS-BIN16/8
- up to 4x I-AOUT8
- up to 4x IGS-PTM
- IGL-RA15
- I-CB
- IS-Display

Upgrade kit

- IGS-NT-LSM+PMS dongle: Enables multiple isolated parallel or multiple parallel with mains operation (with CAN bus)
 - Digital Load Sharing
 - Digital VAR Sharing
 - Optimizing number of running engines: Power management; kW, kVA or % load based

HW modification codes

- Order code IS-NT (LT) (Marine) – product that consists of two other products:
 - IS-Display (LT) (Marine) – local or remote display
 - IS-NT-BB (Marine) – Base Box; the unit without display for switchboard mounting

LT = Low Temperature; display equipped with heating foil for operation down to -30°C
Marine = Type approved version for Marine

Power for mines

Contract Power Management Pty. Ltd. is one of Australia's largest Independent Power Producers owning and operating power stations in the range 5–15 MW for mining companies in Western Australia and overseas.

„We first chose IntelliSys as the control system in 2004 and now we have five power stations utilizing these controllers. We have always liked the simplicity of operation and programming and this has saved us a lot of costs as there was no software engineering involved.“

Brian Hall, Electrical Manager



Sally Malay, Australia



Tulawaka, Tanzania



Guelb Moghrein, Mauritania



New IntelliGen^{NT}

GENERAL PURPOSE COMPACT GEN-SET CONTROLLER

New Technology IntelliGen is a comprehensive controller for both single and multiple gen-sets operating in standby or parallel modes. Compact construction makes the unit ideal for these applications and HW modifications allow customers to select the perfect solution to meet a particular requirement.

A built-in synchronizer and digital isochronous load sharer allow a total integrated solution for gen-sets in standby, island parallel or mains parallel. Native cooperation of up to 32 gen-sets is a standard feature.

IntelliGen^{NT} supports many standard ECU types and is specially designed to easily integrate new ones.

A powerful graphic display with user-friendly controls allows any user whatever their ability to find the information they need.

ComAp is able to offer customized firmware solutions.



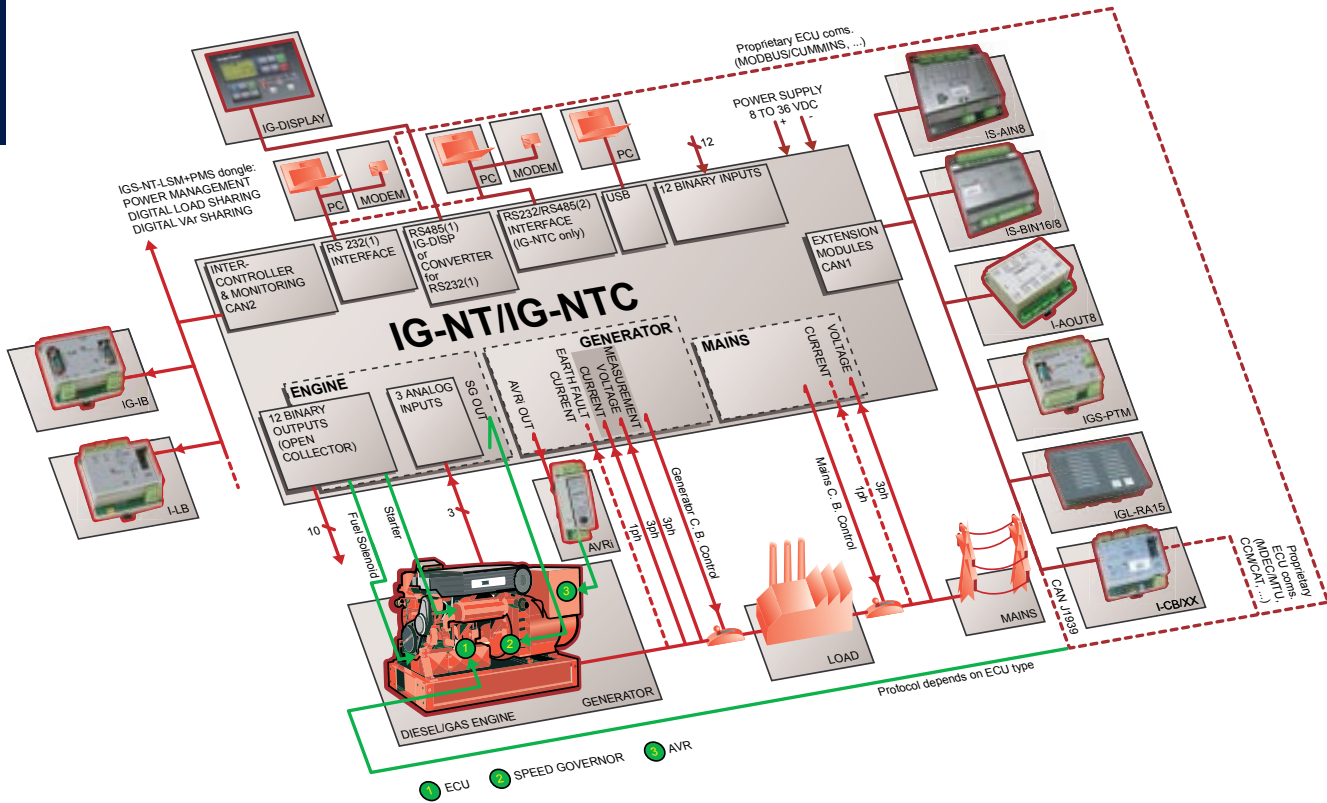
Benefits

- Support of engines with ECU (Electronic Control Unit)
- Excellent configurability to match customers' needs exactly
- Complete integrated gen-set solution and signal sharing via CAN bus – minimum external components needed
- Many communication options – easy remote supervising and servicing
- Perfect price/performance ratio
- Gen-set performance log for easy problem tracing

Features

- ▶ IntelliGen^{NT}
 - Support of engines with ECU (J1939, ModBus and other proprietary interfaces); alarm codes displayed in text form
 - AMF function
 - Automatic synchronizing and power control (via speed governor or ECU)
 - Baseload, Import/Export
 - Peak shaving
 - Voltage and PF control (AVR)
 - Generator measurement: U, I, Hz, kW, kVAr, kVA, PF, kWh, kVAhr
 - Mains measurement: U, I, Hz, kW, kVAr, PF
 - Inputs and outputs configurable for various customer needs
 - RS232/RS485 interface with ModBus support; Analog/GSM/ISDN/CDMA modem support; SMS messages; ECU ModBus interface
 - Event-based history (up to 500 records) with customer-selectable list of stored values; RTC; statistic values
 - Integrated PLC programmable functions
 - Interface to remote display unit (IG-Display)
 - Dimensions 180 × 120 mm (front panel)
 - Sealed to IP65
- ▶ IntelliGen^{NTC}
 - All items from IntelliGen^{NT} Features list
 - + Selectable measurement ranges for AC voltages and currents
 - 120 / 277 V, 0-1 / 0-5 A
 - + Secondary isolated RS232/RS485 interface
 - + USB 2.0 slave interface

**GENERAL PURPOSE
COMPACT GEN-SET
CONTROLLER**



Integrated fixed and configurable protections

- 3 phase integrated generator protections (U + f)
- IDMT overcurrent + Shortcurrent protection
- Overload protection
- Reverse power protection
- Earth fault protection
- 3 phase integrated mains protections (U + f)
- Vector shift protection
- All binary/analog inputs free configurable for various protection types: HistRecOnly / Alarm Only / Warning / Off load / Slow stop / BreakerOpen&Cooldown / Shutdown / Mains protect / Sensor fail
- Additional 160 programmable protections configurable for any measured value to create customer-specific protections

Communication extension features

- IG-IB
- I-LB
- I-CR
- IntelliMonitor
- GenConfig

Extension modules

- up to 10x IS-AIN8
- up to 4x IS-BIN16/8
- up to 4x I-AOUT8
- up to 4x IGS-PTM
- IGL-RA15
- I-CB
- IG-Display

Upgrade kit

- IGS-NT-LSM+PMS dongle: Enables multiple isolated parallel or multiple parallel with mains operation (with CAN bus)
 - Digital Load Sharing
 - Digital VAR Sharing
 - Optimizing number of running engines: Power management; kW, kVA or % load based

HW modification codes

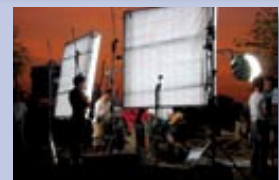
- Order code IG-NT (LT) (GC) (Marine) or IG-NTC (LT) (GC) (Marine)

LT = Low Temperature; display equipped with heating foil for operation down to -30°C
 GC = Graphical Characters; one additional font (12x12, e.g. Chinese) can be used on the display
 Marine = Type approved version for Marine

Light for stars

AFM Lighting Namibia

AFM Lighting is an international market leader in the provision of lighting facilities for the film and television industry. The company uses mobile gen-sets when filming on location from 40 kVA to 200 kVA, some of which are controlled by IntelliGen with load sharing modules for their power.





New IntelliGen^{NT}EE

ECU-ENGINE OPTIMIZED COMPACT GEN-SET CONTROLLER

New Technology IntelliGen EE is a controller for both single and multiple gen-sets operating in standby or parallel modes, where an Engine with ECU is used. Compact construction makes the unit ideal for these applications and HW modifications allow customers to select the perfect solution to meet a particular requirement.

A built-in synchronizer and digital isochronous load sharer allow a total integrated solution for gen-sets in standby, island parallel or mains parallel. Native cooperation of up to 32 gen-sets is a standard feature.

IntelliGen^{NT}EE supports many standard ECU types and is specially designed to easily integrate new ones.

A powerful graphic display with user-friendly controls allows any user whatever their ability to find the information they need.

ComAp is able to offer customized firmware solutions.



