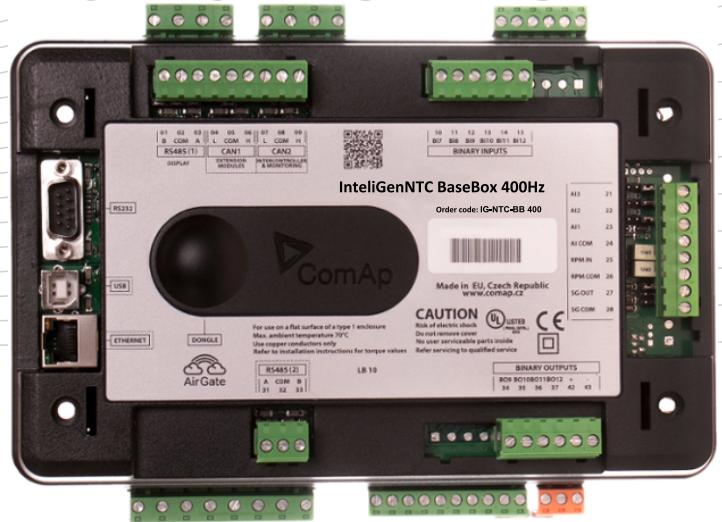


**InteliGen NTC  
BaseBox 400 Hz**



**Order code: IG-NTC-BB 400  
Gen-set Controller**

# Datasheet

## Product description

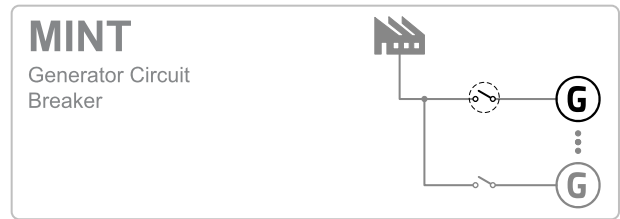
- ▶ Comprehensive paralleling gen-set controller
- ▶ Parallel operation up to 32 gen-sets
- ▶ High level control for complex systems

## 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
  - Full Modbus slave support
  - GPS and AirGate support and more
- ▶ 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
	4000 m above sea level for max Ph-Ph voltage 400V AC
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>
Heat radiation	16 W

### Voltage measurement

Measurement inputs	3 ph-n Gen voltage
	3 ph-n Mains voltage/Bus voltage
Measurement range	110V / 277V
Max allowed voltage	125 % ph-n
Accuracy	0.1 % of 110V / 277V
Frequency range	320-480 Hz (accuracy 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 V DC close contact >4 V DC open contact

### Binary outputs

Number	16, non-isolated
Max current	0.5 A (2 A per group) group1: BO1-8; group2: 9-12
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 V DC / 0-2500 $\Omega$ / 0-20 mA
Input impedance	>100 k $\Omega$ / >100 k $\Omega$ / 180 $\Omega$
Accuracy	$\pm 1$ % of meas. value $\pm 5$ 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 Veff
Frequency input range	4 Hz to 15 kHz
Frequency measurement tolerance	0.2 %

