

InteliGen NT BaseBox



Gen-set Controller

Datasheet

Product description

Comprehensive gen-set controller for both single and multiple gensets operating in standby or paralleling modes

To be used in conjunction with detachable 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 – easy remote supervising and servicing

Load sharing and VAR sharing via CAN

Virtual shared inputs and outputs via CAN

Support of wide range of applications

- Single or multiple gen-sets in parallel to mains operation with automatic back up function, multiple island operation

Advanced power management function

Customizable load control in parallel to mains

Wide range of ECU support

Highly configurable

- Timers, Internal PLC, Force values and more

Compatible with ComAp's InteliVision displays

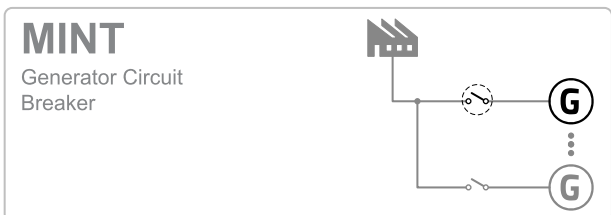
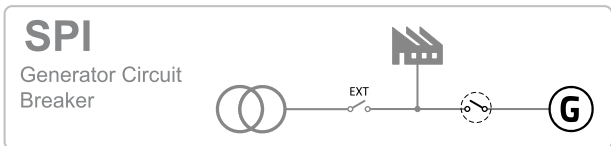
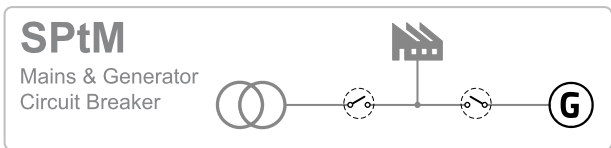
Active e-mail messaging and SMS

Extensive built-in protection functions

- Standard protections
- User configurable protection

Extendable with ComAp's extension modules

Application overview



Technical data

Power supply

Power supply range	8-36 V DC
Power supply drop-out immunity	20 ms (from 8 V)
Power consumption	0.4 A / 8 VDC 0.15 A / 24 VDC 0.1 A / 36 VDC
RTC battery	10 years (replaceable by official service)
Fusing	2 A (without BOUT consumption)
Max. Power Dissipation	16 W

Operating conditions

Operating temperature	-40 °C to +70 °C
Storage temperature	-40 °C to +80 °C
Max. operating altitude	2000 m above sea level for max 480 V 4000 m above sea level for max 400 V
Operating humidity	95 % w/o condensation
Vibration	5-25 Hz, ± 1.6 mm 25-100 Hz, a = 4 g
Shocks	a=200 m/s ²
Heat radiation	16 W

Voltage measurement

Measurement inputs	3 ph-n Gen voltage 3 ph-n Mains voltage/Bus voltage
Measurement range	277V
Max allowed voltage	125 % ph-n
Accuracy	1 % of 277V
Frequency range	40-70 Hz (accuracy 0.1 Hz) 45-55 Hz (accuracy <0.01 Hz)
Input impedance	0.6 MΩ ph-ph, 0.3 MΩ ph-n

Current measurement

Measurement inputs	3 ph Gen current 1 ph Mains current galvanically isolated
Measurement range	5 A
Max allowed continuous current	5 A
Accuracy	2 % of 5 A
Input impedance	< 0.1 Ω

Binary inputs

Number	12, non-isolated
Input resistance	4.7 kΩ
Close/Open indication	0-2 V DC close contact >4 V DC open contact

Binary outputs

Number	12, non-isolated
Max current	0.5 A (2 A per group) group1: BO1-8; group2: BO9-12
Switching to	Negative/positive supply terminal

Analog inputs

Number	3, non-isolated
Type	Switchable (Voltage, Resistance, Current)
Resolution	10 bits, max 4 decimals
Range	0-5 V DC / 0-2500 Ω / 0-20 mA
Input impedance	>100 kΩ / >100 kΩ / 180 Ω
Accuracy	±1 % of meas. value ±5 mV ±2 % of meas value ±2 Ω ±1 % of meas value ±0.5 mA

