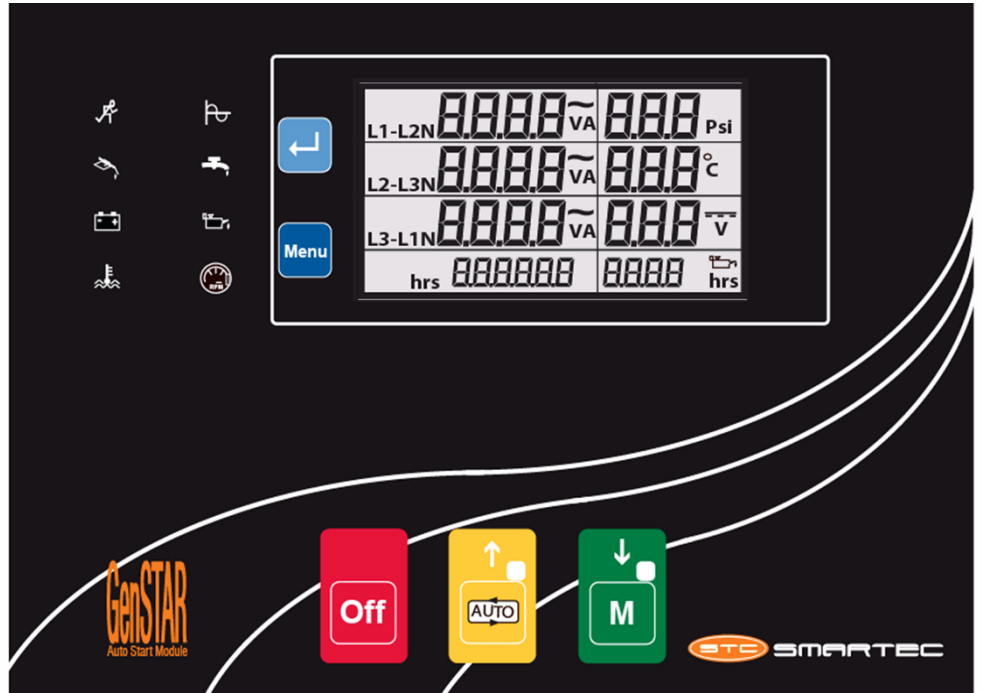


DESCRIPTION: المواصفات

The **GENSTAR** is an auto start generator controller that can control one generator. It includes a large LCD display, 5 control push buttons, 10 indicator LEDs. It displays all information needed to analyze the system. It monitors internal protections and external fault inputs. It can display all current and voltage measurements for the main power.

تستخدم Genstar للتحكم بالمولد. تشمل شاشة كبيرة خمس كيبات للتحكم وعشر مؤشرات ديودات ضوئية. تعرض كل المعلومات للتحكم بالمولد وتعرض الخطأ. تعرض أيضاً قياسات الأمبير والفولتاج.



**New hardware
and software
design**

GENERAL FEATURES:

- ❖ Complete instrumentation display for the generator
- ❖ Automatic or manual start possibility
- ❖ Plug-in terminal
- ❖ Complete documents for the installation & setup
- ❖ Temperature and oil pressure sender selected
- ❖ Large LCD display with backlight, functional at -30°C
- ❖ Operating temperature from -20°C to 70°C
- ❖ 5 programmable digital [contact] inputs
- ❖ 5 analog inputs for pressure, temperature, coolant, dynamo and fuel level monitoring
- ❖ 5 programmable outputs
- ❖ Predefined sender models or manual configuration allowed
- ❖ Information on status, alarms and events
- ❖ Transistor short circuit protected outputs.
- ❖ Three phase current control range: 0 – 5A (CT input)
- ❖ 2 Programmable outputs *
- ❖ Energize to stop
- ❖ Selectable protections alarm/shutdown
- ❖ RMS voltage and frequency measurement

