InteliGen^NTC BaseBox

GENERAL PURPOSE GEN-SET CONTROLLER WITH DETACHABLE COLOUR DISPLAY

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Description

InteliGen^NTC BaseBox is a comprehensive controller for both single and multiple gen-sets operating in standby or parallel modes. The detachable modular construction allows easy installation with the potential for many different extension modules designed to suit individual customer requirements.

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

InteliGen^NTC BaseBox supports many standard ECU types and is specially designed to easily integrate new versions.

New ethernet connections together with AirGate make remote internet connection to new InteliGen^NTC easy.

The controller is available in two models: InteliGen^NT BaseBox and InteliGen^NTC BaseBox

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
▷ Gen-set performance log for easy problem tracing
▷ Built-in PLC functions
▷ 5,7" colour TFT display [2]
▷ Active buttons – fast access to important data [2]
▷ Backlit buttons [2]

[1] InteliGen^NTC BaseBox or InteliGen^NT BaseBox can be connected with InteliVision 5 and/or other ComAp displays.

[2] It is concerned in connection with InteliVision 5

1)

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."

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.

Selected ComAp products have 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
▷ Selectable measurement ranges for AC voltages and currents – 120 / 277 V, 0–1 / 0–5 A [1)]
▷ Inputs and outputs configurable for various customer needs
▷ Bipolar binary outputs - possibility to use BO as High or Low side switch
▷ RS232 / RS485 interface with Modbus support; Analog / GSM / ISDN / CDMA modem support; SMS messages; ECU Modbus interface
▷ Secondary isolated RS485 interface [1)]
▷ Ethernet connection (RJ45) [1)]
▷ USB 2.0 slave interface [1)]
▷ Controller redundancy
▷ Event-based history (up to 1000 records) with customer-selectable list of stored values; RTC; statistic values
▷ Integrated PLC programmable functions
▷ Interface to remote display unit (InteliVision 5)
▷ DIN-Rail mount

[1)] Available only for InteliGen[NTC] BaseBox model

Order codes

Controller	Order code
InteliGen[NT] BaseBox	IG-NT-BB
InteliGen[NTC] BaseBox	IG-NTC-BB

Integrated fixed and configurable protections
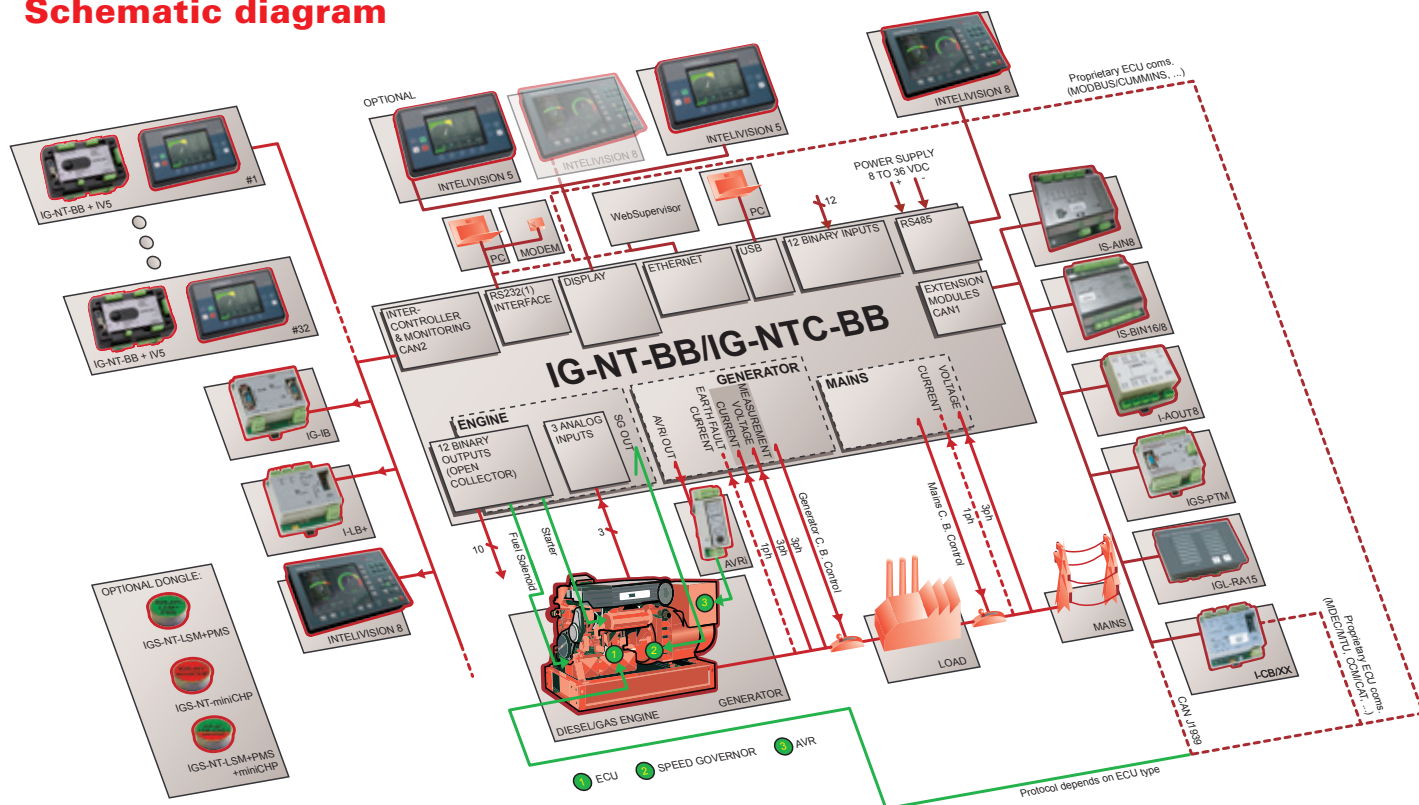
▷ 3 phase integrated generator protections (U + f)
▷ IDMT overcurrent + Shortcurrent protection
▷ Overload protection
▷ Reverse power protection
▷ Earth fault protection
▷ 3 phase integrated mains protections (U + f)
▷ Vector shift protection
▷ All binary / analog inputs free configurable for various protection types: HistRecOnly / Alarm Only / 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	ANSI code	Protection
59	Overvoltage	50N+64	Earth fault
27	Undervoltage	32R	Reverse power
47	Voltage asymmetry	25	Synchronism check
81H	Overfrequency	47	Phase rotation
81L	Underfrequency	37	Undercurrent*
50+51	Overcurrent	55	Power factor*
46	Current unbalance	71	Gas (fuel) level
32	Overload		

