

Data in these instructions is for use on the controller and provides brief operation guidelines, for greater details please refer to the standard operation Manual

## I、 Controller size:

Module Dimensions	Panel Cutout
W156mm×H120mm×D39.5mm	W123mm×H96mm

## II、 Parameter setting method:

### 1、 Primary key:



Mode Button / LED / Change manual or automatic mode



"-" Value Decrease / Parameter setting down



"+" Value Increase/ Parameter setting up



Generator Start Button /LED



Shutdown /Reset Button /LED



Scroll Button /Parameter settings enter and exit Button

### 2、 Setting method:

FOR EXAMPLE: (SETTING CONTROLLER CRANK ATTEMPT AT 2)

Operation	Description
Press and hold  2sec, enter into parameters settings menu, then LCD displays:	[SETTING ] 0. QUIT 1. SYSTEM 2. GENERATOR 3. SETTING
Press  once and then press , then LCD displays:	[ENGINE] 0. QUIT 1. ENGINE TYPE 2. ECU TYPE 3. ENGINE RUN SPEED
Press  6 times and then press  LCD displays :	[ Crank attempt ] 3
Press  or  prompted enter password: 1111, press  to enter.	[ Crank attempt ] Password:0000
Press  or  to change parameters, change at 2	[Crank attempt] 2
Press  to confirm, press and hold  2sec will quit parameter settings menu, LCD displays:	Ready

**III、 Parameters Setting:****1、 SYSTEM**

NO.	Items	Preset	NO.	Items	Preset
1.1	Language		1.7	Display contrast	5
1.2	Password		1.8	Auto scroll time	Not used
1.3	Pressure unit	0	1.9	Starting alarm	0
1.4	Temperature unit	0	1.10	Default settings	
1.5	Comm. address	1	1.11	Firmware Update	
1.6	Startup mode	0			

**2、 ENGINE**

NO.	Items	Preset	NO.	Items	Preset
2.1	Engine type	1	2.22	Safety-on delay	10S
2.2	ECU type	4	2.23	Cool down mode	1
2.3	Engine rated speed	1500	2.24	Cool down time	300S
2.4	Fly wheel teeth	120	2.25	Stop time	20S
2.5	Fuel mode	0	2.26	EX. Crank permit	0
2.6	Start delay	10S	2.27	Charge failure	8.0V
2.7	Crank attempts	3 times	2.28	Pickup signal	1
2.8	Critical C-attempt	6 times	2.29	Overspeed level1	1600 RPM
2.9	Crank time	5S	2.30	Overspeed level2	1710 RPM
2.10	Crank time add	Not used	2.31	Underspeed level1	1440RPM
2.11	Crank pause time	15S	2.32	Underspeed level2	1350 RPM
2.12	Ignition speed	200RPM	2.33	Start failure	1
2.13	Ignition start DLY	5S	2.34	Stop failure	1
2.14	Gas valve on DLY	5S	2.35	Batt. Overvolt	35.0 V
2.15	Crank cutout RPM	300RPM	2.36	Batt. Undervolt	8.0 V
2.16	Crank cutout ALT-V	Not used	2.37	Maintenance	1000
2.17	Crank cutout Oil-P	2.2 Bar	2.38	ECU Data fail	30
2.18	Crank cutout P-DLY	Not used	2.39	ECU Warning	5
2.19	Idle time	Not used	2.40	ECU Shutdown	5
2.20	Pre-heat mode	1	2.41	Water in fuel	30
2.21	Pre-heat time	3S			

**3、 Analog INPUT**

NO.	Items	Preset	NO.	Items	Preset
3.1	P-sensor type	4	3.35	AUX2 high T level1	90℃
3.2	Oil-P low level1	1.4Bar	3.36	AUX2 high T level2	100℃
3.3	Oil-P low level2	1.1Bar	3.37	Heater2 on level	50℃
3.4	T-sensor type	3	3.38	Heater2 off level	60℃
3.5	High temp. level1	92℃	3.39	Cooler2 on level	80℃
3.6	High temp. level2	100℃	3.40	Cooler2 off level	70℃
3.7	Heater on level	50℃	3.41	S1 sensor use	Not used
3.8	Heater off level	60℃	3.42	S1 range Min	0
3.9	Cooler on level	80℃	3.43	S1 range Max	10.0
3.10	Cooler off level	70℃	3.44	S1 low level1	0
3.11	AUX sensor1 use	Fuel Level	3.45	S1 low level2	0
3.12	AUX sensor1 type	3	3.46	S1 high level1	10.0
3.13	Low fuel level1	20%	3.47	S1 high level2	10.0
3.14	Low fuel level 2	10%	3.48	S2 sensor use	Not used
3.15	High fuel level1	90%	3.49	S2 range Min	0

