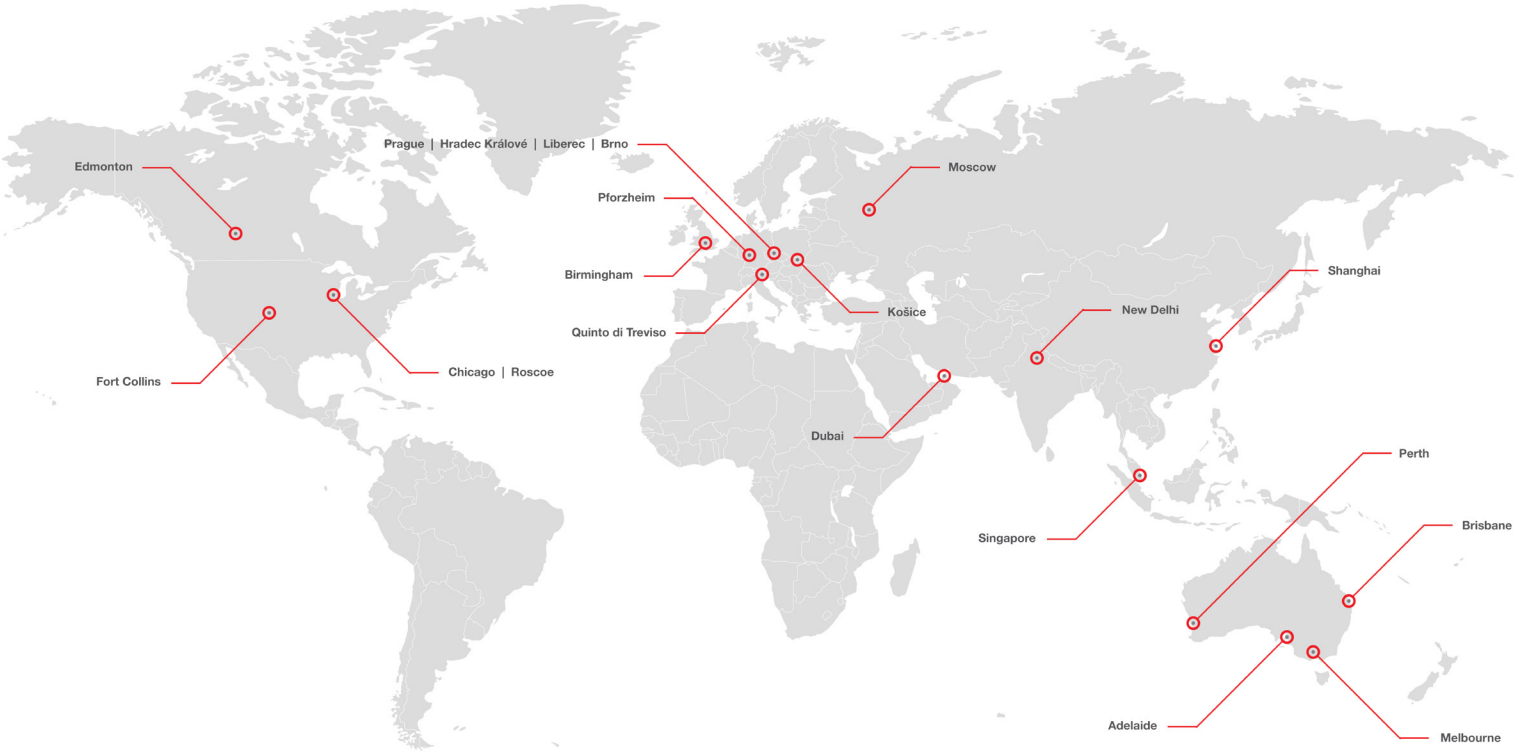
ComAp
The heart of smart control

Parallel Gen-set Control Solutions

Constant source of power and peace-of-mind

ComAp specialises in creating electronic control and management solutions for use in the power generation industries and drive power markets. Our portfolio of products, software and accessories is designed to support emergency power, standby power generation and engine driven applications all over the world.

