DECLARATION

Declaration of Conformity

Applicant: **ComAp a.s.**
U Uranie 1612/14a
170 00 Praque 7
Czech Republic

Product type: Controller for Synchronous CHP

Model:

	Software version:	Version Grid-Code Modul:
InteliSys Gas	IS2GASXX-1.9.0	V1.2
AIO-GAS	AIO-GAS-1.7.0	
InteliSys GSC-C	IS2GSC-1.3.0	
InteliGen GSC-C	IG2GSC-1.3.0	
InteliGen GSC	IG2GSC-1.3.0	

Rating:

Supply voltage:	8…36V_{dc}
Measuring AC voltage range:	0…480$V_{ac, ph-ph}$
Output Voltage:	-10…10V (analogue output)

A representative test sample of above stated model successfully passed partial testing according to (see test overview in annex).

Standard: VDE-AR-N 4105:2018-11 (tested according to DIN VDE V 0124-100 (VDE V 0124-100):2020-06)

Report no: **21PP125-02_0**

Certificate no: 21-213-00

Date of issue: 2021-07-30

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kiwa tested
VDE-AR-N 4105:2018-11

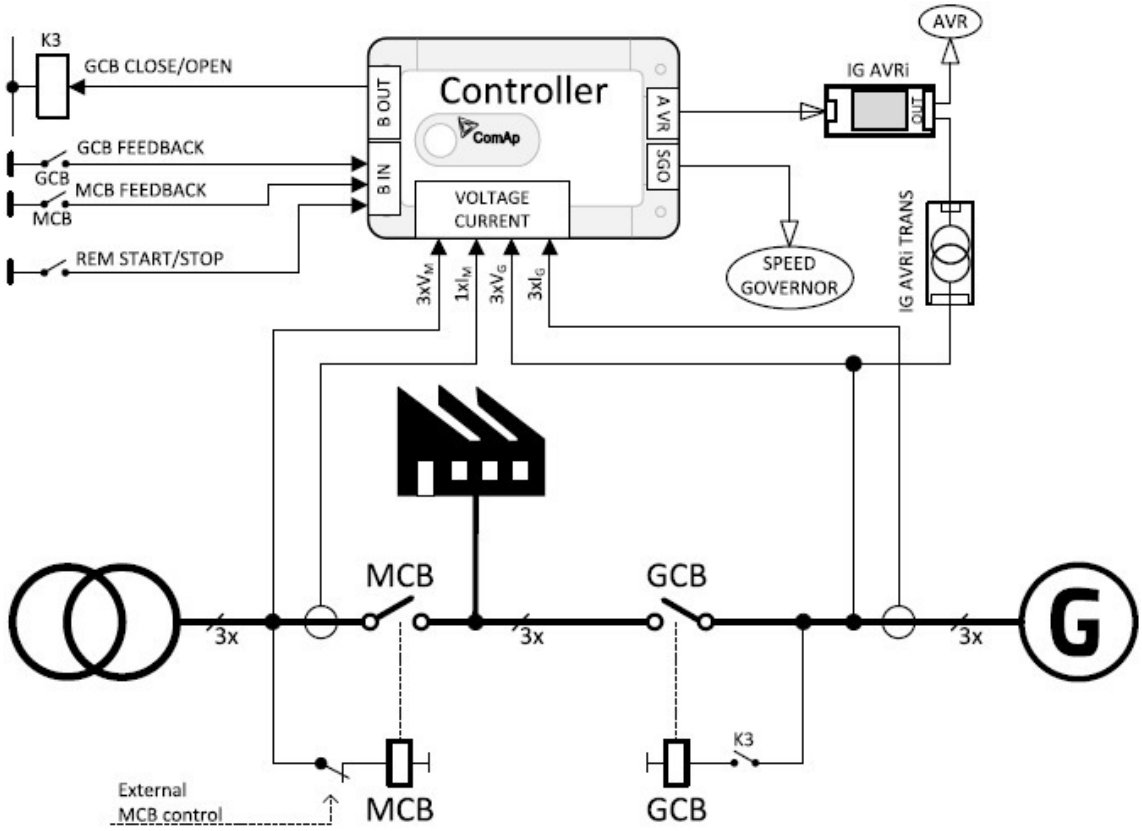
General product information

The EZE controllers InteliSys Gas, AIO-GAS, InteliSys GSC-C, InteliGen GSC-C, InteliGen GSC are controllers for genset applications manufactured by ComAp, a.s., which combine the following functions in one hardware:

- Engine operation/control (start, stop operation)
- Engine protection (oil pressure, water temperature, cylinder temperatures, etc.)
- Generator control (voltage control, active and reactive power control, cos ϕ control)
- Generator protection (overvoltage, undervoltage, overcurrent, short-circuit current, overload)
- Network voltage monitoring and generator shutdown if network values are outside adjusted limits (voltage and frequency monitoring)

Basically, the structure of the control systems can be divided into two levels. The upper level is responsible for active and reactive power management. Based on the selected mode, the required active and reactive power is made available for the lower level. At the lower level, the speed demand of the engine control unit (SRO) and the voltage demand (VRO) of the generator excitation unit are influenced.

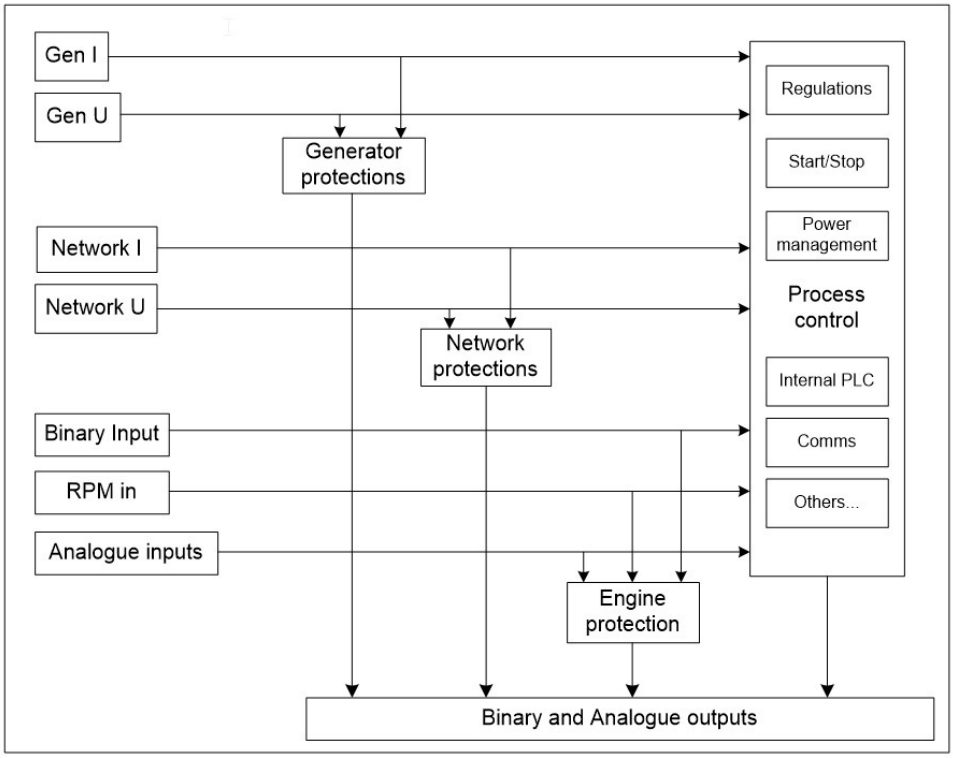
A typical application of a control device is shown in the following figure.



Among other things, it is possible to operate the generator in the stand-alone grid as well as in parallel with the grid.

Only the grid-parallel operating mode was considered in this declaration of conformity.

Block diagram



Test overview

The controller was tested with a "starter kit" simulation setup, in which the various feedback signals were implemented via switches and potentiometers in order to simulate realistic operation. Only the manipulated variables were measured and not their controlled variables. This means that the control loops for active and reactive power were not closed (open loop).

DIN VDE V 0124-100 (VDE V 0124-100):2020-06		
Clause	**Test**	**Result**
5.4.3	Active power reduction by setpoint	**P**
5.4.4	Active power injection by over frequency P(f)	**P**
5.4.6	Active power injection by under frequency P(f)	**P**
5.4.8.2	Reactive power/cos ϕ parameter precision	**P**
5.4.8.3	Characteristic curve cos ϕ(P)	**P**
5.4.8.4	Characteristic curve Q(U)	**P**
5.8	Behavior during grid fault	**P**