

Order code: IG2GSCXXBAB

## Gen-set controller for complex paralleling applications

# Datasheet

### Product description

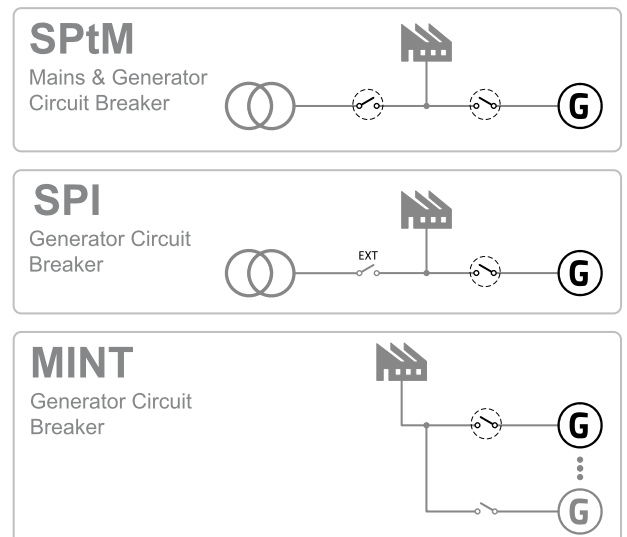
The Inteligen GSC is a powerful controller for complex paralleling applications with the latest grid codes requirements. Pre-configured Gen-set functions, scalable and configurable I/Os, communication capabilities and in-built PLC Editor for maximal flexibility.

### Key features

- > Compliant to the latest world grid codes standards:
  - » European Union – **EN 50549-1,-2:2019**
  - » Germany - **VDE-AR-N 4110:2018, VDE-AR-N 4105:2018** (Component certification)
  - » United Kingdom - **G99**
  - » USA - **IEEE 1547-2018**
  - » Others
- > Predefined, adjustable functions for gen-set control allows easy and fast gen-set commissioning.
- > Built-in PLC interpreter allows flexible and easy adaptation to customer needs without extra effort.
- > Support of wide range of electrical engines, ECUs.
- > Powerful power management function optimizing number of running gen-sets.
- > Automatic Load and Var sharing over CAN line (requires HW dongle).
- > Plug&Play support of ComAp InteliVision display family.
- > Event-based History allows easy troubleshooting.

- > Tier IV Final and Stage V engines support
- > Supporting wide range of applications:
  - » From single to multiple paralleling, from island to network paralleling operation.
  - » Hybrid installations support
  - » Generator controller only (engine management can be disabled)
  - » Grid codes requirements interpreter – synchronizer for 3rd party control units
- > True RMS (TRMS) is used with Voltage, Current and Power measurement

### 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 VDC 0.1 A / 36 V DC
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 400 V AC
Operating humidity	95 % non-condensing (EN 60068-2-30)
Vibration	5-25 Hz, ± 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	110 V / 277 V
Max allowed voltage	125 % ph-n
Accuracy	±1 of 110 V / 277 V
Frequency range	40-70 Hz (accuracy 0.1 Hz) 45-65 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
Measurement range	5 A
Max allowed continuous current	200 %
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	group1: BO1-8
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

