InteliSys^{NTC} BaseBox

PREMIUM AND COGENERATION GEN–SET CONTROLLER WITH DETACHABLE COLOUR DISPLAY

Green Power systems

Description

InteliSys^{NTC} BaseBox is an expandable controller for both single and multiple gen-sets operating in standby or parallel modes, especially in cogeneration (CHP) and other complex applications.

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. Native cooperation of up to 32 gen-sets is a standard feature.

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

New ethernet connections together with AirGate make remote internet connection to new InteliSys^{NTC} BaseBox easy. After registration of InteliSys^{NTC} BaseBox on our website you can simply monitor the site on the internet using WebSupervisor.

InteliSys^{NTC} BaseBox can be connected with InteliVision 8 and/or other ComAp displays.

1)

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
▷ 8" colour TFT display [1]
▷ Configurable soft keys [1]
▷ Trends [1]
▷ Plug and play system [1]

[1] It is concerned in connection with InteliVision 8

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
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."

AirGate
simply connected

AMPS MEMBER

Quality Management ISO 9001:2008
▷ Voluntary participation in single monitoring
DEKRA

c(UL)us
LISTED
E345734
The product has the UL Certification.

Features

▷ CHP support (programmable PID loops and other built-in PLC functions)
▷ Support of engines with ECU (J1939, Modbus and other proprietary interfaces); alarm codes displayed in text form
▷ Automatic synchronizing and power control (via speed governor or ECU)
▷ Baseload, Import / Export, TempByPower
▷ 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
▷ 1× RS232 / 2× RS485 interface with Modbus support; Analog / GSM / ISDN / CDMA modem communication support; SMS messages; ECU Modbus interface; secondary RS485 converter is isolated
▷ Event-based history (up to 4000 records) with customer-selectable list of stored values; RTC; statistic values
▷ Integrated PLC programmable functions
▷ Interface to remote display units (InteliVision 8, InteliVision 5 RD)
▷ USB 2.0 slave interface
▷ Ethernet connection (RJ45)
▷ Bipolar binary output – possibility to use BO as High or Low side switch
▷ Pre mortem history (50 records)

Order code

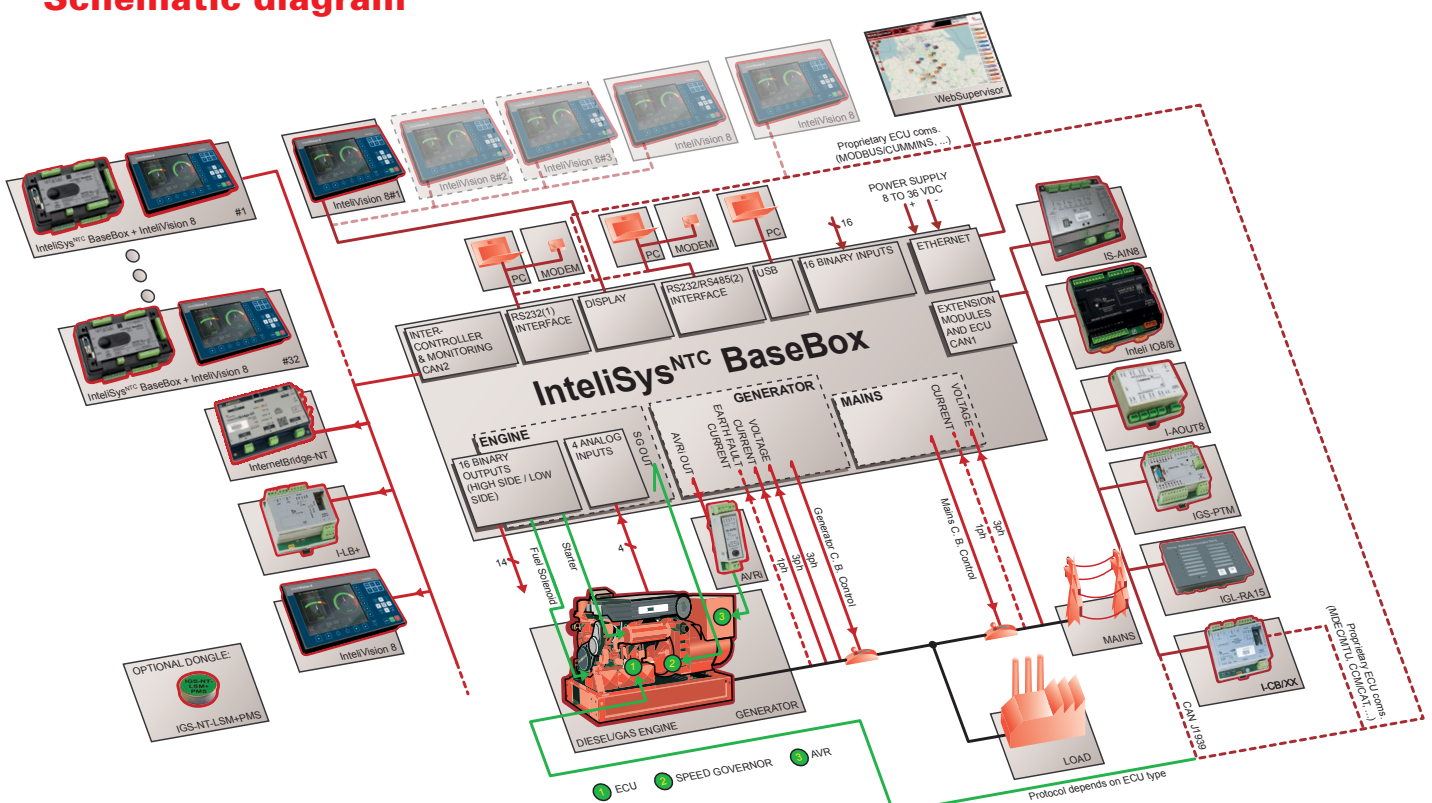| Product	Order code
InteliSys^NTC BaseBox	IS-NTC-BB

