

# Single Gen-set Control Solutions



Single gen-set solutions present the first step to the world of ComAp's high quality power generation control systems. Our mission is to build on the experiences gained in complex, high-end applications, and transfer them into a range of powerful, yet simple, intuitive products dedicated to single gen-set applications.

To deliver on our promise, ComAp has launched a new generation of one of the world's most successful controllers in its class, InteliLite. Completely redesigned, with highly reputable ComAp's PLC logic inside along with 4G and GPS capabilities, the new InteliLite sets a new standard in the single gen-set control systems market.

# What ComAp Offers



## **Easy to Use and Flexible**







- > If it is easy to use, then it saves time and if it saves time, then it saves money! This is the concept behind our products and solutions.
- This family of controllers comes with new and very intuitive PC software.
- The PC software has many pre-defined functions and settings to make the configuration process easier, while at same time also provides you with the freedom to define the controller settings yourself
- > The built-in PLC allows you to respond to more complex and specific installation needs by saving you the cost of an external PLC solution.
- > ComAp's PLC is so easy to use that you'll be able to come up with what you need from the very start.
- All of our products are designed to meet or even exceed quality and safety standards. This guarantees the reliability of our products, reduces maintenance costs and gives you the peace of mind you deserve.

# **Key Benefits**

#### **PLC**

> A New level of flexibility enabling customers to meet any application requirements.

#### 4G and GPS

> Along with 4G/GPS capabilities, we also incorporated fast wireless Internet connectivity and advanced functions such as Geofencing and Tracking, protecting our customers' gen-sets at all times.

### A New Design

A brand new, attractive and thinner design with the same InteliLite spirit, including even more transparent hide and light symbols.

### Plug-in and CAN modules

> Seamlessly expand the number of inputs & outputs or provide the controller with the appropriate communication channel thanks to our range of plug-and-play extension and communication modules.

### InteliConfig

InteliLite comes with new PC software delivering unmatched configuration possibilities in an intuitive way.

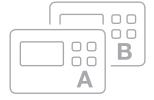






- Have the gen-set under your watch and basically control it from anywhere using our wide offer of communication capabilities. Save significant amounts of money by only sending technicians to the site only when needed.
- WebSupervisor, 4G (LTE), GPRS, GPS, Ethernet, ModBus, SNMP, Email / SMS alerts and unit control.
- > AirGate technology helps you easily connect to the device even if you know nothing about the provided IP-address.





- > We understand that it is important for you to highlight your brand and therefore, we are open and willing to agree with you by offering a tailored solution on a case-by-case basis.
- > Being an expert in your field you may have some special functional requirements from your device. We are open to discuss these with you and how to best connect them with the ComAp controller.

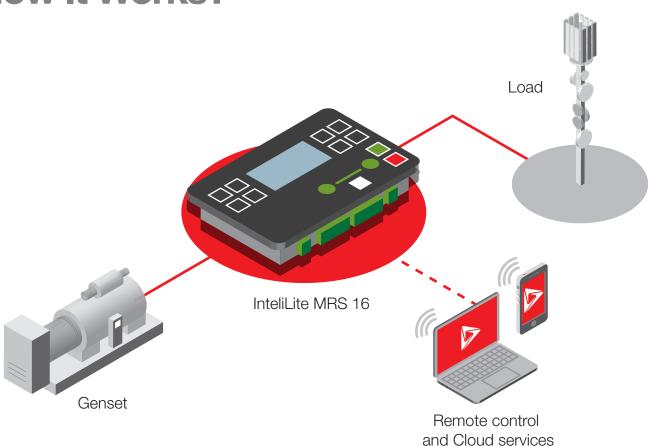
# The MRS Solution



ComAp's MRS (Manual or Remote Start) family of controllers allow you to effectively operate, monitor and control a single gen-set, either manually on the gen-set itself or remotely by using an Internet enabled device (smartphone, tablet, or PC). Featuring extensive reporting and

performance logs, with full gen-set monitoring and protection, the MRS family of controllers also has a range of plug-in extension modules available which enable I/O upgrades and additional communication options.