Offices



400+ Employees

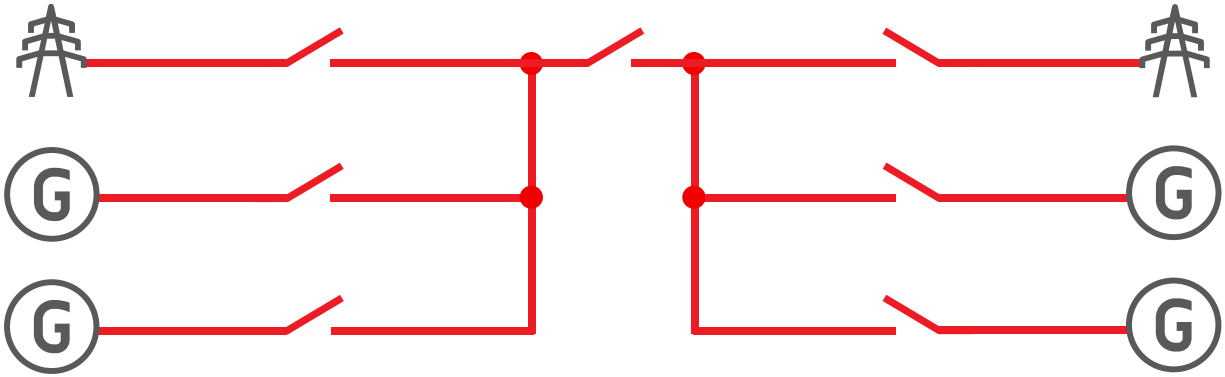
21 Offices

60+ Distributors

Parallel Solutions

Constant source of power and peace-of-mind

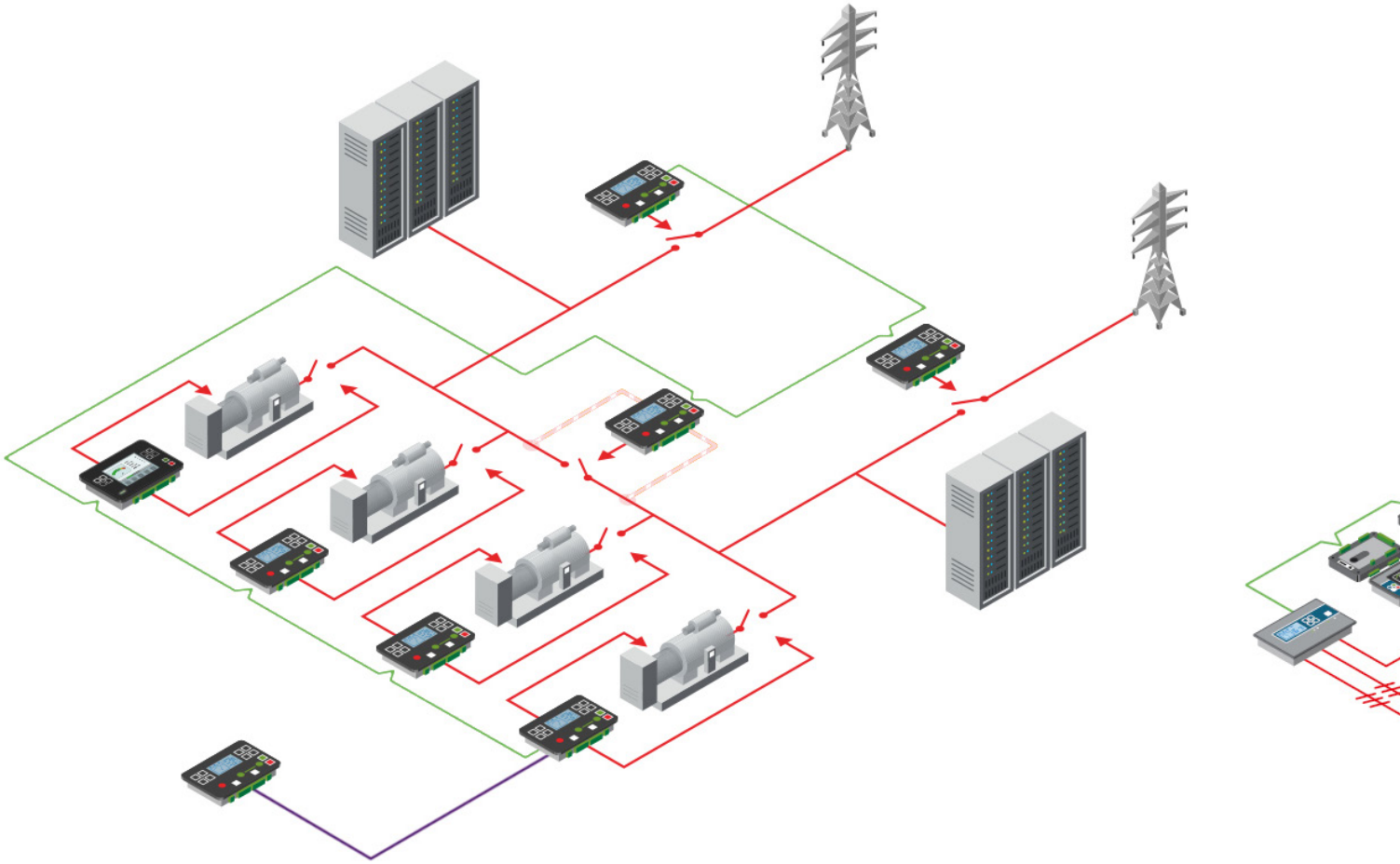
At ComAp we understand that our customers want a solution for their paralleling requirements that is reliable and effective. It does not matter if this is a single backup gen-set or a complex installation for a hospital, bank or data center. ComAp paralleling controllers represent reliable and easy to use products for every application, of whatever size, complexity and requirement.