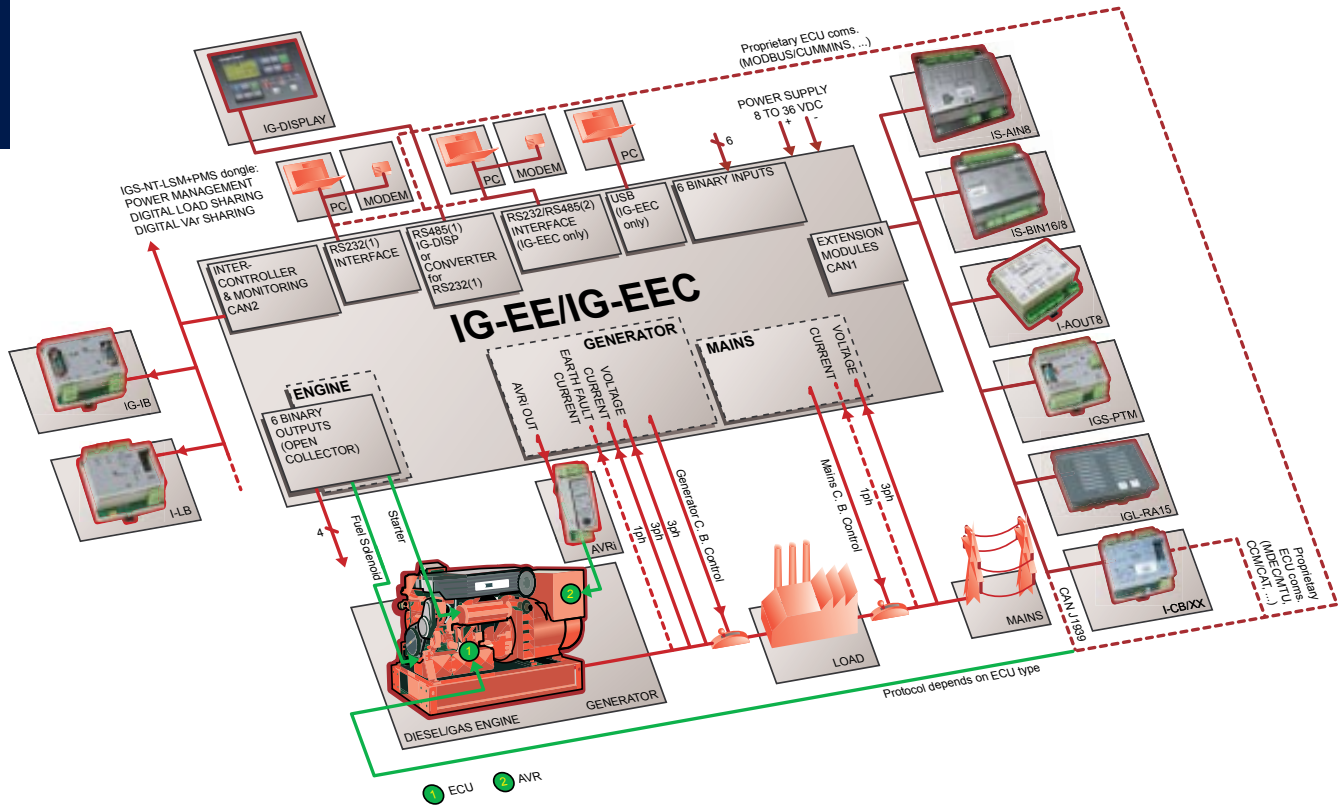
Benefits

- HW optimized for cooperation with an ECU (Electronic Control Unit)
- Excellent configurability to match customers' needs exactly
- Complete integrated gen-set solution and signal sharing via CAN bus – minimum external components needed
- Many communication options – easy remote supervising and servicing
- Perfect price/performance ratio
- Gen-set performance log for easy problem tracing

Features

- ▶ IntelliGen^{NT}EE
 - Support of engines with ECU (J1939, ModBus and other proprietary interfaces); alarm codes displayed in text form
 - AMF function
 - Automatic synchronizing and power control (via ECU)
 - Baseload, Import/Export
 - Peak shaving
 - Voltage and PF control (AVR)
 - Generator measurement: U, I, Hz, kW, kVAr, kVA, PF, kWh, kVAhr
 - Mains measurement: U, I, Hz, kW, kVAr, PF
 - Inputs and outputs configurable for various customer needs
 - RS232/RS485 interface with ModBus protocol support; Analog/GSM/ISDN/CDMA modem communication support; SMS messages; ECU ModBus interface
 - Event-based history (up to 500 records) with customer-selectable list of stored values; RTC; statistic values
 - Integrated PLC programmable functions
 - Interface to remote display unit (IG-Display)
 - Dimensions 180 × 120 mm (front panel)
 - Sealed to IP65
- ▶ IntelliGen^{NT}EEC
 - All items from IntelliGen^{NT}EE Features list
 - + Selectable measurement ranges for AC voltages and currents
 - 120 / 277 V, 0-1 / 0-5 A
 - + Secondary RS232/RS485 interface with the same features as the primary one; additionally, the RS485 converter is isolated
 - + USB 2.0 slave interface

*ECU-ENGINE
OPTIMIZED COMPACT
GEN-SET CONTROLLER*



Integrated fixed and configurable protections

- 3 phase integrated generator protections (U+f)
- IDMT overcurrent + Shortcurrent protection
- Overload protection
- Reverse power protection
- Earth fault protection
- 3 phase integrated mains protections (U + f)
- Vector shift protection
- All binary/analog inputs free configurable for various protection types: HistRecOnly / Alarm Only / Warning / Off load / Slow stop / BreakerOpen&Cooldown / Shutdown / Mains protect / Sensor fail
- Additional 160 programmable protections configurable for any measured value to create customer-specific protections

Communication extension features

- IG-IB
- I-LB
- I-CR
- IntelliMonitor
- GenConfig

Extension modules

- up to 10x IS-AIN8
- up to 4x IS-BIN16/8
- up to 4x I-AOUT8
- up to 4x IGS-PTM
- IGL-RA15
- I-CB
- IG-Display

Upgrade kit

- IGS-NT-LSM+PMS dongle: Enables multiple isolated parallel or multiple parallel with mains operation (with CAN bus)
 - Digital Load Sharing
 - Digital Var Sharing
 - Optimizing number of running engines: Power management; kW, kVA or % load based

HW modification codes

- Order code IG-EE (LT) (GC) (Marine) or IG-EEC (LT) (GC) (Marine)

LT = Low Temperature; display equipped with heating foil for operation down to -30°C
 GC = Graphical Characters; one additional font (12x12, e.g. Chinese) can be used on the display
 Marine = Type approved version for Marine

IG/IS-NT:

the best solution

Hossein Riahi
 Managing Director
 Dorna Mehr Co., Iran



„We have used several controllers from the previous generation of IntelliGen and IntelliSys and we have been fully satisfied. I am sure based on the innovative features of NT generation, we can provide the best solution for most of our applications and projects.“





New IntelliMains^{NT}

MAINS SUPERVISION CONTROLLER

New Technology IntelliMains is a member of the Intelli family designed for multiple (up to 31) gen-sets operating in parallel to mains. IntelliMains^{NT} controller connects a group of gen-sets to the mains or groups of gen-sets among themselves.

IntelliMains^{NT} provides 3 applications for different site topology: with MCB (Mains Circuit Breaker), with MCB and MGCB (Master Generator Circuit Breaker) or with BTB (Bus-tie Breaker). According to the type of application, it controls MCB, MGCB or BTB and it allows reverse synchronizing of the gen-set group operating in multi-island mode to the mains (MCB application), to another group of gen-sets (BTB application) or forward synchronizing of the gen-sets (MGCB application). The controller measures mains power, power factor, reactive and apparent power and 3-phase system import/export.

IntelliMains^{NT} controller is equipped with a powerful graphic display featuring icons, symbols and bar graphs for intuitive operation, which together with high functionality set new standards in gen-set control.



Benefits

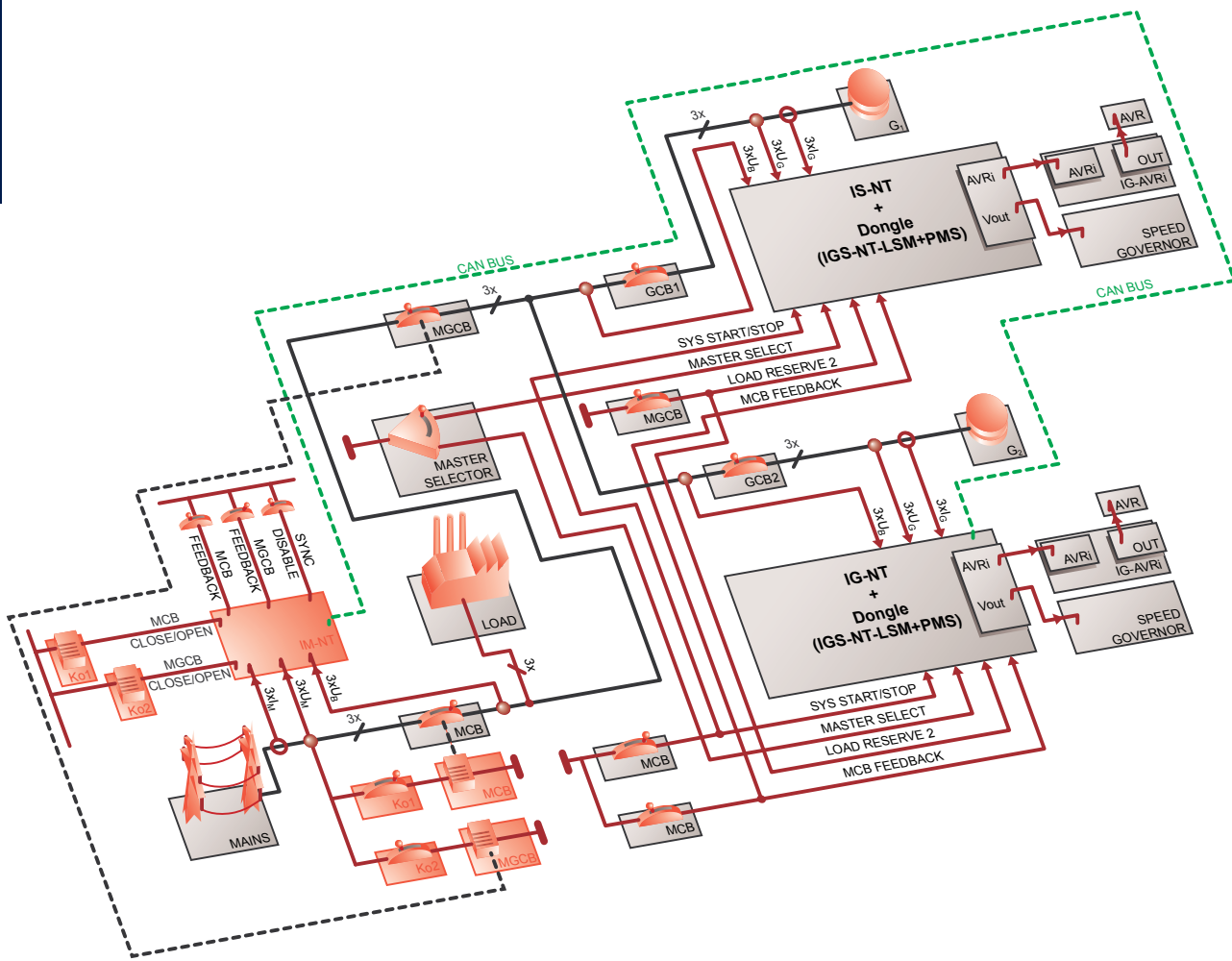
- Easy solution even for complex systems with groups of gen-sets – less wiring and components
- Can be used as bus-tie synchronizer
- Graphical site schematic for easy site overview – aggregates in one place all important system parameters
- Many types of communication – easy supervision and servicing
- Perfect price/performance ratio