# **How It Works?**



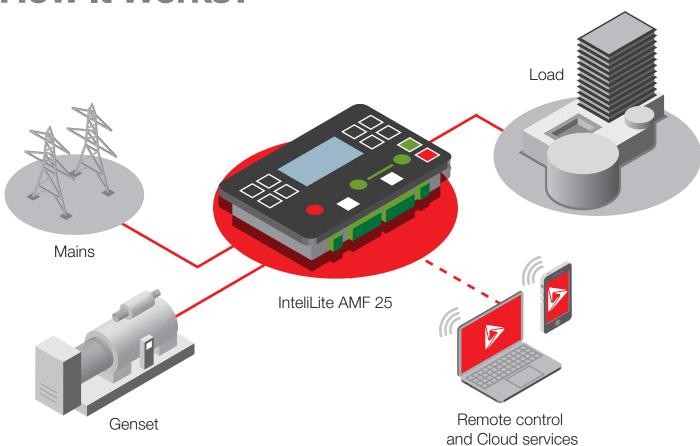
# **AMF** solution



ComAp's AMF (Automatic Mains Failure) family of controllers allows you to effectively operate, monitor and control a single gen-set operating in stand-by mode. As well as full gen-set monitoring and protection, outstanding EFI engine support, and featuring extensive reporting, it

also includes performance logs, the AMF family of controllers and range of plug-in extension modules available which enable I/O upgrades and additional communication options.

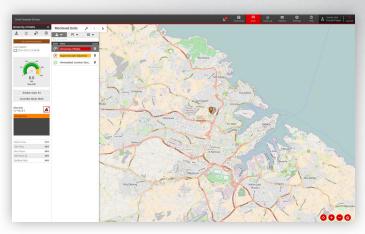
# **How It Works?**



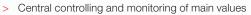
# **Easy Communication**

# WebSupervisor 4

# Your entire fleet, safe and in your pocket



WebSupervisor is a cloud-based system designed for monitoring and controlling ComAp controllers via the Internet. This system offers a number of beneficial features that help optimize revenue for machinery fleets, as each piece of equipment can be individually monitored for all important operation values.



- > Overview of controllers on a map
- > History charts of main values
- > Reports for revenue stream support
- > Customized report values in .xls format
- > Available in various languages



# Try it now!

Visit www.websupervisor.net for more information.



# **Applications**

## **The Prime Power System**

#### In a rental application

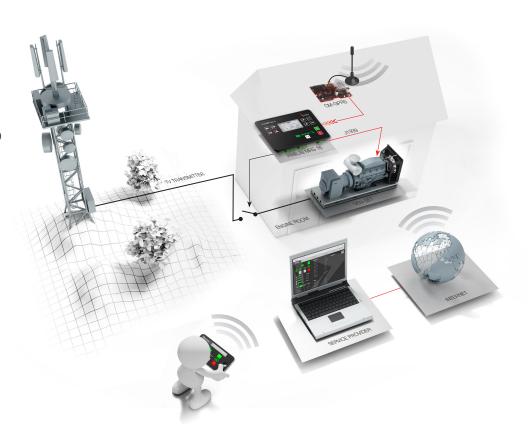
- ➤ Manual and remote start for gen-sets with electronic engines. InteliNano<sup>NT</sup> MRS starts, controls and monitors the gen-set and controls the circuit breaker to supply the load.
- The generator is protected by built-in over/ under voltage and frequency protection systems.
- The controller communicates with the engine management unit via a CAN J1939 bus and shows engine values and alarms on a digital LCD screen.



### **The Prime Power System**

#### With remote monitoring via the Internet

- > In this system the gen-set is used as the primary power source.
- InteliLite MRS 16, a Manual and Remote Start controller with electronic engine support monitors, protects and controls the gen-set and the circuit breaker to supply the load.
- > The controller communicates with the engine management unit via a CAN J1939 bus. Engine values and alarms are visible on digital LCD screen in simple language (no need to learn cryptic flashing or numeric error codes).



