InteliGen^{NT}

GENERAL PURPOSE HIGH-END GEN-SET CONTROLLER



Description

InteliGen^{NT} is a comprehensive controller for both single and multiple gen-sets operating in standby or parallel modes. Compact construction is optimized for these purposes and various HW modifications allow customers to select the optimum type for a particular application.

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.

InteliGen^{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.

ComAp also has a marine version of the InteliGen^{NT} available for use in maritime applications. The InteliGen^{NT} Marine has the same features as the InteliGen^{NT}, but is approved for use in marine environments by DNV, GL, Lloyds Register and CRS classification and registration bodies.

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
- Built-in PLC function

WebSupervisor

WebSupervisor
The WebSupervisor system, a secure web based remote monitoring system which allows equipment fitted with various types ComAp units to be monitored via the internet from a remote PC or other web enabled device such as smartphone, webbook, etc. It operates in any internet browser and needs no special software to be installed. User can view recorded data from their equipment, receive Email alerts on alarms and control the remote units. Dedicated App's for iPhone and Android provide a truly mobile constant connection with the monitored equipment.

AirGate
simply connected

AirGate
Modern communications made simple. ComAp's powerful AirGate technology is provided in a range of our controllers and makes remote internet connection to the ComAp controller easy. Just register the AirGate enabled controller on our website and from then on let ComAp's unique system locate and maintain contact with the controller, no need to worry about VPN's, Static IP addresses or corporate firewalls, simple! "AirGate – Simply connected."

AMPS MEMBER

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

DEKRA

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

c UL us

The product has the UL Certification.

Features

- 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
- Controller redundancy
- 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 LT GC)
- Dimensions 180×120 mm (front panel)
- Sealed to IP65

Integrated fixed and configurable protections

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

ANSI CODES

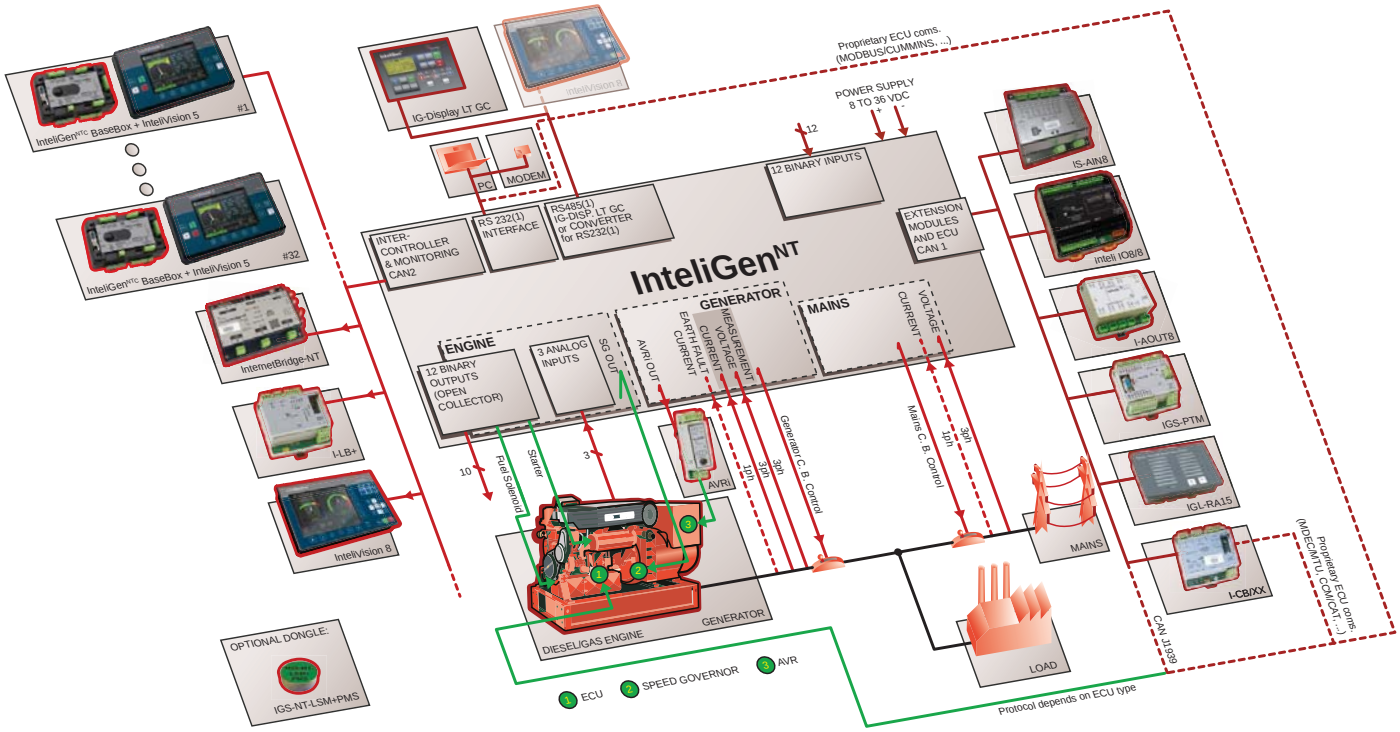
ANSI code	Protection
25	Synchronism check
27	Undervoltage
32	Overload
32P	Load shedding
32R	Reverse power
37	Undercurrent*
40	Excitation loss
46	Generator current unbalance
47	Voltage asymmetry and phase sequence
49T	Temperature monitoring*
50	Generator overcurrent
50N+64	Earth fault current*
51	Generator overcurrent, IDMT
51N+64	Earth fault current, IDMT
55	Power factor*
59	Overvoltage
71	Gas (fuel) level
78	Vectorshift
79	AC Reclosing
81H	Generator overfrequency
81L	Generator underfrequency
81R	ROCOF

** can be created using universal protections*

Order codes

Product	Order code
InteliGen^{NT}	IG-NT GC
InteliGen^{NT} LT	IG-NT LT GC

Schematic diagram



Upgrade kit

- **IGS-NT-LSM + PMS dongle:**
  - Enables Multiple isolated parallel or multiple parallel with mains
  - Optimizing number of running engines: Power management; kW, kVA or % load based
  - Digital Load Sharing
  - Digital VAr Sharing

Extension modules

- up to 12× **Inteli IO8/8** – Binary input/output, analog output module
- up to 10× **Inteli AIN8** – Analog/Impulse input module
- up to 10× **IS-AIN8** – Analog input module
- up to 10× **Inteli AIN8TC (or IS-AIN8TC)** – Module for thermocouple measurement
- up to 4× **IGS-PTM** – Analog/binary input/output module
- up to 4× **I-AOUT8** – Analog output module
- up to 4× **IGL-RA15** – Remote annunciator

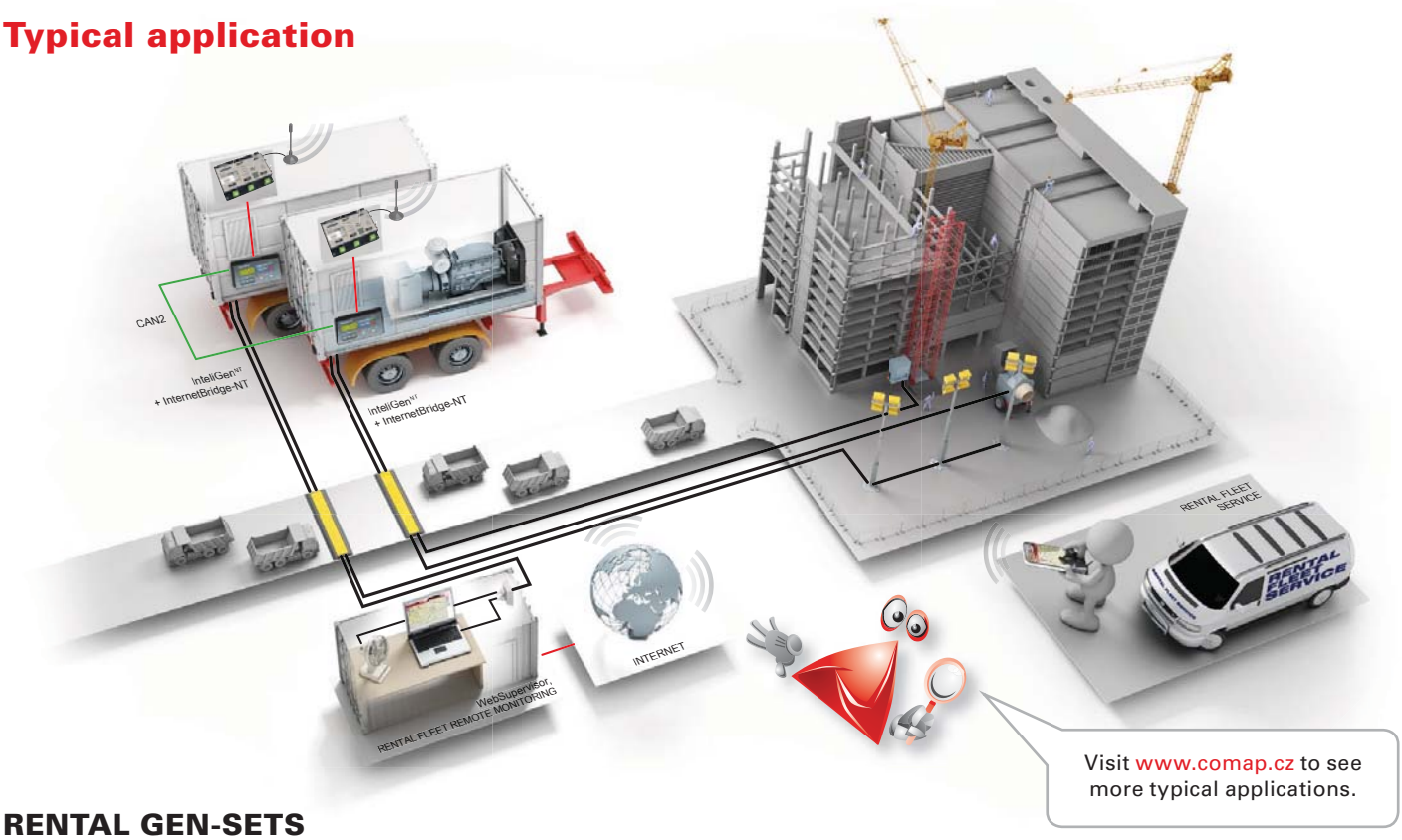
Communication modules and PC tools

- **InternetBridge-NT** – Communication module with cellular/ethernet connection
- **I-LB+** – Local bridge supporting USB communication
- **I-CB** – ECU communication bridge
- **WinScope** – Special graphical controllers´ monitoring software
- **WebSupervisor** – Cloud-based system for monitoring and controlling of ComAp controllers
- **GenConfig** – PC configuration tool
- **InteliMonitor** – PC monitoring tool

Remote displays

- up to 2× **InteliVision 5** – New generation 5,7" colour display unit
- up to 2× **InteliVision 5 RD** – New generation 5,7" remote colour display unit
- up to 6× **InteliVision 8** – 8" Colour detachable display unit
- **InteliVision 17Touch** – 17" Touchscreen display unit

Typical application



RENTAL GEN-SETS

Description:

- Containerized rental gen-sets are deployed as temporary and mobile power generation units providing essential energy for subsystems and construction machinery on building projects or civil engineering applications where mains power is not available or has been manually disconnected.
- The application shows rental gen-sets fitted with the latest remote communication module InternetBridge-NT which enables the central control facility and mobile service engineers to efficiently monitor, control and supervise equipment wherever it is located. By using the supportive web based software applications such as WebSupervisor, rental operators can significantly improve operational control.
- Each gen-set can be used in Stand-by, Single parallel to mains and Multiple parallel modes according to the position of Mode selector switch.
- Load sharing and VAr sharing can be conditionally switched from isochronous regulation to droop. It ensures reliable operation in case of cut off the CAN intercontroller communication line or cooperation with the gen-sets equipped with third-party control system.

Scope of supply:

- 2× InteliGen^{NT}
- 2× InternetBridge-NT

Functions chart

Product	InteliGen^{NT}	InteliGen^{NT} BaseBox	InteliGen^{NTC} BaseBox	InteliSys^{NTC} BaseBox
Order code	IG-NT GC	IG-NT-BB	IG-NTC-BB	IS-NTC-BB
Binary Inputs / Outputs	12/12 (108/108) [1]	12/12 (108/108) [1]	12/12 (108/108) [1]	16/16 (112/112) [1]
Analog Inputs/Outputs	3/0 (83/32) [1] (configurable as tristate)	3/0 (83/32) [1] (configurable as tristate)	3/0 (83/32) [1] (configurable as tristate)	4/1 (84/33) [1] (configurable as tristate)
AMF function	●	●	●	●
GCB control with feedback	●	●	●	●
Integrated PLC	Standard	Standard	Standard	Extended
Input configuration	●	●	●	●
Output configuration	●	●	●	●
Voltage measurement Gen / Mains (bus)	3 ph / 3 ph 277V	3 ph / 3 ph 277V	3 ph / 3 ph 120V / 277V	3 ph / 3 ph 120V / 277V
Current measurement	3ph + 1 / 6w IDMT overcurrent 5A	3ph + 1 / 6w IDMT overcurrent 5A	3ph + 1 / 6w IDMT overcurrent 1A / 5A	3ph + 1 / 6w IDMT overcurrent 1A / 5A
kW / kWh / kVA measurement	● / ● / ●	● / ● / ●	● / ● / ●	● / ● / ●
Communication interfaces	CAN1, CAN2, RS232, RS485, Ethernet [2], Modbus	CAN1, CAN2, RS232, RS485, Ethernet [2], Modbus	CAN1, CAN2, RS232, 2× RS485, USB, Ethernet, Modbus, ModbusTCP, AirGate, Web server	CAN1, CAN2, RS232, 2× RS485, USB, Ethernet, Modbus, ModbusTCP, AirGate, Web server
ECU support	●	●	●	●
Active call / SMS support	●	●	●	●
Forward / Reverse synchronizing / Mains parallel operation	● / ● / ●	● / ● / ●	● / ● / ●	● / ● / ●
Multiple operation / Power Management System	● [3]	● [3]	● [3]	● [3]
Display	LCD 128×64	External	External	External
History (max records) [4]	500	1000	1000	4000

KEY
- ● included
- CAN1 for peripheral modules and ECU (J1939)
- CAN2 intercontroller can; monitoring

[1] With extension modules
[2] With communication modules
[3] With IGS-NT-LSM+PMS dongle
[4] Depends on number of values in history record

References

Peru



Minera Lincuna

Minera Lincuna is an isolated metal ore mining operation, near the top of the Sierra Negra Mountain (5000 m above sea level). Due to the remote location and resulting weak local electricity supply, the system features three gen-sets working in parallel with the mains incorporating three InteliGen^{NT}s, one InteliMains^{NT} and remote monitoring across the internet via WebSupervisor.

MANUFACTURER:

ComAp

LOCAL DISTRIBUTOR / PARTNER:

Customer satisfaction is our mission. We continuously develop our people to be the best to succeed in our mission.

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