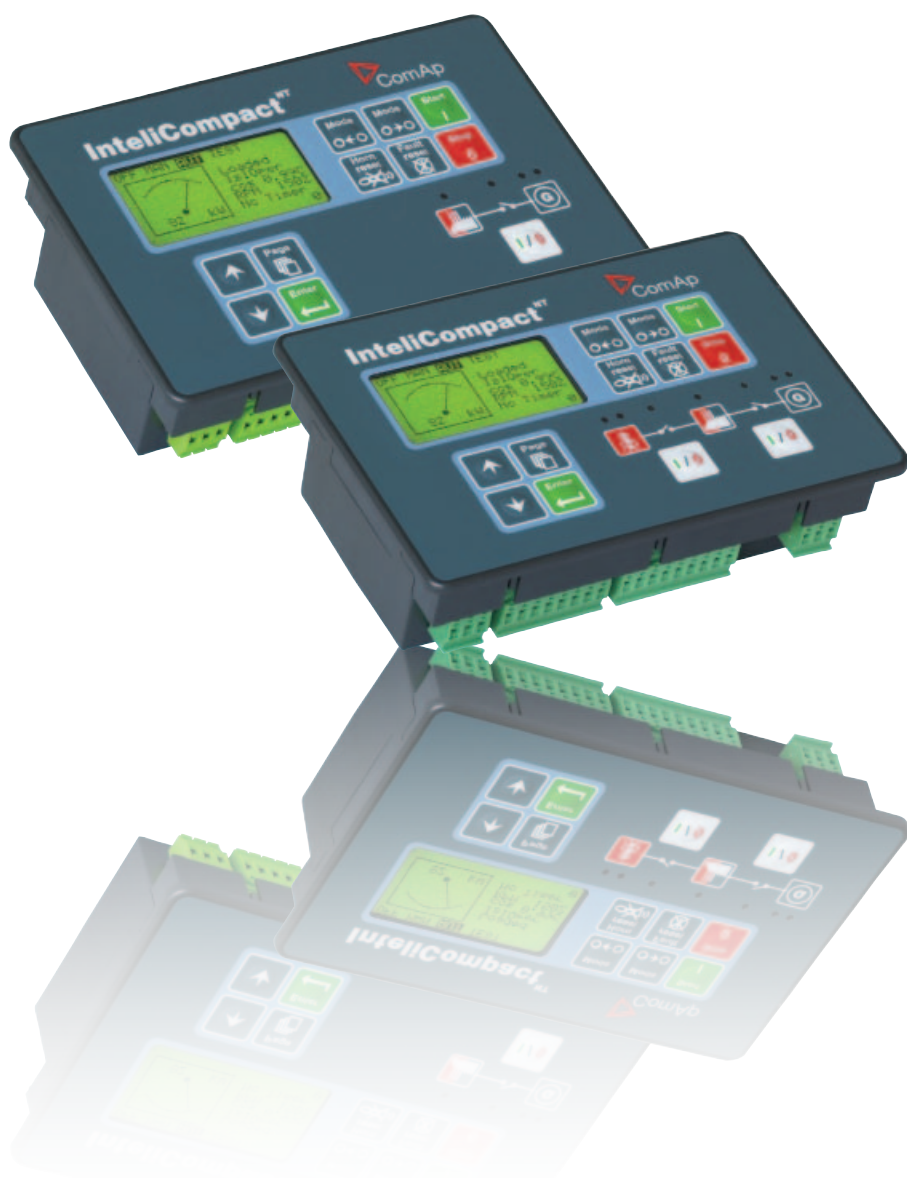


InteliCompact^{NT}



EASY TO USE PARALLELING CONTROLLER



Description

InteliCompact^{NT} models are new integrated controllers for gen-sets operating in both standby and parallel modes. Functionality, optimized for ease of use, installation and configuration, includes built-in synchronizer and digital isochronous load sharer. Native cooperation of up to 32 gen-sets is a standard feature.

The new InteliCompact^{NT} models are coming together with the MainsCompact^{NT} mains controller, which provides synchronization of group of gensets to mains, import export and mains protection.

