

PROGRAMMABLE CONTROLLER FOR GENERATING SET



BENEFITS

- ⊕ Superior reliability
- ⊕ Optimal installation time
- ⊕ Very easy to install
- ⊕ Configuration flexibility
- ⊕ Outstanding performance
- ⊕ Programmable by RS-232 port
- ⊕ Very rapid fault visualisation & identification

DESCRIPTION

In our design of the CG16A controller, we have incorporated the important features critical for top performance and this was done by analyzing a large number of existing systems. We have also placed a special emphasis on both flexibility and ease of installation by allowing for a cable connection of the control module to the interface module.

An engine generator controller must ensure emergency supply and protection of the system. Reliability has therefore been a priority in our design and we have included many important features which include, digital optoelectronic inputs, a processor removable processor with a centralized architecture, a separated interface card, transistor outputs rated to 5.0 amperes and protection against low voltage on start-up.

While the product is complete, we also offer some options to suit your specific needs, for example, special analog inputs, the weekly exerciser and an alarm contact module.

FLEXIBILITY FEATURES

- Programmable and removable microcontroller
- Possibility of 7 analog inputs (4 in option)
- Membrane keypad of 6 keys
- Nominal supply for the system is 12 or 24 Vdc.
- 6 of 7 analog inputs are programmable for digital use
- 6 system output relays with contacts of 10 A. @ 28 Vdc
- Programming by standard data terminal equipment
- Complete basic parameters list of the system
- Complete programming parameters for each analog and digital fault
- English or bilingual inscriptions of the silk-screen
- Inputs for remote operation of the system
- Output for engine preheat or for the engine air trap close
- Provision to connect an alarm contact module of 18 circuits for communication system
- Provision to install a terminal block for external faults
- Customer ability to identify each fault on a liquid proof panel
- Possibility of installing the interface module behind the control module (option)

SECURITY FEATURES

- A liquid proof panel
- Weak battery power detection and low or high battery voltage
- Auxiliary output for breaker tripping or close on valid voltage
- Protection fuse for regulator and for D.C. logical circuit with replacement indicators
- Spare fuse on site
- Weekly Exerciser with reserve (option)

RESPONSIVENESS FEATURES

- 6 System state indicators and 16 fault indicators (possibility of 24 fault indications)
- Fault ring back
- Output for alarm contact module
- Possibility of fault detection by inverse time analysis

ECONOMIC FEATURES

- Very complete basic system
- Fast module installation
- The interconnection cable between the control module and the interface module decreases the time of system connection
- Contacts of 6 output relays are directly connected to 12 AWG wire terminals for customer connection
- Terminal block of the control module allows for the connection of elements installed on the panel door
- Terminal block of the interface module (normally installed inside the cabinet) allows the direct connection of elements coming from the exterior and the interior of the cabinet
- Very competitively priced

POSSIBLE FAULTS

LAMP	DIGITAL FAULT
1	Overcrank *
1	Loss of signal *
2	Low oil pressure
3	High coolant temperature
5	Low coolant temperature
6	High alternator voltage
7	Low battery voltage
8	Emergency stop
9	Low frequency
10	High alternator temperature
11	Low fuel level
12	Spare
13	Spare
14	Spare
15	Spare
16	Spare

LAMP	ANALOG FAULTS
2	Low oil pressure (alarm)
2	Low oil pressure (shutdown)
3	High coolant temperature (alarm)
3	High coolant temperature (shutdown)
4	Overspeed
5	Low coolant temperature
6	Low alternator voltage
6	High alternator voltage
7	Very Low battery voltage
7	Low battery voltage
7	High battery voltage
9	Low frequency
9	High frequency
10	(not used with standard applications)
10	High alternator temperature (thermistor)
11	Low limit of 4-20 mA Input
11	High limit of 4-20 mA Input

* THIS FAULT CANNOT BE USE FOR ANY OTHER PURPOSES.

SYSTEM PARAMETERS

- Use of start/shutdown buttons in manual mode
- Use of shutdown button in automatic mode
- Input polarity of the start signal (N.O. or N.C.)
- Number of start-up attempts
- Frequency limit for detection of the running engine
- Output used for preheat or to activate the engine air trap
- Starting delay, cool down delay and by-pass delay
- Delay before detection of frequency signal loss
- Starter cranking and resting time
- Exercise time delay and real time adjustment (option)

PARAMETERS FOR EACH FAULT

- Active fault
- Input polarity
- Bypass delay activated
- Fault latch
- Blinking lamp (fast or slow)
- Audible alarm activated
- Engine stop
- System fault
- Auxiliary output relay activated (breaker trip)
- Transient time delay
- The limit (analog)
- Hysteresis of reset (analog)
- Limit of the summation for the inverse time function (analog)

OUTPUT RELAYS

The interface module comprises six output relays. These relays have two contacts rated at 10 amps @ 28 Vdc:

- Fuel supply (double contact)
- Starter supply (double contact)
- Supply for the engine preheat or the air trap closing
- System in fault (1 "C" form, an + output)
- System stop on fault (1 "C" form , an + output)
- Engine running (2 "C" forms)

SPECIFICATIONS

<i>Supply:</i>	8-32 Vdc (24 Vdc nominal) 7-30 Vdc (12 Vdc nominal)
<i>Consumption:</i>	100 mA (without powered relays)
<i>Battery DC Voltage Input:</i>	7-32 Vdc, impedance 18 KΩ
<i>Frequency input:</i>	0.05 – 50 V RMS
<i>Digital inputs:</i>	Opto isolated in short-circuit: 3 mA @ 12 Vdc

<i>Digital outputs:</i>	12 VDC (negative output); Max current: 500 mA; Max total output: 3 A.
<i>Operation temperature:</i>	-20 to + 55°C.
<i>Controller size:</i>	8" H x 10" L x 1.5" P
<i>Interface size :</i>	3.45" H x 8" L x 1.5" P
<i>Facade material:</i>	Lexan
<i>Cover material:</i>	Anodized aluminium