# **The Standby System**

#### In a commercial application

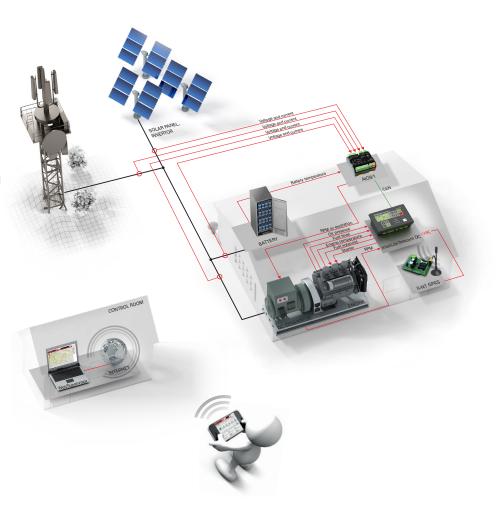
- In standby systems, the load is supplied by the mains and the gen-set is used as a back-up.
- > InteliLite AMF 25, an Auto Mains Failure controller with electronic engine support, continuously monitors the mains and in case of any failure it automatically starts the engine and transfers the load to the generator.
- The controller communicates with the engine management unit via a CAN J1939 bus. Engine values and alarms are visible on a digital LCD screen in simple language (no need to learn cryptic flashing or numeric error codes).



## The DC Cycling System

#### For remote telecom tower sites

- > Use a ComAp system including InteliLite Telecom DC to efficiently control your DC variable speed gen-set, renewable DC power source and battery for a reliable and cost-effective off-grid solution.
- > Due to higher efficiency, the DC cycling solution can deliver additional OPEX savings when compared to AC cycling or a non-cycling solution.
- It also includes remote monitoring for optimal service intervals, fault reporting and reduced logistics costs.



# References

### 📜 Hainan Island, China

## **Telecom Tower and Data Centre Power Control and Critical Backup**

The local telecom provider deployed over 300 base transceiver stations (BTS) on Hainan Island. Since the customer already had their own AMF/ATS system, ComAp provided InteliLite NT MRS 16 controllers, which have been used in connection with their diesel gen-sets. Used extensively across the mobile world, the InteliLite NT MRS 16 is popular for its simple configuration, local language support, advanced remote communication features as well as its many different configuration capabilities and plug-in modules.

To be able to keep all users' data safe, all mobile operators need a reliable backup power system for their data centers. The installation for our customer on Hainan Island is no exception. ComAp has also delivered a solution for a local data center. To ensure N+1 redundancy criterion was met, the 'H-system' configuration was used in this application. This configuration allows the interconnection of two incoming mains and two 1,800 kW standby generators through a bus-tie breaker into a redundant standby system. Various configurations of the site provide flexible distribution of the power from the incoming mains or one or both generators to the load feeders. Everything is controlled by ComAp InteliGen NT and InteliMains NT controllers and the whole site is monitored using InteliVision 17Touch screens in the control room.



#### Australia

## **Transmitting and Receiving Stations** for Marine Radio Signals

Kordia is one of Australia's largest Telecommunications Systems Integration service delivery organizations. They specialize in designing and building telecommunications systems, including mobile phone relay centers and radio transmission towers throughout Australia. Recently ComAp Australia worked with Kordia to upgrade the transmitting and receiving stations for marine radio signals along the Australian coast.

The entire project consisted of delivering 9 control panels fitted with InteliLite<sup>NT</sup> AMF 25 (5x) and InteliLite<sup>NT</sup> MRS 16 (4x). Each controller was equipped with the following ComAp accessories:

- > IL-NT BIO8 and IG-IOM for I/O expansion
- IB-Lite for MODBUS TCP communication protocol between the controllers and site PC

The engines controlled there were Yanmar and John Deere with a power output between 8 kW and 50 kW.

The main benefits were controls diagnostics and remote signals (start, stop, fault reset etc) options provided by IB-Lite, together with controllers offering gen-set protections and an overall robust control system. The sites are going to be further enhanced with InternetBridge-NT modules to connect all the units to WebSupervisor.





### United Kingdom

### **Silverwood Business Park**

AJ Power has recently completed the installation and commissioning of 2× 220 kVA sound attenuated canopy units with AMF controls and a 2500 liter tank for MITIE at the "Silverwood Business Park" in Northern Ireland.

MITIE is a facilities, property and asset management firm as well as a leading FTSE 250 business with over 56,000 employees and revenues in excess of GBP 1.7 billion. The Silverwood site houses a critical call center for MITIE operations.