Features

- Mains measurement: U, I, Hz, kW, kVAr, kVA, PF, kWh, kVAhr
- Bus measurement: U, I, Hz
- Sum gen-sets kWh and kVAhr
- Basic functions
 - Mains failure detection using integrated mains protections
 - Selectable partial or full MCB control
 - Configurable level switches based on mains import or object consumption
 - Load Shedding – 3 steps; selectable based on gen-sets power or mains import
 - High voltage application support
 - Display 128 × 64 pixels
- Event based history file (~500 records), RTC, statistics
- Inputs and outputs configurable for various customer needs
- Integrated PLC programmable functions
- RS232/RS485 interface with ModBus protocol support; Analog/GSM/ISDN/CDMA modem communication support; SMS sending on detected failure
- Dimensions 180 × 120 mm (front panel)
- Sealed to IP65

**MAINS SUPERVISION
CONTROLLER**

New IntelliMains^{NT}



Integrated protections

- 3 phase integrated mains protections (U + f), voltage unbalance
- Mains IDMT overcurrent + Shortcurrent protection, current unbalance, Mains reverse power
- Vector shift protection
- All binary/analog inputs free configurable for various protection types: Warning / Write history / Write history + Active call
- Phase sequence supervision

Communication extension features

- IG-IB
- I-LB/I-LB+
- IntelliMonitor
- GenConfig
- IntelliSupervisor

Extension modules

- IS-AIN8
- IS-BIN16/8
- I-AOUT8
- IGS-PTM
- IGL-RA15
- IG-Display

Paradise

„The customer had reviewed a number of controllers on the market, but chose the solution provided by IntelliGen and IntelliMains from ComAp, as it offered more functionality and used only a single modem for the group of gen-sets.“

Stuart Noble, Product Manager
Control & Power Systems Ltd (builder of the control panel), United Kingdom

„In short we were looking for a SCADA based system that above all was reliable, robust and simple to use. As I am the only technical person on the island, it had to be simple to use in my absence – even for the chef! We wanted functionality that matched our needs against a tight budget, as delivering good value was a vital part of securing the necessary investment. We chose ComAp because it met more criteria than any other product on the market and offered us a proven automatic synchronization capability.“

Martyn Brown, Herm Island Engineer, United Kingdom

Herm Island is a part of the Channel Islands with only 56 permanent residents, two pubs, one hotel and a handful of shops. The residents depend on the reliable delivery of continuous power provided from the island's generators.





InteliLite AMF

AUTOMATIC MAINS FAILURE CONTROLLER

InteliLite AMF 20 and InteliLite AMF 25 are integrated controllers for gen-sets operating in single standby mode. They fulfil the requirements of AMF applications, including modem control, user configuration and full gen-set monitoring and protection.

InteliLite controllers are equipped with a powerful graphic display featuring icons, symbols and bar graphs for intuitive operation, which together with high functionality set new standards in gen-set control.

A special low temperature version (IL-AMF 20-LT or IL-AMF 25-LT) is also available, allowing the display to work up to -30°C .

Detail features overview of the InteliLite AMF 20 and InteliLite AMF 25 is in the chapter Product Comparison Table (page 42).



Benefits

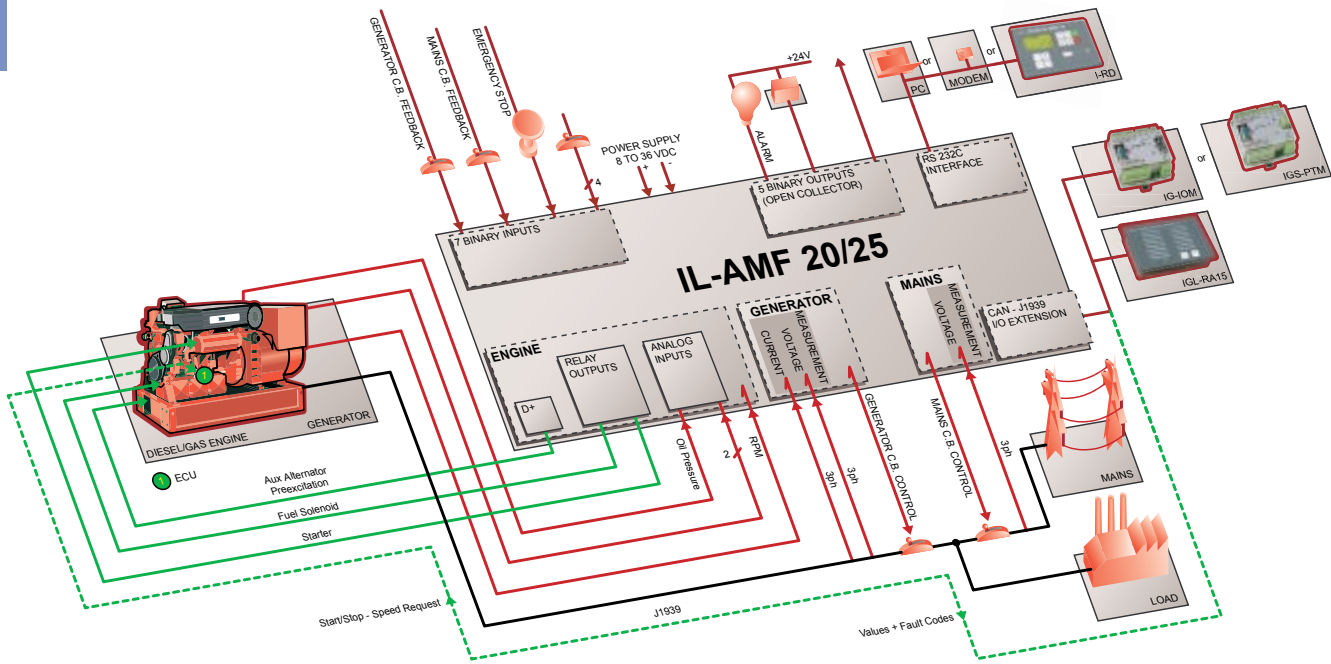
- Less wiring and components
- Integrated solution
- Less engineering and programming
- Perfect price/performance ratio

Features

- Support of engines equipped with Electronic Control Unit (J1939 interface)
- Comprehensive diagnostic messages; SPN/FMI codes; KWP2000 support
- Automatic or manual start/stop of the gen-set
- Push buttons for simple control, lamp test
- Graphic back-lit LCD display 128×64 pixels
- 6 LED indicators
- Parameters adjustable via keyboard or PC
- Mains measurements (50/60 Hz): U1-U3, Hz
- Generator measurements (50/60 Hz): U1-U3, I1-I3, Hz, kW, kVAr, kWh
- Selectable protections alarm/shutdown
- Configurable analog inputs
- Battery voltage, engine speed (pick-up) measurement
- Configurable programmable binary inputs and outputs
- Warm-up and cooling functions
- Generator C.B. and Mains C.B. control with feedback and return timer
- RS232 interface (AT-LINK CONV cable is necessary for IL-AMF 20)
- Modem communication support (IL-AMF 25 only)
- Dimensions 180×120 mm (front panel)
- Sealed to IP65

AUTOMATIC MAINS
FAILURE CONTROLLER

InteliLite AMF



Integrated fixed and configurable protections

- Binary/analog input configurable protections
- Engine underspeed and overspeed protection
- 3 phase Generator protections
 - Over-/under voltage
 - Over-/under frequency
 - Current/voltage asymmetry
 - Overcurrent/overload
- 3 phase AMF function
 - Over-/under frequency
 - Over-/under voltage
 - Voltage asymmetry

Communication extension features

- Analog / GSM / ISDN modems
- I-RD

Extension modules

- IGS-PTM
- IG-IOM
- IGL-RA15

Product report

Repair center

Slovenia, Ljubljana airport

The airline repair center installed an emergency generator for stand by operation in case of power failure. The control panel was equipped with an IntelLite AMF 20 selected to control and monitor the single OSLO 6B generator package, which incorporated a Volvo engine and a Marelli Alternator.





InteliLite MRS

MANUAL AND REMOTE CONTROLLER

InteliLite MRS 10/11 and InteliLite MRS 15/16/17 are integrated controllers for single engine control in manual and remote start applications, featuring full gen-set monitoring and protection.

InteliLite controllers are equipped with a powerful graphic display featuring icons, symbols and bar graphs for intuitive operation, which together with high functionality set new standards in gen-set control.

A special low temperature version (IL-MRS 11-LT or IL-MRS 16-LT) is also available, allowing the display to work up to -30°C .

Detail features overview of the InteliLite MRS 10/11 and InteliLite MRS 15/16/17 is in the chapter Product Comparison Table (page 42).