2000 error logs

- ❖ Individual Phase Information
- ❖ Generator voltage: 75-300 V-AC (Ph-N)
- ❖ Generator frequency: 10-100Hz
- ❖ DC supply range: 6.0 to 33.0 V-DC.
- ❖ Starter dropouts: 0V for 100ms
- ❖ 2000 errors log.
- ❖ Standby current : ~ 80mA
- ❖ Charge excitation current: 54mA @ 12V-DC
- ❖ Storage temp.: -30°C (-22°F) to 80°C (176°F)
- ❖ Maximum humidity: 95% non-condensing
- ❖ Dimensions: 5.6 x 7.4 (LxW inch), 142.2 x 188 (LxW mm)
- ❖ Panel cut-out dimensions: 6 x 8.2 (LxW inch), 152.4 x 208(LxW mm)
- ❖ Oil hour counter flashing when oil hours expired.
- ❖ Over Current alarm.
- ❖ Over / Under Voltage alarm and shut down
- ❖ Over/ Under frequency alarm and shutdown.
- ❖ Oil Reset Password.
- ❖ Custom Features available.
- ❖ Main Password protection.

DIGITAL INPUTS

The unit has 5 configurable digital inputs

- (11) Remote start enable
- (12) Oil switch
- (10) Fault1
- (9) Temp switch
- (13) Fault2

ANALOG INPUTS

5 analog inputs are provided for the following functions:

- (6) Engine/water temperature
- (7) Oil pressure
- (15) Fuel level
- (14) Coolant
- (8) Dynamo

OUTPUTS

The unit provides 5 programmable short-circuit protected Outputs for controlling the generator set and alarm information:

- (3) Starter
- (7) Valve
- (4) Load contractor
- (5) Programmable: General alarm or Spare *
- (6) Programmable: General alarm or Spare*

* Spare: pump fuel, alarm2, engine-heater and excitation valve

REMOTE PROGRAMMING AND CONTROL

The unit can be connected to a PC using RS485 serial Ports.

INDICATOR LED's



: Run



: Over volt / under volt



: Fault 1, 2



: Water



: Battery/ dynamo



: Oil



: Temperature



: Frequency

- If coolant is not used then it must be connected to 0 V or disable by P25.
- To reset oil hour counter, you must press Enter & Menu buttons at the Same time then release, or you can reset by setting P01=P34

INSTRUMENTATION

Ac metering:

- Voltage 3-phase (L-L & L-N)
- Current per phase
- Frequency

DC metering:

- Battery volts
- Engine hours run
- Oil hour meter
- Engine temperature (in °C)
- Oil pressure (PSI), (Bar)

PROTECTION & SHUT DOWN

- Battery voltage (alarm & shut down)
- Under / over volts (alarm & shut down)
- Under / over frequency (alarm & shut down)
- Over / under current (alarm & shut down)
- Over / under volt (dynamo, alarm, & shutdown)
- Overload (alarm & shut down)
- Low/high oil pressure (alarm & shut down)
- high engine temperature (alarm & shut down)
- AUX Fault1(alarm and shut down)
- Low fuel level (alarm and shutdown)
- Coolant level (alarm and shutdown)
- Aux Fault2 (alarm & shut down)