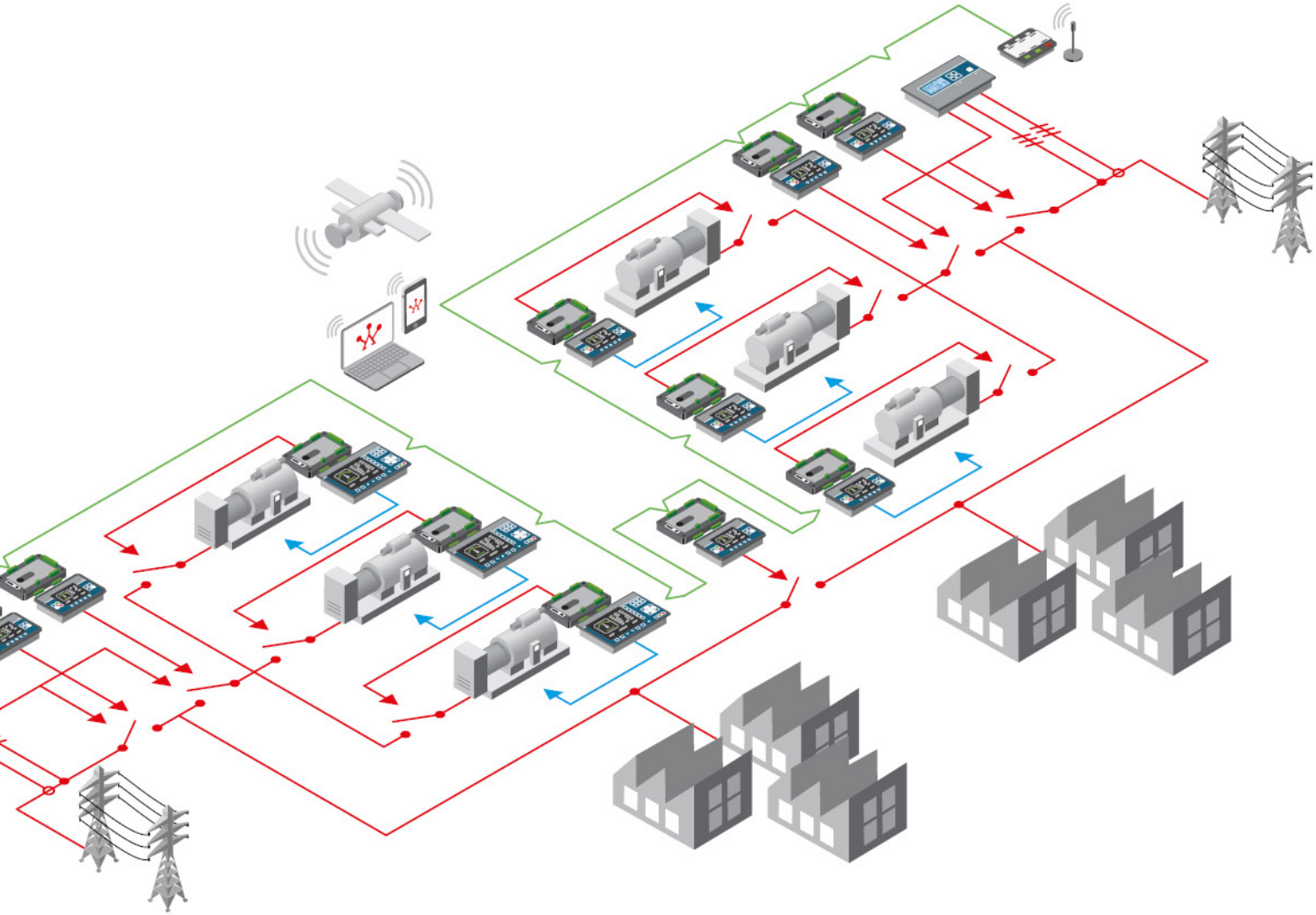

The heart of smart control

Parallel Application Examples

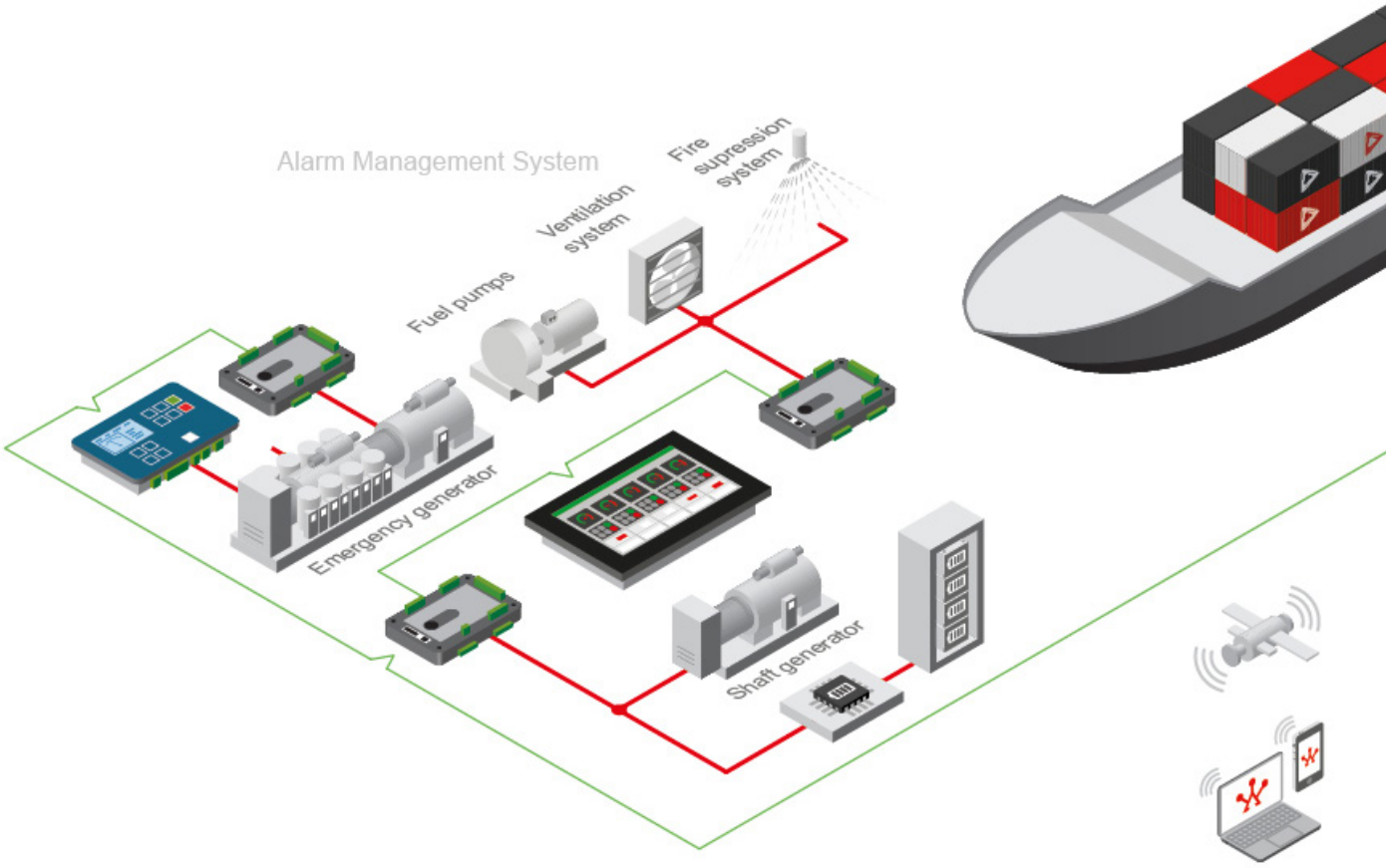
Datacentre

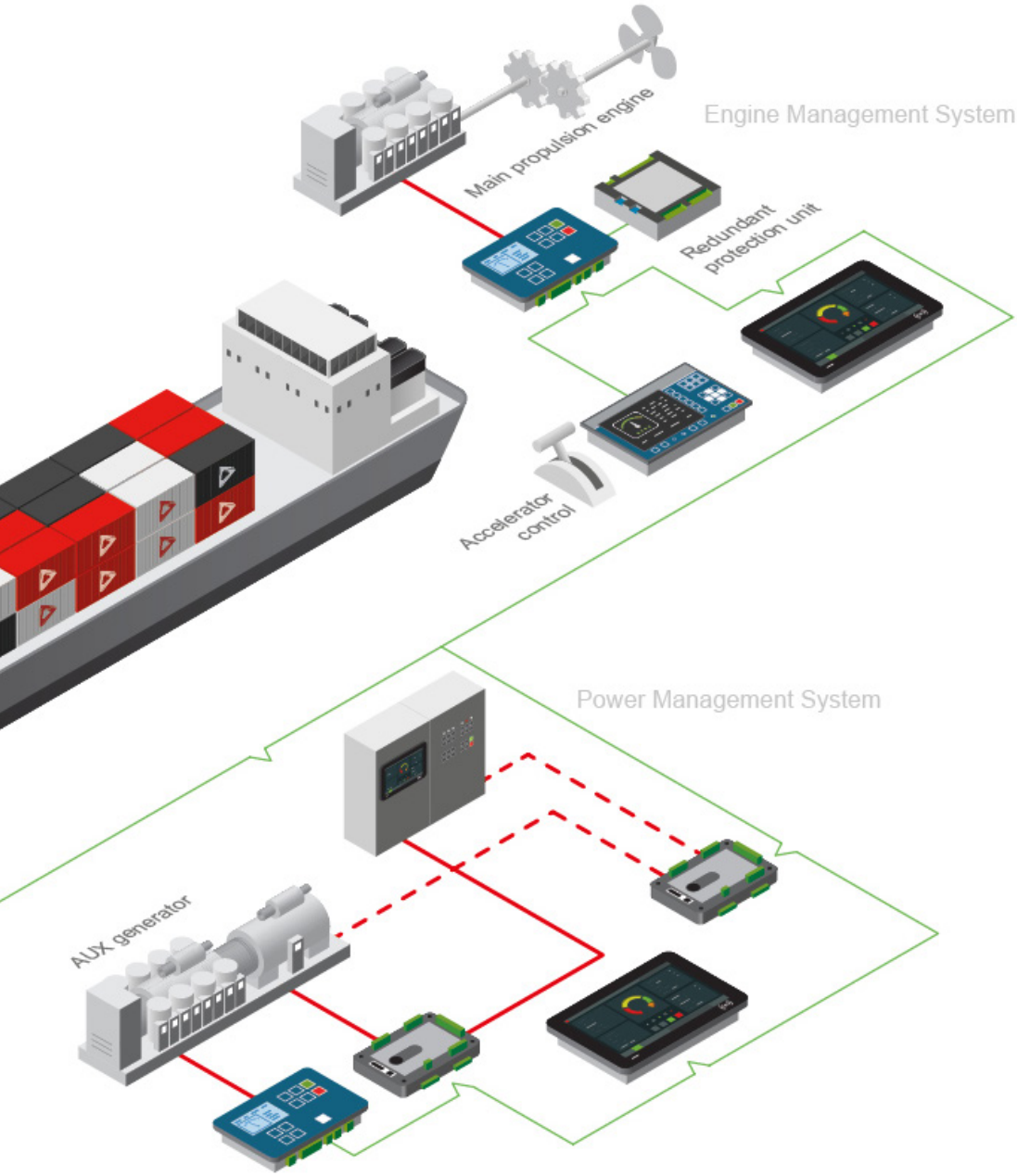


Complex application



Marine application



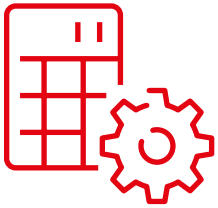

Engine Management System
Main propulsion engine
Redundant protection unit
Accelerator control
Power Management System
AUX generator

Independent Power Production

The mains power infrastructure is not available.

Independent Power Production (IPP) sites are being built in many places where the mains power infrastructure is not available or reliable, or does not provide enough power. These sorts of installations are typical in mines, remote villages, islands or holiday resorts.

ComAp paralleling controllers ensure that the correct amount of gen-sets are available based on the current power demand. This reduces unnecessary use of the gen-sets and also reduces the amount of fuel that is used. It is also possible to incorporate a renewable source of power into this type of application, further reducing operational expenses.



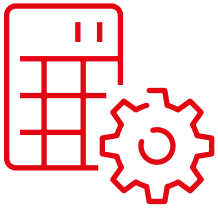
ComAp's products help customers optimise the use of their gen-sets and therefore reduce OPEX and reduce emissions.

Backup Power System

Backup Power | Start up Synchronization

A backup power system is a mains-independent source of electricity for use when the mains power becomes unavailable due to a black-out event or other loss or instability in the mains power. A backup system is typically in use when a power outage represents a serious threat to people, property or controlled processes and applications. Examples of use include hospitals, datacentres, shopping malls, and government infrastructure.

ComAp's paralleling controllers feature Start Up Synchronisation, which allows the system to recover power from a bank of gen-sets in a very short amount of time. ComAp products also allow seamless synchronisation and transfer back to the mains power once it becomes available again. ComAp's paralleling controllers are the perfect solution for mission critical power applications.



ComAp solution helps customers to optimise the running profile of the gen-sets and hence save the OPEX and reduce the emissions production.

Marine applications

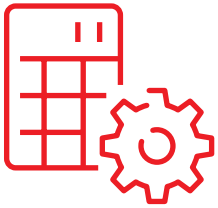
Propulsion & Power Management Solutions

ComAp's paralleling controllers extend to use on marine vessels. ComAp's products can be used to control the ship's essential systems, (such as HVAC, lighting, and fire suppression) but also for the ship's propulsion systems.

ComAp's products ensure that if a ship has multiple onboard generators, they are all operating in parallel so the ship is operating at peak efficiency at all times – essential when a ship is out to sea for weeks at a time.