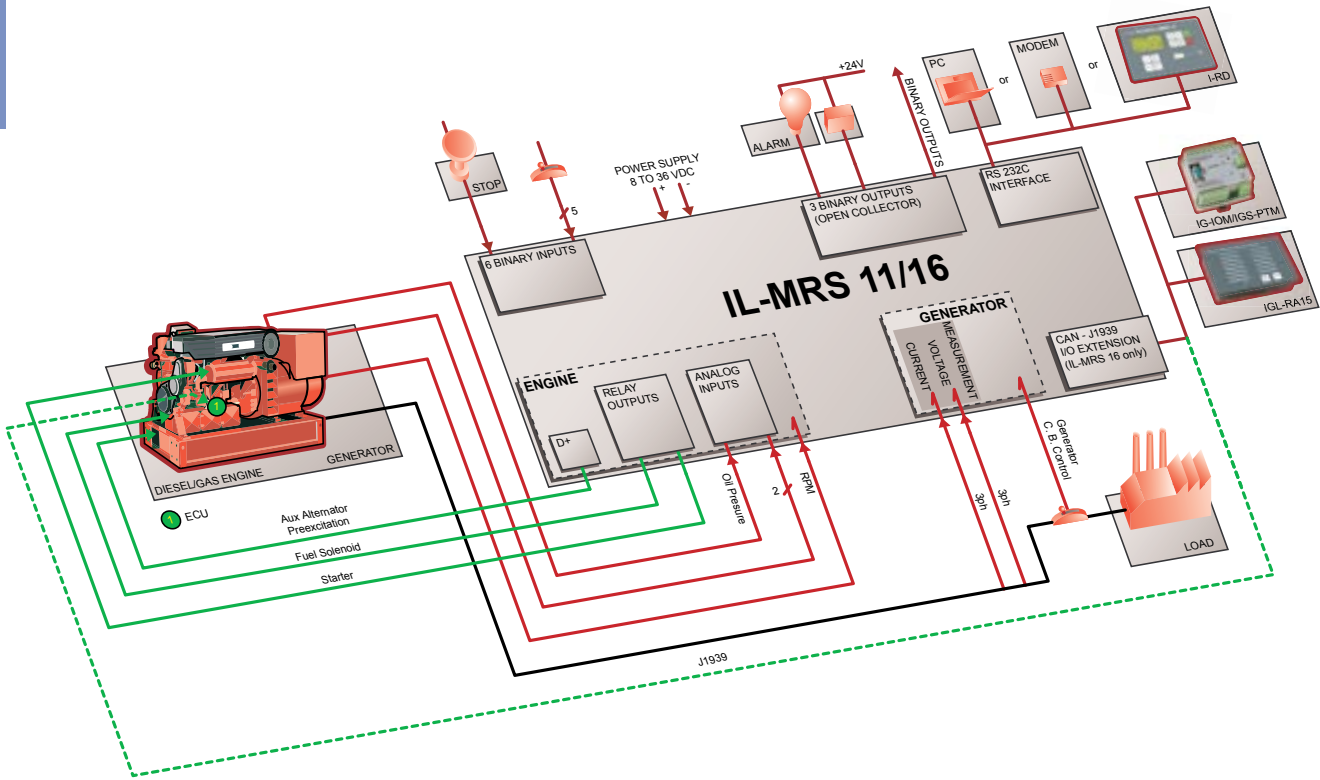


Benefits

- Less wiring and components
- Integrated solution
- Less engineering and programming
- Perfect price/performance ratio

Features

- Support of engines equipped with Electronic Control Unit – J1939 interface (IL-MRS 16 only)
- Automatic or manual start/stop of the gen-set
- Push buttons for simple control, lamp test
- Graphic back-lit LCD display 128×64 pixels
- 3 LED indicators
- Parameters adjustable via keyboard or PC
- Generator measurements (50/60 Hz): U1-U3, I1-I3, Hz, kW, kVA, kVArh, kWh
- Selectable protections alarm/shutdown
- Analog oil pressure, water temperature, fuel level, battery voltage, engine speed (pick-up)
- Configurable programmable inputs and outputs
- Warm-up and cooling functions
- Generator C.B. control
- RS232 interface (AT-LINK CONV cable is necessary for IL-MRS 10/11)
- Modem communication support (IL-MRS 15/16 only)
- Dimensions 180×120 mm (front panel)
- Sealed to IP65



Integrated fixed and configurable protections

- Binary/analog input configurable protections
- Engine underspeed and overspeed protection
- 3 phase Generator protections
 - Over-/under voltage
 - Over-/under frequency
 - Current/voltage asymmetry
 - Overcurrent/overload

Communication extension features

- Analog / GSM / ISDN modems
- I-RD

Extension modules

- IGS-PTM
- IG-IOM
- IGL-RA15

Customer feedback



„We have chosen ComAp controllers for use in all of our product range because they have the latest technology, are highly reliable and offer excellent communication features. In addition, we have found the products to be widely compatible with different engines and have always benefited from the good technical support and customer service.“

Guillermo Paredes, Owner
CETEC Sudamericana S.A., Argentina





IG-GPU

CONTROLLER FOR LAND AIRCRAFT 400 HZ GEN-SETS

InteliGen GPU – Ground Power Unit is a comprehensive controller designed for gen-sets powering aircraft at the ground, operating at 400 Hz frequency.

InteliGen GPU enables independent control of three circuit breakers. The first circuit breaker provides an external AC/DC converter for aircraft 28 VDC supply. The second and third circuit breaker provides two AC feeders to the aircraft.

The gen-set can be operated manually using the controller front panel or remotely from external buttons or via modem or GSM modem.

Power cable connection to the aircraft is protected by plug feedback information with two different methods of plug feedback detection.

InteliGen GPU supports DC line droop compensation, when DC line is used. Separate CT for DC line overcurrent can protect DC line overload.

InteliGen GPU inputs/outputs configurability enables large customizing to different types of land aircraft applications.

InteliGen GPU controller is equipped with a powerful graphic display featuring icons, symbols and bar graphs for intuitive operation.



Benefits

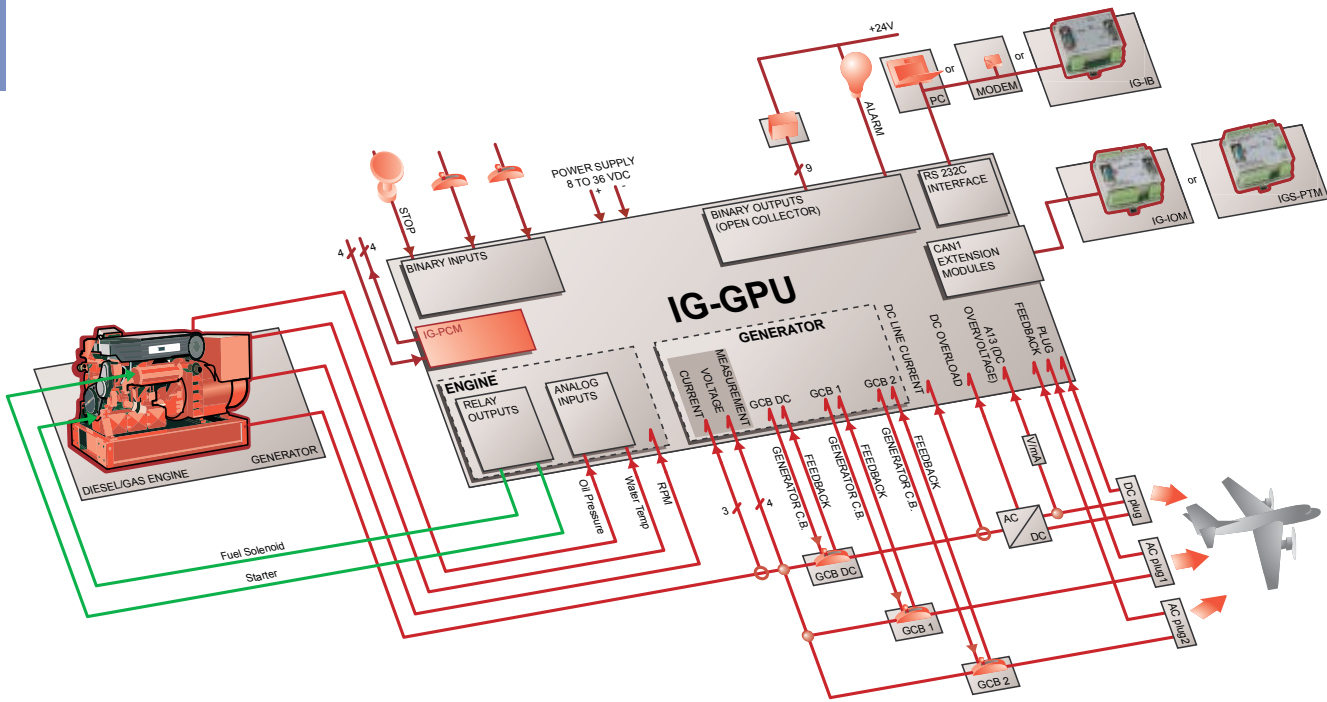
- Less wiring and external components
- Economic switchboard design
- Integrated solution – upgradeable
- Less engineering
- Full communication – easy service
- Perfect price/performance ratio
- Free SCADA WinEdit software

Features

- Engine control and protection
- Display indication of all measured and calculated values
- Push buttons for manual control
- Three circuit breakers control
- Warm-up and cooling functions
- Load bank TEST mode
- Binary inputs 9, expandable by IG-PCM (+4) and IGS-PTM (+8) module
- Binary outputs 9, expandable by IG-PCM (+4) and IGS-PTM (+8) module
- Analog inputs 3, expandable by IGS-PTM (+4) module, configurable characteristics
- RS232 interface with ModBus protocol support; Analog/GSM/ISDN modem communication support; SMS sending on gen-set failure
- Event based history file (~120 records), RTC, statistics
- Dimensions 180 × 120 mm (front panel)
- Sealed to IP65 (front panel)

*CONTROLLER FOR
LAND AIRCRAFT
400 HZ GEN-SETS*

IG-GPU



Integrated protections

- 3 phase integrated generator protections (U+f)
- IDMT overcurrent + Shortcurrent protection
- Current and voltage unbalance
- Overload protection
- All binary/analog inputs free configurable for various protection types: Warning / Slow stop / Unload / Shutdown
- Phase sequence supervision

Communication extension features

- IG-COM
- IG-MU
- IG-IB
- WinEdit
- MultiEdit

Extension modules

- IG-IOM
- IGS-PTM
- IG-PCM

Product report

Pink Panther

United Kingdom, BAE SYSTEMS

The Eurofighter Typhoon is the world's most advanced swingrole combat aircraft, developed by a number of leading aerospace companies, including BAE SYSTEMS. BAE SYSTEMS has chosen IG-GPU as the controller for its Pink Panther, a Ground Power Unit dedicated to deliver electric energy to Typhoon. With a wide range of built-in regulation functions and protections together with unrivalled configurability the IG-GPU controller helped to fulfil the demanding electrical characteristics of the Eurofighter.





InteliDrive DCU Marine

MODULAR ENGINE CONTROLLER FOR MARINE APPLICATIONS

InteliDrive DCU Marine is an engine controller designed specially to meet the demanding needs of the marine market, providing a high level of performance coupled with extensive communication capabilities and incorporating hardwired safety functions and primary/secondary power switching.

The controller is easily integrated into the ship's control system and takes on board the full communication capability with electronic engines. ComAp developed this capability for their market leading gen-set controllers through the use of J1939 and redundant J1587 communication buses. This engine specific approach enables InteliDrive DCU Marine to communicate fully with the engine's Electronic Control Unit (ECU), delivering a greater range of values and most importantly delivering all diagnostic information in intelligible plain text, instead of potentially misleading cryptic codes or flashing lights. The unit provides users with a highly flexible solution, featuring configurable inputs and outputs, allowing the controller to be customized to a particular application or requirement without complicated programming.