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 customized protections
▷ Application security

ANSI CODES

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

* Can be created using universal protections

Schematic diagram

InteliSys^NTC BaseBox

Upgrade kit

▷ **IGS-NT-LSM + PMS dongle:**
  • Enables multiple isolated parallel or multiple parallel with mains operation (with CAN bus)
  • Digital load sharing
  • Digital VAr sharing
  • Optimizing number of running engines: Power management; kW, kVA or % load based

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

   [*] Available from Q2/2014

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
▷ **I-CR** – CAN repeater module
▷ **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 3× **InteliVision 5** – New generation 5,7" colour display unit
▷ up to 3× **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
▷ up to 3× **IS-Display** – Detachable display module

Typical application

STANDBY SYSTEM WITH LOAD SHEDDING ADVANCED DISPLAYS

Description:

▷ The system guarantees emergency standby power in case of mains failure.
▷ InteliMains^{NT} BaseBox provides AMF function and activates mains to gen-sets changeover in the case of mains failure no break return to mains.
▷ Load shedding can take place during the changeover to trip the unessential load when gen-set goes to island.
▷ Gen-set starts, the power is ramped-up, load is reconnected. The second gen-set is started if needed (more load requires more gen-set power).
▷ Automatic forward and reverse synchronisation with soft load ramp-up and ramp-down during changeover is available.
▷ Wide range of engine and generator protections, including vector shift protection are standard features.
▷ Automatic optimization of number of running sets according to load can be selected.
▷ Automatic equalization of running hours of particular engines is available.
▷ History file with performance log stored in InteliGen^{NT} BaseBox allows easy backtracking and problem solving.
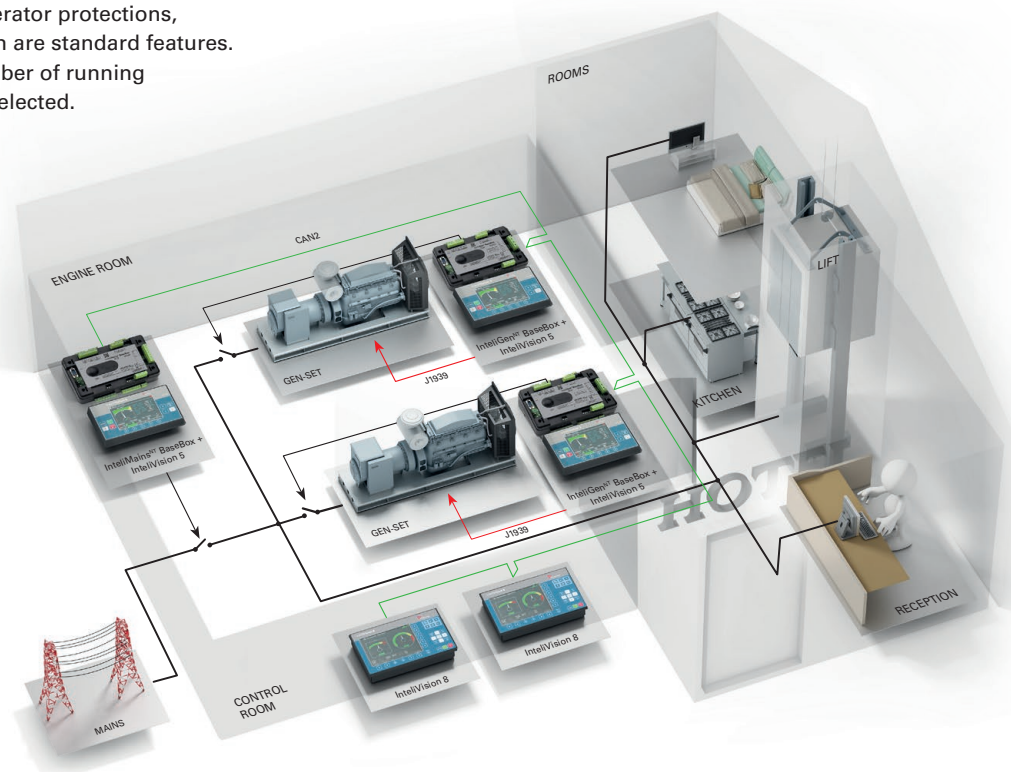
Scope of supply:

▷ 2× InteliGen^{NT} BaseBox
▷ 2× InteliVision 8
▷ 1× InteliMains^{NT} BaseBox
▷ 3× InteliVision 5
▷ 2× IG-AVRi
▷ 2× IG-AVRi-TRANS/LV
▷ 2× IGS-NT-LSM + PMS dongle

InteliSys^{NTC} BaseBox

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 [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

LOCAL DISTRIBUTOR / PARTNER:

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