

# InteliSys<sup>NTC</sup> BaseBox



Order code: IS-NTC-BB

## Gen-set controller

# Datasheet

### Product description

- ▶ Comprehensive paralleling gen-set controller
- ▶ Parallel operation up to 32 gen-sets
- ▶ High level control for complex systems
- ▶ CHP and gas engine controller

### Key features

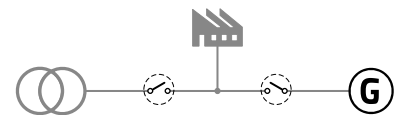
- ▶ Load sharing and VAr sharing via CAN
- ▶ Virtual shared inputs and outputs via CAN
- ▶ Support of wide range of applications
  - Single or multiple gen-sets in parallel to mains operation with automatic back up function, multiple island operation
- ▶ Advanced power management function
- ▶ Customizable load control in parallel to mains
- ▶ Wide range of ECU support
- ▶ Extended communication capabilities
  - Built-in web server
  - Full Modbus slave support
  - GPS and AirGate support and more
- ▶ Highly configurable
  - Timers, Extended 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
- ▶ True RMS (TRMS) is used with Voltage, Current and Power measurement

### Application overview

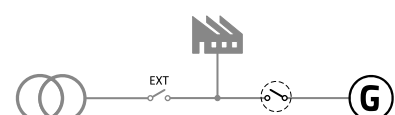
#### SPtM

Mains & Generator Circuit Breaker



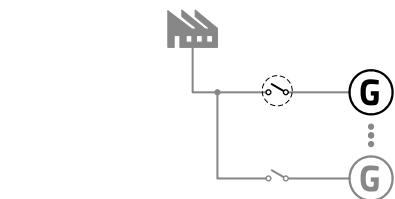
#### SPI

Generator Circuit Breaker



#### MINT

Generator Circuit Breaker



## 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
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, $\pm 1.6$ 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	110V / 277V ph-n
Max allowed voltage	125 % ph-n
Accuracy	1 % of 110V / 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 galvanically isolated
Measurement range	1 A / 5 A
Max allowed continuous current	200 % / 200 %
Accuracy	2 % of 1 A / 5 A
Input impedance	<0.1 $\Omega$

### Binary inputs

Number	16 non-isolated
Input resistance	4.7 k $\Omega$
Close/Open indication	0-2 VDC close contact >4 VDC open contact

### Binary outputs

Number	16 non-isolated
Max current	0.5 A (2 A per group)
Switching to	negative/positive supply terminal

### Analog inputs

Number	4 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

### Analog outputs

Number	1
Type	Switchable (Voltage, Current)
Range	0-10 VDC/0-20 mA
Max current/load	5 mA/500 $\Omega$
Accuracy	$\pm 0.5$ % of output value $\pm 20$ mV
	$\pm 0.5$ % of output value $\pm 100$ $\mu$ A

### 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 / $\pm 10$ VDC with IG-AVRi interface
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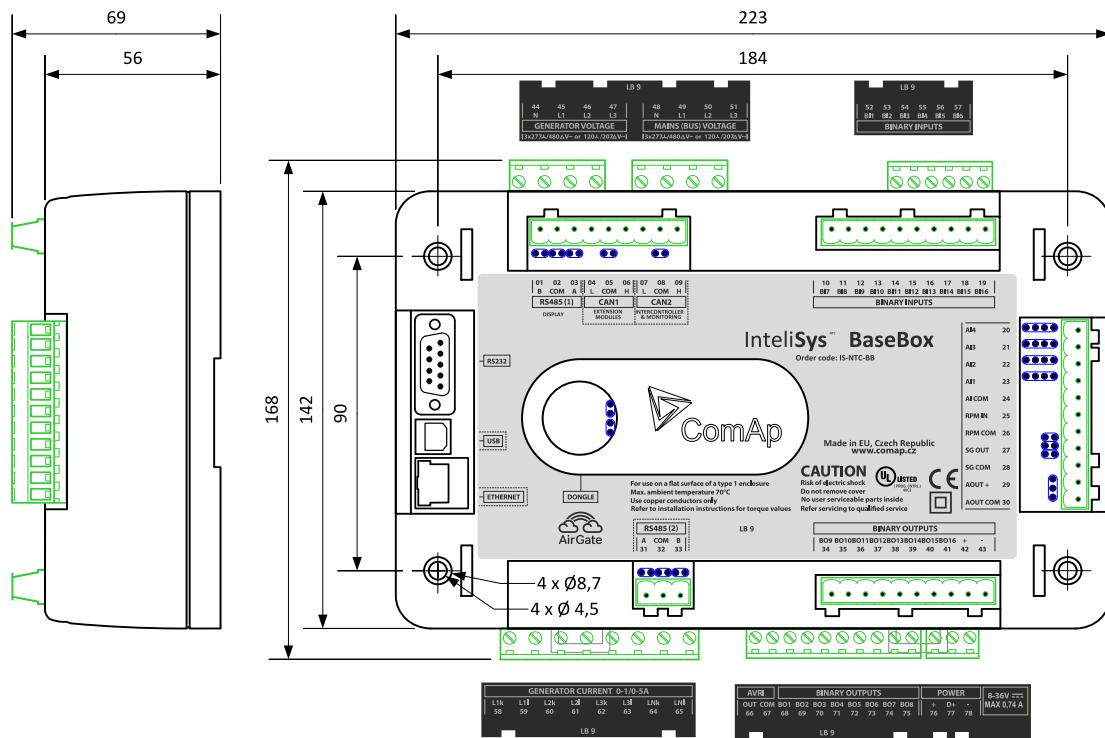
### Speed governor output

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 $\pm$ 3000 Hz / 5V / max. 10mA

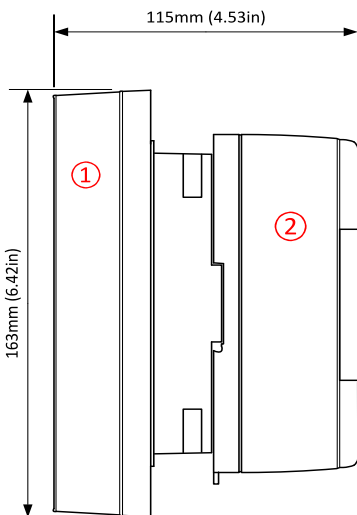
### Communications

RS232	Direct/Modbus, non-isolated
RS485	Direct/Modbus, isolated
Display port	non-isolated RS485, only terminal connection
USB port	Direct, isolated galvanically isolated
Ethernet port	LAN/Internet, Modbus TCP, SNMP, WebServer, AirGate
CAN1	External modules 250 kbps, max 200 m, Isolated
CAN2	Intercontroller and comm extensions 250/50 kbps, max 200/1000 m, Isolated

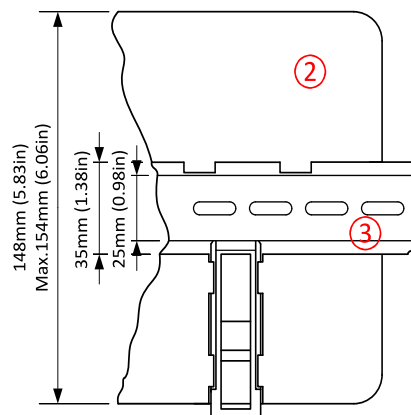
## Dimensions, terminals and mounting



### Panel door mounting with IntelliVision 5

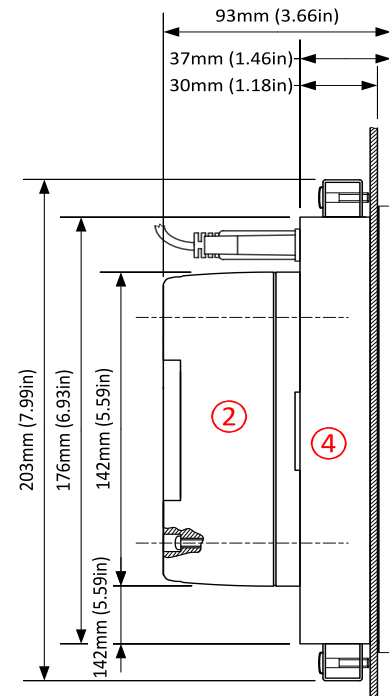


### DIN-rail mounting



- ① IntelliVision5
- ② Intelisys<sup>NTC</sup> BaseBox
- ③ DIN-rail
- ④ IntelliVision 8

### Panel door mounting with IntelliVision 8



**Note:** Intelisys<sup>NTC</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 Intelisys<sup>NTC</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	RD11V12TBZH
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 described product fully supports the following functions and protections as defined by ANSI (American National Standards Institute):

Description	ANSI code	Description	ANSI code
Synchronism check	25	Overcurrent (IDMT)	51
Undervoltage	27	Earth fault current IDMT	51N+64
Overload	32	Power factor	55
Load shedding	32P	Overvoltage	59
Reverse power	32R	Gas (fuel) level	71
Undercurrent	37	Vector shift	78
Excitation loss	40	AC reclosing	79
Current unbalance	46	Overfrequency	81H
Temperature monitoring	49T	Underfrequency	81L
Generator overcurrent	50	ROCOF	81R
Earth fault current	50N+64		

## Certificates and standards

<b>This product is CE compliant.</b>		 
▶ EN 60068-2-6 ed.2:2008; EN 60068-2-27 ed.2:2010; EN 60068-2-30, May 2000		
▶ EN 60068-2-64; EN 61010-1:2003		
All certificates and standards are available on: <a href="https://webstore.iec.ch/">https://webstore.iec.ch/</a>		

