

Order code: IG-NT-BB  
**Gen-set Controller**

# Datasheet

## Product description

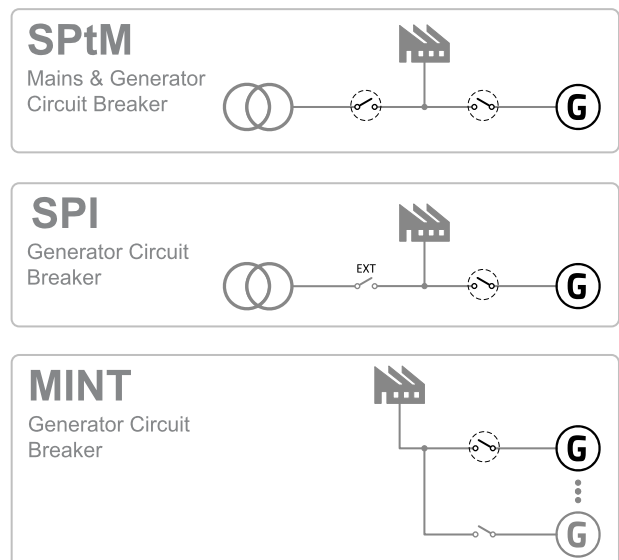
- ▶ Comprehensive gen-set controller for both single and multiple gensets operating in standby or paralleling modes
- ▶ To be used in conjunction with detachable colour displays InteliVision 5 or InteliVision 8
- ▶ Support of engines with ECU (Electronic Control Unit)
- ▶ Complete integrated gen-set solution and signal sharing via CAN bus – minimum external components needed
- ▶ Many communication options – easy remote supervising and servicing

## Key features

- ▶ 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 VDC
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)

### Operating conditions

Operating temperature	-40°C to +70°C
Storage temperature	-40°C to +80°C
Operating humidity	95 % w/o condensation
Vibration	5 - 25 Hz, $\pm 1.6$ mm
	25-100 Hz, $a = 4$ g
Shocks	$a=200$ m/s <sup>2</sup>

### Voltage measurement

Measurement inputs	3 ph-n Gen voltage 3 ph-n Mains/Bus voltage
Measurement range	277V
Max allowed voltage	125 %
Accuracy	1 % of 277V
Frequency range	40-70 Hz (at accy 0.1 Hz)
Input impedance	0.6 M $\Omega$ ph-ph
	0.3 M $\Omega$ ph-n

### Current measurement

Measurement inputs	3 ph Gen current 1 ph Mains current
Measurement range	1A
Max allowed continuous current	1A
Accuracy	2 % of 1A
Input impedance	< 0.1 $\Omega$

### Binary inputs

Number	12 non-isolated
Input resistance	4.7 k $\Omega$
Close/Open indication	0 - 2 VDC close contact > 4 VDC open contact

### Binary outputs

Number	12 non-isolated
Max current	0.5 A (2 A per group)
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 VDC/0-2500 $\Omega$ /0-20 mA
Input impedance	>100 k $\Omega$ />100 k $\Omega$ /180 $\Omega$
Accuracy	$\pm 1$ % of meas. value $\pm 1$ mV
	$\pm 2$ % of meas value $\pm 2$ $\Omega$
	$\pm 1$ % of meas value $\pm 0.5$ mA

### Magnetic pick-up

Voltage input range	2 Vpk-pk to 50 V <sub>eff</sub>
Frequency input range	4 Hz to 15 kHz
Frequency measurement tolerance	0.2 %

### Voltage regulator output

Type	5 V TTL PWM / $\pm 10$ VDC with IG-AVRi interface
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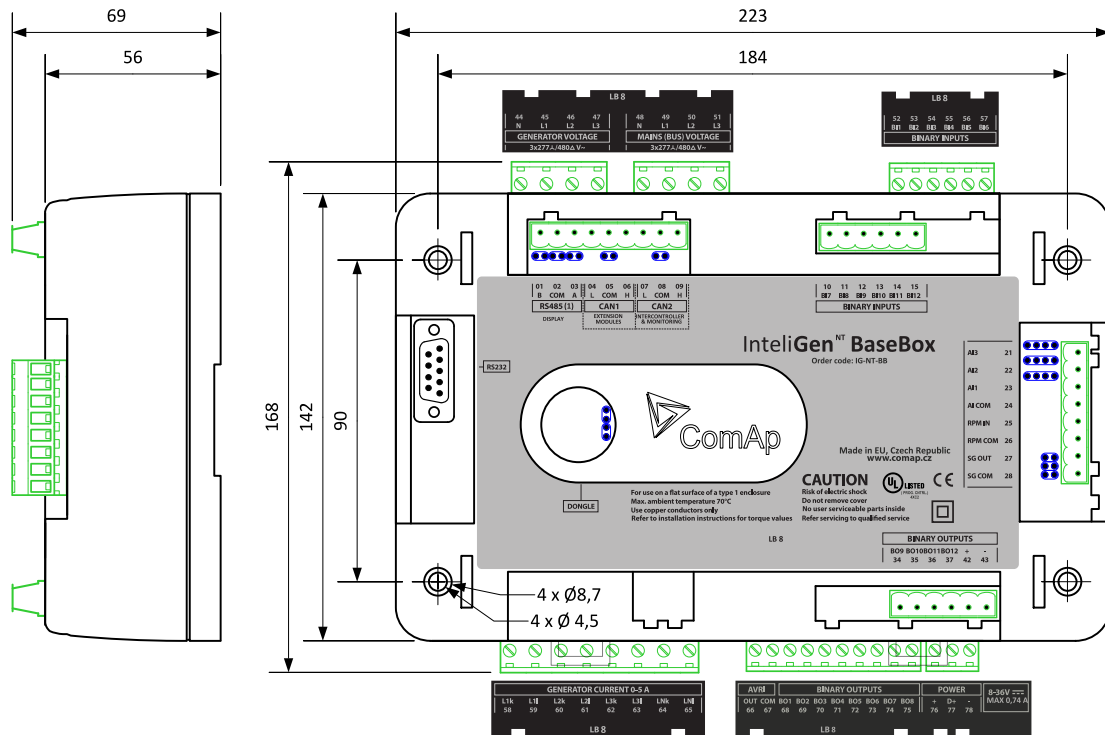
### Speed governor output