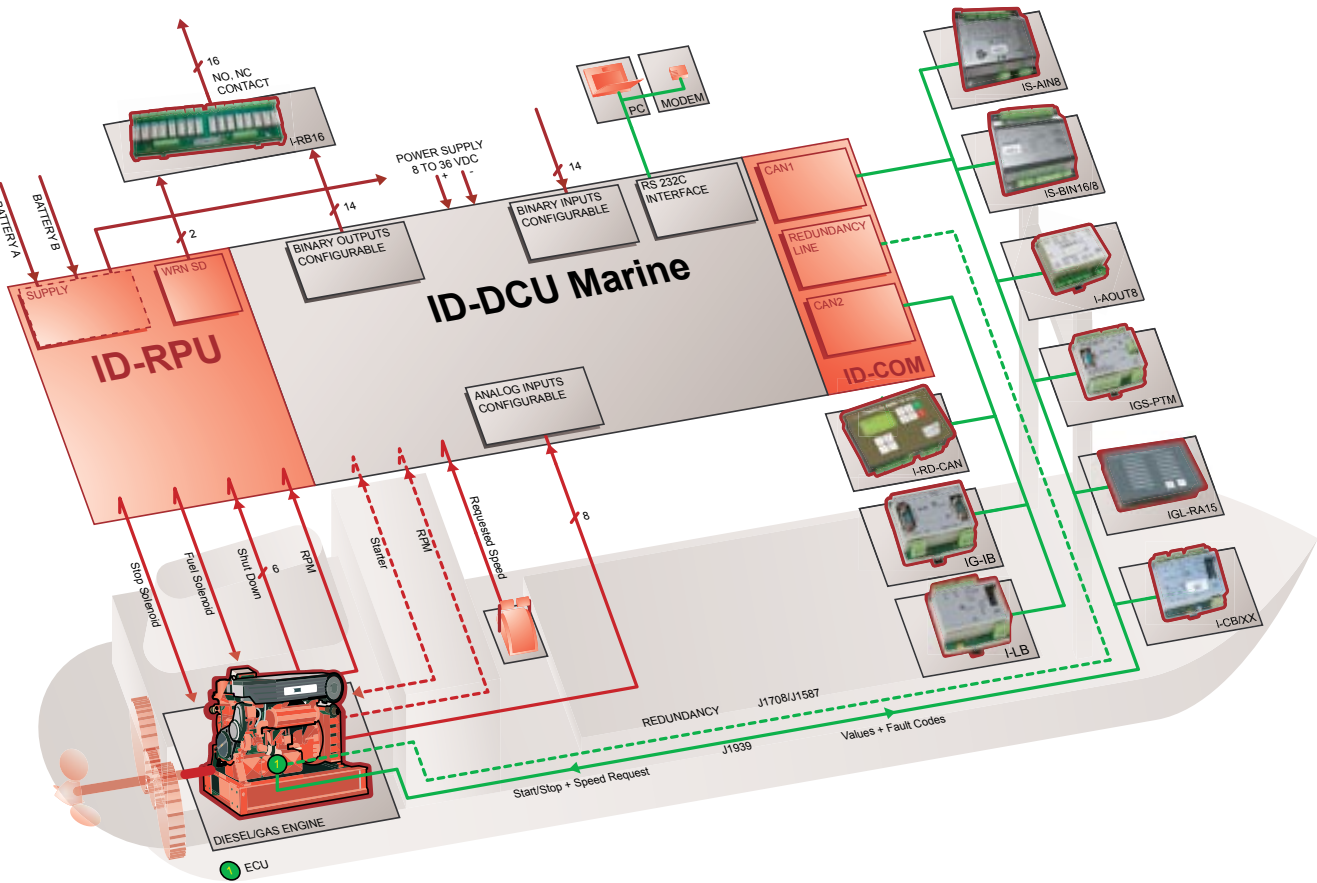
Benefits

- Integrated solution with hardwired safety functions – less wiring and components
- Full communication support of engines with ECU – simpler wiring, access to information from ECU via ModBus
- Event driven History record, easy backtracking and problem solving
- Load sharing for propulsion engines – better utilization of power of installed engines
- Slave panel available – economical solution of remote control
- Integrated clutch control – less wiring and components
- Many types of communication – easy supervision and servicing
- Perfect price / performance ratio
- Type approval from 10 major certification societies

Features

- Engine control, monitoring and protection
- 14 binary inputs and outputs, 8 analog inputs
- RS232/Modem/ModBus/Internet communication
- Switching between primary and secondary battery (with ID-RPU module)
- Redundant module ID-RPU with hardwired safety functions activated in backup mode
- Automatic switchover to backup mode in case of detection of main unit failure
- Setpoints adjustable via keyboard or PC
- Graphical screen with icons and bar graphs
- Event and time driven history record for backtracking
- Different engine application support: Auxiliary, Emergency/Harbour, Propulsion
- Symmetrical load sharing for propulsion engines with J1939 (via CAN bus)
- Clutch control for propulsion engines
- Extension modules for expandable number of Inputs/Outputs (connected via CAN bus)
- Slave panel for remote control available
- Inputs/Outputs configuration
- Configurable list of values that are read from J1939 bus
- Support of redundant J1587 communication bus
- Direct speed/load control via J1939 or J1587 buses
- Diagnostic information from J1939 or J1587 displayed in plain intelligible text
- Configurable ModBus and ModBus TCP support for easy integration into the ship's control system

*MODULAR ENGINE
CONTROLLER FOR
MARINE APPLICATIONS*



Redundant power module ID-RPU

- Supervision of the main unit in stand by mode
- Automatic back up mode activation if the main unit fails
- Hardwired safety functions in back up mode
- 1 Emergency stop normally opened
- 5 shutdown channels with broken wires detection
- Fuel and Stop solenoids with broken wires detection
- Automatic switchover between primary and secondary battery
- Common alarm and Common shutdown outputs

Communication module ID-COM

- Multi-controller and/or Remote display communication
- Redundancy line J1708/J1587

Communication extension and software tools

- IG-IB
- I-LB
- DriveMonitor
- DriveConfig

Relay board I-RB 16/8

- 16/8 relays for ID-DCU (ID-RPU) binary outputs separation
- Each channel has both n.o. and n.c. contacts available
- LED state indication

Extension modules

- Up to 4× IS-AIN8
- Up to 4× IS-BIN16/8
- Up to 4× I-AOUT8
- Up to 4× IGS-PTM
- Up to 2× I-RD CAN
- IGL-RA15
- I-CB

Product report

Icebreaking vessel

M/S Dalarö, Sweden

This icebreaking archipelago passenger vessel features four 450hp VOLVO PENTA D12D propulsion units that use the IntelDrive DCU Marine for total control of the engine, taking care of propulsion, load sharing, monitoring, and fault logging.





InteliDrive DCU Industrial

MODULAR ENGINE CONTROLLER FOR INDUSTRIAL APPLICATIONS

The InteliDrive is a highly flexible sophisticated engine controller, which features outstanding control, monitoring and protection for diesel and gas engines as well as peripheral equipment. The extended product family offers a range of engine specific versions suitable for landbased and marine applications. Most commonly, these tailored applications meet the specific control requirements of engine driven compressors and pumps.

InteliDrive can communicate via standard and proprietary CAN J1939 communication protocols to a wide range of EFI engines, which include Volvo Penta, Scania, MTU, CAT, Cummins, GM and Deutz. Designed to be highly flexible, InteliDrive can be expanded by means of additional modules to offer over 100 binary inputs and outputs.

The set of PLC (analog and binary) functions is available in the standard software and can be used by the customer to control and regulate drive-train components.

Like all ComAp products, InteliDrive features a powerful graphic display providing user-friendly information in an easy to understand format – not only for professionals but also for occasional users. As a result of developing engine specific solutions as ‚standard‘, the diagnostic information is available in intelligible plain text instead of potentially misleading cryptic codes or flashing lights.