The project is equipped with two gen-sets and one incoming mains supply. The site uses ComAp InteliLiteNT AJP3200\* controllers and ComAp InteliATS<sup>NT</sup> and there are 2× IL-NT AJP3200\* remote display panels and an InteliATSNT PWR on the switchboard. The 2 gen-sets also have 2× IL-NT AJP3200\* panels fitted to them. The InteliATSNT has an IB-Lite fitted to connect it to MITIE's local network via an Ethernet connection which allows the facility to monitor and test the system via PC monitoring and control software.





<sup>\*</sup> AJP3200 is a custom gen-set controller based on InteliLiteNT

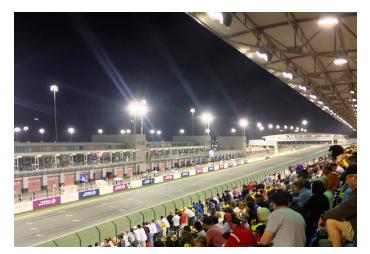


### **Losail International Circuit**

Thanks to the renewed agreement with the QMMF, Losail Circuit management, Pramac supplied 44 generators that illuminate the race events that are being held on the Qatar track. Since the 2004 MotoGP Championship, the first level motorbike race category has held a stage in Qatar on the Losail circuit. Due to the extremely hot conditions, since 2006, the race has being held at night. This was possible thanks to the Pramac generators that provide power to the 3,600 light fixtures distributed along the circuit. They generate around 11 MW of power, enough to ensure the right visibility to all riders that take part in the races.

The 44 GSW diesel generators can generate 330 kVA each. They are powered by Volvo Penta engines, protected by a soundproof enclosure and equipped with an automatic control panel unit as well as GPRS modem for remote control and sand trap air filters for the notorious desert storms. A special modified version of ComAp's InteliLiteNT AMF 25, (called the AC03) was installed in the control panel on each of the generators to ensure reliable, and easily monitored, control for the race organizers.

Supplying of the generators has increased the strong connection between Pramac and the MotoGP world championship. The passion that has always distinguished the company founded in 1966 in Casole d'Elsa has become a multinational leader in the field of energy and its movement thanks to innovative and dynamic ideas.







# **Key Products**

#### InteliLite Telecom

An Auto Mains Failure (AMF) Gen-set Controller for Telecommunications

- > Smart battery charging and cycling management for lower OPEX
- > WebSupervisor, AirGate and LOCATE support
- > Automatic SMS on alarm or event & gen-set control over SMS\*
- On-line control and monitoring over web pages (embedded web server) via plug & play IB-Lite
- > Optional GSM/GPRS modem/wireless Internet via IL-NT GPRS
- > Fuel theft protection and total fuel consumption monitoring
- > Air-conditioning control
- > Full gen-set monitoring and protection
- Outstanding EFI engine support with diagnostic messages in plain text via J1939
- > Detailed RTC event and performance log
- Multiple languages (user changeable) in controller, even more in installation suite
- > Plug-in and CAN bus extension modules capability
- > A/B start battery support



#### InteliLite Telecom DC

A DC Gen-set Controller for Telecom Tower Applications

- > Uses variable speed DC generators to charge batteries
- > Charging current/voltage regulated by speed (variable speed engines, dual speed engines) or excitation (single speed engines)
- Automatic Start and Stop according to the accumulator voltage and charging current
- > Voltage compensation according to battery temperature
- > Charging time limitation and other protection
- > Circuit-breaker control
- Service cycle allows the maintenance people to trigger charging manually
- > Fuel measurement function
- > Complete monitoring, control and protection of the system
- > Main screen layout adapted for DC applications
- ComAp SCADA compatible (multiple equipment creating the network)
- > WebSupervisor, AirGate and LOCATE support\*
- > Automatic SMS on alarm\*



<sup>\*</sup> Plug-in module required

#### **InteliLite MRS 11**

Single Gen-set Controller for Prime Power Applications

- > Easy to install, configure and use
- > 5 languages in the controller
- > 3 password protection levels
- > 3 sets of alternative configurations
- > Direct communication with EFI engines
- > Tier 4 Final ready
- > Remote monitoring and control
- > Wide range of communication capabilities including:
  - connection via RS232, RS485, CAN and on board USB
  - Internet access using an Ethernet
  - Modbus (TCP/RTU)
- > Active SMS and emails in different languages
- > Built-i PLC, complemented with a PLC monitoring tool in InteliConfig
- > 3 analog inputs, 6 binary inputs and 6 binary outputs on-board
- > 2× 10 A binary outputs for cranking and fuel solenoid
- More I/Os available over plug-in or CAN modules (CM-BIO8-EFCP, Inteli AIN8, Inteli IO8/8, IGS-PTM)
- > Remote Annunciator over CAN
- > Real time clock
- > Multipurpose flexible timers
- > Flexible event-based history with up to 350 events
- > True RMS measurement
- > Comprehensive protections