DISPLAYING INSTRUMENTATION

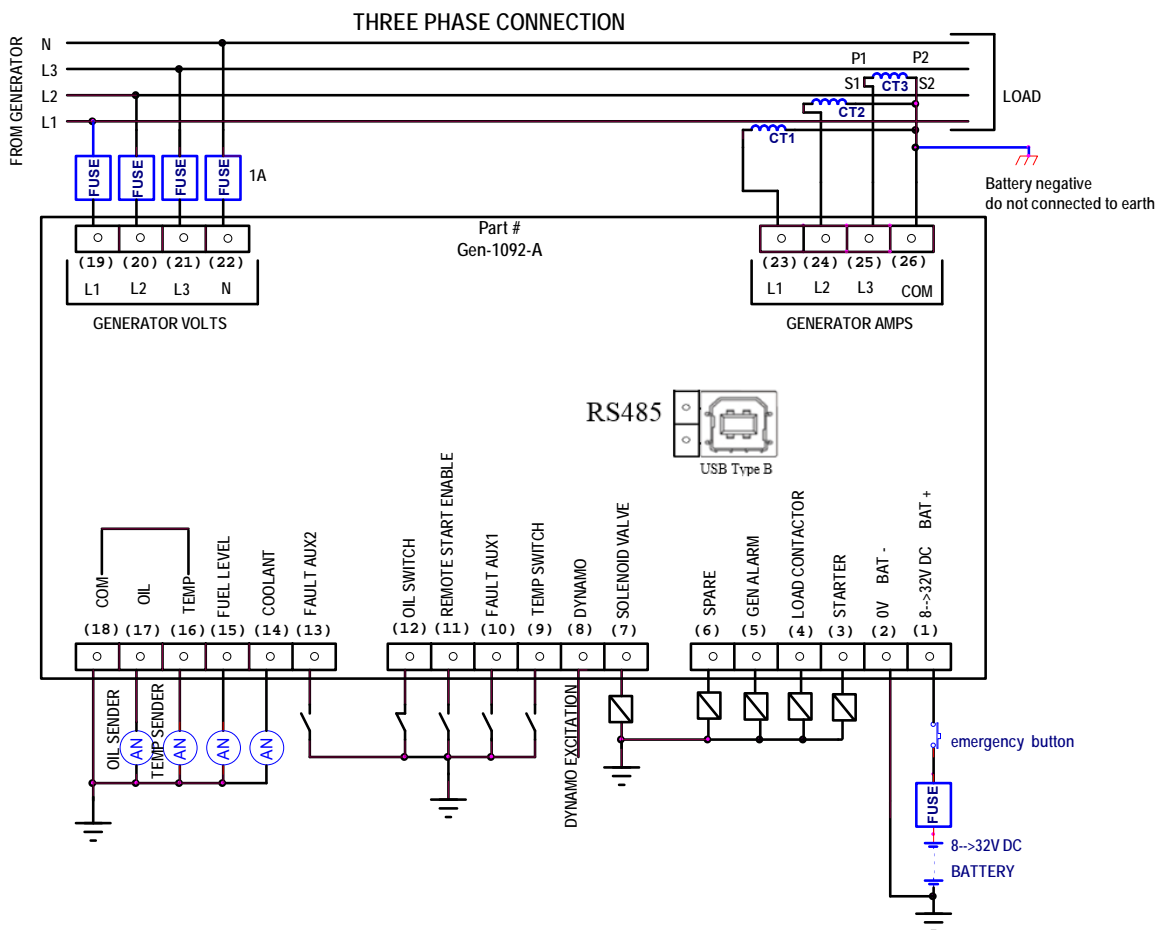
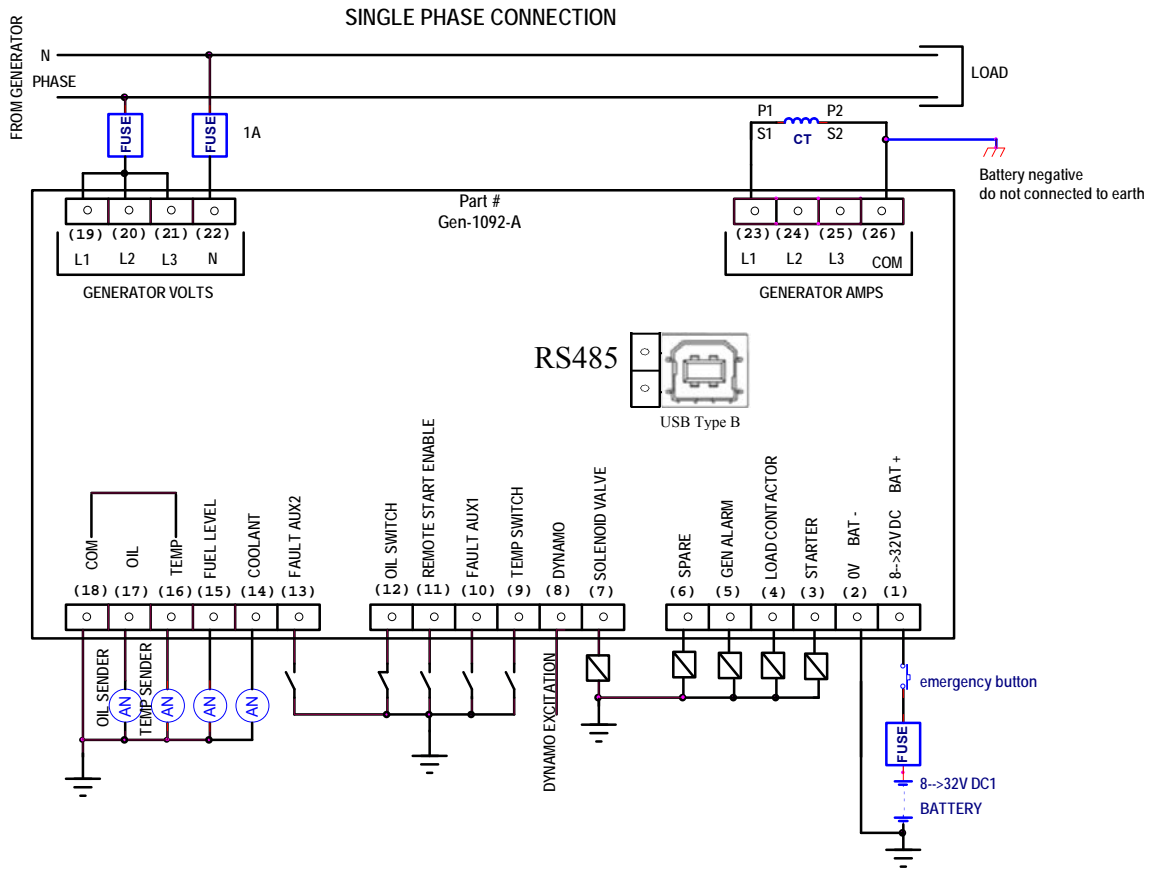
All 4 pages display:

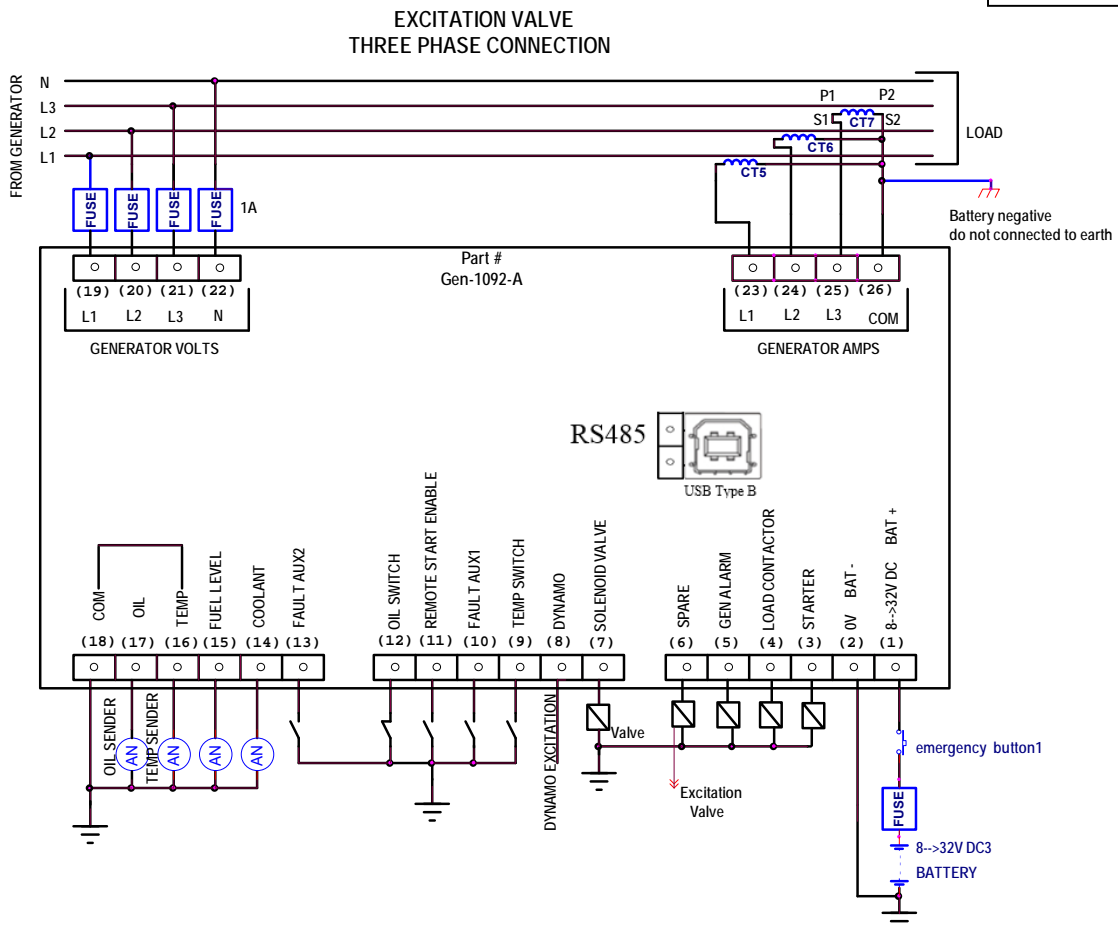
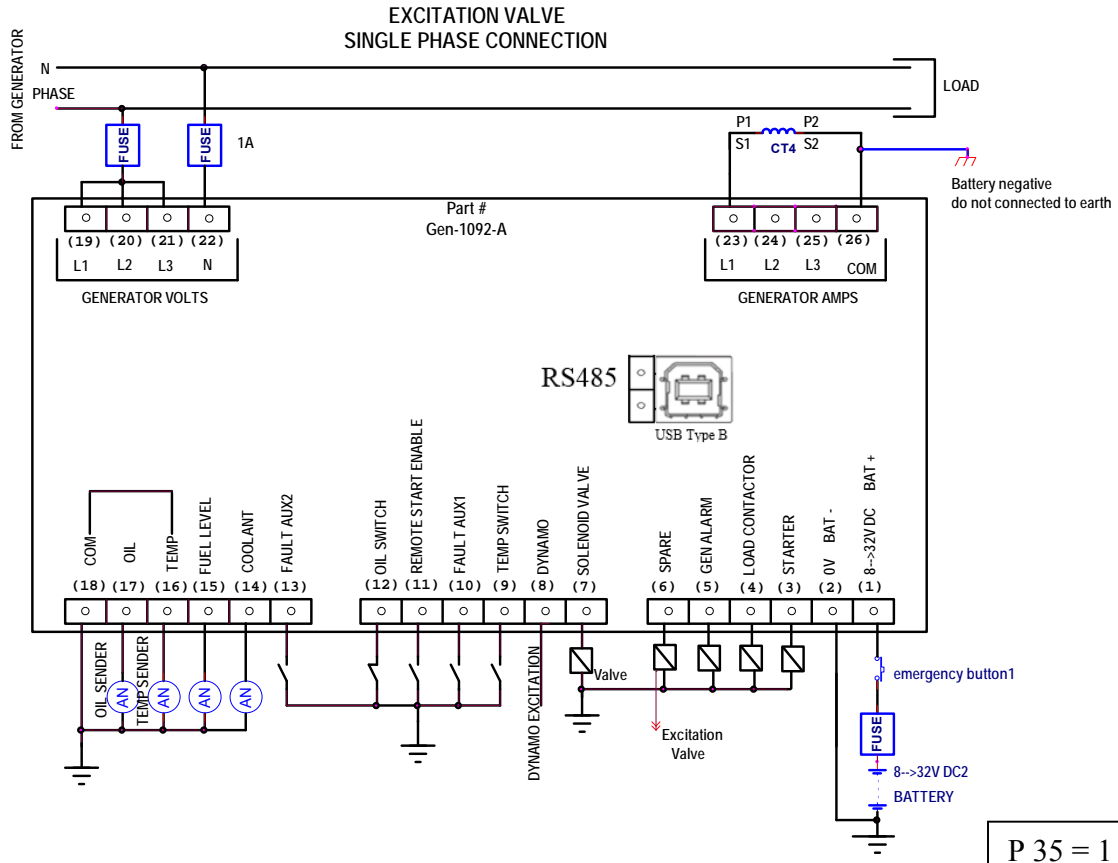
- The oil pressure in PSI, Bar
- The engine temperature in °C
- The DC voltage
- The oil hours
- The engine hour

