

# GU641A controller brief operation manual

The contents are intended for quick guidance and supplement to the user who is using GU641A controller. Please read the standard manual for more details.

## I. Controller Dimension

Model dimension	Panel cutout dimension
W192mm×H144mm×D56mm	W174mm×H126mm

## II. Configure running parameters

### 1. Main buttons' instruction



AUTO Mode Button/LED/ “+” Value Increase



MAN Mode Button/LED/ “-” Value Decrease



TEST Mode Button/LED/ “√” Confirm  
Parameters Configure



Start Button/LED/Return



Stop/Reset Button/ “→” Move Setting



Mute/Lamp Test Button



Scroll/Exit or Enter Parameters Setting

### 2. Parameters setting (For example: configure controller crank attempt at 2)

Operation	Description
Press “▶” and hold for 2s can enter into parameter setting menu. Then LCD displays:	 
Press “+” 32 times and then press “√”. LCD displays:	  
Press “+” or “-” button, it prompts to key in password. Key in password: 2213, press “→”, move to desired modify position, press “√” button to confirm.	  
Press “+” or “-” to change parameters after password was correct, change at 2.	  
Press “√” to confirm, and then press “⬆” to exit parameter setting:	 

### III. Parameter setting

#### 1. SYSTEM

NO.	Items		Preset	Value Range
1.1	CT Ratio	▯▯▯▯	200	1 to 1200
1.2	VT Ratio	▯▯▯▯	1.0	1.0 to 25.0
1.3	Rated ph-voltage	▯▯▯▯	220	45 to 9999 VAC
1.4	Rated current	▯▯▯▯	1000	0 to 6000 A
1.5	Rated active power	▯▯▯▯	500	0 to 3000 KW
1.6	Voltage Type	▯▯▯▯	1	1 to 5
1.7	Comm. Address	▯▯▯▯	1	1 to 247
1.8	Startup mode	▯▯▯▯	0	0 MAN/ 1 AUTO/ 2 the same as last time
1.9	Auto scroll time	▯▯▯▯	0s	1 to 60s / 0 not used
1.10	Default settings	▯▯▯▯		
1.11	Password	▯▯▯▯	Initial password is 2213.	0000 to 9999 Can be changed by the software.
1.12	Firmware update	▯▯▯▯		Accessible by specified PC software.

#### 2. GENERATOR

NO.	Items		Preset	Value Range
2.1	GEN-V under preALM	▯▯▯▯	90%	20 to 200% / 0 not used
2.2	GEN- V under Alarm	▯▯▯▯	0	20 to 200% / 0 not used
2.3	GEN-V over preALM	▯▯▯▯	115%	20 to 200% / 999 not used
2.4	GEN-V over Alarm	▯▯▯▯	999	20 to 200% / 999 not used
2.5	KW Overload preALM	▯▯▯▯	999	20 to 200% / 999 not used
2.6	KW Overload Alarm	▯▯▯▯	100%	20 to 200% / 999 not used
2.7	Alarm delay	▯▯▯▯	5s	0 to 600s
2.8	Overcurrent level	▯▯▯▯	100%	20 to 200% / 999 not used
2.9	Overcurrent delay	▯▯▯▯	1	1 to 20s
2.10	Overcurrent action	▯▯▯▯	0	0 warning / 1 electrical trip / 2 shutdown
2.11	Loading Voltage	▯▯▯▯	95%	20 to 200%
2.12	Loading Frequency	▯▯▯▯	48.0Hz	10.0 to 100.0Hz
2.13	GEN. ON delay	▯▯▯▯	5	1 to 9999s
2.14	GEN. closing time	▯▯▯▯	5	2 to 200s
2.15	Test mode	▯▯▯▯	1	0 without load / 1 with load

#### 3. ENGINE

NO.	Items		Preset	Value Range
3.1	Pair of Poles	▯▯▯▯	2	1 to 4
3.2	Fuel mode	▯▯▯▯	0	0 N.C. / 1 N.O.
3.3	T-sensor mode	▯▯▯▯	3	1 to 15 / 0 not used
3.4	P-sensor mode	▯▯▯▯	4	1 to 15 / 0 not used
3.5	Start delay	▯▯▯▯	10s	0 to 300s
3.6	Crank attempt	▯▯▯▯	3 times	1 to 10 times
3.7	Crank time	▯▯▯▯	5s	1 to 30s
3.8	Crank time add	▯▯▯▯	0	1 to 30s / 0 not used
3.9	Crank rest	▯▯▯▯	10s	1 to 300s
3.10	Crank cutout RPM	▯▯▯▯	300RPM	1 to 9999 RPM
3.11	Crank cutout volt	▯▯▯▯	85%	1 to 100% / 999 not used