#### InteliLite MRS 16

Single Gen-set Controller for Prime Power Applications

- > Easy to install, configure and use
- > 5 languages in the controller
- > 3 level of password protection
- > 3 sets of alternative configurations
- > Direct communication with EFI engines
- > Tier 4 Final ready
- > Total remote monitoring and control
- > Cloud-based monitoring and control via WebSupervisor
- > Wide range of communication capabilities including:
  - connection via RS232, RS485, CAN and on-board USB
  - Internet access using Ethernet, GPRS, 3G or 4G
  - support for Modbus (TCP/RTU) and SNMP (v1/v2c including traps)
- > Active SMS and emails in different languages
- > Geofencing and tracking via WebSupervisor
- > Built-in PLC, complemented with a PLC monitoring tool in InteliConfig
- > 4 analog inputs, 7 binary inputs and 7 binary outputs on-board
- > 2x 10 A binary outputs for cranking and fuel solenoid
- More I/Os available over plug-in or CAN modules (CM-BIO8-EFCP, Inteli AIN8, Inteli IO8/8, IGS-PTM)
- > Remote Annunciator over CAN
- > Activation of outputs based on inputs
- Load shedding, dummy load capability
- > Real time clock (with battery)
- > Multipurpose flexible timers
- > Flexible event based history with up to 350 events
- > True RMS measurement
- > Comprehensive protections
- Possibility to disable protections
- > Available also in low temperature version



#### InteliLite AMF 20

A Single Gen-set Controller for Stand-by and Prime Power Applications

- > Easy to install, configure and use
- > 5 languages in the controller
- > 3 level of password protection
- > 3 sets of alternative configurations
- > Direct communication with EFI engines
- > Tier 4 Final ready
- > Remote monitoring and control
- > Wide range of communication capabilities including:
  - connection via RS232, RS485, CAN and on board USB
  - Internet access using an Ethernet
  - Modbus (TCP/RTU)
- > Active SMS and emails in different languages
- > Built-in PLC, complemented with a PLC monitoring tool in InteliConfig
- > 3 analog inputs, 7 binary inputs and 7 binary outputs on-board
- > 2× 10 A binary outputs for cranking and fuel solenoid
- More I/Os available over plug-in or CAN modules (CM-BIO8-EFCP, Inteli AIN8, Inteli IO8/8, IGS-PTM)
- > Remote Annunciator over CAN
- > Real time clock
- > Multipurpose flexible timers
- > Flexible event based history with up to 350 events
- > True RMS measurement
- > Comprehensive protections



#### InteliLite AMF 25

A Single Gen-set Controller for Stand-by and Prime Power Applications

- > Easy to install, configure and use
- > 5 languages in the controller
- > 3 password protection levels
- > 3 sets of alternative configurations
- > Direct communication with EFI engines
- > Tier 4 Final ready
- > Total remote monitoring and control
- > Cloud-based monitoring and control via WebSupervisor
- > Wide range of communication capabilities including:
  - connection via RS232, RS485, CAN and on board USB
  - internet access using Ethernet, GPRS, 3G or 4G
  - support for Modbus (TCP/RTU) and SNMP (v1/v2c including traps)
- > Active SMS and emails in different languages
- > Geofencing and tracking via WebSupervisor
- > Built-in PLC, complemented with a PLC monitoring tool in InteliConfig
- > 4 analog inputs, 8 binary inputs and 8 binary outputs on-board
- > 2x 10 A binary outputs for cranking and fuel solenoid
- More I/Os available over plug-in or CAN modules (CM-BIO8-EFCP, Inteli AIN8, Inteli IO8/8, IGS-PTM)
- > Remote Annunciator over CAN
- > Activation of outputs based on inputs
- > Load shedding, dummy load capability
- > Real time clock (with battery)
- > Multipurpose flexible timers
- > Flexible event based history with up to 350 events
- > True RMS measurement
- > Comprehensive protections
- > Possibility to disable protections
- > Available also in low temperature version



#### InteliLite 9

The Next generation of Auto Mains Failure (AMF) Gen-set Controllers

- > Direct communication with EFI engines
- > Easy to install, configure and use
- > Wide range of communication capabilities:
  - connection via RS232, RS 485, CAN or USB
  - Internet access using an Ethernet
  - support for Modbus RTU and TCP
- > Active SMS and emails in different languages
- > 2× 10 A binary outputs for cranking and fuel solenoid
- > 3 analog inputs, 6 binary inputs and 6 binary outputs on board
  - option for additional I/Os over modules
- > E-Stop input
- > Slot for plug-in module
- > Flexible event based history with up to 150 events
- > Tier 4 final support
- > Activation of fuel pump binary outputs based on analog inputs
- > Comprehensive gen-set protections
- > Multiple flexible timers
- > True RMS measurement
- > AMR and MRS function in a single firmware
- > Up to 3 alternative configurations adjustable by binary inputs
- > 5 languages in the controller
- > Adjustable D+ level
- > Adjustable choke function
- > Magnetic pick-up for precise RPM measurement
- > Internal or ECU running-hours counter
- > Possibility to disable protections



### InteliNano<sup>NT</sup> Plus

A top-of-the-range model from the InteliNano $^{\rm NT}$  family. An AMF and MRS controller with current measurement and support for EFI engines.

- > An AMF and MRS controller in one model
- > 1/3 phase generator voltage measurement (3/3 phase when used as MRS controller)
- > 1 phase generator current measurement
- > 3 phase mains voltage measurement
- > Connection type and voltage auto-detect
- > Various generator and engine protections
- > The biggest LCD screen in its class
- > Icon menu, no text
- > Automatic or manual MCB and GCB control
- > "Zero" power consumption mode
- > Battery voltage, service time and running hours indication
- > All setpoints and I/O's configurable via the front panel
- > Ability to catch up on running engines (for manual engine starts)
- > Light tower mode supported





### CM-Ethernet<sup>1)</sup>

- An Internet/Ethernet module with 10/100 Mbit interface via an RJ45 socket
- > Embedded webserver for monitoring and basic adjustments
- > ModBus TCP and full SNMP support
- > ComAp TCP for remote access and full control over InteliConfig



#### CM-GPRS<sup>1)</sup>

- > A mobile and wireless communication module providing wireless Internet connectivity via GPRS and GSM communication
- > Remote monitoring and control capabilities via InteliConfig, WebSupervisor including active text (SMS)/e-mails alerts and controls



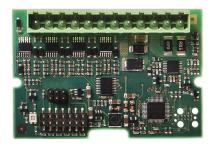
#### CM-4G-GPS<sup>1)</sup>

- A combined module that offers fast speed 4G communication capability, including active (SMS)/e-mails alerts and controls
- > GPS location with geofencing and tracking



#### CM-RS232-485<sup>1)</sup>

- A communication module with a dual port for RS232 and RS485 providing 2 separate and independent COM channels
- Supports Modbus RTU, ECU link and direct connection to LiteEdit and other ComAp PC software



#### EM-BIO8-EFCP1)

- An extension module with 8 configurable binary terminals for inputs or outputs
- > Possibility to connect a current transformer for earth fault current measurement and protection



#### **IGS-PTM**

- > A module providing 8× BINs, 8× BOUTs, 4× AINs and 1× AOUT
- > The state of binary inputs/outputs is indicated by LEDs
- > Measures values from Pt100 and Ni100 sensors
- > Connected over a CAN bus

# **Controller Features**

|  | InteliNano <sup>N™</sup> PLUS | InteliNano <sup>NT</sup> MRS 3 | InteliLite <sup>N™</sup> MRS 3   | InteliLite <sup>N™</sup> MRS 4   | InteliLite <sup>NT</sup> AMF 8 |
|--|-------------------------------|--------------------------------|--|--|--------------------------------|
|  | :                             |                                | Intelliging and a control of the con | Intelliging and a control of the con | Intellity Aur s Francis        |
| Binary inputs/outputs                      | 6 / 6 <sup>1)</sup>           | 6 / 6 <sup>1)</sup>            | 4 / 4  | 4 / 4  | 4/6                            |
| Analog inputs                              | 3                             | 3                              | 3  | 3  | 3                              |
| 2×10 A binary outputs                      | •                             | •                              | -  | -  | -                              |
| Input/output configurations                | • / •                         | • / •                          | • / •  | • / •  | • / •                          |
| D+ battery charging alternator circuit     | •                             | •                              | •  | •  | •                              |
| Magnetic pick-up                           | -                             | •                              | -  | -  | •                              |
| AMF / MRS functions                        | • / •                         | _/•                            | • / •  | • / •  | • / •                          |
| GCB / MCB control with feedback            | • / •                         | • / -                          | •4) / •4)  | •4) / •4)  | ● / ●4)                        |
| 3ph voltage measurement Gen. / Mains       | •2) / •                       | • / -                          | • / -  | • / -  | • / •                          |
| 3ph current measurement                    | _3)                           | •                              | •  | •  | •                              |
| Frequency measurement Gen. / Mains         | • / •                         | • / -                          | • / -  | • / -  | • / •                          |
| kW / kWh / kVA measurement                 | _/_/•                         | • / • / •                      | • / • / •  | • / • / •  | • / • / •                      |
| Generator protections                      | •                             | •                              | •  | •  | •                              |
| Earth fault current protections            | -                             | -                              | -  | -  | -                              |
| History file                               | •                             | •                              | •  | •  | •                              |
| RTC / Battery                              | -/-                           | -/-                            | -/-  | -/-  | -/-                            |
| PLC  | -                             | -                              | -  | -  | -                              |
| Remote control                             | -                             | -                              | •  | •  | 0                              |
| 4G   | -                             | -                              | -  | -  | -                              |
| Tracking & Geofencing                      | -                             | -                              | -  | -  | -                              |
| Active (SMS)/e-mails                       | -                             | -                              | 0/-  | 0 / –  | 0 / –                          |
| AirGate                                    | -                             | -                              | -  | -  | 0                              |
| WebSupervisor                              | -                             | -                              | -  | -  | •                              |
| USB integrated                             | •                             | •                              | o <sup>5)</sup>  | 07)  | 0                              |
| ECU support via CAN                        | •                             | •                              | -  | •  | -                              |
| Modbus support / SNMP support / SNMP traps | -/-/-                         | -/-/-                          | 0/-/-  | 0/-/-  | 0/-/-                          |
| Plug-in modules                            | -                             | -                              | O <sup>6)</sup>  | O <sup>6)</sup>  | O <sup>6)</sup>                |
| Manual speed control <sup>1)</sup>         | -                             | -                              | -  | -  | -                              |
| Total fuel consumption                     | -                             | -                              | -  | -  | -                              |
| Fuel pump                                  | -                             | -                              | -  | -  | -                              |
| Dummy load / Load shedding                 | -                             | -                              | -  | -  | •                              |
| Auto. temperature based heating & cooling  | -                             | -                              | -  | -  | -                              |
| Analog calibration                         | -                             | -                              | -  | -  | -                              |
| Connection type autodetect                 | •                             | •                              | -  | -  | -                              |
| Tier 4 Final support                       | -                             |                                | -  | -  | -                              |

KEY • Included

– ExcludedOptional – plug-in module required

GCB: Generator circuit breaker

MCB: Mains circuit breaker

1) 1 binary input is shared with binary output

2) 1 ph; 3 ph when used as MRS controller

3) 1 ph is available

Manual / Automatic GCB and MCB control, but without feedback
 Only with order code IL2M3USBXAB

6) IL-NT RS232, IL-NT RS232-485, IL-NT GPRS, IL-NT S-USB, IL-NT AOUT8, IL-NT BIO8

| InteliLite <sup>NT</sup> AMF 9  | InteliLite 9    | InteliLite MRS 11 | InteliLite MRS 16 | InteliLite AMF 20 | InteliLite AMF 25                      |
|---|-----------------|-------------------|-------------------|-------------------|--|
| Intellulations of the state of |                 | Construction      | Comp.             |                   | ************************************** |
| 4/6   | 6/6             | 6/6               | 7/7               | 7 / 7             | 8/8                                    |
| 3   | 3               | 3                 | 4                 | 3                 | 4                                      |
| -   | •               | •                 | •                 | •                 | •                                      |
| • / •   | • / •           | • / •             | • / •             | • / •             | • / •                                  |
| •   | •               | •                 | •                 | •                 | •                                      |
| •   | •               | •                 | •                 | •                 | •                                      |
| • / •   | •               | -/●               | <b>-/●</b>        | • / •             | • / •                                  |
| • / •4)   | • / •           | • / –             | • / –             | • / •             | • / •                                  |
| • / •   | • / •           | • / –             | • / –             | • / •             | • / •                                  |
| •   | •               | •                 | •                 | •                 | •                                      |
| • / •   | • / •           | • / –             | • / –             | • / •             | • / •                                  |
| • / • / •   | • / • / •       | • / • / •         | • / • / •         | • / • / •         | • / • / •                              |
| •   | •               | •                 | •                 | •                 | •                                      |
| 0   | -               | -                 | 0                 | -                 | 0                                      |
| •   | •               | •                 | •                 | •                 | •                                      |
| • / •   | • / –           | • / –             | • / •             | • / –             | • / •                                  |
| -   | -               | •                 | •                 | •                 | •                                      |
| 0   | 0               | 0                 | 0                 | 0                 | 0                                      |
| -   | •               | 0                 | 0                 | 0                 | 0                                      |
| _   | -               | -                 | 0                 | -                 | 0                                      |
| 0 / –   | 0 / =           | 0 / –             | 0                 | 0 / —             | 0                                      |
| 0   | -               | -                 | 0                 | -                 | 0                                      |
| 0   | -               | -                 | 0                 | -                 | 0                                      |
| 0   | 0               | •                 | •                 | •                 | •                                      |
| •   | •               | •                 | •                 | •                 | •                                      |
| 0 / _ / _   | 0 / - / -       | 0 / - / -         | 0/0/0             | 0 / - / -         | 0/0/0                                  |
| o <sup>6)</sup>   | O <sup>8)</sup> | O <sup>8)</sup>   | O <sub>8)</sub>   | o <sup>8)</sup>   | O <sub>8)</sub>                        |
| -   | •               | •                 | •                 | •                 | •                                      |
| •   | <del>-</del>    | -                 | •                 | -                 | •                                      |
| -   | •               | -                 | •                 | -                 | •                                      |
| •   | -               | -                 | •                 | -                 | •                                      |
| -   | -               | -                 | •                 | -                 | •                                      |
| -   | -               | -                 | •                 | -                 | •                                      |
| -   | •               | •                 | •                 | •                 | •                                      |
| -   | •               | •                 | •                 | •                 | •                                      |

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<sup>7)</sup> Only with order code IL2M4USBXAB 8) CM-RS232-485, CM-GPRS, CM-4G-GPS, CM-Ethernet, EM-BIO8-EFCP

# **Product Overview**



### **InteliLite MRS 11**

 A single gen-set controller for prime power applications



#### **InteliLite MRS 16**

 A single gen-set controller for prime power applications



#### **InteliLite AMF 20**

 A single gen-set controller for stand-by and prime power applications



#### InteliLite AMF 25

 A single gen-set controller for stand-by and prime power applications



#### InteliLite 9

 A new Auto Mains Failure (AMF) gen-set controller



#### InteliNano<sup>NT</sup> Plus

 A top-of-the-range model from the InteliNano<sup>NT</sup> family with current measurement and support for EFI engines



#### InteliLite Telecom

An Auto Mains Failure (AMF) gen-set controller for telecommunications



### InteliLite Telecom DC

A DC gen-set controller for telecom tower applications







#### **CM-GPRS**

A GSM modem/ wireless Internet module

### CM-4G-GPS

> A 4G modem/wireless Internet module

#### CM-RS232-485

 A dual port extension board

#### **CM-Ethernet**

 An Internet/Ethernet plug-in module including a web server

#### **EM-BIO8-EFCP**

 A hybrid current input & binary input/output extension module



### Manufacturer:

### ComAp a.s.

Czech Republic Phone: + 420 246 012 111 E-mail: info@comap-control.com Web: comap-control.com



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