In addition:

1. Page 1 displays the 3-phase voltages in V: L1-N, L2-N and L3-N
2. Page 2 displays the 3 phase currents in A: L1-N, L2-N and L3-N.
3. Page 3 displays the phase 1 voltage L1-N (V), the phase 2 current L2 – N (A) & the frequency (Hz).
4. Page 4 displays the composed 3-phase voltages: L1- L2- L2-L3 and L3- L1 (V).

To go to the next page, click on the Menu key





ACCESSING THE PARAMETER MENU

- To access the pages menu, click on the **MENU** button for 5 secs.
- First Page that appears is Parameters Page **"PRU"**
- Click **Arrow Up** , on AUTO button to go to Error Page **"Err"**
- Click **Arrow Up** button Again to go to LOGS page **"Log"**
- Click **Arrow Up** again to see the Firmware version page. **"Ver"**
- To select and enter a page click the **Select button** , above Menu button.
- To change a parameter, go to parameter page and press **SELECT**, then enter the required password by scrolling through the numbers using **arrow up and down** buttons (Auto and M Buttons)
 - Once you chose the correct password click **Select** to save password.
 - Password to be entered only once. Click on **Arrow Up** to reach the parameter you desire to change, then click **SELECT** to change the parameter Value, It will start blinking, indicating being ready to accept new value. Scroll by arrow up or down key to reach desired value, then click **SELECT** to save the value.
 - To exit parameters page and go to main menu click on **MENU**.
 - To exit any page and go to main menu Click on **MENU**
- Click on **MENU** for 5 seconds to Leave main menu and go to main screen

Param	Description	units	Default values	Range
P001	Time between Valve & Starter الوقت بين فتحة المازوت والمارش	Sec	5	1→20
P002	Temp Sender select		0	0:VDO120 1: Datcon Hi 2: Datcon Lo 3: Murphy 4:Cummins 5: PT 100 6: INDO 7:STAUNCH 8: User define P210→P229
P003	Pressure Sender Select		0	0:VDO10 Bar 1: VDO 5 Bar 2: Datcon 5 Bar 3: Datcon10Bar 4:Datcon7bar 5: Murphy7 6: INDO 7:STAUNCH_Bar 8: User define P190→P205
P004	CT Current Ratio		100	0→3000
P005	Over Current Alarm إنذار للأمبير الزائد	Amp	0	0→3000
P006	Starter Time وقت تغلق المولد	Sec	5	0→10
P007	Retry Delay الوقت بين المحاولة والأخرى	Sec	5	0→30
P008	Initial Delay التأخير الأولي	Sec	6	0→30
P009	Start Attempt عدد المحاولات		4	0→10
P010	Off Button action		0	0: Shut down immediate 1: Cool then shutdown
P011	Warm-up Delay وقت دوران المولد	Sec	15	0→300
P012	Load Shut Delay وقت إطفاء الحمل	Sec	9	0→300
P013	Cool Time Delay وقت تبريد المولد	Sec	90	0→300
P014	Oil Delay وقت استهلاك الزيت	Sec	3	Dis:1→300
P015	Under Frequency التردد المنخفض		45	0→50
P016	Under Frequency Delay وقت التردد المنخفض	Sec	5	Dis:1→300
P017	Over Frequency التردد المرتفع		55	50→75
P018	Over Frequency Delay وقت التردد المرتفع	Sec	5	Dis:1→300
P019	Initial Fault Delay	Sec	Dis	Dis:1→10
P020	Under Volt الفولت المنخفض	Volt	190	0→200
P021	Under Volt Delay وقت الفولت المنخفض	Sec	5	Dis:1→300
P022	Over Volt الفولت المرتفع	Volt	245	0→300
P023	Over Volt Delay وقت الفولت المرتفع	Sec	5	Dis:1→300
P024	Oil Hours ساعات استهلاك الزيت		0	Dis:1→300
P025	Coolant Threshold		0	Dis:1 : Switch Analog 2→10
P026	Coolant Delay تأخير حساس الماء	Sec	9	Dis:0→300
P027	Dynamo Threshold فولت تشريح البطارية		13	0→18
P028	Dynamo Delay وقت تشريح البطارية	Sec	12	0→300
P029	Temp Sw Delay	Sec	8	0→300
P030	AUX1 Delay	Sec	5	Dis , 1 : Emergency stop 2→300
P031	AUX2 Delay	Sec	5	Dis , 1 : Emergency stop 2→300