When a ship returns to port, they usually want to use mains power to power the ship's onboard systems, so they onboard gen-sets aren't running unnecessarily. ComAp's system allows the ships onboard generators to transfer their load to the mains from the ships onboard generators without any loss of power. When the ship is ready to leave port, the system transfers power back to the ships onboard generators – all without any interruption to power delivery.

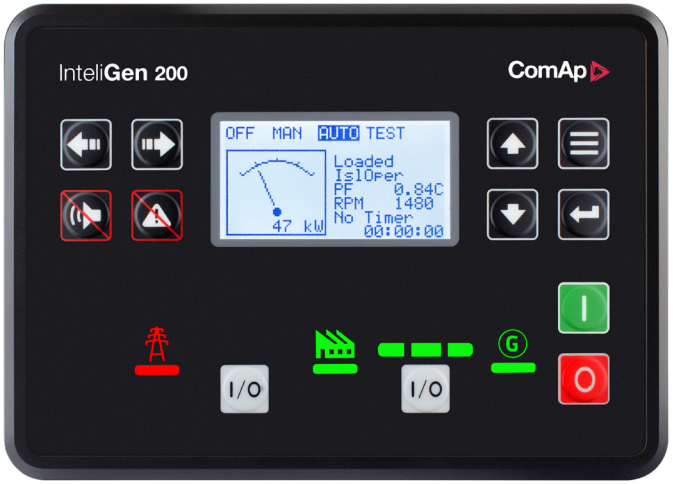
Benefit: ComAp is able to control both the ships propulsion system, as well as any onboard power generation requirements, whilst also enabling parallel operation when the ship is docked.



ComAp is able to control both the ships propulsion system, as well as any onboard power generation requirements, whilst also enabling parallel operation when the ship is docked

InteliGen 200

Parallel Gen-set Controller



- Synchronising - Optimize your gen-set usage or parallel different sizes and brands of generators
- PLC - Utilise our unique, and easy to use PLC drag-and-drop blocks for configuration.
- New design - Flexibility to change the application e.g. SPtM and MINT.
- Built in AVRi - You no longer need a separate AVRi interface in your installation.
- Plug-in modules - Customize your controller with our plug-in extension and communication modules.
- 4G/LTE - Connect to your gen-set via 4G/LTE for alerts or use ComAp's WebSupervisor.
- GPS - Always know the location of your genset using geofencing for theft or movement alerts.
- InteliConfig - Our new configuration and monitoring PC tool (based on new LiteEdit) will offer you multi gen-set control and monitoring as well as easy set-up.
- Easy switching between parallel to mains or multiple genset applications
- Phase Match, Slip Synchro or Droop synchronisation
- Direct communication with EFI engines including Tier 4 Final support
- Total remote monitoring and control
- InteliConfig for configuration and monitoring
- WinScope for precise tuning of PID regulators exactly according to gen-set type and application needs
- WebSupervisor for cloud based monitoring and control of your whole gen-set fleet
- Wide range of communication and connection capabilities including: USB, CAN and RS485 on board, USB master for configuration or firmware upload or download
- RS232 and additional RS485 via plug-in module
- Internet access using Ethernet, GPRS/3G/4G via plug-in modules
- Configurable Modbus RTU or TCP and support of SNMP protocols v1 or v2c
- Internal PLC support with PLC editor and monitor included in InteliConfig
- Active SMS and emails in different languages
- Geofencing and tracking via WebSupervisor
- 2 x high current binary outputs for cranking and fuel solenoid, powered by separated E-Stop input

