

InteliGen NT BaseBox



Gen-set Controller

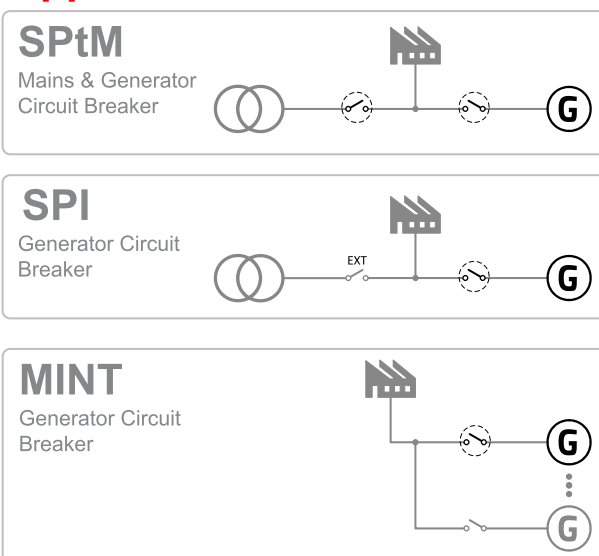
Datasheet

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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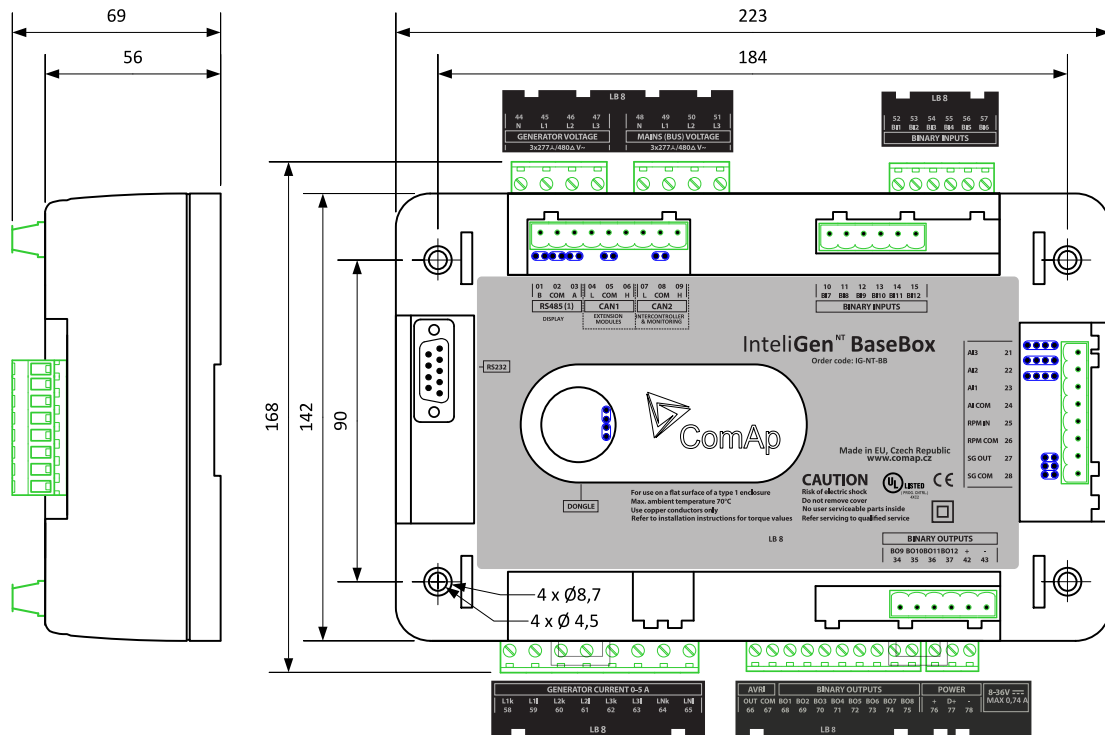
Speed governor output

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

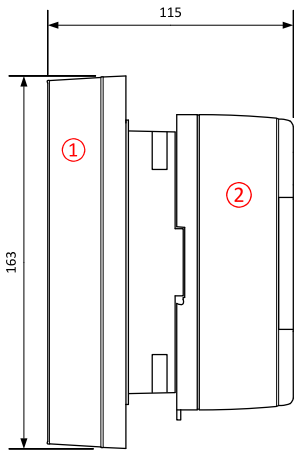
Communications

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

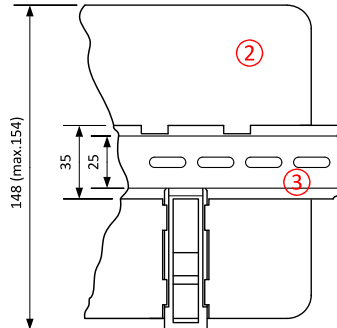
Dimensions, terminals and mounting



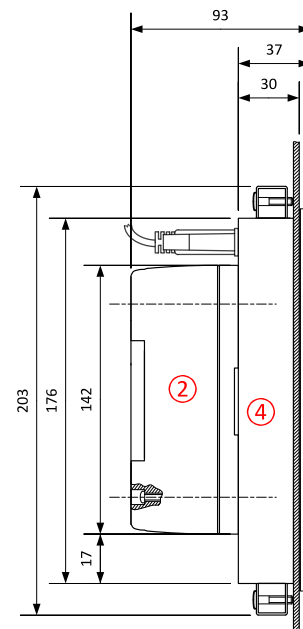
Panel door mounting with IntelliVision 5



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

Related products

Product	Description	Order code
InteliVision 5	Color 5.6" display for monitoring and control	INTELVISION 5
InteliVision 8	Color 8" display for advanced monitoring, control & trending, USB capable	INTELVISION 8
InteliVision 12Touch	12,1" Colour Display Unit	RD1IV12TBZH
InteliVision 18Touch	Color 18" touchscreen display designed for complete monitoring and control of multiple controllers or cogeneration installation.	RD31840PBIE
ECON-4	Digital speed governor dedicated for speed control of gas or diesel engines.	ECON-4
I-Step	Stepper motordriver module	I-Step

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

Certificates and standards

This product is CE compliant.		
▶ EN 60068-2-6 ed.2:2008	▶ EN 60068-2-64	 
▶ EN 60068-2-27 ed.2:2010	▶ EN 61010-1:2003	
▶ EN 60068-2-30, May2000		



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