InteliCompact^{NT} can communicate via standard and proprietary CAN J1939 or Modbus communication protocols to a wide range of EFI engines, which include Caterpillar, Cummins, Deutz, Detroit Diesel, GM, Iveco, JohnDeere, Perkins, Scania, Sisu, Volvo Penta and others.

The controller comes with PC software enabling the user to freely configure the inputs and outputs to suit individual requirements.

Like all ComAp products, InteliCompact^{NT} features a powerful graphic display providing user friendly information in an easy to understand format.

Real time clock and event and performance history log are priceless when it comes to troubleshooting. Remote control and monitoring is possible via analog / GSM modem or Internet.

Optional instrumentation of internal values on analog gauge makes use easy even for untrained personnel.

Benefits

- ▷ Less wiring and components
- ▷ Less engineering and programming
- ▷ Remote monitoring – reduced call-out costs of service engineers
- ▷ DC analog gauge outputs – simple connection to standard panel meters
- ▷ Direct communication with EFI engines
- ▷ Perfect price / performance ratio
- ▷ History log – easy troubleshooting and warranty claim handling



ComAp is a member of AMPS
(The Association of Manufacturers
of Power generating Systems).



ComAp products meet the highest standards, with every stage of production undertaken in accordance with the ISO certification obtained in 1998.

Features

- ▶ **3 phase AMF function***
 - Over/Under frequency
 - Over/Under voltage
 - Vector shift
- ▶ **3 phase generator protections**
 - Over/Under frequency
 - Over/Under voltage
 - Current/Voltage asymmetry
 - Overcurrent/Overload
- ▶ **True RMS Voltage measurement**
 - 3 phase generator and mains/bus voltages
 - Voltage range 277 V p-n, 480 V p-p
 - Maximal measured voltage 300 V p-n
 - PT ratio range 0.1–500
- ▶ **True RMS current measurements**
 - 3 generator phase currents
 - 1 mains phase current*
 - Maximal measured current 10 A
 - CT ratio range 1–5000
- ▶ **Power measurements**
 - Act / React Power and Power Factor per phase
 - Active and reactive energy counter
- ▶ **Paralleling functions**
 - Automatic synchronization and power control
 - Voltage and PF control (AVR)
 - Active Load Sharing
 - VAr Sharing
 - Optimizing number of running engines
 - Peak shaving*
 - High tariff avoidance*
 - Mains export limit*
- ▶ **EFI engine support**
 - Cummins Modbus
 - Engine specific J1939 for all major manufacturers
 - Diagnostic messages in plain text

▶ Event and performance log + RTC

- Event based history
- Reason, Data and Time + all important values are stored
- Battery backed-up RTC
- Test Run scheduler

User interface

- Graphic 128 × 64 pixels display
- 2 languages, user changeable from PC. Default English + Chinese
- Setpoints adjustable via keyboard or PC
- Buttons with mechanical feedback

▶ Inputs and outputs

- 3 resistive analog inputs
- 9 or up to 16*/17** binary inputs
- 8 or up to 15*/16** binary outputs
- Output to engine speed governor
- Magnetic pick-up input
- D+ pre-excitation terminal
- Optional 8 analog gauge drive outputs

▶ Communication interfaces

- Optional RS232, RS485 (including Modem support) or USB plug-in interface
- Modbus RTU (requires RS485 interface)
- Optional Internet/Ethernet via IB-Lite
- Optional embedded web server via IB-Lite

▶ Mechanical and operation parameters

- Unit dimension 120 × 180 mm
- Sealed front face rated for IP65
- Hard plexiglass LCD cover
- Operation temperature
 - -20°C to +70°C standard version
 - -40°C to +70°C low temperature version
- Power supply voltage 8–36 V
- Voltage drops shorter than 50 ms do not affect operation