Magnetic pick-up

Voltage input range	2 Vpk-pk to 50 Veff
Frequency input range	4 Hz to 15 kHz
Frequency measurement tolerance	0.2 %

Voltage regulator output

Type	5 V TTL PWM / ±10 V DC with IG-AVRi interface
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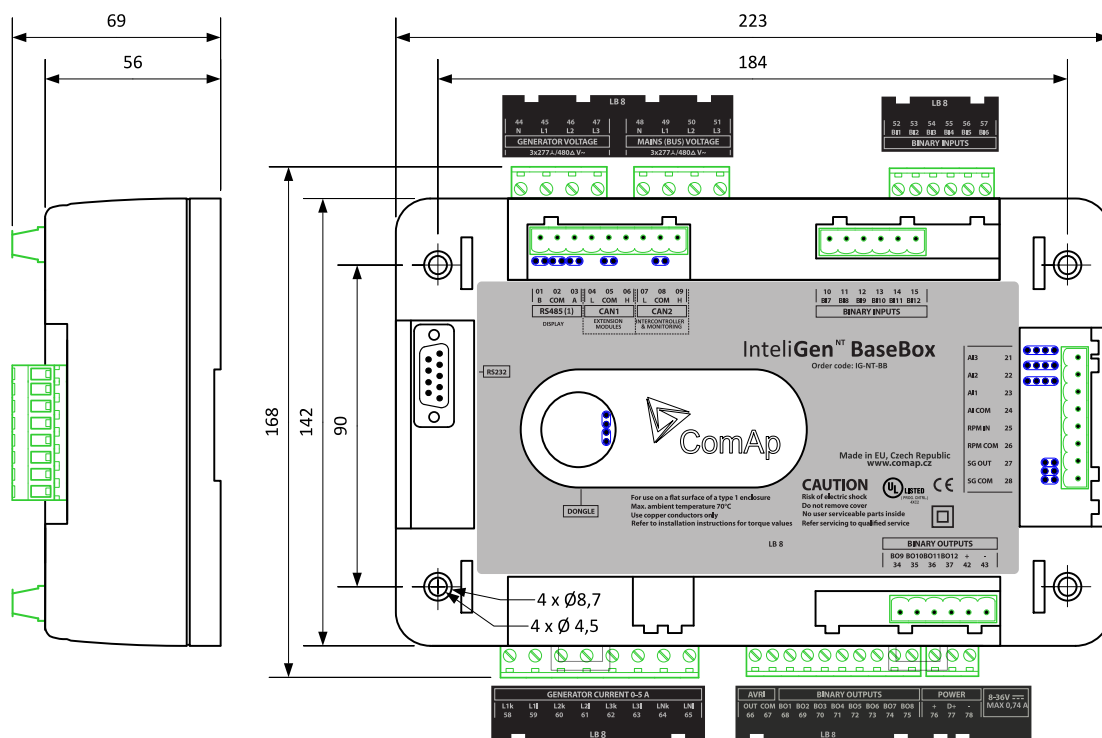
Speed governor output

Voltage output	±10 V DC / max. 10 mA
Voltage output via resistor	±10 V DC via 10 kΩ resistor / max. 1 mA
PWM	500÷3000 Hz / 5 V / max. 10 mA

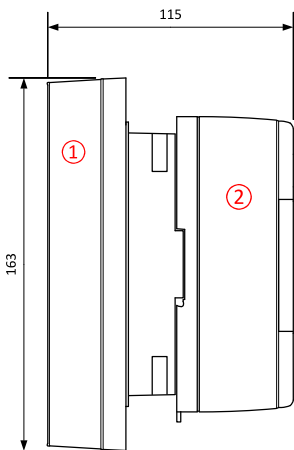
Communications

RS232	Direct/Modbus, non-isolated
Display port	non-isolated RS485, only terminal connection
CAN1	External modules 250kbps, max 200m, Isolated
CAN2	Intercontroller and comm extensions 250/50kbps, max 200/1000m, Isolated

