Genset Controller

HT-GC315
HT-GC315Plus
HT-GC315Link

Single Applications

- Automatic Mains Failure microprocessor based genset controller for the most common three-phases generator applications (Single Prime Mover and Single Stand-by gensets)
- Insulated and Auto-supplied J1939 and MTU MDEC CAN interface
- Interface with traditional sensors engines
- True RMS readings on generator and mains voltages and currents. Neutral measure included.
- Active, Reactive and apparent power measurement
- Frequency and power measurement on Mains input
- Engine speed measurement by pick-up or W
- 8+3 fully programmable digital input
- Additional current measurement for neutral or differential protection (51N)
- RS232 serial port with MODBUS RTU protocol
- USB serial port
- RS485 serial port with MODBUS RTU protocol
- Ethernet interface with MODBUS TCP/IP protocol (as option)
- Graphic display with self or manual adjustable contrast based on the temperature
- Real Time Clock with battery
- Events and data logging

AMF genset controller

Automatic Mains Failure microprocessor genset controller for managing the most common three-phases generator applications (Single Prime Mover and Single Stand-by gensets)
HT-GC315 is designed for electronic engines with CAN interface J1939 protocol and even for traditional engines with sensors.
The adjustable parameters of the controller allow the use of this device for standard and customized tasks. Parameters are programmed using the free software tool (BoardPrg), which can be download thorough web site. It's even possible to set them directly by the keyboard of HT-GC315.
The self adjustable graphic display (it automatically changes the contrast, based on the temperature) is an user-friendly human interface which is useful for an immediate visualization of measures and alarms coming form the genset.
HT-GC315 is able to measure the Mains frequency and compute the power and energy even when the load is connected to the Mains. In addition, HT-GC315 is able to measure the Neutral of mains and generator voltage.
Thanks to the separated push buttons, one for the MCB (Mains Circuit Breaker) and one for the GCB (Generator Circuit Breaker), it's easier the control of the genset in manual mode.
Events and DTC logs can be accessed from the front panel and read on the display.
HT-GC315 is supported by several communications devices/tools for local or remote control.

Technical Specification

Measured Values

Generator Voltages:
L1-N, L2-N, L3-N, L1-L2, L2-L3, L3-L1
True RMS measure.
Lx-N max. voltage < 230Vac cat. IV
High voltage pulse = 6kV 1.2/50 us
Max. measurable voltage = 25.000V (by external VT).
Generator Currents:
L1, L2, L3, N (*)
True RMS measure.
Nominal max. current: 5Aac
Overload measurable current : 4 x 5Aac (sinusoidal).
Max. nominal current = 6000A (by external TA) cat. III
(*) Neutral generator current as alternative to differential protection or to be used for measure mains power.
Mains Voltage:
L1-N, L2-N, L3-N, L1-L2, L2-L3, L3-L1
True RMS measure.
Lx-N max. voltage < 300Vac cat. IV
High voltage pulse = 6kV 1.2/50 us
Max. measurable voltage = 25.000V (by external VT).
Generator and Mains Frequency meter:
Resolution = 0.1 Hz.
Accuracy = ± 50ppm, ±35ppm/°C (typical)
Battery Voltmeter:
Resolution = 0.1V
Oil Pressure Gauge:
VDO 0-10 Bar, VDO 0-5 Bar, Veglia 0-8 Bar
(optional 0-10V input)
Water Thermometer:
VDO
(optional 0-10V input)
Fuel Level:
VDO, Veglia
Engine revolution counter:
By pick-up. Programmable teeth number.
Same input can be used by W signal.

Power and power factor measures are available as total measure and also for each single phase.
Maximum power and current reached values, are memorized with date and time.

Additional measures available based on the Insulated and Auto-supplied CAN J1939 list.

Protections

A set of high efficiency led are used for signaling the current status of the Generator Set and for the visualization of alarm accursed. By means of text messages, it's possible to realize the type of the alarm, shutdown occured.