### Voltage regulator output

Type	5 V TTL PWM / $\pm 10$ V DC with IG-AVRi interface
------	--

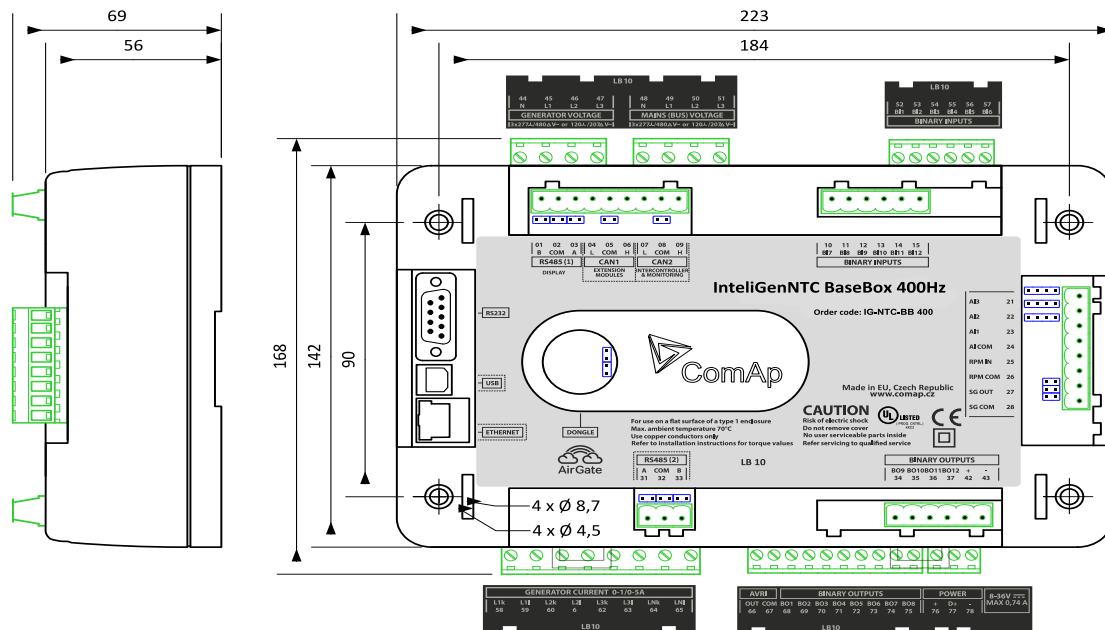
### Speed governor output

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

### Communications

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

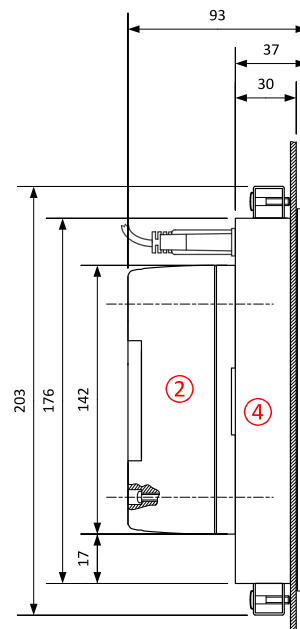
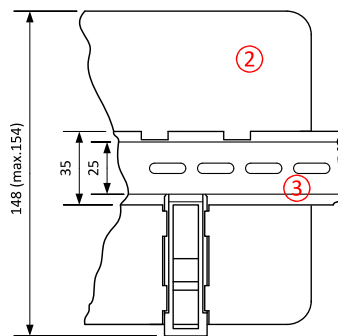
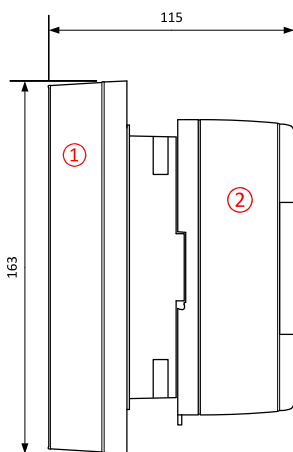
## Dimensions, terminals and mounting



**Panel door mounting  
with IntelliVision 5**

**DIN-rail mounting**

**Panel door mounting  
with IntelliVision 8**



- ① IntelliVision5
- ② IntelliGen<sup>NTC</sup>-BaseBox 400 Hz
- ③ DIN-rail
- ④ IntelliVision 8

**Note:** IntelliGen<sup>NTC</sup> BaseBox 400 Hz 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>NTC</sup> BaseBox 400 Hz package.

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)	<a href="#">I-IO8/8</a>
	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>
I-LB+	Direct connection (PC) to all controllers on CAN2 or RS485	<a href="#">I-LB+</a>
IB-NT	Communication Module with Cellular/Ethernet Connection	<a href="#">IB-NT</a>

## Related products

Product	Description	Order code
IntelIVision 5	Color 5.6" display for monitoring and control	<a href="#">INTELVISION 5</a>
IntelIVision 8	Color 8" display for advanced monitoring, control & trending, USB capable	<a href="#">INTELVISION 8</a>
IntelIVision 18Touch	Color 18" touchscreen display designed for complete monitoring and control of multiple controllers or cogeneration installation.	<a href="#">RD31840PBIE</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 bellow. Other functions - can be found in the IGS-NT Reference guide.




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

▶ 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, May 2000	▶ EN 60068-2-30:2005 25/55°C, RH 95%, 48hours			
List of standards is available on: <a href="https://webstore.iec.ch/">https://webstore.iec.ch/</a>				