**MODULAR ENGINE
CONTROLLER
FOR INDUSTRIAL
APPLICATIONS**

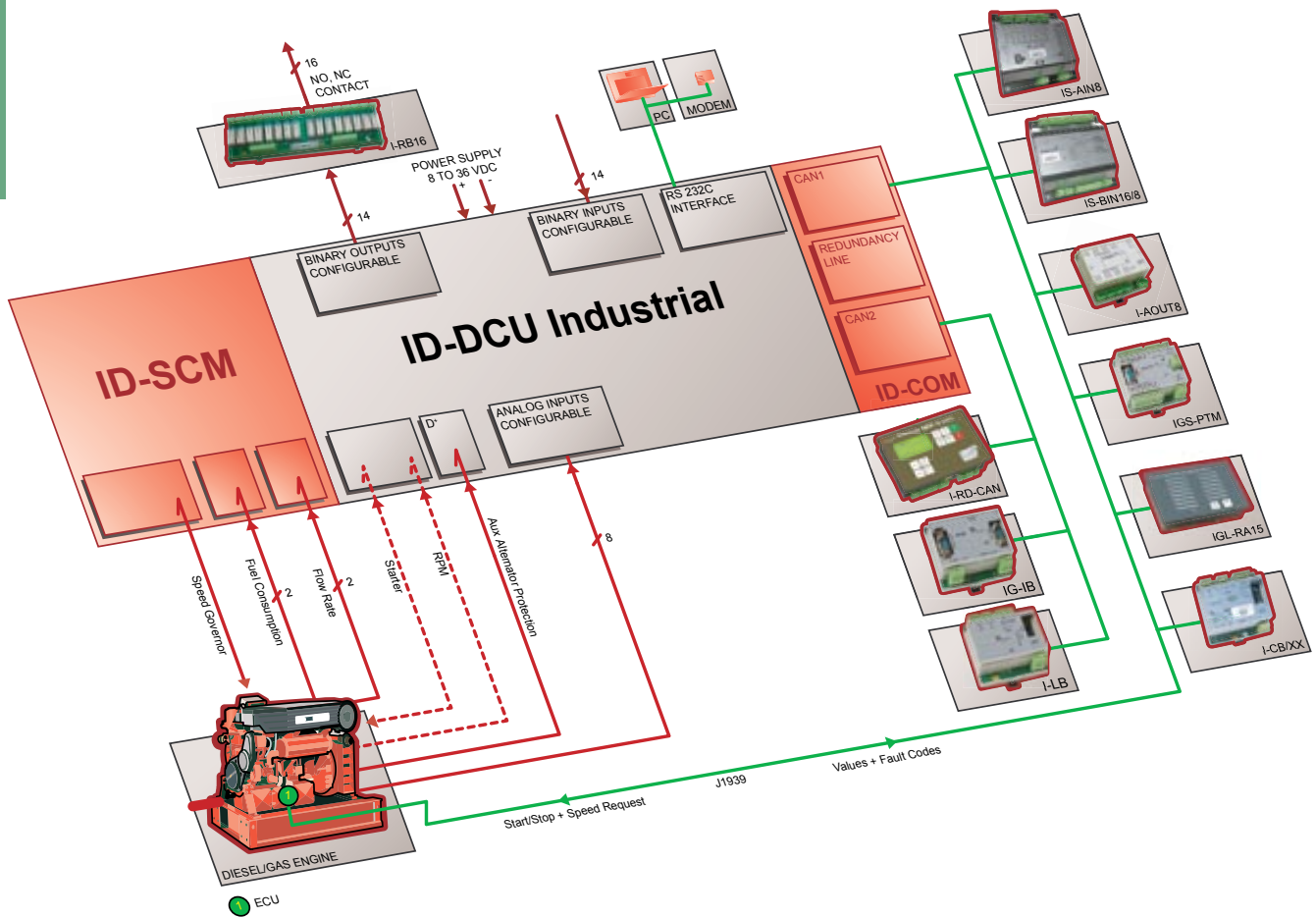


Benefits

- Integrated solution with hardwired safety functions – less wiring and components
- Full communication support of engines with ECU – simpler wiring, access to information from ECU via ModBus
- Event driven History record, easy backtracking and problem solving
- Load sharing for propulsion engines – better utilization of power of installed engines
- Slave panel available – economical solution of remote control
- Integrated clutch control – less wiring and components
- Many types of communication – easy supervision and servicing
- Perfect price / performance ratio
- Built-in PLC-integrated control of compressors, pumps or other driven technology

Features

- Engine control, monitoring and protection
- 14 binary inputs, 14 binary outputs, 8 analog inputs
- RS232/Modem/ModBus/Internet communication
- Engine measurement from sensors or output via J1939
- Input/output and J1939 configuration
- Running hours meter, number of starts counter
- Graphic back-lit LCD display with icons and bar graphs
- Sealed membrane panel to Ip65
- 180 × 120 mm front panel mounted case
- Operating temperature range: -20 to +70 °C regular unit, -30 to +70 °C low temperature unit
- 3 level password protection
- InteliDrive controller meets several forcing counter standards (EN, UL, CSA, NFPA, ...)
- Internal – configurable PLC functions



Programmable functions

- Logical functions: AND, OR, XOR, RS
- Comparators with delay or with hysteresis
- Analog switch from two inputs to one output
- Mathematical functions: ADD, SUB, MAX, MIN, AVG
- Linear interpolation, Moving average
- History and Protection
- PID loops with analog or binary outputs
- Counters, Timers, Delay functions

Extension modules

- Up to 4× IS-AIN8
- Up to 4× IS-BIN16/8
- Up to 4× I-AOUT8
- Up to 4× IGS-PTM
- ID-SCM
- IGL-RA15
- I-CB

Product training

Back to school

Complete and full technical training is regularly provided by ComAp experts either at our own facilities in Prague or at the customer offices – wherever they are in the world.

The InteliDrive DCU Industrial introductory training took place at Huegli Tech AG, Switzerland, where the distributors from Europe and Asia benefited from not only theoretical information, but also saw the controller working in practice fitted to a fire-pump unit.





InteliLite MRS 15 DCU

ENGINE CONTROLLER FOR GENERAL PURPOSES

The InteliLite is a highly flexible sophisticated engine controller, which features outstanding control, monitoring and protection for diesel and gas engines as well as peripheral equipment. The extended product family offers a range of engine specific versions suitable for land-based and marine applications.

InteliLite can communicate via standard and proprietary CAN J1939 communication protocols to a wide range of EFI engines, which include Volvo Penta, Scania, Cummins. The controller comes with LiteEdit PC software enabling the user to freely configure the inputs and outputs to suit individual requirements. Designed to be highly flexible, InteliLite can be expanded by means of additional modules to increase the number of binary inputs and outputs.

Like all ComAp products, InteliLite features a powerful graphic display providing user-friendly information in an easy to understand format. The diagnostic information and analog values from Engine/Control Unit are available in intelligible plain text instead of potentially misleading cryptic codes or flashing lights.



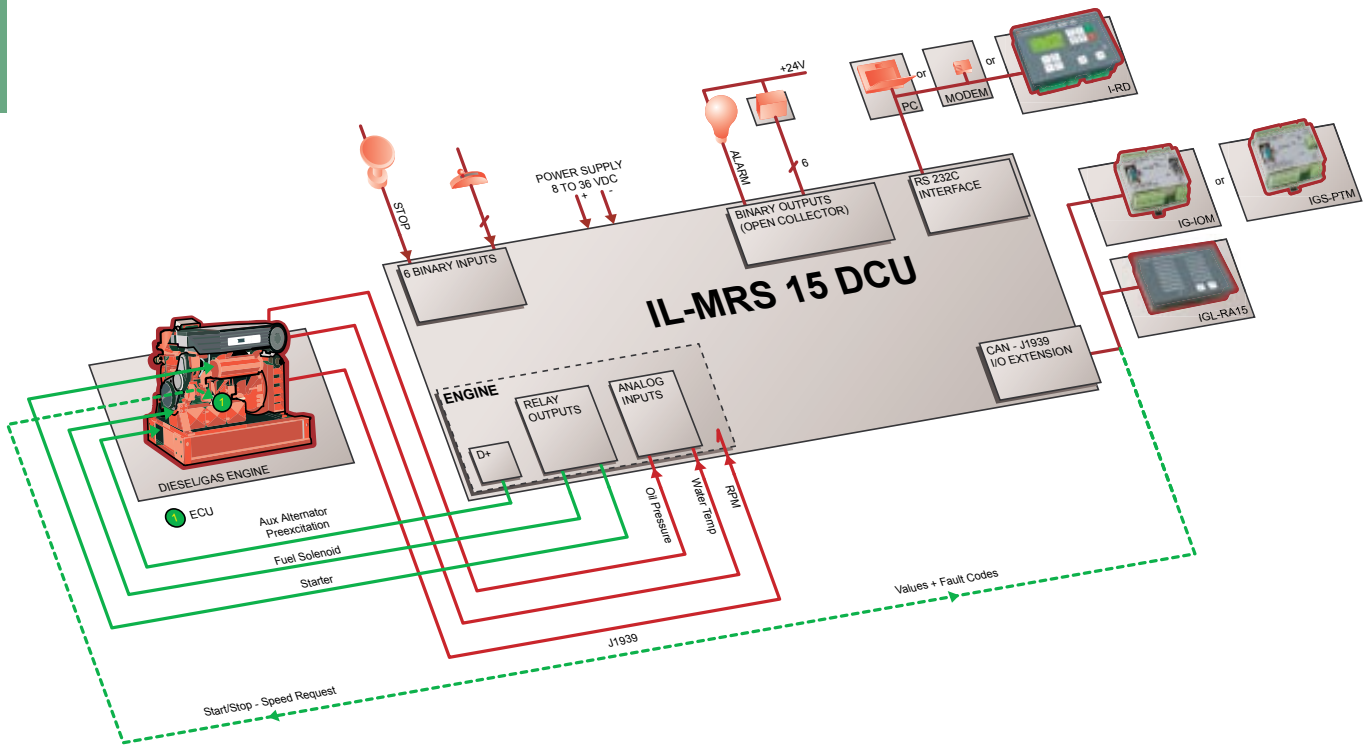
Benefits

- Integrated solution - less wiring and components
- Slave panel available – economical solution for remote control
- Less engineering and programming
- Perfect price/performance ratio

Features

- Engine control, monitoring and protection
- 6 binary inputs and outputs, 3 analog inputs
- RS232/Modem/ModBus communication
- Support of engines equipped with Electronic Control Unit – J1939 or Cummins ModBus interface
- Inputs, outputs configuration
- Automatic or manual start/stop of the gen-set
- Push buttons for simple control, lamp test
- Graphic back-lit LCD display 128 × 64 pixels
- 2 LED indicators
- Sealed to IP65
- Parameters adjustable via keyboard or PC
- Password protection
- Selectable protections alarm/shutdown
- Analog oil pressure, water temperature, fuel level, battery voltage, engine speed (pick-up)
- Configurable programmable inputs and outputs
- Operating temperature: -20 to +70 °C regular unit, -30 to +70 °C low temperature unit
- Power supply 8–36 VDC
- InteliLite controller meets several standards (EN, UL, CSA, NFPA...)

*ENGINE CONTROLLER
FOR GENERAL
PURPOSES*



Extension modules

- IGS-PTM
- IGL-RA15

Product report

ComAp fly high...

Aircraft Maintenance Support Services, United Kingdom have received their initial order for 10 IntelliLite MRS 15 DCU controllers, which will operate and control the generator that provides power to a cooling system for aircraft on the ground.

The cooling system utilizes a wing-mounted pod, which sucks large quantities of air to maintain the correct temperature of sensitive electronics housed within the wing. IntelliLite MRS 15 DCU controls the diesel generator with expansion modules being used to monitor oil pressure, air pressure temperature as well as the air compressor itself.



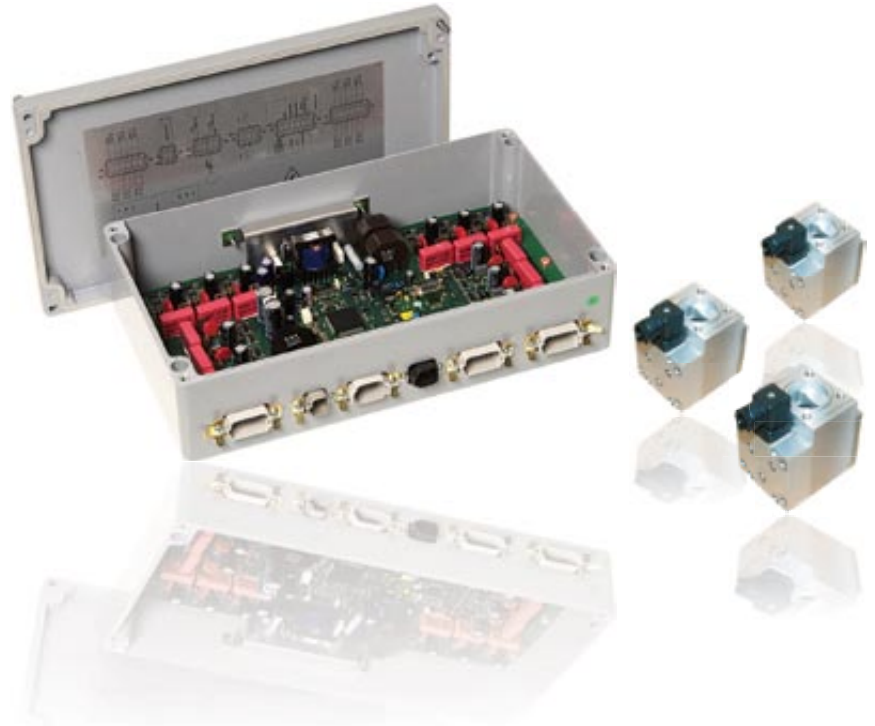


INCON

ELECTRONIC FUEL INJECTION SYSTEM

The electronic fuel injection system consists of the electronic injection control unit INCON and gas electromagnetic valves GAV. The opening duration of the Gas Electromagnetic Valves (GAV) controls the engine output and speed, whereas the INCON unit controls both when the gas admission starts and its duration into the suction port (before the suction valve). In addition, there is the opportunity to individually control cylinder timing.