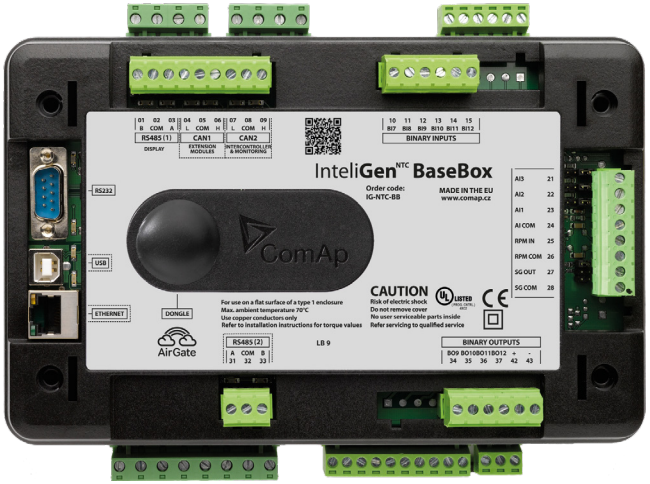
InteliGen 500

Advanced parallel Gen-set Controller with 5” colour display

- Synchronising - Optimize your gen-set usage or parallel different sizes and brands of generators
- PLC - Utilise our unique, and easy to use PLC drag-and-drop blocks for configuration
- New design - Flexibility to change the application e.g. SPtM and MINT
- Built in AVRi - You no longer need a separate AVRi interface in your installation
- Plug-in modules - Customize your controller with our plug in extension and communication modules
- 4G/LTE - Connect to your gen-set via 4G/LTE for alerts or use ComAp‘s WebSupervisor
- GPS - Always know the location of your genset using geofencing for theft or movement alerts
- InteliConfig - Our new configuration and monitoring PC tool (based on new LiteEdit) will offer you multi gen-set control and monitoring as well as easy set-up
- Easy switching between parallel to mains or multiple genset applications
- Multiple gensets in parallel to mains available together with InteliMains 210 controller
- Multiple gensets and grids in parallel available together with the Mains and BTB controllers
- Two types of synchronisations: Phase Match or Slip Synchro
- Two types of Load/VAr Sharing: Isochronous (CAN) or Droop, including Emergency Droop
- Direct communication with EFI engines including Tier 4 Final support
- Total remote monitoring and control
- InteliConfig for configuration and monitoring
- WinScope for precise tuning of PID regulators exactly according to gen-set type and application needs
- WebSupervisor for cloud based monitoring and control of your whole gen-set fleet
- Wide range of communication and connection capabilities including:
- USB, CAN and RS485 on board
- B USB master for configuration or firmware upload or download
- RS232 and additional RS485 via plug-in module
- internet access using Ethernet, GPRS/3G/4G via plug-in modules
- configurable Modbus RTU or TCP and support of SNMP protocols v1
- Internal PLC support with PLC editor and monitor included in InteliConfig
- Active SMS and emails in different languages
- Geofencing and tracking via WebSupervisor
- 2 x 10 A binary outputs for cranking and fuel solenoid, powered by separated E-Stop input
- Option for additional inputs/outputs
- Flexible event based history with up to 350 events
- Load shedding, dummy load capability
- Comprehensive gen-set protections
- Multipurpose flexible timers
- UL listed

InteliGen^{NTC} BaseBox

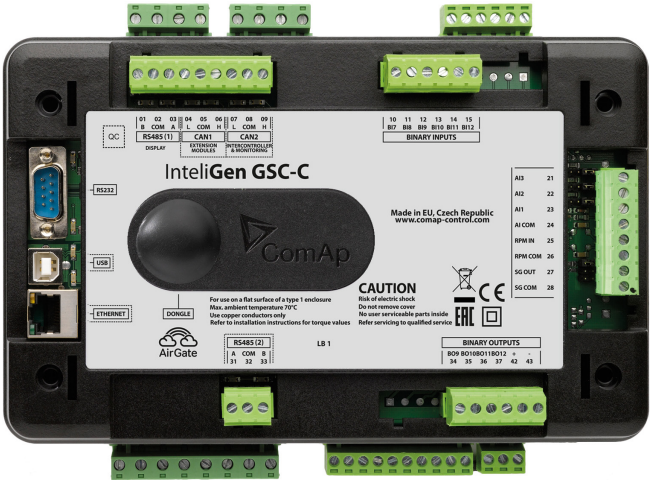
Complex Parallel Gen-set Controller



- InteliGen^{NTC} BaseBox is a comprehensive gen-set controller for both single and multiple gen-sets operating in standby or paralleling modes. The detachable modular construction allows fast and intuitive installation with the potential for many different extension modules designed to suit individual customer requirements
- To be used in conjunction with colour displays InteliVision 5 or InteliVision 8
- Support of engines with ECU (Electronic Control Unit)
- Complete integrated gen-set solution and signal sharing via CAN bus – minimum external components needed
- Many communication options – full and intuitive remote supervising and servicing
- AirGate support, Ethernet connection (RJ45), USB 2.0 slave interface, 1× RS232 / 2× RS485 interface with Modbus protocol support; Analog / GSM / ISDN / CDMA modem communication support; SMS messages; ECU Modbus interface; secondary RS485 converter is isolated
- Automatic synchronizing and power control (via speed governor or ECU)
- AMF function, 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
- Selectable measurement ranges for AC voltages and currents – 120 / 277 V, 0–1 / 0–5 A
- Inputs and outputs configurable for various customer needs
- Bipolar binary outputs – possibility to use BO as High or Low side switch
- Controller redundancy
- Event-based history (up to 1000 records) with customer-selectable list of stored values; RTC; statistic values
- Integrated PLC programmable functions
- Integrated fixed and configurable protections
- DIN-Rail mount
- Customized firmware solution

InteliGen GSC-C

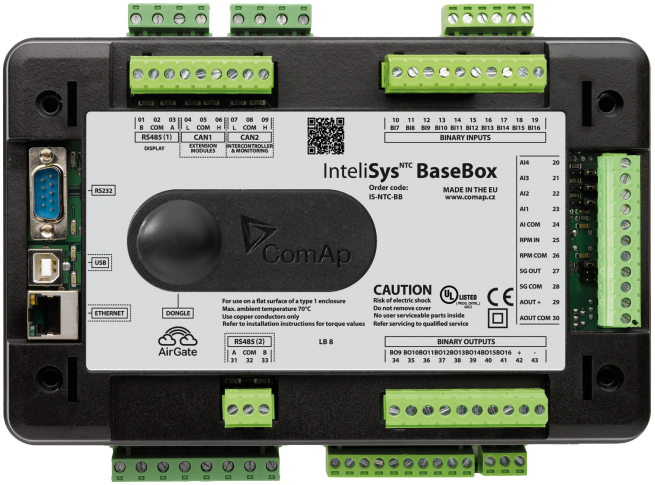
Parallel gen-set controller,
compliant to the latest EU Grid codes