Param	Description	units	Default values	Range
P032	Under Pressure		1.5	0→300
P033	Over Temperature الحرارة المرتفعة	^C	103	0→150
P034	Alarm Timeout	Sec	0	0→300
P035*	Battery Under Volt		9	5→20
P036	Over Current Delay تأخير الأمبير الزائد	Sec	10	Dis:0→300
P037	Oil Check On Start up فحص الزيت عند التقلع		0	0→2
P038	Oil Switch-Oil Sender حساس قراءة الزيت/قطع		0	0 : switch , 1 : sender 2 : switch & sender
P039	Temp Switch-Sender حساس الحرارة/قطع		0	0 : switch , 1 : sender 2 : switch & sender
P040	Voltage Topology		1	0:Mono-phase 1 : 3 Phase
P041	Pressure Unit		1	0:Psi-1:Bar
P042	Exercise Stand by Hrs	Hr	0	0→720
P046	Gen Spare Output Function وظيفة مخرج Spare			0: Alarm 1 : Preheat 2: Energize to stop solenoid valve 3: Excitation Valve 4: limit Off
P047	SPARE Output timer وقت مخرج Spare	sec	Dis	Dis:1→30
P048	Gen Alarm Output Function وظيفة مخرج الإنذار		Alarm	0: Alarm 1 : Preheat 2: Energize to stop solenoid valve 3: Excitation Valve 4: limit Off
P049	Gen Alarm Output Timer	sec	0	Dis:1→30
P050*	Dynamo Over Charge الشحن الزائد للدynamo	Volt	15	13→32
P051*	Dynamo Voltage to Stop Starter	Volt	14	13→32
P055	Freq Threshold to Disconnect Crank الحد الأدنى للتردد لفصل المارش		35	30→50
P056	Volt Threshold to Disconnect Crank	Volt	160	80→220
P060	Genstar Function		0	0→3
P061	Alternate Hours	Hours	6	1→12
P090	Update Memory		0	Min=No, Min=Yes
P091	Erase Error		0	Min=No, Min=Yes
P110	Input State		0	0:Low→1:Hi
P111	Input 1 Polarity		0	0:Low→1:Hi
P112	Input 2 Polarity		0	0:Low→1:Hi
P113	Input 3 Polarity		0	0:Low→1:Hi
P114	Input 4 Polarity		0	0:Low→1:Hi
P115	Input 5 Polarity		0	0:Low→1:Hi
P116	Input 6 Polarity		0	0:Low→1:Hi