3.12	Crank cutout ALT-V	8888	99.9	1.0 to 40.0V / 99.9 not used
3.13	Crank cutout Oil-P	888P	1.0Bar	0.1 to 150.0 Bar / 0.0 not used
3.14	Cutout P-delay	8888	0	1 to 60s / 0 not used
3.15	Idle time	8888	0	1 to 9999s / 0 not used
3.16	Pre-heat mode	8888	1	1 to 4
3.17	Pre-heat time	8888	3s	1 to 9999s / 0 not used
3.18	Safety-on delay	8888	10s	0 to 600s
3.19	Cooldown mode	8888	0	0 full speed / 1 idle
3.20	Cooldown time	8888	300s	0 to 600s
3.21	Stop delay	888P	20s	0 to 60s
3.22	Under SP preALM	888P	1440RPM	1 to 9999 RPM / 0 not used
3.23	Under SP Alarm	888P	0	1 to 9999 RPM / 0 not used
3.24	Over SP preALM	888P	1600RPM	1 to 9999 RPM / 9999 not used
3.25	Over SP Alarm	888P	1710RPM	1 to 9999 RPM / 9999 not used
3.26	Oil-P low preALM	888P	1.4Bar	0.1 to 150.0 Bar / 0.0 not used
3.27	Oil-P low Alarm	888P	1.1Bar	0.1 to 150.0 Bar / 0.0 not used
3.28	Coolant preALM	888P	92°C	50 to 320°C / 9999 not used
3.29	Coolant Alarm	888P	100°C	50 to 320°C / 9999 not used
3.30	Batt. Undervolt	8888	8.0V	1.0 to 40.0V / 0.0 not used
3.31	Batt. overvolt	8888	28.0V	1.0 to 40.0V / 99.9 not used
3.32	ALT. low preALM	8888	8.0V	1.0 to 40.0V / 0.0 not used
3.33	EX. Crank permit	888P	0	0 NO / 1 YES

#### 4. CONFIGURE INPUT/OUTPUT

NO.	Items		Preset	Value Range
4.1	D-Input 1	8888	5	1 to 20 / 0 not used
4.2	D-Input 2	8888	6	1 to 20 / 0 not used
4.3	D-Input 3	8888	7	1 to 20 / 0 not used
4.4	D-Input 4	8888	9	1 to 20 / 0 not used
4.5	D-Input 5	8888	10	1 to 20 / 0 not used
4.6	D-Input 6	8888	11	1 to 20 / 0 not used
4.7	D-Input 1 delay	8888	0s	0 to 60s
4.8	D-Input 2 delay	8888	0s	0 to 60s
4.9	D-Input 3 delay	8888	0s	0 to 60s
4.10	D-Input 4 delay	8888	0s	0 to 60s
4.11	D-Input 5 delay	8888	0s	0 to 60s
4.12	D-Input 6 delay	8888	0s	0 to 60s
4.13	User relay 1	8888	20	1 to 80 / 0 not used
4.14	User relay 2	8888	19	1 to 80 / 0 not used
4.15	User relay 3	8888	2	1 to 80 / 0 not used
4.16	User relay 4	8888	3	1 to 80 / 0 not used

## 5. ATS CONTROL

NO.	Items		Preset	Value Range
5.1	Mains-V low Alarm	8888	90%	20 to 200% / 0 not used
5.2	Mains-V High Alarm	8888	115%	20 to 200% / 999 not used
5.3	Mains-Hz low Alarm	8888	45.0Hz	10 to 100.0Hz / 0 not used
5.4	Mains-Hz High Alarm	8888	57.0Hz	10 to 100.0Hz / 999.9 not used
5.5	Mains Alarm Delay	8888	5s	1 to 9999s
5.6	Mains ON Delay	8888	5s	1 to 9999s
5.7	MCB closing time	8888	5s	2 to 200s

### Menu notes

#### ● VOLTAGE TYPES

code	voltage input type	code	voltage input type	code	voltage input type
1	3 phases 4 wires star	2	3 phrases 4 wires angle	3	3 phases 3 wires
4	Single phase 3 wires	5	Single phase 2 wires		

#### ● TYPES OF SENSORS

code	T-sensor type	P-sensor type
1	close for high temperature (D-input)	close for low oil pressure (D-input)
2	open for high temperature (D-input)	open for low oil pressure (D-input)
3	VDO 120°C	VDO 5 bar
4	VDO 150°C	VDO 10 bar
5	Datcon	Datcon 7 bar
6	Murphy	Murphy 7 bar
7	Pt100	Note: 7~11 are defined by user. More details are in Operation Manual.
8	Note: 8~12 are defined by user. More details are in Operation Manual.	