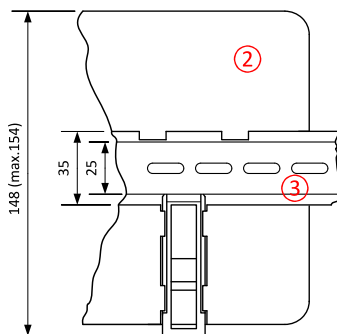
Dimensions, terminals and mounting



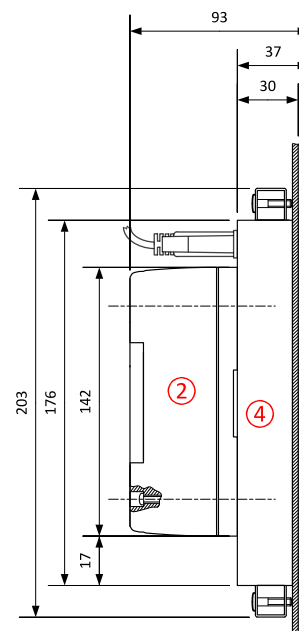
Panel door mounting with IntelliVision 5



DIN-rail mounting



Panel door mounting with IntelliVision 8



- ① IntelliVision5
- ② IntelliGen-NT-BaseBox
- ③ DIN-rail
- ④ IntelliVision 8

Note: IntelliGen^{NT} BaseBox can be mounted on a standard DIN rail or, in combination with IntelliVision 5 or IntelliVision 8, it can be door mounted. IntelliVision 5 features mounting rail for direct mounting. Mounting in combination with IntelliVision 8 uses four screws provided in the IntelliGen^{NT} BaseBox package.

Available Extension modules

Product	Description
Inteli IO8/8	8 Binary inputs, 8 Binary outputs and 2 Analog outputs in a small unit (HW switchable to IO16/0)
	HW switchable to IO16/0 - 16 Binary inputs packed in a small unit
Inteli AIN8	8 Analog inputs (R, I, V) and 1 pulse/frequency input in a small unit
Inteli AIN8TC	8 Thermocouple Analog inputs in a small unit
Inteli AIO9/1	9 Analog inputs (4x DC, 4x thermocouples, 1x R) in a small unit
IS-AIN8	8 Analog inputs packed in a rugged metal unit
IGS-PTM	8 Binary inputs, 8 Binary outputs, 4 Analog inputs and 1 Analog output in a unit
IGL-RA15	15 Binary LED output (3 colors) packed in a rugged metal unit
I-AOUT8	8 Analog outputs packed in a rugged metal unit
InteliBridge-NT	Multiple Internet connections (PC and Modbus) to all controllers on CAN2 or RS485
I-LB+	Direct connection (PC) to all controllers on CAN2 or RS485

Related products

Product	Description
InteliVision 5	Color 5.6" display for monitoring and control
InteliVision 8	Color 8" display for advanced monitoring, control & trending, USB capable
InteliVision 12Touch	12,1" Colour Display Unit
InteliVision 18Touch	Color 18" touchscreen display designed for complete monitoring and control of multiple controllers or cogeneration installation.
ECON-4	Digital speed governor dedicated for speed control of gas or diesel engines.
I-Step	Stepper motordriver module

Functions and protections

Support of functions and protections as defined by ANSI (American National Standards Institute):

Description	ANSI code	Description	ANSI code
Master unit	1	Voltage unbalance	47
Stopping device	5	Incomplete sequence relay	48
Multi-function device	11	Overcurrent	50/50TD
Overspeed	12	Earth fault	50G
Underspeed	14	Overcurrent IDMT	51
Starting-to-running transition contractor	19	AC circuit breaker	52
Synchronizing-check	25	Overvoltage	59
Thermal relay	26	Pressure switch	63
Undervoltage	27	Liquid level switch	71
Annunciator	30	Alarm relay**	74
Overload(real power)	32P	Reclosing relay	79
Reverse power	32R	Overfrequency	81O
Master sequence device	34	Underfrequency	81U
Excitation loss	40	ROCOF	81R
Unit sequence starting *	44	Auto selective control/transfer	83
Current unbalance	46		

*MINT

**Extension module IGL-RA15 required



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