3.16	High fuel level2	100%	3.50	S2 range Max	10.0
3.17	Fuel pump ON	20%	3.51	S2 low level1	0
3.18	Fuel pump OFF	70%	3.52	S2 low level2	0
3.19	AUX1 low T level1	60°C	3.53	S2 high level1	10.0
3.20	AUX1 low T level2	80°C	3.54	S2 high level2	10.0
3.21	AUX1 high T level1	90°C	3.55	S3 sensor use	Not used
3.22	AUX1 high T level2	100°C	3.56	S3 range Min	0
3.23	Heater1 on level	50°C	3.57	S3 range Max	10.0
3.24	Heater1 off level	60°C	3.58	S3 low level1	0
3.25	Cooler1 on level	80°C	3.59	S3 low level2	0
3.26	Cooler1 off level	70°C	3.60	S3 high level1	10.0
3.27	AUX sensor2 use	Temp.	3.61	S3 high level2	10.0
3.28	AUX sensor2 type	3	3.62	S4 sensor use	Not used
3.29	AUX2 low P level1	1.1Bar	3.63	S4 Range Min	0
3.30	AUX2 low P level2	1.4Bar	3.64	S4 Range Max	10.0
3.31	AUX2 high P level1	8.0Bar	3.65	S4 low level1	0
3.32	AUX2 high P level2	10.0Bar	3.66	S4 low level2	0
3.33	AUX2 low T level1	60°C	3.67	S4 high level1	10.0
3.34	AUX2 low T level2	50°C	3.68	S4 high level2	10.0

#### 4、 Discrete IN/OUT

NO.	Items	Preset	NO.	Items	Preset
4.1	D-Input 1 config	6	4.6	Relay 1 Config	2
4.2	D-Input 2 config	2	4.7	Relay 2 Config	1
4.3	D-Input 3 config	3	4.8	Relay 3 Config	Not used
4.4	D-Input 4 config	4	4.9	Relay 4 Config	Not used
4.5	D-Input 5 config	Not used			

#### 6、 SCHEDULER

NO.	Items	Preset	NO.	Items	Preset
6.1	DATE/ TIME		6.7	TUE active	NO
6.2	Scheduler period	1	6.8	WED active	NO
6.3	Scheduler mode	Unload	6.9	THU active	NO
6.4	Start time	HH:MM	6.10	FRI active	NO
6.5	Run duration	60	6.11	SAT active	NO
6.6	MON active	NO	6.12	SUN active	NO

#### 7、 Speed control

NO.	Items	Preset	NO.	Items	Preset
7.1	Control mode	fixed	7.10	Speed priority2	Not used
7.2	Set point	50	7.11	Speed priority3	Not used
7.3	Proportional gain	2.0	7.12	Upper RPM limit	Not used
7.4	Integral time	5.0S	7.13	Lower RPM limit	Not used
7.5	Derivative time	0.0 S	7.14	Speed raise rate	2%/S
7.6	Time pulse minimum	0.5S	7.15	Speed lower rate	2%/S
7.7	Clutch engage	Not used	7.16	S-Bias start value	3.0V
7.8	Clutch disengage	Not used	7.17	S-Bias output range	3.0V
7.9	Speed priority1	Not used	7.18	S-Bias control range	5.0%

## 8、 Send SMS

NO.	Items	Preset	NO.	Items	Preset
8.1	Telephone 1 NO.	Not used	8.10	F-pump OFF SMS	NO
8.2	Telephone 2 NO.	Not used	8.11	Shutdown alarm SMS	Yes
8.3	Telephone 3 NO.	Not used	8.12	Warn SMS	Yes
8.4	Power up SMS	NO	8.13	Maintenance SMS	NO
8.5	Engine start SMS	NO	8.14	Alarms SMS count	3
8.6	Engine stop SMS	NO	8.15	Alarms SMS period	5
8.7	Warn reset SMS	NO	8.16	Warn SMS count	3
8.8	Alarm reset SMS	NO	8.17	Warn SMS period	5
8.9	F-pump ON SMS	NO			