#### ● D-INPUT

Code	Optional Functions	Note
0	not used	
1	Pre-alarm (warning)	Low level is active. When it is active, pre-alarm LED illuminates and buzzer sounds, LCD displays: warning: D-input*.
2	Alarm	Low level is active. When it is active, generator stops, shutdown alarm LED illuminates and buzzer sounds, LCD displays: alarm: D-input*.
3	Pre-alarm 1	Low level is active. When it is active after safety-on delay, pre-alarm LED illuminates and buzzer sounds, LCD displays: warning: D-input*.
4	Alarm 1	Low level is active. When it is active after safety-on delay, generator stops, shutdown alarm LED illuminates and buzzer sounds, LCD displays: alarm: D-input*.
5	LOP switch	low level is active
6	HET switch	Low level is active.
7	Emergency stop	Low level is active.
8	Emergency stop	High level is active. (N.O. is active.)
9	Remote start signal	Low level is active.
10	Mains Aux. Switch closed	Low level is active.
11	Gen Aux. Switch closed	Low level is active.
12	Low fuel level switch	Low level is active.

13	Lamp test	Low level is active.
14	Reserved	
15	Reserved	
16	Air flap Aux. Switch closed	Low level is active.
17	Preheat	Low level is active. Used for preheat mode 4, as the condition of preheat relay output is energised or not.
18	Crisis mode	Low level is active. In crisis mode, all shutdown alarms are changed to pre-alarm (warning), it means Genset would not be shutdown when shutdown alarm occurs. When this mode is active, it's easy to make Genset damage and security incident under the situation of overspeed, low oil pressure or high temperature without stop. Be careful to use it!