Accessories

- ▶ **I-LB+** - Local Bridge**
- ▶ **IB-Lite** - Internet/Ethernet Plug-in Module including Web Server
- ▶ **IC-NT CT-BIO7** - 1 Phase Current Input and Binary Input/Output Module***
- ▶ **IC-NT RD (SW)** - Remote Display Software for IntelliCompact^{NT} controllers
- ▶ **IG-IB** - Internet Bridge**
- ▶ **IG-IOM** - Analog/Binary Input/Output Module
- ▶ **IGL-RA15** - Remote Annunciator
- ▶ **IGS-PTM** - Analog/Binary Input/Output Module
- ▶ **IL-NT AOUT8** - Analog Outputs for PWM Gauges Module
- ▶ **IL-NT BIO8** - Binary Input/Output (PWM) Module
- ▶ **IL-NT RS232** - RS232 Extension Board
- ▶ **IL-NT RS232-485** - Dual Port Extension Board
- ▶ **IL-NT S-USB** - Service USB Module

Key:

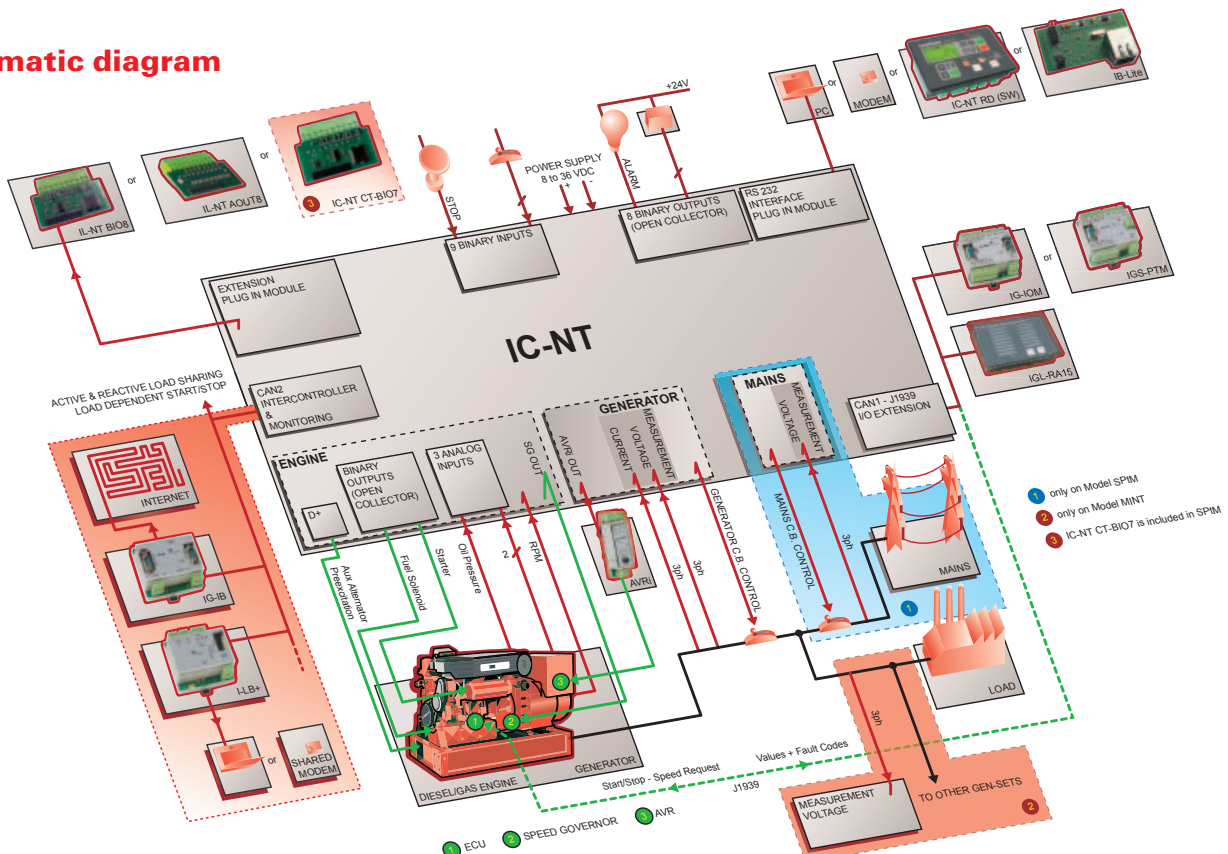
SPTM – single gen-set in parallel to mains controller
 MINT – multiple paralleling gen-sets with internal load-sharing controller