## Menu descriptions:

## I Sensor type definition

Code	Temperature sensor Type	Pressure sensor type
1	Close for HET (low level is active)	Close for LOP (low level is active)
2	Open for HET (high level is active)	Open for LOP (high level is active)
3	VDO120°C	VDO 5 bar
4	VDO150°C	VDO 10 bar
5	Datcon	Datcon 7 bar
6	Murphy	Murphy 7 bar
7	Pt100	Note: 7-13 is defined and a custom project, details please refer to the instruction for use.
8	Note: 8-14 is defined and a custom project, details please refer to the instruction for use.	

## I D-input definition

Code	Config output type	Code	Config output type	Code	Config output type	Cod	Config output type
0	Not used	8	Reserve	16	Alarm mute	24	Stop button
1	User configured	9	Low fuel switch	17	Alarm reset	25	Start button
2	Oil pressure switch	10	Lamp test	18	Reserve	26	Inhibit Load
3	Temp. high switch	11	Lower speed	19	Reserve	27	Speed priority 1
4	Emergency stop	12	Raise speed	20	Panel lock	28	Speed priority 2
5	Remote off load	13	Air-flap Closed	21	Activate AUTO mode	29	Speed priority 3
6	Remote with load	14	Pre-heat switch	22	Activate MAN mode	30	Low water level
7	Reserve	15	Critical mode	23	Activate TEST mode		

## I Relay output definition

Code	Config output type	Code	Config output type	Code	Config output type	Code	Config output type
0	Not used	31	Underspeed level1	62	Loss of pickup	93	AUX2 low level1
1	Crank	32	Underspeed level2	63	Scheduled run	94	AUX2 low level2
2	Fuel	33	Overspeed level1	64	Blinds control	95	AUX2 high level1
3	Gas valve	34	Overspeed level2	65	Cooler control	96	AUX2 high level2
4	Ignition	35	Oil-p-low level1	66	Cooler1 control	97	ECU water in fuel
5	Shutdown alarm	36	Oil-p low level 2	67	Cooler1 control	98	D-Input 1 alarm
6	Warning	37	High temp. level1	68	Heater control	99	D-Input 2 alarm
7	Idle	38	High temp. level2	69	Heater1 control	100	D-Input 3 alarm

8	Preheat output	39	Fuel low level1	70	Heater2 control	101	D-Input 4 alarm
9	Speed raise	40	Fuel low level2	71	Reserve	102	D-Input 5 alarm
10	Speed lower	41	Reserve	72	Reserve	103	Reserve
11	Fuel pump control	42	Reserve	73	Reserve	104	Reserve
12	Genset running	43	Reserve	74	Reserve	105	Reserve
13	Auto mode	44	Reserve	75	Reserve	106	Reserve
14	Test mode	45	Reserve	76	Reserve	107	Reserve
15	Man mode	46	Reserve	77	Reserve	108	Reserve
16	Maintenance due	47	Reserve	78	Reserve	109	Reserve
17	Reserve	48	Reserve	79	Reserve	110	Reserve
18	Reserve	49	Reserve	80	Reserve	111	Reserve
19	Fail to start	50	Reserve	81	Off load	112	Reserve
20	Fail to stop	51	Reserve	82	Test without load	113	Reserve
21	Reserve	52	Reserve	83	Test with load	114	Reserve
22	On load	53	Idle 1	84	Emergency stop	115	Reserve
23	Audible alarm	54	Idle 2	85	Reserve	116	Reserve
24	Cooling down	55	Reserve	86	Reserve	117	Reserve
25	Can data fail	56	Reserve	87	Reserve	118	Reserve
26	ECU warning	57	Reserve	88	Reserve	119	Fuel high level1
27	ECU alarm	58	Reserve	89	AUX1 low level1	120	Fuel high level2
28	Charge failure	59	Reserve	90	AUX1 low level2		
29	Batt. over volt	60	Reserve	91	AUX1 high level1		
30	Batt. under volt	61	Oil-p sensor open	92	AUX1 high level2		

IV、 Typical Wiring Diagram:

