

GAS GENSET CONTROL PANEL

CATERPILLAR
GAS GENSET



CYLINDERS TEMP: X 12
WATER TEMPERATURE
EXHAUST TEMPERATURE
LUBE OIL PRESSURE
GAS PRESSURE

**** 24 ANALOGUE INPUTS ****

PT-100, K-TYPE T/C, 4-20mA, 0-2K Ohms, ± 10Vdc



The Genset controller Module contains following adjustable parameters and protections:

Basic Adjustable Settings:

- Genset Name (Display on controller screen)
- Genset Nominal Power (1 to 3000 kW)
- Genset Nominal Current (1 to 5000 Amp)
- CT ratio (1 to 5000)/5
- Genset Nominal Voltage (100 to 300 V)
- Genset Nominal Frequency (45 to 65 Hz)
- Gear Teeth (0 to 500)
- Genset Nominal RPM (100 to 4000)

Process Control:

- Load Control
- Peak Auto Start (Enable / Disable)
- Base Load (0 to 3000 KW)
- Power Factor reference (0.6 to 1)
- Import Load (-1000 to 1000 KW)
- Import Power Factor (0.6 to 1)
- Peak Level start (0 to 1000 KW)
- Peak Level stop (0 to 1000 KW)
- Export Limit (Enable / Disable)

Bus Parameters:

- Bus Frequency Hz
- Bus Line to Line Voltage Vm (L1L2) , Vm (L2L3), Vm (L3L1)
- Generator Line to Neutral Voltage Vm (L1N), Vm (L2N), Vm (L3N)

Engine Parameters:

- Start RPM (5 to 50 %)
- Starting Oil Pressure (-10 to +10 Bar)
- Engine Pre start Time (0 to 600 Sec)
- Maximum Cranking time (1 to 60 Sec)
- Cranking Failure Pause (5 to 60 Sec)
- Crank Attempts (1 to 10)
- Minimum Stabilizing time (0 to 300 Sec)
- Maximum stabilizing time (0 to 300 sec)
- Engine Cooling Run Time (0 to 3600 Sec)
- Dynamo Function (Enabled / Disabled)
- Cylinders Temperature.

Engine Protections:

- Engine protection time delay (0 to 300 Secretary)
- Engine over speed protection (50 to 150 %)
- Warning Oil Pressure range (1 to 5 Bar)
- Shut Down Oil Pressure range (-10 to 3 Bar)
- Oil Pressure Time delay (0 to 180 Sec)
- Water temperature Warning range (-100 to 90 °C)
- Water Temperature Shut Down range (80 to 100 °C)
- Water Temperature time delay (0 to 180 Sec)
- Battery Voltage time delay (0 to 600 Sec)
- Engine Next Services time (0 to 65535 Hour)
- Cylinders Temperature (Alarm & Shutdown)

Generator Protections:

- Generator Overload Limit (0 to 200 %)
- Generator overload delay (0 to 60 Sec)
- Short Circuit Current protection limit (100 to 500 %)
- Current unbalance (1 to 100 %)
- Current Unbalance Delay (0 to 60 Sec)
- Generator Over Voltage (70 to 200 %)
- Generator Under Voltage (0 to 110 %)
- Voltage time delay (0 to 60 Sec)
- Voltage Unbalance (1 to 100 %)
- Voltage Unbalance Time Delay (0 to 60 Sec)
- Generator Over Frequency (85 to 200 %)
- Generator Under Frequency (0 to 110 %)
- Frequency Time Delay (0 to 60 Sec)

Generator parameters (DIGITAL METERING)

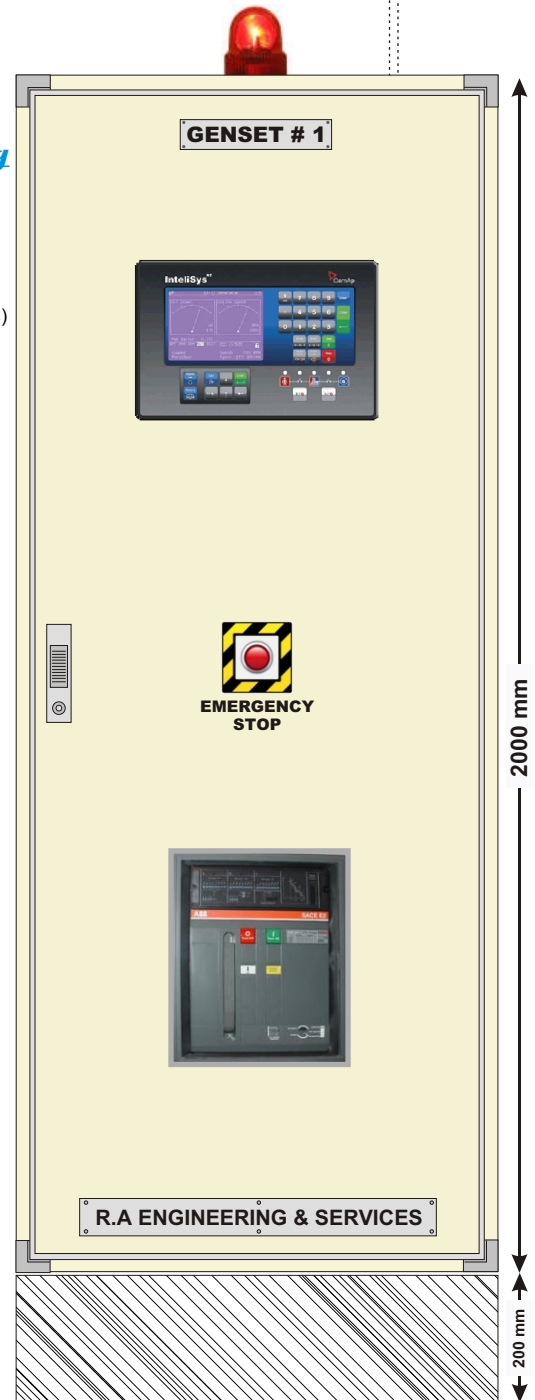
- Active Power kW (Total, Per Phase)
- Reactive Power KVAR (Total, Per Phase)
- Power Factor (Total, Per Phase)
- Load Characteristics (Total, Per Phase)
- Generator Frequency Hz.
- Generator Line to Line Voltage Vg (L1L2) , Vg (L2L3), Vg (L3L1)
- Generator Line to Neutral Voltage Vg (L1N), Vg (L2N), Vg (L3N)
- Generator Current , all three phases (Display plus bar graph)
- Generator Earth fault current (Digital Display)

Synchronizing & Load Control:

- Speed regulation with Governor
- Voltage window With Avr
- Phase window
- Dwell time
- Slip frequency gain
- Slip frequency derating
- Angle gain
- Angle derating
- Speed governor bias
- Load ramp
- Load gain
- Load derating
- GCB open level Up to 5%
- GCB open delay
- Synchronizing time out 3Min

Voltage / Power Factor Control

- AVR regulator characteristics
- Voltage gain
- Voltage derating
- PF gain
- PF derating
- AVR DC out bias



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