* Only for SPTM models

** Only for MINT models

*** IC-NT CT-BIO7 is already included in SPTM

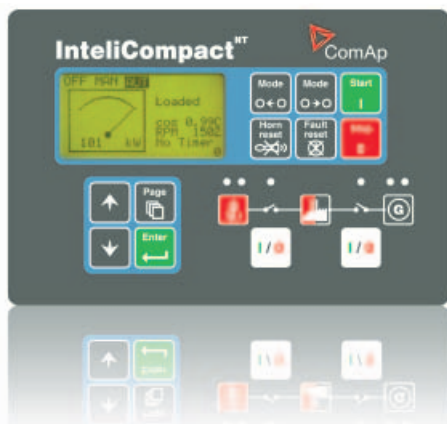
Schematic diagram



Available models

SPtM

SINGLE GENSET IN PARALLEL TO MAINS CONTROLLER

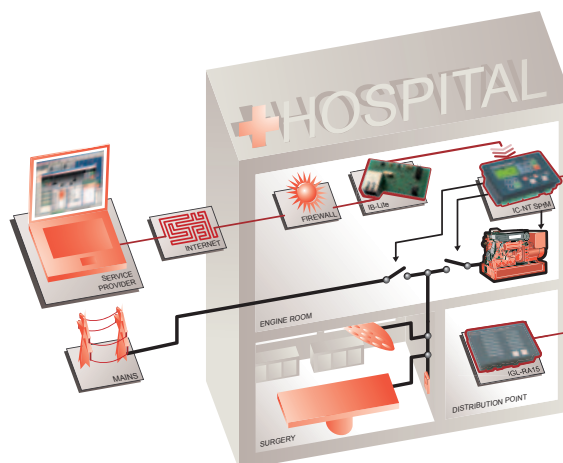


For single gen-set in parallel with mains:

- ▶ AMF function
- ▶ Automatic synchronizing and power control
- ▶ Interrupt free load transfers
- ▶ Voltage and PF control
- ▶ Baseload power control
- ▶ Peak shaving
- ▶ High tariff avoidance
- ▶ Mains export limit

Typical applications

STANDBY SYSTEM WITH SOFT RETURN

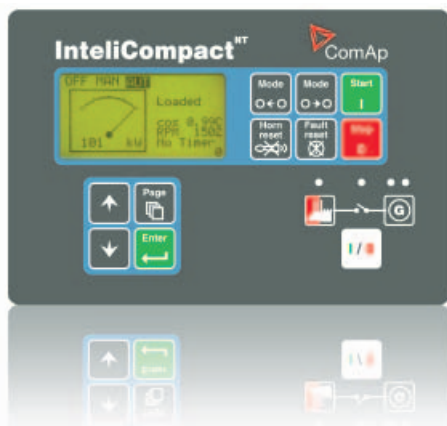


Description:

- ▶ Stand-by emergency gen-set accomplishes power supply to essential load during power drop.
- ▶ Controller automatically starts the gen-set in case of mains failure and switches load to generator. When mains returns, it synchronizes the generator back, softly unloads it and stops the engine.
- ▶ Generator automatically synchronizes to mains in Test mode. Test mode can be used to check the gen-set condition and to provide uninterrupted power supply in case of expected mains failure.
- ▶ Status of the gen-set is displayed in the distribution point.
- ▶ IntelliMonitor is used for remote monitoring and control.
- ▶ History file with performance log stored in IntelliCompact^{NT} SPtM
- ▶ Allows easy backtracking and problem solving.
- ▶ Seamless communication with engine's electronic injection control unit, all important values and alarms are visible on screen of IntelliCompact^{NT} and stored to the history file in plain language.

