ComAp
The heart of smart control

InteliSys Gas

Order code: IS2GASXXBAB

Controller for Gas Gen-set Application

Datasheet

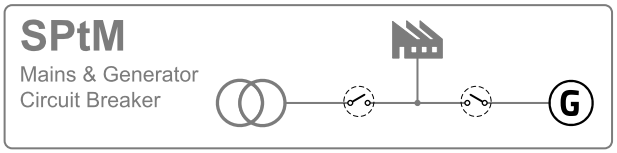
Product description

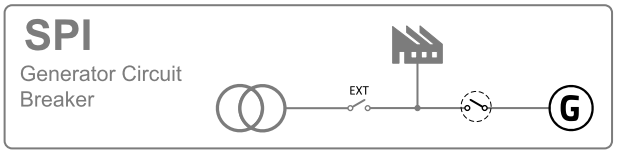
- The InteliSys Gas is an industrial grade controller for power generation applications.
- Preconfigured functions, scalable and configurable I/Os, broad communication capabilities and an easy-to-change software allows to adapt the controller to various applications without greater efforts.

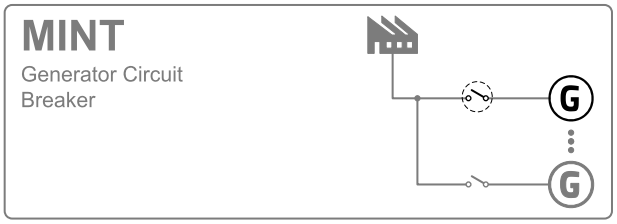
Key features

- Predefined adjustable functions for gen-set
- Large built-in PLC interpret to suit individual needs and design demanding applications like CHPs
- SIL2 certification for selected channels
- Compliant to the European Requirements for Generators (also known as Grid Codes or RfG) for all EU countries including German's VDE-AR-N 4105:2018, VDE-AR-N 4110:2018 and United Kingdom G99.
- Support wide range of applications – from single to multiple, from island to network parallel operation
- Power management function including new mode of effective engine run in network parallel operation
- Plug&Play support of ComAp InteliVision display family
- Automatic synchronization and power control (via speed governor or ECU)
- Baseload, Imp / Exp, TempByPower, Peak shaving, Voltage and PF control (AVR bias output)
- Event-based and PreMortem history with customer-selectable list of stored values; RTC; statistic values
- Overspeed and Emergency stop detection

Application overview







Technical data

Power supply

Power supply range	8-36 V DC
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 4000 m above sea level for max Ph-Ph voltage 400V AC
Operating humidity	95 % w/o condensation
Vibration	5-25 Hz, ± 1.6 mm 25-100 Hz, a = 4 g
Shocks	a=200 m/s^2

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	0.1 % of 110 V / 277 V
Frequency range	40-70 Hz (accuracy 0.1 Hz) 45-55 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	1 A / 5 A
Max allowed continuous current	10x Inom / 2x Inom
Accuracy	2 % of 1 A / 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	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 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

Analog outputs

Number	1
Type	Switchable (Voltage, Current)
Range	0-10 V DC / 0-20 mA
Max current/load	5 mA / 500 Ω
Accuracy	±0.5 % of output value ±20 mV ±0.5 % of output value ±100 µA