Voltage output	$\pm 10$ VDC / max. 15 mA
Voltage output via resistor	$\pm 10$ VDC via 10 k $\Omega$ resistor / max. 1 mA
PWM	500-3000 Hz / 5V / max. 10mA

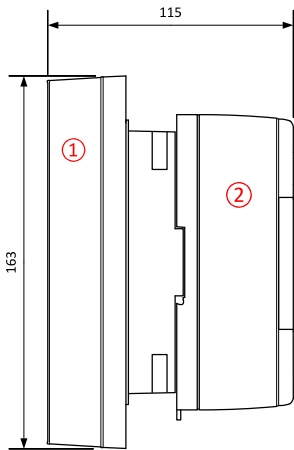
### Communications

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

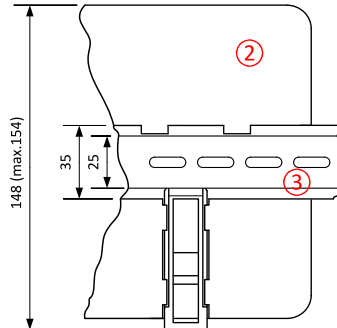
## Dimensions, terminals and mounting



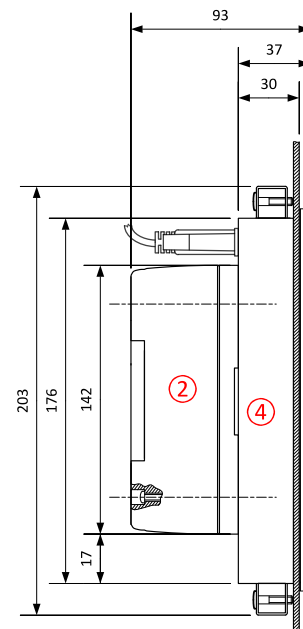
### Panel door mounting with IntelliVision 5



### DIN-rail mounting



### Panel door mounting with IntelliVision 8



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

**Note:** IntelliGen<sup>NT</sup> 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<sup>NT</sup> BaseBox package.

## Available Extension modules

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

## Related products


Product	Description	Order code
InteliVision 5	Color 5.6" display for monitoring and control	<a href="#">INTELIVISION 5</a>
InteliVision 8	Color 8" display for advanced monitoring, control & trending, USB capable	<a href="#">INTELIVISION 8</a>
InteliVision 12Touch	Color 12" touch display for advanced monitoring, control & trending, USB capable	<a href="#">RD1IV12TBZH</a>
InteliVision 17Touch	Color 17" touchscreen display designed for complete monitoring and control of multiple controllers or cogeneration installation.	<a href="#">IV17T2</a>
ECON-4	Digital speed governor dedicated for speed control of gas or diesel engines.	<a href="#">ECON-4</a>

## Functions and protections

The product fully supports functions and protections as defined by ANSI (American National Standards Institute). Examples are below. Other functions can be found in the IGS-NT Reference guide.

Description	ANSI code	Description	ANSI code	Description	ANSI code	Description	ANSI code
Synchronism check	25	Excitation loss	40	Overcurrent (IDMT)	51	AC reclosing	79
Undervoltage	27	Current unbalance	46	Earth fault current IDMT	51N+64	Overfrequency	81H

## Certificates and standards

This product is CE compliant.			
▶ EN 60068-2-6 ed.2:2008	▶ EN 60068-2-30, May 2000	▶ EN 61010-1:2003	
▶ EN 60068-2-27 ed.2:2010	▶ EN 60068-2-64		
This product is tested according to:			
▶ VDE AR N 4105:2011; DIN VDE V 0124-100:2012 (Cl. 5.3.3, 5.3.4, 5.3.6, 5.4.3, 5.4.5, 5.4.6, 5.5)			
▶ BDEW Medium-Voltage Guideline: 2008; FGW TR3:2013 (Clauses 4.2.2, 4.2.3, 4.2.4, 4.3.2, 4.3.3, 4.3.4., 4.5, 4.6., 4.7)			
Certifications and standards are available on: <a href="https://webstore.iec.ch/">https://webstore.iec.ch/</a>			