- InteliGen[NTC] BaseBox is a comprehensive gen-set controller for both single and multiple gen-sets operating in standby or paralleling modes. The detachable modular construction allows fast and intuitive installation with the potential for many different extension modules designed to suit individual customer requirements
- Compliant to the European Requirements for Generators, and VDE-AR-N 4105:2018, VDE-AR-N 4110:2018, including Single Fault Tolerance
- To be used in conjunction with colour displays InteliVision 5 or InteliVision 8
- Support of engines with ECU (Electronic Control Unit)
- Complete integrated gen-set solution and signal sharing via CAN bus – minimum external components needed
- Many communication options – full and intuitive remote supervising and servicing
- AirGate support, Ethernet connection (RJ45), USB 2.0 slave interface, 1× RS232 / 2× RS485 interface with Modbus protocol support; Analog / GSM / ISDN / CDMA modem communication support; SMS messages; ECU Modbus interface; secondary RS485 converter is isolated
- Automatic synchronizing and power control (via speed governor or ECU)
- AMF function, 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
- Selectable measurement ranges for AC voltages and currents – 120 / 277 V, 0–1 / 0–5 A
- Inputs and outputs configurable for various customer needs
- Bipolar binary outputs – possibility to use BO as High or Low side switch
- Controller redundancy
- Event-based history (up to 1000 records) with customer-selectable list of stored values; RTC; statistic values
- Integrated PLC programmable functions
- Integrated fixed and configurable protections
- DIN-Rail mount
- Customized firmware solution

InteliSys^{NTC} BaseBox

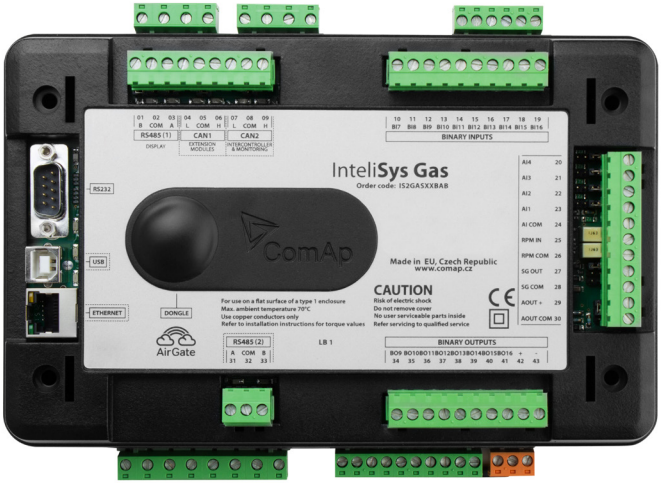
Premium Parallel Gen-set Controller



- Premium gen-set controller for both single and multiple gen-sets operating in standby or parallel modes
- Support of complex applications for power production in data centres, hospitals, banks and smaller CHPs
- Support of engines both with electronic unit – ECU and mechanical engines
- Complete control of the engine, alternator and controlled technology from one unit, including synchronisation, provides access to all measured data in a coherent and time corresponding way
- Wide range of communication interfaces allows smooth integration into local monitoring systems (BMS, etc.)
- Internal built-in PLC interpreter allows you to configure customised logic to meet demanding customer requirements on your own without extra programming knowledge and in a fast way
- Configurable event-based history (up to 4000 records) with extra Pre-mortem part is a valuable tool for troubleshooting and performance analysis
- P Plug & Play Local and Remote monitoring from a range of ComAp HMI display units and dedicated PC tools or Web based services, including the AirGate technology, offers you an full, intuitive and secure monitoring of the controlled fleet, site or technology.
- Force value function allows to use alternative configuration setting based on actual condition, allows better control of the gen-set or related technology based on its actual situation
- All analogue and binary I/Os are freely configurable to suit every application requirement, and to use just the right amount of I/Os or I/O expansion modules which saves customer costs

InteliSys Gas

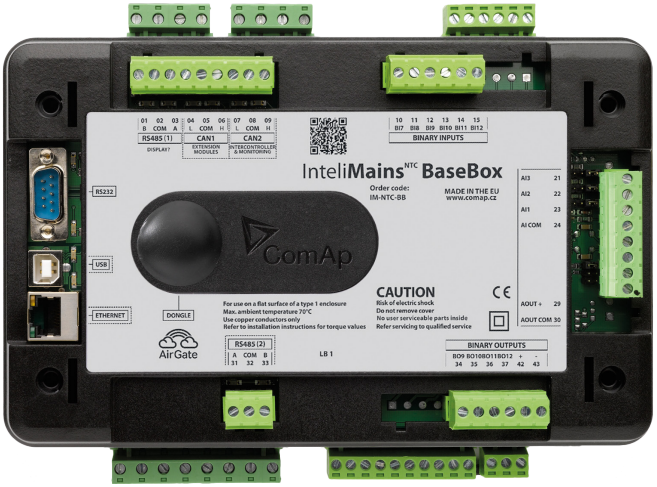
Controller for Gas Gen-set
Applications compliant to the latest EU Grid codes



- The InteliSys Gas is an industrial grade controller for gas engine generator sets mainly used in CHP (Cogeneration) and power generation applications. The InteliSys Gas controls, monitors and protects the generator set according defined setpoints and its configuration
- Compliant to the European Requirements for Generators, and VDE-AR-N 4105:2018, VDE-AR-N 4110:2018, including Single Fault Tolerance
- Preconfigured functions, scalable and configurable I/Os, broad communication capabilities a fast and intuitive allows to adapt the controller to various applications without greater efforts
- The InteliSys Gas and its accessories gives you the perfect solution for your gas engine generator set application
- Predefined adjustable functions tailored to gas engine specific needs
- Read in of all relevant mechanical and electrical signals via Sensors, Voltage and Current Transformers to control the entire generator set
- Full control of the circuit breakers like Generator Breaker and Mains Breaker
- Automatic Synchronization and kW/kVAr Control to safely connect your generator to the bus and run in stable operation
- Baseload control, Peak Shaving, Import & Export Power Control to and from the grid e.g. to keep the Electrical Power within the limits as agreed with the distribution system operator (DSO)

InteliMains^{NTC} BaseBox

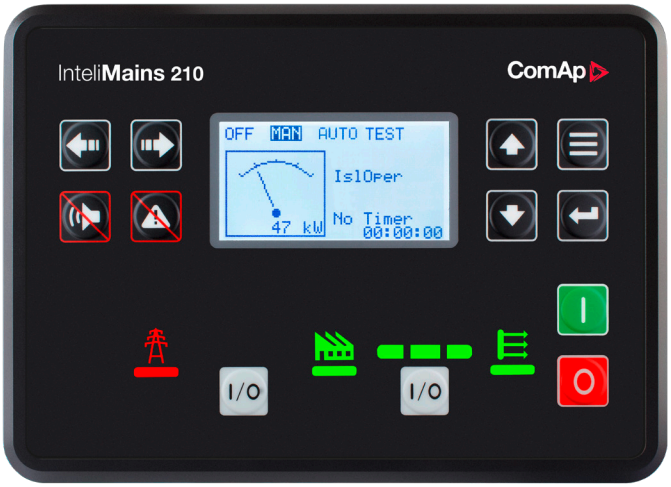
Mains Protection and Supervision Controller,
compliant to the latest EU Grid codes