Status
- Mains live
- Generator live
- Mains contactor closed
- Generator contactor closed
- Engine running
- Engine Cooling
- Engine start and stop

Engine protections
- Fuel reserve
- Max./Min fuel level
- Battery failure (min./max. Voltage)
- Min. oil pressure
- Max. engine temperature
- Closing of mains contactor or gen set contactor failed
- Engine over crank
- Over speed (electronic from generator frequency or from pick-up)
- Generator overload (from external contact of circuit breaker)
- Belt breakage
- Operating conditions not reached
- Emergency Stop

Generator protections
- Underfrequency (81U)
- Overfrequency (81O)
- Undervoltage (27)
- Overvoltage (59)
- Power direction (32)
- Time dependent overcurrent (51)
- Instantaneous overcurrent (50)
- Phase sequence
- Current and Voltage unbalance (46/47)
- Ground Fault Protection (51N) (alternative to Neutral current measurement)
- Phase overcurrent with voltage restrain/control (51V)
- Negative sequence thermal (I2)

Mains protections
- Mains voltage Max./Min. (27/59)
- Mains frequency Max./Min. (81U/81O)
- Mains failure

Technical Specification

Inputs, Outputs and Aux. Functions

8 Programmable digital inputs
3 Analogue inputs, if not used, can be used as not insulated digital inputs
2 Relay (3A) fuel solenoid + Crank
4 Digital programmable and insulated digital outputs
2 SPDT (10A) relays for power changeover management

As option:
16 Additional and configurable digital I/O with DITEL or Cuteline module
10 Additional and configurable analogical Input for sensors measure from Pt100 (DIGRIN), Thermocouples (DITHERM) or 0...10mA - 0...20mA (DIVIT) or Cuteline
10 Additional and fixed analogical input listed in CANBUS J1939 protocol
4 Additional and configurable analogical output (DANOUT) or Cuteline

Embedded Functions

Engine diagnostic code
Periodical test.
Real Time Clock with internal rechargeable battery
Fuel pump management.
Pre-glow and coolant heater management
Remote start and stop
Maintenance working
Embedded alarm horn
Engine speed measurement by pick-up or W
Possibility of graphic customization with low costs

GC315 is a MULTILANGUAGE DEVICE. The display languages available are: English, Italian, French, Russian and Portuguese/Brazilian

Communication

HT-GC315
USB Port

HT-GC315Plus
USB Port / RS232 Modbus RTU / Insulated RS485 Modbus RTU / RJ45 port as Ethernet (TCP/IP), CANBUS interface for ECU (J1939 and MTU MDEC)

HT-GC315Link
USB Port / RS232 Modbus RTU / Insulated RS485 Modbus RTU / RJ45 port as Ethernet (TCP/IP), CANBUS interface for ECU (J1939 and MTU MDEC), GPRS Modem, GPS Antenna, motion sensor, rechargeable battery

Additional Technical Data

Supply voltage: 7…32 Vdc
Power consumption: typical less than 2W (AUTO mode, STAND-BY, AMF active, LCD Lamp Saving active).
Operating frequency 50Hz or 60Hz
LCD with backlight.
Operating temperature: -25 °C to 60 °C
Protection degree: IP55

EMC: conform to EN61326 - 1
Safety: built in confirmity to EN61010 - 1

Weight: 600gr
Overall dimension: 247(L)x187(H)x40(D)mm
Panel cutout: 218x159 (LxH)
Graphic display dimensions: 70x38mm - 128x64 pixel

Order codes

HT-GC315	**No. 9878**	**USB Port**
HT-GC315Plus	**No. 10073**	**USB Port / RS232 / RS485 / Ethernet (TCP/IP), CANBUS J1939**
HT-GC315Link	**No. 10378**	**USB Port / RS232 / RS485 / Ethernet (TCP/IP), Canbus J1939, GPS / GPRS**

HT-CL-AIN8T .....Analogue input temp module
HT-CL-AIN8UI.....Analogue input volt/curr module
HT-CL-AOUT4.....Analogue output volt/curr module
HT-CL-BIN8.....Binary input module
HT-CL-BOUT8.....Binary output module