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

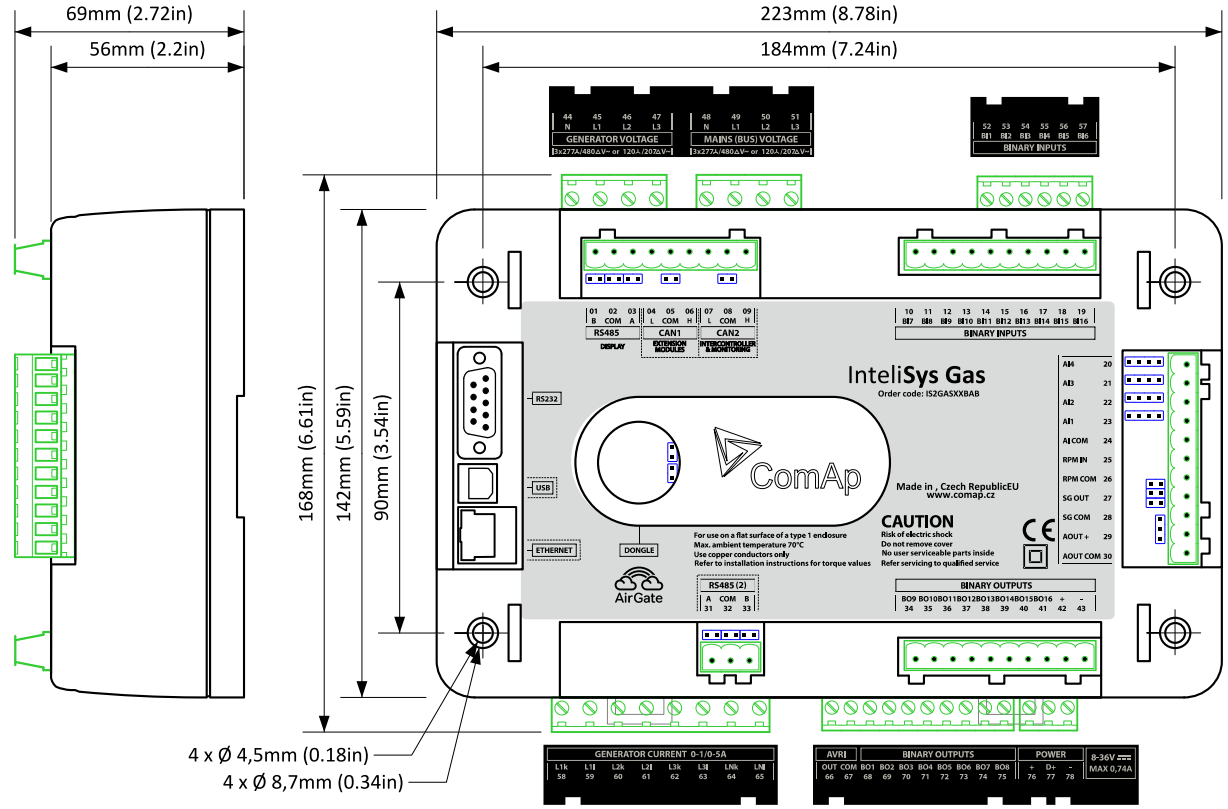
Speed governor output

Voltage output	±10 V DC / max. 10 mA
Voltage output via resistor	±10 V DC via 10 kΩ resistor / max . 1 mA
PWM	500÷3000 Hz / 5 V / max. 10 mA

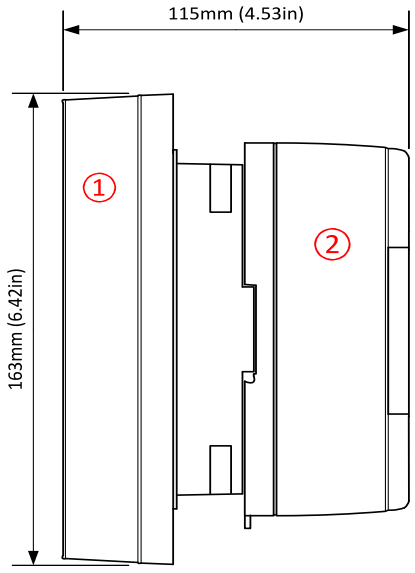
Communications

RS232	Direct / Modbus, non-isolated
RS485	Direct / Modbus, isolated
Display port	Non-isolated RS485, only terminal connection
USB port	Direct, Isolated
Ethernet port	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

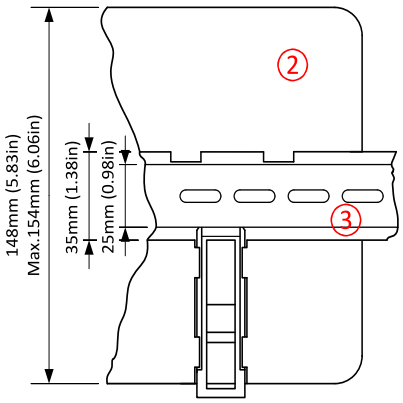
Dimensions, terminals and mounting



Panel door mounting (InteliVision 5)

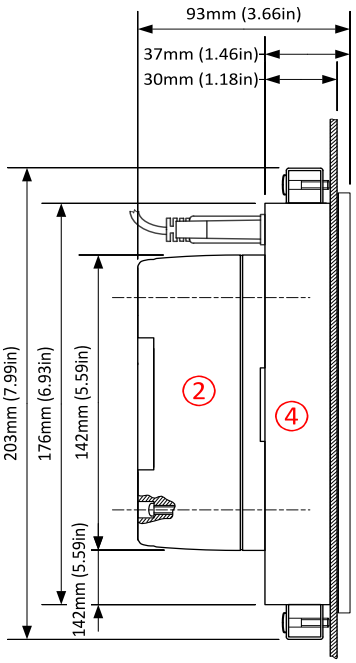


DIN rail mounting



① InteliVision 5
② InteliSys Gas
③ DIN rail
④ InteliVision 8

Panel door mounting (InteliVision 8)



Available extension modules

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

Related products

Product	Description	Order code
InteliVision 5	Color 5.6" display for monitoring and control	INTELIVISION 5
InteliVision 8	Color 8" display for advanced monitoring, control & trending, USB capable	INTELIVISION 8
InteliVision 18Touch	Color 18“ touchscreen display designed for complete monitoring and control of multiple controllers or cogeneration installation.	RD31840PBIE
ECON-4	Digital speed governor dedicated for speed control of gas or diesel engines.	ECON-4

Functions and protections

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
Overload	32	Voltage asymmetry and phase sequence	47	Power factor	55	Underfrequency	81L
Load shedding	32P	Temperature monitoring	49T	Overvoltage	59	ROCOF	81R
Reverse power	32R	Generator overcurrent	50	Gas (fuel) level	71		
Undercurrent	37	Earth fault current	50N+64	Vector shift	78		

Certificates and standards

This product is CE compliant.

- 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

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