- For multiple up to 31 gen-sets operating in parallel to mains (or isolated parallel)
- Compliant to the European Requirements for Generators, and VDE-AR-N 4105:2018, VDE-AR-N 4110:2018
- To be used in conjunction with colour displays InteliVision 5, InteliVision 5 RD or InteliVision 8
- Many different power control modes available
- System Baseload with limited export or minimal import
- Import/Export power control of gen-set group
- Temperature of the system by power control
- Dynamic changes of required system power via analog input
- Reverse synchronization of the loaded gen-set group to mains
- Forward synchronization of Mains to gen-set group
- Coupling of several synchronized mains to a common bus
- Allows to build complex applications with more mains incomers, bus-tie breakers, and load management
- AMF function, Peak shaving
- Mains measurement: U, I, Hz, kW, kVAr, kVA, PF, kWh, kVAhr
- Bus measurement: U, Hz (kW, kVAr, PF – via CAN from gen-set group)
- Selectable measurement ranges for AC voltages and currents – 120 / 277 V, 0–1 / 0–5 A
- Inputs and outputs configurable for various customer needs:
  - 12 Binary Inputs
  - 12 Binary Outputs
  - 3 Analog Inputs
  - 1 Analog Output
- Bipolar binary outputs – possibility to use BO as High or Low side switch
- Many communication options – full and intuitive remote supervising and servicing:
  - 1× RS232 / 1× RS485 interface with Modbus protocol support
  - Analog / GSM / ISDN / CDMA modem communication support
  - SMS messages
  - RS485 converter is isolated (one RS485 Display-dedicated port)
  - AirGate support
  - Ethernet connection (RJ45)
  - USB 2.0 slave interface
- Controller redundancy
- Event-based history (up to 1000 records) with customer-selectable list of stored values
- RTC

InteliMains 210

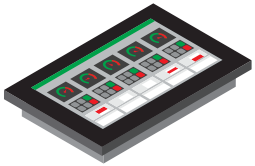
Supervision Controller



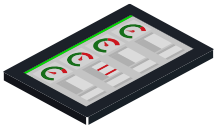
- Synchronising - for multiple up to 31 gen-sets operating in parallel to mains
- Compliant to the European Requirements for Generators, and VDE-AR-N 4105:2018, VDE-AR-N 4110:2018
- PLC - Utilise our unique, and easy to use PLC drag-and-drop blocks for configuration
- New design - Flexibility to change the application e.g. MCB & MGCB
- Plug-in modules - Customize your controller with our plug-in extension and communication modules
- 4G/LTE - Connect to your gen-set via 4G/LTE for alerts or use ComAp's WebSupervisor
- GPS - Always know the location of your gen-set using geofencing for theft or movement alerts
- InteliConfig - Our new configuration and monitoring PC tool will offer you multi gen-set control and monitoring as well as easy set-up
- Two types of synchronisations: Phase Match or Slip Synchro
- Multiple grids (e.g. H-diagram) support together with the Bus Tie Breaker controller(s)
- Total remote monitoring and control
- InteliConfig for configuration and monitoring
- WinScope for precise tuning of PID type and application needs
- WebSupervisor for cloud based monitoring and control of your whole gen-set fleet
- Wide range of communication and connection capabilities including:
- USB, CAN and RS485 on board
- USB master for configuration or firmware upload or download
- RS232 and additional RS485 via plug-in module
- internet access using Ethernet, GPRS/3G/4G via plug-in modules
- configurable Modbus RTU or TCP and support of SNMP protocols v1 or v2c
- Internal PLC support with PLC editor and monitor included in InteliConfig
- Active SMS and emails in different languages
- Option for additional inputs/outputs
- Flexible event based history with up to 350 events
- Multipurpose flexible timers
- UL listed certification

Remote Touch Displays

Control breakers and much more using just your finger.

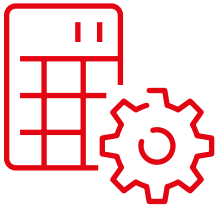


Inteli**Vision 18Touch** is an industrial grade display equipped with a 18.5 inch multi-touch screen for use with compatible ComAp controllers to monitor and control many different applications. From the screen, you can monitor one gen-set, or an entire site.



Inteli**Vision 13Touch** is a high-quality easy-to-use 13.3” Marine certified Panel PC with multi-controller support and buttons for brightness change on its front face.

Inteli**Vision 12Touch** is an industrial grade display equipped with a 12.1 inch multi-touch screen for use with compatible ComAp controllers to monitor and control many different applications.



From one device you can configure setpoints of your controllers, control breakers and much more using just your finger. Fast response combined with projected capacitive touch technology ensure pleasant user experience.


InteliVision 15Touch
ComAp
OFF
MAN
AUTO
TEST
ALARM LIST
no alarm
50.0 Hz
Engine state
Loaded
Breaker state
MainsNet
Binary Inputs
Binary Outputs
Genset kVArh
146.0 kWh
1.0 kVArh

InteliVision 12Touch

12,1“ Colour Display Unit Touchscreen

- Industrial operator panel equipped with 12,1” colour TFT multi-touch screen with resolution of 1280 × 800 pixels
- Touch based Graphical User Interface, support for multi-touch gestures
- Plug & Play operation (auto configuration based on controller application)
- Complete access to all control and monitoring functions
- Fast and intuitive navigation
- Extended trends monitoring screen
- Compatible with ScreenEditor software
- USB flash disk file storage (export/import trends, history, archive of controller and InteliVision 12Touch firmware and others to a USB stick)
- User’s pictures import
- Adaptive and colour AlarmList
- Large History screen
- Adjustable setpoints help
- Communication connection via RS-485, CAN or Ethernet
- Multilanguage support
- Integrated easy to use mounting system
- Designed to be mounted in either monitoring or engine room
- Industrial and robust design
- Rugged housing manufactured from a single piece of aluminium alloy
- Chemically strengthened front glass (8 times stronger than normal glass)
- Sun-readable display (1000 cd/m2)
- Automatic brightness control
- Operating temperature: –30 to + 70°C
- Face is sealed to IP65
- EMC, climatic and mechanical tests
- CE certification
- Supported controllers :
  - InteliSys GAS
  - InteliGenNT BaseBox
  - InteliGenNTC BaseBox
  - InteliSysNTC BaseBox
  - InteliMainsNTC BaseBox
  - InteliSysNTC Hybrid
  - InteliDrive DCU Marine from HW version 2.0
  - InteliDrive Mobile from SW version 2.6.0