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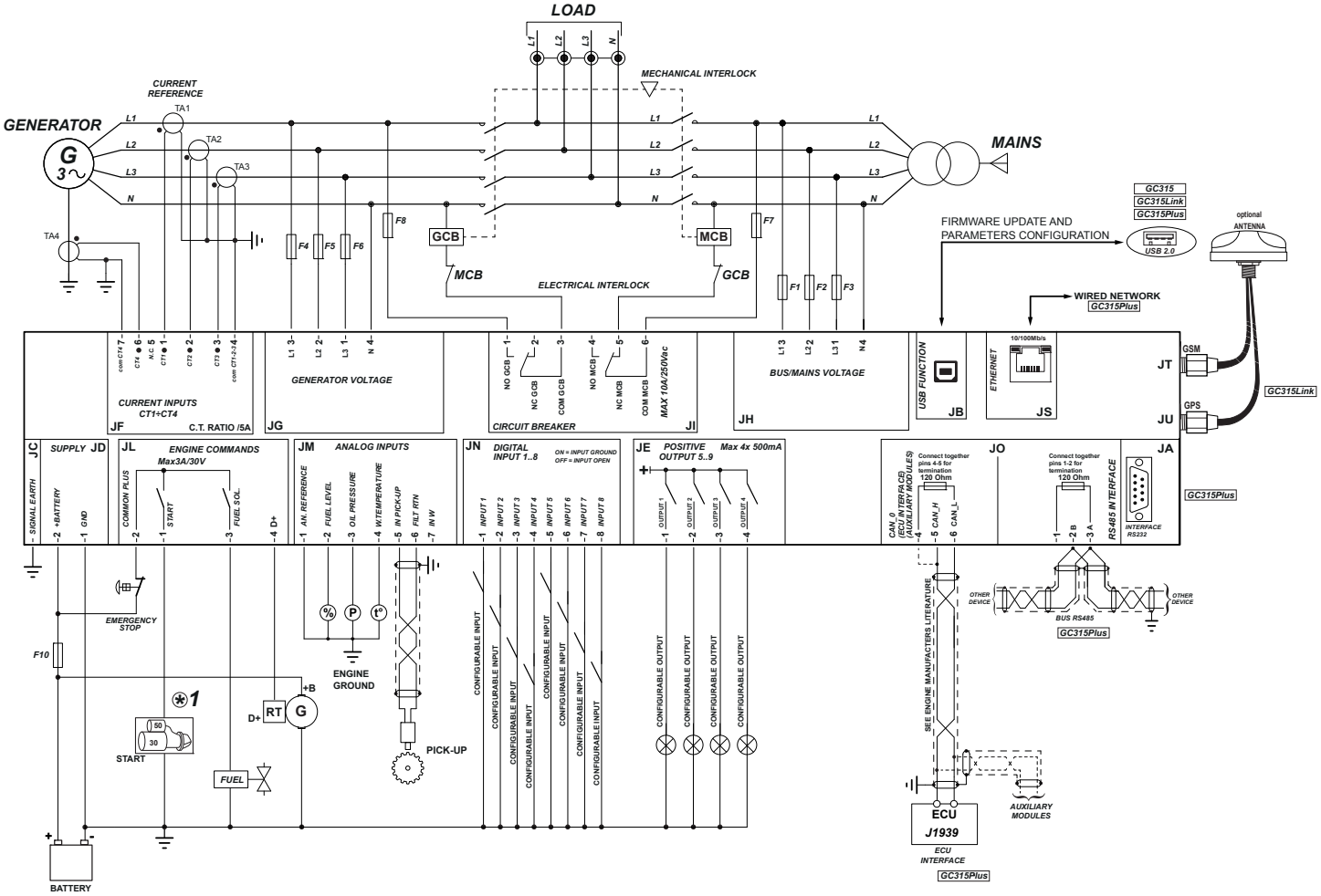

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