Speed control function is included in INCON. Any standard external speed governor can be used as well. Rugged design of INCON enables mounting on the engine frame.



Benefits

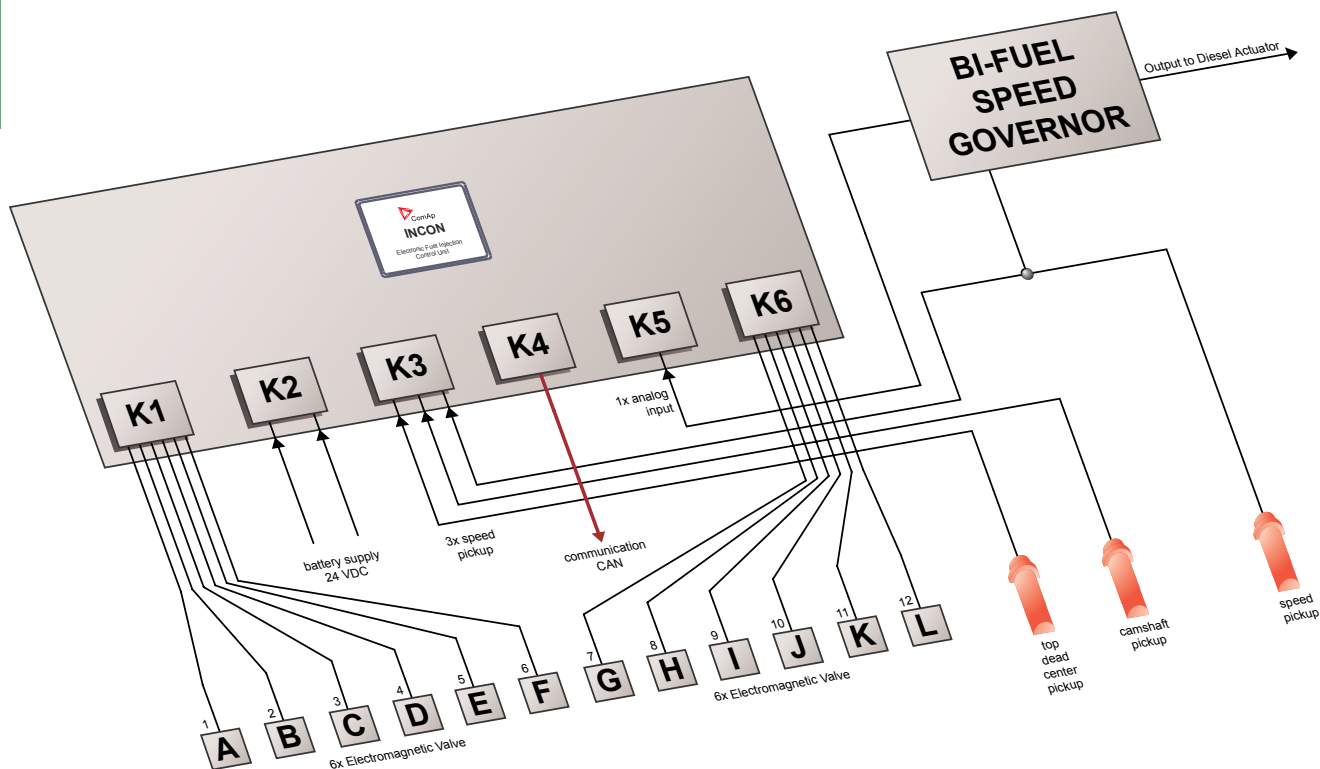
- No actuator needed
- Steady engine operation
- Excellent regulation characteristics of engine
- Reduced emissions limits
- Higher efficiency of the engine
- Short travel of gas

Features

- Individual cylinder timing control
- Precise timing of the gas injection period
- Precise adjustment of the beginning and the duration of the gas admission (Optimal flushing and cooling of the cylinder by filling air flow)
- Up to 12 cylinder engines with 1 INCON unit
- Up to 24 cylinder engines with 2 INCON units in tandem mode
- CAN and RS232 communication
- Pick-ups from flywheel, crankshaft and camshaft
- Temperature range – GAV: -20 to +100°C, INCON: -40 to +60°C
- Long durability of the valves
- Selectable isochronous or droop mode
- Selectable idle / nominal speed
- Programmable start procedure (fuel limit and ramp)
- Interface to external Sync/Load control system

*ELECTRONIC FUEL
INJECTION SYSTEM*

INCON



INCON

- Power supply: 18–35 V dc /10 A max.
- Degree of protection: IP 65
- Analog input: ± 10 V or ± 20 mA, galvanic separated
- 5× Bin inputs: 24 V, 7 mA, galvanic separated
- 2× Bin outputs
- Communications:
 - 1× RS 232: Parameters settings, galvanic separated
 - 1× CAN: Supervisory control system, galvanic separated
- Speed and timing inputs: flywheel, crankshaft and camshaft position
- Dimensions: 400 × 230 × 111 mm

GAV

- High output force
- Reliable operation in any orientation
- All parts are resistant to corrosion
- Time to full open after signal „on” 0.005 sec.
- Time to full closed after signal „off” 0.005 sec.
- Maximum pressure gas/air difference: 140 kPa
- Maximum backfire pressure: 30 kPa
- Maximum gas supply temperature: 60 °C (140 °F)
- Maximum current peak: 7 A (max. 0.005 sec.)

Product report

Successful cooperation

South Korea, Hyundai Heavy Industries

INCON injection controller and ECON bi-fuel governor, together with GAV electromagnetic gas injection valves have been successfully used for conversion of the new Hyundai Himsen diesel engine to bi-fuel operation.



	InteliLite MRS10 MRS11	InteliLite MRS15 MRS16 MRS17	InteliLite AMF20	InteliLite AMF25	InteliGen
Binary Inputs/Outputs	6 / 6	6 / 6 (14 / 14 ³⁾ ⁹⁾	7 / 7	7 / 7 (15 / 15 ³⁾ ⁹⁾	9/9 (21/21) ⁹⁾
Analog Inputs/Outputs	3 / 0 ¹⁾ (configurable as binary)	3 / 0 ¹⁾ (7 / 1 ³⁾ (configurable as binary)	3 / 0 ¹⁾ (configurable as binary)	3 / 0 ¹⁾ (7 / 1 ³⁾ (configurable as binary)	3/0 (7/1) ⁹⁾ (configurable as tristate)
AMF function	–	–	●	●	●
GCB control	MRS11	MRS16	●	●	●
Integrated PLC	–	–	–	–	–
Input configuration	●	●	●	●	●
Output configuration	●	●	●	●	●
Voltage measurement Gen / Mains range	3 ph / – 230V	3 ph / – PT ratio adjustable ³⁾ 230 V (MRS17: 277 V)	3 ph / 3 ph 230 V	3 ph / 3 ph PT ratio adjustable ³⁾ 230 V	3 ph / 3 ph PT ratio adjustable ⁴⁾ 230 V ¹⁰⁾
Current measurement range	3 ph / 4w overcurrent 5 A	3 ph / 4w IDMT overcurrent 5 A	3ph / 4w overcurrent 5 A	3 ph / 4w IDMT overcurrent 5 A	3 ph / 6w IDMT overcurrent 5 A
kW / kWh measurement	● / –	● / ●	● / –	● / ●	● / ● (kW total, per phase)
Extension modules	–	IGL-RA15 ²⁾ , IG-IOM ³⁾ , IGS-PTM ³⁾ , J1939 ECU ⁵⁾	–	IGL-RA15 ²⁾ , IG-IOM ³⁾ , IGS-PTM ³⁾ , J1939 ECU ⁵⁾	IG-IOM, IGS-PTM, IG-PC(LS)M, IG-COM, IGL-RA15, I-RD, J1939 ECU ¹¹⁾
Communication extension units	–	–	–	–	IG-MU, IG-IB
Communication interfaces	RS232 (external AT-LINK CONV cable needed)	RS232, CAN for periph., MODBUS ²⁾	RS232 (external AT-LINK CONV cable needed)	RS232, CAN for periph., MODBUS ²⁾	RS232, MODBUS, CAN, CAN for periph.
Modem support	–	●	–	●	●
Active call/SMS support	–	–	–	–	●
Synchronizing + Mains parallel operation	–	–	–	–	Optional (with IG-PCM module)
Multiple operation + Power Management System	–	–	–	–	Optional (with IG-PCLSM + IG-COM modules)
Display	LCD 128×64	LCD 128×64	LCD 128×64	LCD 128×64	LCD 128×64
Battery charging alternator circuit (D+)	●	●	●	●	–
Multilanguage support	Western Europe, Eastern Europe ⁷⁾ , Cyrillic ⁷⁾ , Turkish ⁷⁾ , Chinese (separate HW)	Western Europe, Eastern Europe ⁷⁾ , Cyrillic ⁷⁾ , Turkish ⁷⁾ , Chinese (separate HW)	Western Europe, Eastern Europe ⁷⁾ , Cyrillic ⁷⁾ , Turkish ⁷⁾ , Chinese (separate HW)	Western Europe, Eastern Europe ⁷⁾ , Cyrillic ⁷⁾ , Turkish ⁷⁾ , Chinese (separate HW)	Western Europe, Eastern Europe ¹⁴⁾ , Cyrillic ¹⁴⁾ , Turkish ¹⁴⁾ , Chinese (separate HW)
Direct Bus-tie application support	–	–	–	–	–
Binary / analog signal sharing	–	–	–	–	–
History (max records ¹⁶⁾)	–	–	–	–	120

