

GTR-116

Generator Controller

Manual



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1. Controller Description

GTR-116 is a multi-function diesel engine generator controller. It applies with Key switch and provides 3 kinds of operation mode: Manual, Auto, Off. No special training is required due to the easy operation. Fault protection includes: Emergency stop, Over speed, High water temperature, Low oil pressure, Low frequency, Aux. input 1 and Over crank. GTR-116 also displays the low battery voltage warning, and indicates the running status, speed status and power status. GTR-116 equips with high firm continental-type terminal that provides easy plug in and removal. Furthermore, GTR-116 has 10 pins Dip switch for adjusting parameter according to system requirements, and make it not only reducing stock but also meeting the various system specifications. GTR-116 build-in 5 output powers relays which perform high power capacity reach to 5 Amp (DC) that saves the wiring for connection with extra power relays. No matter in function, protection or operation performance. GTR-116 is your best choice.

2. Profile

A、LCD Icon Descriptions

| Icon | Descriptions | Icon | Descriptions |
|---|------------------|---|------------------|
|  | Emergency Stop | LOWBATT | Low Battery Volt |
|  | High Water Temp. | DC | DC System |
|  | Low Oil Pressure | V | Volt Unit |
|  | Crank Failure | Hr | Run Hour |
|  | Over Speed | Hz | Frequency Unit |
|  | Run |  | Low Frequency |
| AUTO | Auto Mode | !1 | Aux. Input 1 |
| OFF | Off | RPM | RPM Value |
| MAN. | Manual Mode | | |

B、Operation Switch

- **ATS**
Auto Start function by detect ATS terminal 12 grounded.
- **Off**
Stop running engine or stand still / Reset Alarm.
- **Manual**
Manual start engine directly.

3. Back Panel Function Description

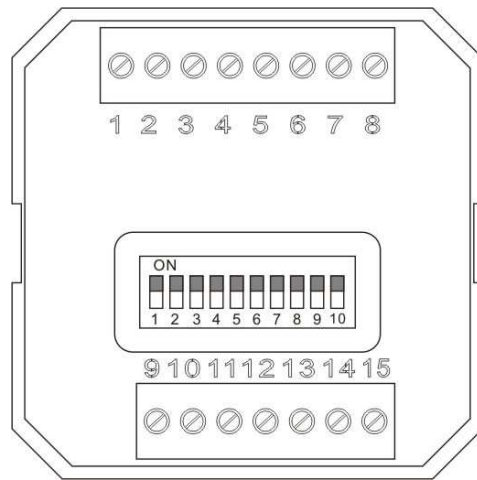


Fig. 2 GTR-116 Controller Back Panel

| E u r o p i u m S t y l e C o n n e c t o r | Number | Description | Code |
|---|-----------------------------------|-----------------------------------|---------|
| | 1 | Input power (Battery +) | ++ |
| | 2 | Ground (Battery -) | GND |
| | 3 | Output starter relay | Motor |
| | 4 | Output fuel valve relay | Valve |
| | 5 | Output alarm relay | Alarm |
| | 6 | Output stop relay | Stop |
| | 7 | Idle/Pre-heat relay | PreHeat |
| | 8 | Charge fire point | Charge |
| | 9 | Aux. Input 1 switch | Aux. 1 |
| | 10 | Aux. switch shutdown | Em.Stop |
| | 11 | Input , High water temp. | H.W.T. |
| | 12 | Input, Low oil press. | L.O.P. |
| | 13 | Input , Auto start | ATS |
| | 14 | Input , Frequency detect terminal | F.D.1 |
| 15 | Input , Frequency detect terminal | F.D.2 | |

A 、 Dip switch settings function

- Pin 1 & Pin 2 : Valve on to stop engine timer

| Pin1 | Pin2 | Valve on stop engine delay |
|------|------|----------------------------|
| OFF | OFF | 5 sec |
| ON | OFF | 10 sec |
| OFF | ON | 15 sec |
| ON | ON | 20 sec |