MINT

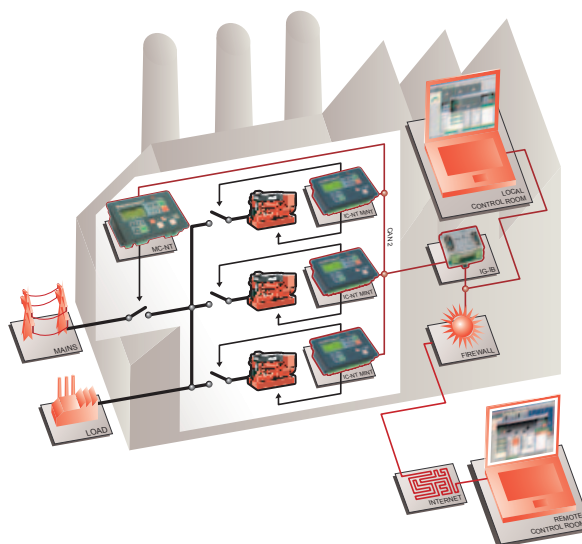
MULTIPLE PARALLELING GENSETS WITH INTERNAL LOAD-SHARING CONTROLLER



For multiple gen-sets running in isolated parallel operation or in parallel with mains:

- ▶ Automatic synchronizing and power control
- ▶ Voltage and PF control
- ▶ Active load-sharing
- ▶ VAR sharing
- ▶ Power management based on relative load (optimization of running gensets according to the load demand)

MULTIPLE GEN-SETS IN PARALLEL TO GRID



Description:

- ▶ Fully automatic system reduces electric energy bill by keeping the mains power below high tariff level during peak hours.
- ▶ At the same time it accomplishes emergency standby power in case of mains failure.
- ▶ Remote control and monitoring uses available factory LAN for connection between a Power house and a Control room.
- ▶ IntelliMonitor is used for remote monitoring and control.
- ▶ Wide range of engine and generator protections, including vector-shift protection.
- ▶ Automatic forward and reverse synchronization with soft load ramp-up and ramp-down during changeover.
- ▶ Active and reactive load import/export control and load-sharing.
- ▶ Automatic optimization of number of running sets according to load.
- ▶ Peak lopping controlled by built in Scheduler, engines automatically run during peak period.
- ▶ History file with performance log stored in IntelliCompact^{NT} MINT allows easy backtracking and problem solving.
- ▶ Seamless communication with engine's electronic injection control unit, all important values and alarms are visible on screen of IntelliCompact^{NT} and stored to the history file in plain language.

Function Overview of IntelliCompact^{NT} and IntelliGen^{NT} Controllers

FUNCTIONS / CONTROLLERS	IntelliCompact ^{NT} SPtM	IntelliCompact ^{NT} MINT	IntelliGen ^{NT}
Binary inputs /outputs	9/8 (16/15) ¹⁾	9/8 (17/16) ²⁾	12/12 (108/60) ³⁾
Analog inputs	3 (7) ³⁾	3 (7) ³⁾	3 (83) ³⁾
Voltage measurement Gen / Mains or Bus	3 ph / 3 ph	3 ph / 3 ph	3 ph / 3 ph
Current measurement Gen / Mains or Neutral	3 ph / 0 ph	3 ph / 0 ph	3 ph / 1 ph
History file	•	•	•
RTC with battery	•	•	•
AMF function	•	—	•
Input configuration	•	•	•
Output configuration	•	•	•
Active SMS/E-mail	•	•	•
Bus-tie breaker support	—	—	•
Built-in PLC module	—	—	•
CHP support	—	—	•
Battery charging alternator circuit	•	•	•
J1939 interface	•	•	•
Intercontroller CAN	•	•	•
Modem interface	o	o	•
Modbus interface	o	o	•
Cummins Modbus interface	o	o	•
Extension modules	max. 3 modules ⁴⁾	max. 3 modules ⁴⁾	max.16 modules ⁵⁾
Speed governor interface	•	•	•
AVR interface	with IG-AVRi	with IG-AVRi	with IG-AVRi

Key: • included
 — excluded
 o optional (plug-in module required)

- 1) with IC-NT CT-BIO7
- 2) with IL-NT BIO8
- 3) with IG-IOM or IGS-PTM
- 4) IG-IOM, IGS-PTM, IL-RA15, IL-NT AOUT8, IL-NT BIO8, IC-NT CT-BIO7
- 5) IG-IOM, IGS-PTM, IL-RA15, IS-AIN8, IS-BIN16/8, I-AOUT8

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