

Order code: IG-NT GC  
**Gen-set controller**

# Datasheet

## Product description

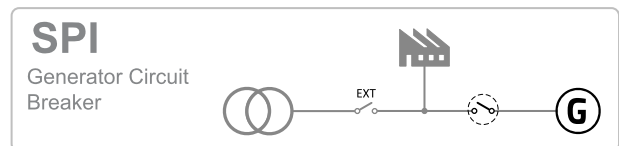
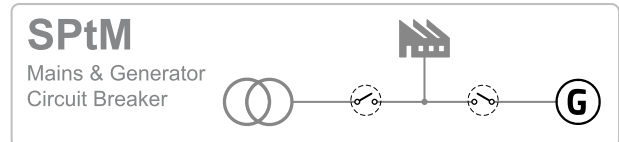
- ▶ Comprehensive paralleling gen-set controller
- ▶ Parallel operation up to 32 gen-sets
- ▶ High level control for complex systems

- ▶ Extendable with ComAp's extension modules
- ▶ True RMS (TRMS) is used with Voltage, Current and Power measurement

## 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 with optional communication module
- ▶ Extensive built-in protection functions
  - Standard protections
  - User configurable protection

## Application overview



## Technical data

### Power supply

Power supply range	8-36 V DC
Power consumption	0.4 A / 8 V DC 0.15 A / 24 V DC 0.1 A / 36 V DC
RTC battery	10 years (replaceable by official service)
Fusing	2 A (without BOUT consumption)

### Operating conditions

Operating temperature	-20 °C to +70 °C
Storage temperature	-30 °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 % non-condensing (EN 60068-2-30)
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	277 V
Max allowed voltage	125 % ph-n
Accuracy	1 % of 277 V
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 Neutral/Mains current galvanically isolated
Measurement range	5 A
Max allowed continuous current	200%
Accuracy	2 % of 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: BO1-6; group2: BO7-12
Switching to	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 $\Omega$ / 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 Veff
Frequency input range	4 Hz to 4kHz
Frequency measurement tolerance	0.2 %

### Voltage regulator output

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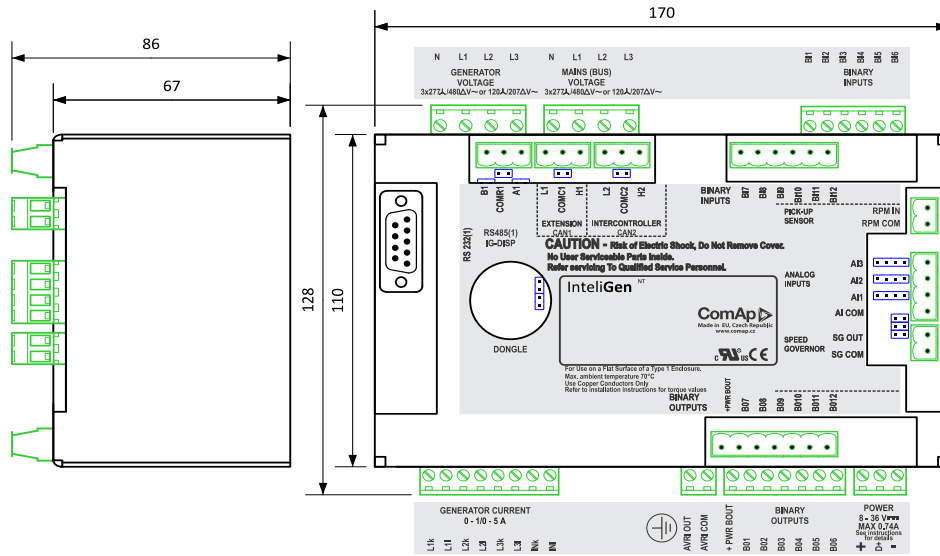
### Speed governor output

Voltage output	$\pm 10$ V DC / max. 15 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

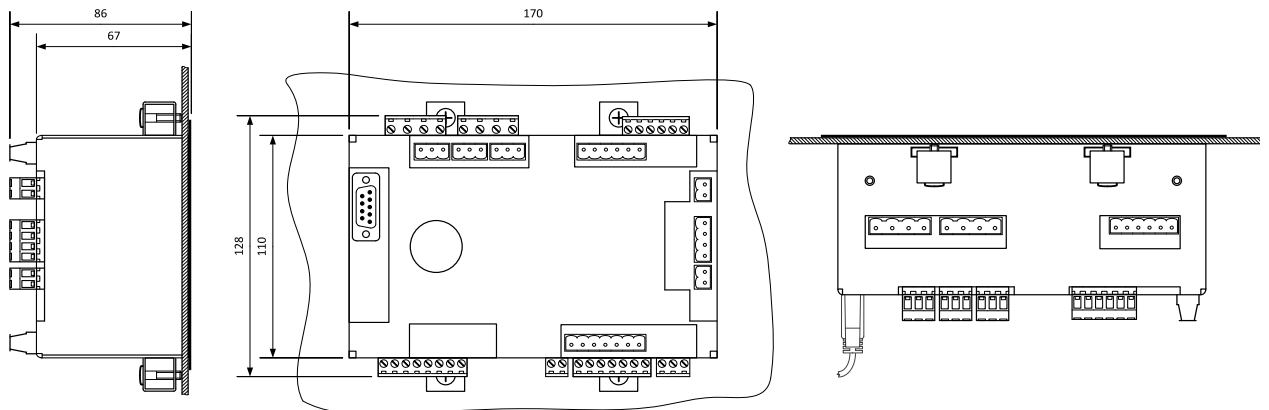
### Communications

RS232 (1)	Direct / Modem / Modbus / ECU non-isolated
CAN1	External modules 250 kbps, max 200 m, Isolated
CAN2	Intercontroller and comm extensions 250 / 50 kbps, max 200 / 1000 m, Isolated

## Dimensions and terminals



## Controller panel door mounting



**Note:** IntelliGen NT can be mounted into panel doors as a standalone unit using provided metal holders. The cut-out for the unit should be 1 mm wider than the unit on each side (i.e. cut-out dimensions 172 × 112 mm).

## 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 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="#">INTELVISION 5</a>
InteliVision 8	Color 8" display for advanced monitoring, control & trending, USB capable	<a href="#">INTELVISION 8</a>
InteliVision 12Touch	Color 12" touch display for advanced monitoring, control & trending, USB capable	<a href="#">RD1IV12TBZH</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	Description	ANSI code	Description	ANSI code
Synchronism check	25	Excitation loss	40	Earth fault current IDMT	51N+64	Overfrequency	81H
Undervoltage	27	Current unbalance	46	Power factor	55	Underfrequency	81L
Overload	32	Temperature monitoring	49T	Overvoltage	59	ROCOF	81R
Load shedding	32P	Generator overcurrent	50	Gas (fuel) level	71		
Reverse power	32R	Earth fault current	50N+64	Vector shift	78		
Undercurrent	37	Overcurrent (IDMT)	51	AC reclosing	79		

## Certificates and standards

<ul style="list-style-type: none"> <li>▶ EN 60068-2-6 ed.2:2008</li> <li>▶ EN 60068-2-27 ed.2:2010</li> <li>▶ EN 60068-2-30:2005 25/55°C, RH 95%, 48hours</li> </ul>	<ul style="list-style-type: none"> <li>▶ EN 60068-2-64</li> <li>▶ EN 61010-1:2003</li> </ul>		
All certificates and standards are available on: <a href="https://webstore.iec.ch/">https://webstore.iec.ch/</a>			