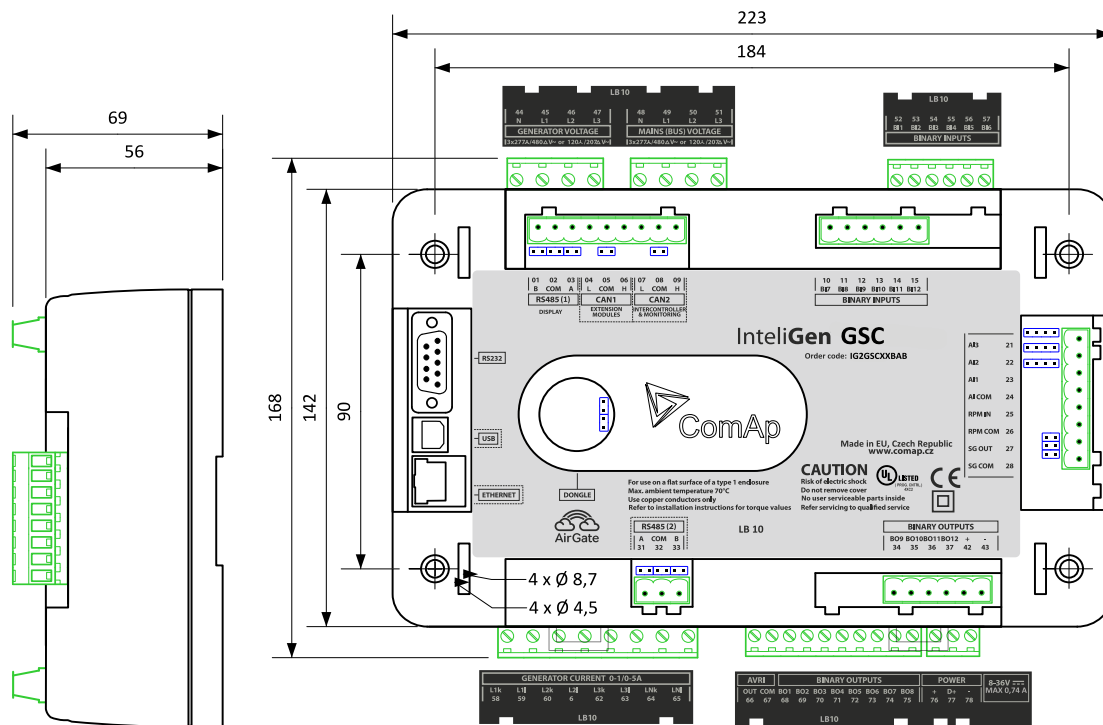
## Magnetic pick-up

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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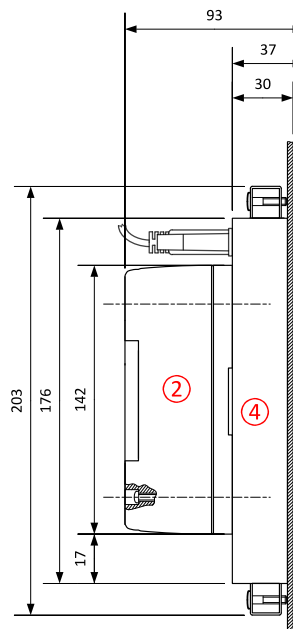
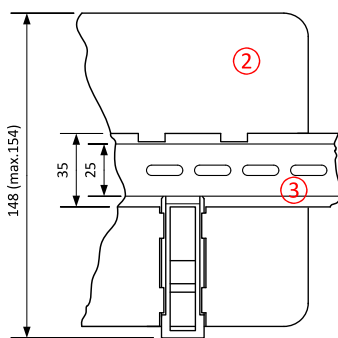
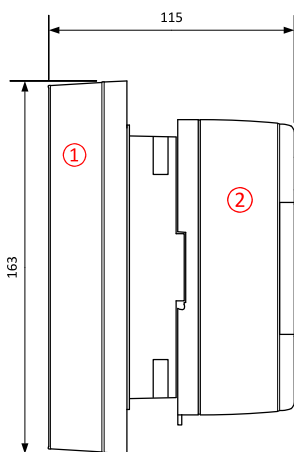
# Dimensions, terminals and mounting



Panel door mounting with IntelliVision 5

DIN-rail mounting

Panel door mounting with IntelliVision 8



- ① IntelliVision5
- ② IntelliGen GSC
- ③ DIN-rail
- ④ IntelliVision 8

## Available extension modules

Product	Description	Order code
Intel 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>
Intel IO8/8	HW switchable to IO16/0 - 16 Binary inputs packed in a small unit	<a href="#">I-IO8/8</a>
Intel AIN8	8 Analog inputs (R, I, V) and 1 pulse/frequency input in a small unit	<a href="#">I-AIN8</a>
Intel AIN8TC	8 Thermocouple Analog inputs in a small unit	<a href="#">I-AIN8TC</a>
Intel 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
IntelVision 5	Color 5.6" display for monitoring and control	<a href="#">INTELVISION 5</a>
IntelVision 8	Color 8" display for advanced monitoring, control & trending, USB capable	<a href="#">INTELVISION 8</a>
IntelVision 12Touch	Color 12" touch display for advanced monitoring, control & trending, USB capable	<a href="#">RD1IV12TBZH</a>
IntelVision 18Touch	Color 18" touchscreen display designed for complete monitoring and control of multiple controllers or cogeneration installation.	<a href="#">RD31840PBIE</a>

## Functions and protections

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	Voltage asymmetry and Phase Rotation	47	Overvoltage	59	Rate of Change of Frequency	81R
Reverse power	32R	Overcurrent	50+51	Fuel	71		
Undercurrent	37	Earth Fault Current	50N+64	Vector shift	78		

## Certificates and standards

<p>This product is CE compliant.</p> <ul style="list-style-type: none"> <li>&gt; EN 50549-1:2019</li> <li>&gt; EN 50549-2:2019</li> <li>&gt; EN 60068-2-6 ed.2:2008</li> <li>&gt; EN 60068-2-27 ed.2:2010</li> <li>&gt; EN 60068-2-30:2005 25/55°C, RH 95%, 48hours</li> <li>&gt; EN 61010-1:2003</li> </ul>	<p>This product is compliant to:</p> <ul style="list-style-type: none"> <li>&gt; European Requirements for Generators</li> <li>&gt; VDE-AR-N-4105:2018, VDE-AR-N-4110:2018</li> <li>&gt; G99</li> <li>&gt; IEEE 1547-2018</li> <li>&gt; FCC</li> </ul>	
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