Abbreviations

IG/IS/IM-NT – New Technology controller
IL – InteliLite controller
IG – InteliGen controller
IS – InteliSys controller
IM – InteliMains controller

ID – InteliDrive controller
AMF – Auto Mains Failure
MRS – Manual Remote Start
CHP – Combined Heat & Power

Annotation

- included | – excluded
- 1) from HW version 3.1
- 2) from SW version 1.2
- 3) from SW version 1.3
- 4) from SW version 6.0
- 5) from SW version 1.4

InteliSys	IG-NT	IG-NTC	IG-EE	IG-EEC	IS-NT
16/16 (128/128) ⁹⁾	12/12 (76/76) ⁹⁾	12/12 (76/76) ⁹⁾	6/6 (70/70) ⁹⁾	6/6 (70/70) ⁹⁾	16/16 (80/80) ⁹⁾
4/1 (68/1) ⁹⁾	3/0 (83/32) ⁹⁾ (configurable as tristate)	3/0 (83/32) ⁹⁾ (configurable as tristate)	0/0 (80/32) ⁹⁾ (configurable as tristate)	0/0 (80/32) ⁹⁾ (configurable as tristate)	4/1 (84/33) ⁹⁾ (configurable as tristate)
•	•	•	•	•	•
•	•	•	•	•	•
Limited programmable functions	Standard	Standard	Standard	Standard	Extended
•	•	•	•	•	•
•	•	•	•	•	•
3 ph/3 ph PT ratio adjustable 230 V ¹⁰⁾	3 ph/3 ph PT ratio adjustable 277 V	3 ph/3 ph PT ratio adjustable 120 V / 277 V	3 ph/3 ph PT ratio adjustable 277 V	3 ph/3 ph PT ratio adjustable 120 V / 277 V	3 ph/3 ph PT ratio adjustable 120 V / 277 V
3 ph/6w IDMT overcurrent 5 A	3 ph/6w IDMT overcurrent 5 A	3 ph/6w IDMT overcurrent 1 A / 5 A	3 ph/6w IDMT overcurrent 5 A	3 ph/6w IDMT overcurrent 1 A / 5 A	3 ph/6w IDMT overcurrent 1 A / 5 A
• / • (kW total, per phase)	• / • (kW total, per phase)	• / • (kW total, per phase)	• / • (kW total, per phase)	• / • (kW total, per phase)	• / • (kW total, per phase)
IS-AIN8, IS-BIN16/8, IGL-RA15, IGS-PTM, I-CB ¹²⁾ , IS-RD	IS-AIN8, IS-BIN16/8, I-AOUT8, IGL-RA15, IGS- PTM, I-CB ¹²⁾ , IG-Display	IS-AIN8, IS-BIN16/8, I-AOUT8, IGL-RA15, IGS- PTM, I-CB ¹²⁾ , IG-Display	IS-AIN8, IS-BIN16/8, I-AOUT8, IGL-RA15, IGS- PTM, I-CB ¹²⁾ , IG-Display	IS-AIN8, IS-BIN16/8, I-AOUT8, IGL-RA15, IGS- PTM, I-CB ¹²⁾ , IG-Display	IS-AIN8, IS-BIN16/8, I-AOUT8, IGL-RA15, IGS-PTM, I-CB ¹²⁾ , IS-Display
IG-MU, IG-IB	I-LB, IG-IB, IG-MU, I-LB+	I-LB, IG-IB, IG-MU, I-LB+	I-LB, IG-IB, IG-MU, I-LB+	I-LB, IG-IB, IG-MU, I-LB+	I-LB, IG-IB, IG-MU, I-LB+
RS232, MODBUS, CAN, CAN for periph.	RS232/RS485, MODBUS, CAN, CAN for periph.	2 × RS232/RS485, MODBUS, CAN, CAN for periph., USB 2.0	RS232/RS485, MODBUS, CAN, CAN for periph.	2 × RS232/RS485, MODBUS, CAN, CAN for periph., USB 2.0	2 × RS232/RS485, MODBUS, CAN, CAN for periph., USB 2.0
•	• ¹³⁾	• ⁵⁾	• ¹³⁾	• ¹³⁾	• ¹³⁾
•	•	•	•	•	•
Optional (with IS-PCM dongle)	•	•	•	•	•
Optional (with IS- PCLSM+PMS dongle)	Optional (with IGS-NT- LSM+PMS dongle)	Optional (with IGS-NT- LSM+PMS dongle)	Optional (with IGS-NT- LSM+PMS dongle)	Optional (with IGS-NT- LSM+PMS dongle)	Optional (with IGS-NT- LSM+PMS dongle)
LCD 320×240	LCD 128×64	LCD 128×64	LCD 128×64	LCD 128×64	LCD 320×240
–	•	•	•	•	•
Western Europe, Eastern Europe	Western Europe, Eastern Europe, Cyrillic, Turkish, GC optional support ¹⁵⁾	Western Europe, Eastern Europe, Cyrillic, Turkish, GC optional support ¹⁵⁾	Western Europe, Eastern Europe, Cyrillic, Turkish, GC optional support ¹⁵⁾	Western Europe, Eastern Europe, Cyrillic, Turkish, GC optional support ¹⁵⁾	Western Europe, Eastern Europe, Cyrillic, Turkish, GC support ¹⁵⁾
–	•	•	•	•	•
–	•	•	•	•	•
1000	500	500	500	500	1000

6) separate SW branch

7) from HW version 3.2

8) for various ECU (MTU/MDEC, CAT/CCM, Deutz TEME)

9) numbers in brackets are including extension modules

10) 277V range version available with special HW

11) separate SW branches

12) for various ECU (MTU, MDEC, CAT/CCM, Deutz TEME)

13) including modems without HW control signals

14) from HW version 3.2

15) covers any language with "Graphical Chars" like Chinese, Korean...

16) depends on number of values in history record

ComAp is a dynamic international company with a solid reputation for delivering innovative solutions to the power generation electronics market. By providing customers with state-of-the-art products, ComAp has built a name for delivering excellent reliability and good value.

Excellent and reliable product solutions

ComAp specializes in creating electronic control and management solutions for use in the power generation industries worldwide. Our portfolio of products, software and accessories is designed to support emergency power and standby power generation applications all over the world. We also work closely with our customers to develop unique customized and turn key solutions for ordinary and extraordinary applications delivering high standards of excellence on every project.

ComAp products represent some of the most reliable solutions on the market today. Every component and product undergoes the most rigorous standards during manufacture, with every stage being undertaken in accordance with international ISO 9001 certification. Our products are backed with the approvals from major Marine Certification Societies. Accreditation at the highest-level breeds confidence, and every ComAp product is supplied with an appropriate warranty and after-sales support for complete peace of mind.

People make the difference

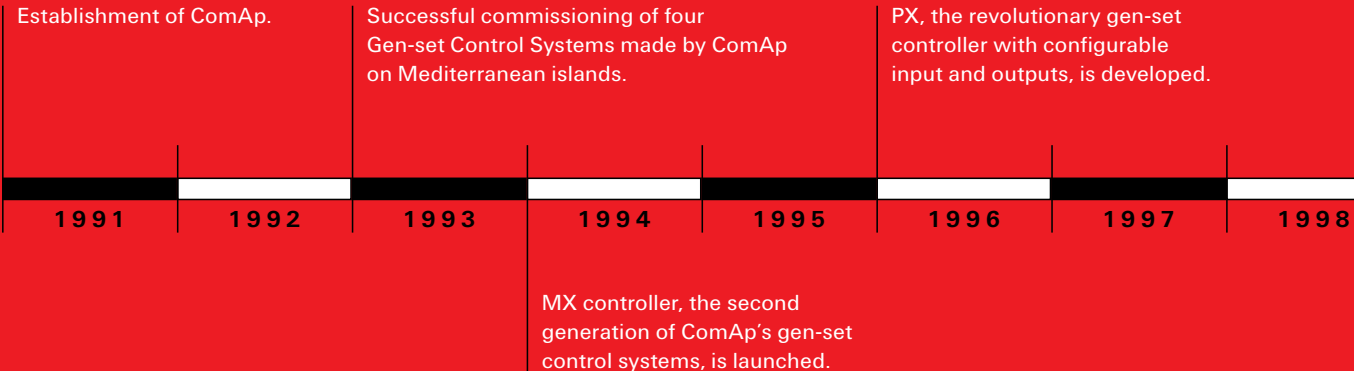
ComAp’s key strengths are flexibility, experience, knowledge and enthusiasm. This blend of values defines our personality and gives you the assurance of a truly honest and positive relationship. By supporting our people, investing in their development and encouraging creativity, our teams work hard to find new opportunities, technologies and solutions that enable us to successfully help our customers solve their problems effectively.

At the heart of this process is a strong desire to exceed our customers’ expectations by finding outstanding solutions for them and drawing upon the company’s most valuable asset – people. Over 80 % of ComAp employees are graduates with specialized electronic and programming knowledge appropriate to the innovative development of market-orientated engine management systems. This unique know-how is matched by ComAp’s significant investment at every stage of the research and development process, resulting in the creation of leading-edge modern development facilities.

At ComAp, we believe passionately in the importance of continuously developing new technology along with forward thinking software and hardware to maintain the enviable position as worldwide leader in gen-set communication solutions.



KEY MILESTONES



Professional partnerships

ComAp products are directly available in more than 60 countries, spanning almost every continent in the world. Through our professional and highly dedicated global distributor network we can satisfy customers' needs, however challenging.

Each ComAp distributor is carefully selected for their professionalism, product expertise and recognized quality standards and accreditation, and as such can advise customers on any matter relating to ComAp products and their applications.



ComAp on-line

The ComAp website www.comap.cz provides more information about our company, history and services. It is also the best place to visit for up-to-date news on existing product development, new product launches and free software downloads. The easiest way to stay informed is to join the 'ComAp Members Club', which you can do by simply completing the registration page on our website.



The strategic co-operation with HuegliTech Company significantly increases our distribution network.

ComAp Ltd. – 100% UK based ComAp subsidiary is established close to Bristol.

IntelliDrive controller for non gen-set, engine driven applications is released.



1999
2000
IntelliGen, the first member of the Intelli family and flagship of our gen-set control systems, is released.

2001
2002
2003
IntelliSys, our top end product dedicated to CHP and large engine control applications, is released. New mid-range product IntelliLite is launched for AMF and MRS applications.

2004
2005
2006
MC Electronics – an exciting joint venture between ComAp and Motortech is established. MCE will promote, sell and support ComAp's products in the USA and Canada.



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