List 2 Stop Period

- Pin3 : System frequency 【ON : 50Hz ; OFF : 60Hz】
- Pin4 : Disconnect starter by oil pressure switch 【ON : Enable ; OFF : Disable】
- Pin5 : Pressure switch type 【ON : Normal Open ; OFF : Normal Close】
- Pin6 : Pre-heat (**Idle**) output time 【ON : 10 (120) Sec ; OFF : 1 (10) Sec】
- Pin7 : Low DC Volt 【ON : 10.5VDC ; OFF : 21VDC】
- Pin8 & Pin9 Cooling time :

| Pin8 | Pin9 | Cooling time |
|------|------|--------------|
| OFF | OFF | 0 Sec |
| ON | OFF | 60 Sec |
| OFF | ON | 150 Sec |
| ON | ON | 300 Sec |

List 3 Cooling Time

- Pin10 : Idle / Pre-heat Function Select 【ON : Idle ; OFF : Pre-heat】

4. Case Dimension

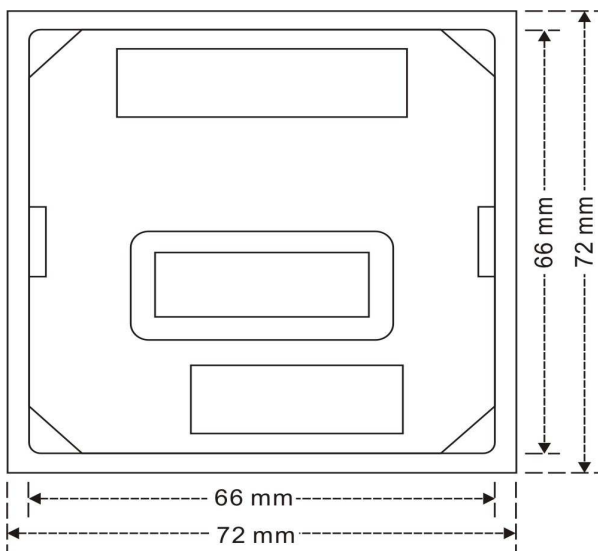


Fig. 3 GTR-116 Case Dimension of Back View

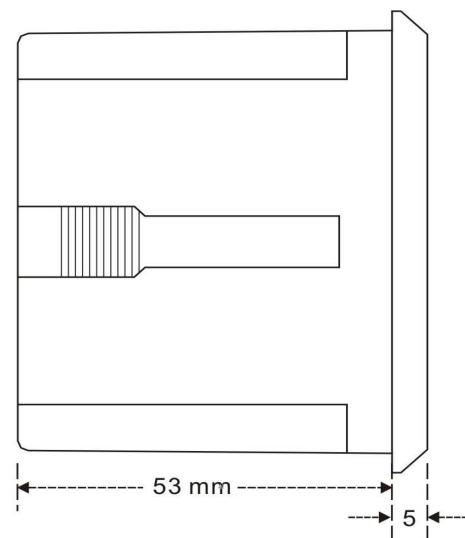


Fig. 4 GTR-116 Case Dimension of Back View

5. Specifications

DC supply :

8~36 VDC

Power Consumption :

Max.5 W

Measuring Frequency :

0~75 Hz (min AC Volt. 5 V ; max AC Volt. 300V)

Relay Output :

Start output : 5A

Valve output : 5A

Idle / Pre-heat output : 5A

Alarm Output : 5A

Stop output : 5A

Ambient Temperature Range :

-30 °C ~ 70 °C

Dimension (W * H * D) :

72mm x 72 mm x 58 mm

Panel cut-out (W * H) :

68 mm x 68 mm

Weight :

190 g (0.42 lb.)

Protections and parameters :

Auxiliary shutdown protection: 1 Sec., Normal Close

Low battery warning: 5 Sec., 10.5 / 21 VDC

Over speed protection: 2 Sec., 55/66 Hz

Low Frequency Protection : 6 Sec., Stop

Aux. Input 1 : 3 Sec., Stop

High water temp. protection: 2 Sec., Normal Open

Low oil pressure protection: 2 Sec., Normal Open / Normal Close

Over crank: 3 attempts

Cranking speed up limited: 0.5 Sec., 16Hz

Safety on timer: 5 Sec (*)

(*) All alarms are ignored until safety on timer expired, except the emergency stop and over speed.

6. Controller Wiring Example