● **USER RELAY**

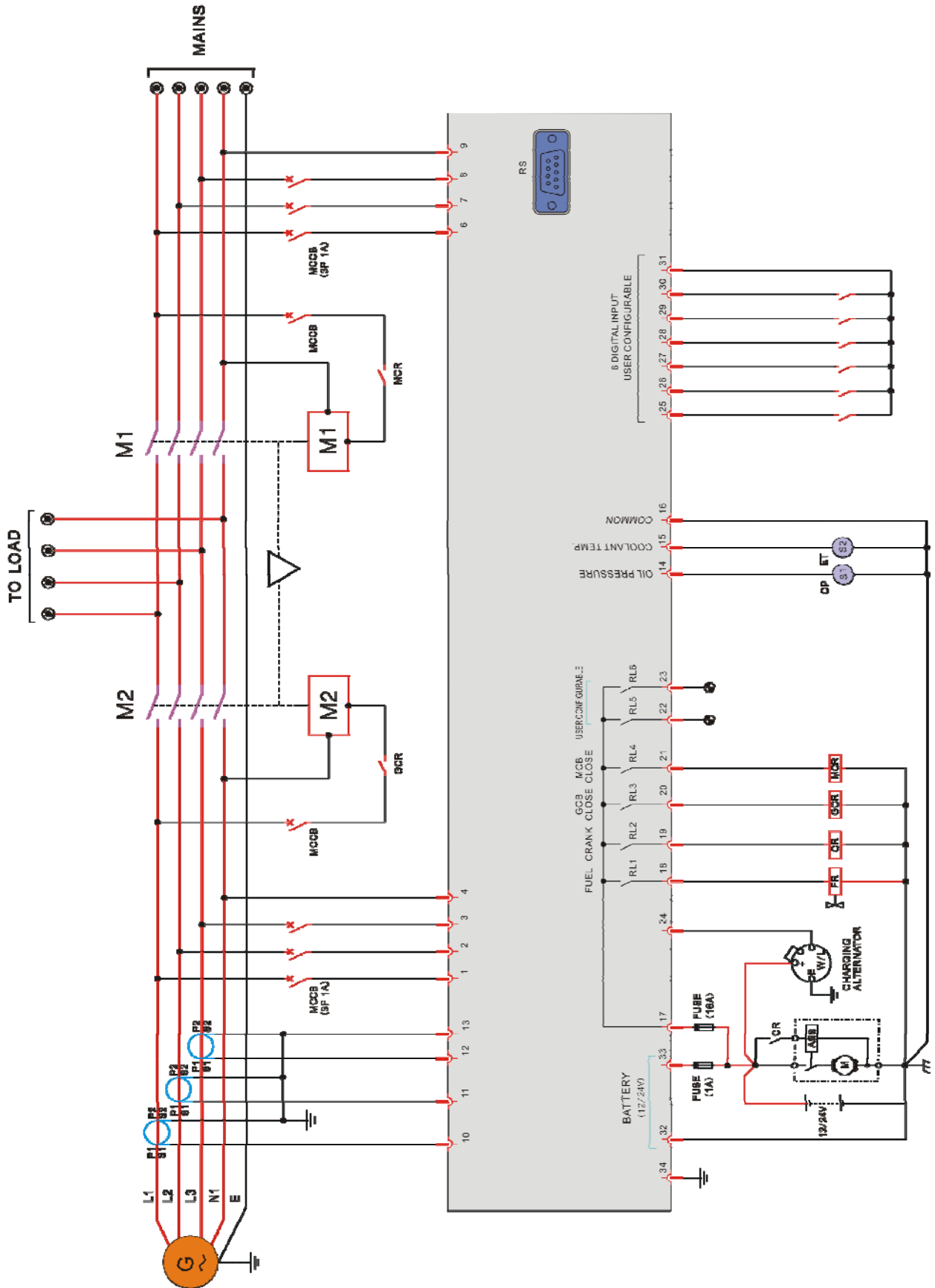
code	Output mode defined	code	Output mode defined	code	Output mode defined
0	not used	23	Over current pre-alarm	45	Over speed alarm
1	Over current trip	24	Battery Under voltage	46	Reserved
2	Common alarm	25	Battery Over voltage	47	Reserved
3	Common pre-alarm (warning)	26	Reserved	48	GEN. under voltage alarm
4	Idle relay N.C.	27	Reserved	49	GEN. over voltage alarm
5	Preheat relay	28	Low oil press pre-alarm	50	KW overload alarm
6	Reserved	29	Engine high temp. pre-alarm	51	P-sensor open alarm
7	Reserved	30	Under speed pre-alarm	52	Config. D-input1 active
8	Reserved	31	Over speed pre-alarm	53	Config. D-input2 active
9	GEN. running	32	GEN. under voltage pre-alarm	54	Config. D-input3 active
10	Auto mode	33	GEN. over voltage pre-alarm	55	Config. D-input4 active
11	Test mode	34	Reserved	56	Config. D-input5 active
12	Manual mode	35	Reserved	57	Config. D-input6 active
13	Reserved	36	Reserved	58	Reserved
14	Idle relay N.O.	37	Reserved	59	Buzzer sounds alarm
15	MCB failure	38	Reserved	60	Air flap control
16	GCB failure	39	Reserved	61	Reserved
17	Start failure	40	Over current alarm	62	Test without load mode
18	Stop failure	41	ECU data fail	63	Test with load mode
19	MCB close	42	Low oil press. alarm	64	Emergency stop
20	GCB close	43	Engine high temperature alarm	65	Mains failure
21	KW overload pre-alarm	44	Under speed alarm	66	Cooling down
22	Charge failure				

● **LIST OF FAULT CODES**

Name of fault	Code
Charge failure	0000
Low battery voltage	0001
High battery voltage	0002
Start failure	0003
Stop failure	0004
Emergency stop	0005
Low oil pressure	0006
Engine high temperature	0007
Over speed	0008

Name of fault	Code
Under speed	0009
Overcurrent	0010
Gen. over voltage	0011
Gen. under voltage	0012
Over load	0013
P-sensor open	0014
D-Input*	0015*
GCB failure	0016
MCB failure	0017

#### IV. TYPICAL WIRING DIAGRAM



**Note:** Terminal #34 of controller must be electrically connected with system's FGND very well; in addition the cross section area of the connected wire should not be less than 2.5mm<sup>2</sup>. Otherwise it will impact the correctness of electrical measuring, even damage the controller.

**If you want more technical support, please call Service Hotline: 400 888 3388.**