* can be created using universal protections

Schematic diagram

InteliGen[NTC] BaseBox

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Upgrade kits

▷ **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

▷ **IGS-NT-miniCHP dongle:**
  - Increasing the number of PLC functions

▷ **IGS-NT-LSM + PMS + miniCHP dongle:**
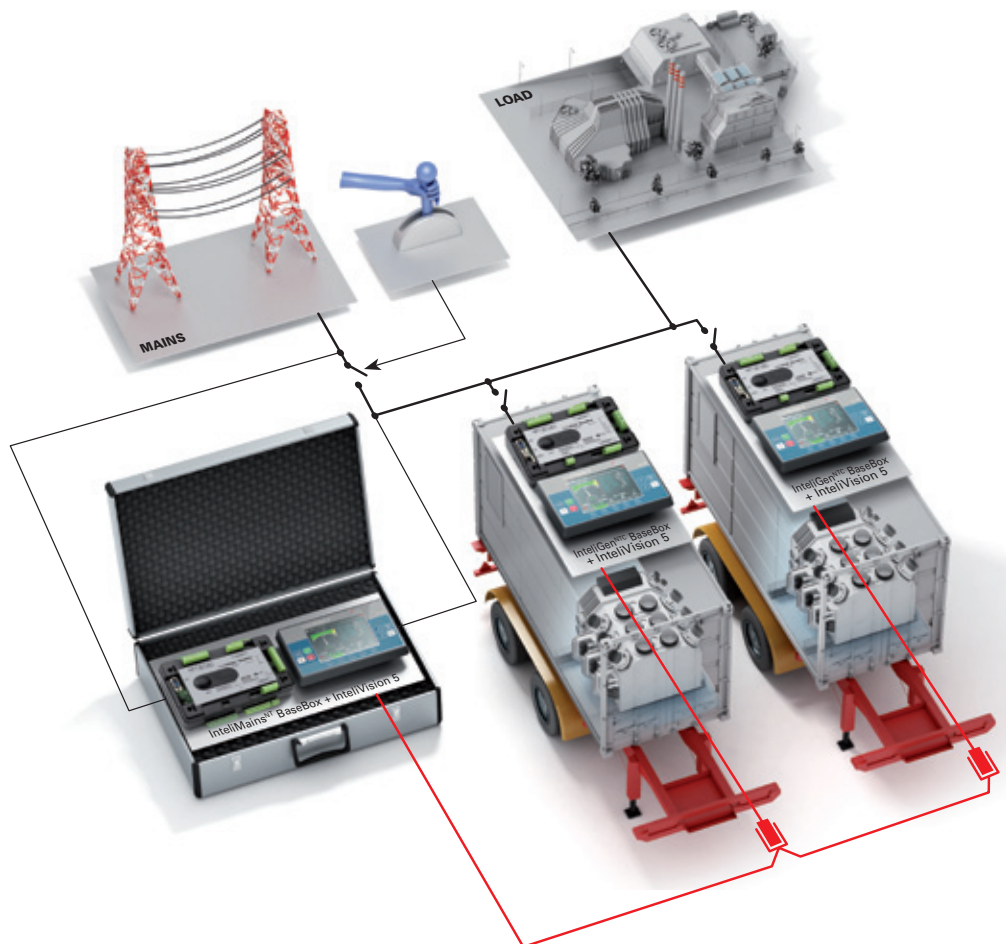 - Combination of the both dongles