InteliVision 13Touch

13.3” Colour Display Unit

- 13.3” Multi-touch projected capacitive display with a resolution of 1920 × 1080 pixels
- EU RO MR Marine certification
- Multi-controller support for up to 4 controllers
- Buttons for brightness change on front face
- Windows 10 IoT Enterprise 2019 LTSC (64bit)
- ComAp PC tools pre-installed
- Setpoints configurable from one device
- History logs of all controllers
- Fullscreen mode with lock protection/PIN
- Front face protection compliant with IP66
- Intel Atom® x5-E3930 Processor
- 4 GB RAM
- 32 GB eMMC, 240 GB SSD
- 2 × Ethernet, 2 × USB 2.0, 2 × USB 3.0
- Operating temperature: -15 °C to +55 °C
- Power input 10-31 V DC
- Identical compatibility with controllers as InteliVision 18Touch - majority of the ComAp controllers

InteliVision 18Touch

18,5“ Colour Display Unit Touchscreen

- Panel suitable for use with a wide range of ComAp controllers
- Successor to the InteliVision 17Touch
- Display for monitoring and control of the entire site
- Possible to use for remote monitoring and control through Internet
- 18,5“ LED backlit projected capacitive touchscreen with a resolution of 1366 × 768 pixels
- Operating temperature extends from -10 °C to +60 °C
- Powerful Intel® Celeron® quad core processor J1900
- 3× USB, 2× mini-PCIe sockets, 1× CFast, 2× RS232/422/485/, 2x RJ45
- 32 GB SSD
- Front protection compliant with IP66
- Mounting support: panel/wall/stand/VESA 100mm × 100mm
- Power input 12-30 VDC
- ComAp PC tools preinstalled
- Setpoints configurable from one device
- History logs of all controllers
- Fullscreen mode with lock protection/PIN
- Onscreen keyboard
- Windows operating system

WebSupervisor

A Cloud-based application that enables remote monitoring, management and analyses of a gen-set fleet and 3rd party devices from anywhere.

Main Features

- List and map views of devices and alerts on one screen
- Device tracking and geofencing*
- Dashboard with fleet and group of devices statistics
- Automatic reports for each device, or a group of devices, with customization options.
- Alarm Analyser which can help reduce maintenance costs
- Advanced trend representation (bar graphs, heat maps and more)
- 3rd party device monitoring
- API: able to download data and integrate in CRM, ERP, PowerBI or other third party software
- Screen Editor: modify the data that is displayed according to your needs
- Web camera support
- User activity logger: logs all user activity for a device or fleet
- Download controller's history files (event-based history)
- Customizable look with your logo and URL
- User management with several levels of permission

*Tracking and geofencing requires purchasing an additional GPS card.


From your PC, tablet or mobile phone you can instantly reach the most important and relevant data.
6
Total
12
Offline
6
Shutdown
2
Alarm
1
Warning
2
Dashboard
Units
Map
More
WebSupervisor
websupervisor.net

Case Studies

We're always proud to showcase the innovative ways that our customers and staff utilize the full potential of our products, keeping ComAp at **the heart of smart control**.

98

case studies via **comap-control.com**

Don't forget to subscribe to our YouTube Channel to see our latest reference videos.

30 Years of Smart Control:
ComAp celebrates 3 decades of success through continuous innovation and growth.

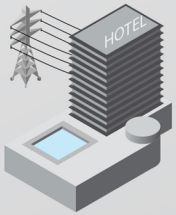
Founded in a one-room office in Prague, Czech Republic in 1991 by three friends, ComAp has since become a successful global company with a strong local presence supported by 13 subsidiaries, more than 400 employees, and a network of 60+ distributors. The company is in the hands of its founders who have an ambitious vision for further growth and investment in acquisitions and partnerships. But it is trusted relationships with customers what is the central focus of ComAp. Let´s have a look at the milestones of this astonishing journey starting back in the early 1990s, in the heart of Europe, that has become known as The Heart of Smart Control in the world of independent and backup power generation.

COMAP 1991 – NOW

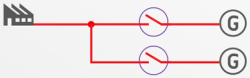
THE HEART OF SMART CONTROL (.EXE)

SPTM
Single Parallel to Mains

- **Automatic start of gen-set group after mains fail (AMF)**
- **Single Gen-Set and Parallel to Mains Operation**
- **GCB, MCB Control - Close Transition**
- **Synchronization**
- **Voltage** (PF) **and Frequency** (Active Power) **Control**
- **Soft Loading/Unloading**
- **Peak Shaving**
- **Baseload**
- **Mains Import/Export Control**

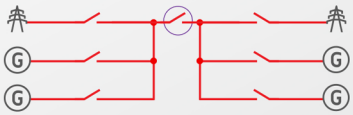


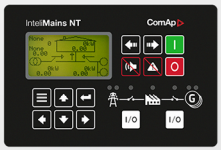
MINT
Multiple island operation with digital active and reactive load sharing



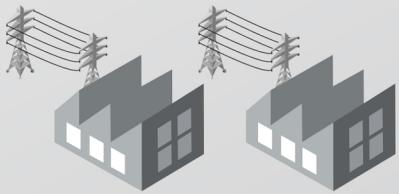
- **Multiple Gen-sets in Island Operation**
- **GCB Control**
- **Voltage** (PF) **and Frequency** (Active Power) **Control**
- **Active and Reactive Power Sharing**
- **Soft Loading/Unloading**
- **Island Operation**
- **Parallel Operation** (with Mains Controller)

BTB
Bus Tie Breaker





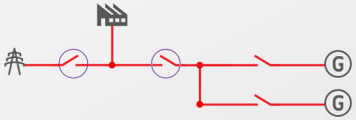
- **Connects two sides of bus bar**
- **BTB Control**
- **Synchronization of two gen-set groups**
- **Voltage** (PF) **and Frequency** (Active Power) **Control**



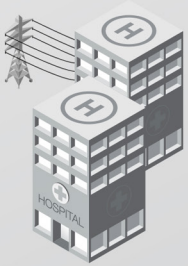
MCB
Mains Circuit Breaker

- **Automatic start of gen-set group after mains fail (AMF)**
- **MCB Control**
- **Voltage** (PF) **and Frequency** (Active Power) **Control**
- **Synchronization after mains return**
- **Soft Loading/Unloading**
- **Power Management** (Load dependent Start/Stop)
- **Peak Shaving**
- **Mains Import/Export Control**

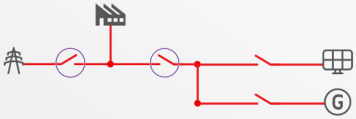
MGCB
Mains and Master Generator Circuit Breaker



- **Automatic start of gen-set group after mains fail (AMF)**
- **MCB and MGCB Control**
- **MGCB closed if sufficient active/apparent power is available**



Hybrid
Microgrids



- **Combination of gen-sets with renewable sources of energy**
- **Off Grid/On Grid installations**
- **Solar, Wind, Hydro, Energy Storage**
- **MCB/MGCB application**

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