Extension modules

▷ **I-CB** – ECU communication bridge
▷ up to 4× **I-AOUT8** – Analog output extension module
▷ up to 2× **IGL-RA15** – Remote annunciator
▷ up to 4× **IGS-PTM** – Analog/binary input/output module
▷ up to 10× **IS-AIN8** – Analog input module
▷ up to 10× **IS-AIN8TC** – Analogue input module for thermocouples
▷ up to 6× **IS-BIN16/8** – Binary input/output module

Communication modules and PC tools

▷ **I-CR** – CAN repeater module
▷ **IG-IB** – Internet bridge
▷ **I-LB+** – Local bridge supporting USB communication
▷ **InteliMonitor** – PC monitoring tool
▷ **WebSupervisor** – Web based system for monitoring and controlling of ComAp controllers
▷ **GenConfig** – PC configuration tool
▷ **WinScope** – Special graphical controllers' monitoring software

Remote displays

▷ up to 6× **InteliVision 8** – Controller colour display unit
▷ up to 2× **InteliVision 5** – Controller colour display unit

Typical application

RENTAL SETS

Description:

▷ Containerized rental gen-sets can be used for maintenance of power lines without interruption of power delivery to end consumer.

▷ Gen-sets are connected one-by-one to mains at the consumer's end and manually loaded. Power line is then manually disconnected and consumer is powered from generators running in parallel.

▷ The group of gen-sets is reverse synchronized to mains after finalization of maintenance on power line. InteliMains^{NT} BaseBox keeps generators and mains in synchronism enabling manual reconnection to power line.

▷ InteliMains^{NT} BaseBox is built in a small shock proof suitcase.

▷ Interconnection of containers is done by colour coded not-interchangeable connectors.

▷ 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.

▷ Frequency selector enables switching between 50 Hz/230 V and 60 Hz/277 V mains.

Scope of supply:

▷ 2× InteliGen^{NTC} BaseBox
▷ 1× InteliMains^{NT} BaseBox
▷ 3× InteliVision 5
▷ 2× IGS-NT-LSM + PMS dongle
▷ 2× IG-AVRi
▷ 2× IG-AVRi-TRANS/LV

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Functions chart

Controller	InteliGen^{NT}	InteliGen^{NT} BaseBox	InteliGen^{NTC} BaseBox	InteliSys^{NTC} BaseBox
Order code	IG-NT	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 [2]	Standard [2]	Standard [2]	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 [3], Modbus	CAN1, CAN2, RS232, RS485, Ethernet [3], Modbus	CAN1, CAN2, RS232, 2× RS485, USB, Ethernet, Modbus, Modbus TCP, AirGate, Web server	CAN1, CAN2, RS232, 2× RS485, USB, Ethernet, Modbus, Modbus TCP, AirGate, Web server
ECU support	●	●	●	●
Active call / SMS support	●	●	●	●
Forward / Reverse synchronizing / Mains parallel operation	● / ● / ●	● / ● / ●	● / ● / ●	● / ● / ●
Multiple operation / Power Management System	● [4]	● [4]	● [4]	● [4]
Display	LCD 128×64	External	External	External
History (max records) [5]	500	1000	1000	4000

KEY

●	included	[1]	with IS-AIN8, IS-AIN8TC, IS-BIN16/8, I-OUT8 or IGS-PTM
CAN1	for peripheral modules and ECU (J1939)	[2]	more PLC blocks are available with IGS–NT–miniCHP dongle
CAN2	intercontroller can; monitoring	[3]	with communication modules
		[4]	with IGS-NT-LSM+PMS dongle
		[5]	depends on number of values in history record

Customer feedback

"Regarding the parallel application, we only use ComAp controllers for many reasons – the most advanced technology, the fantastic policy of ComAp in providing the software upgrades via Internet without costs, the constant evolution of software and the easy way of use. This special modern way of working (open and wide information) gives ComAp the leadership in their business."

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