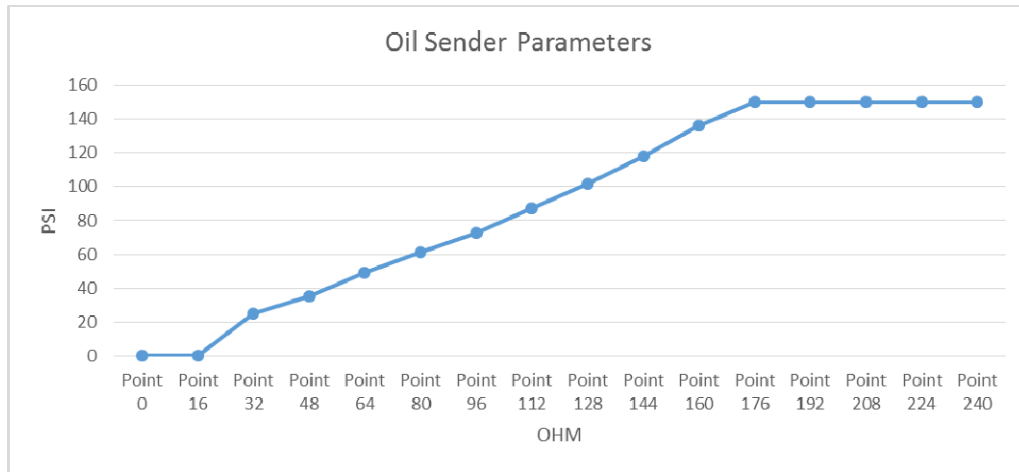
* must be changed if 24 Volt battery is used



Oil Sender Parameters			
	Resistance	PSI	Range
P190	Point 0	0	0→150
P191	Point 16	0	0→150
P192	Point 32	25	0→150
P193	Point 48	35	0→150
P194	Point 64	49	0→150
P195	Point 80	61	0→150
P196	Point 96	73	0→150
P197	Point 112	87	0→150
P198	Point 128	102	0→150
P199	Point 144	118	0→150
P200	Point 160	136	0→150
P201	Point 176	150	0→150
P202	Point 192	150	0→150
P203	Point 208	150	0→150
P204	Point 224	150	0→150
P205	Point 240	150	0→150

These settings are for custom sensor curve adjustments.

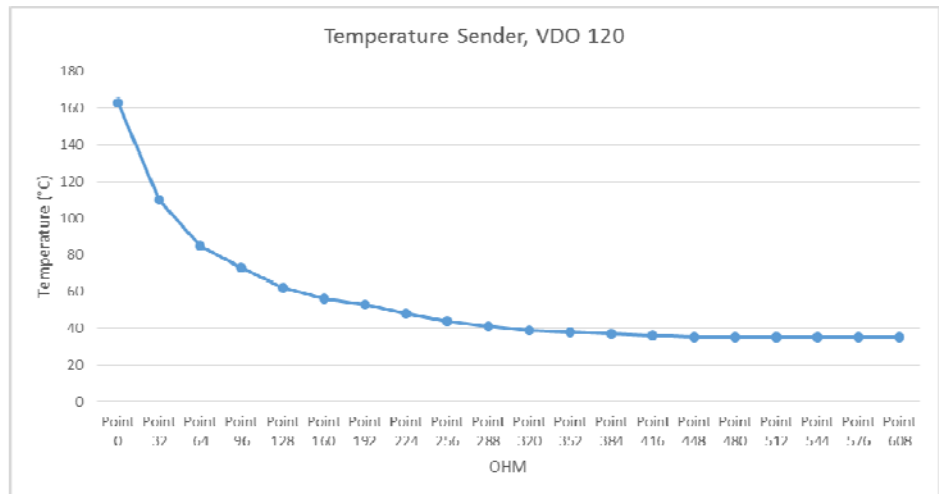
Note: for the standard sender use P003.



Temperature Sender Parameters			
	Resistance	Temperature (°C)	Range
P210	Point 0	163	0→250
P211	Point 32	110	0→250
P212	Point 64	85	0→250
P213	Point 96	73	0→250
P214	Point 128	62	0→250
P215	Point 160	56	0→250
P216	Point 192	53	0→250
P217	Point 224	48	0→250
P218	Point 256	44	0→250
P219	Point 288	41	0→250
P220	Point 320	39	0→250
P221	Point 352	38	0→250
P222	Point 384	37	0→250
P223	Point 416	36	0→250
P224	Point 448	35	0→250
P225	Point 480	35	0→250
P226	Point 512	35	0→250
P227	Point 544	35	0→250
P228	Point 576	35	0→250
P229	Point 608	35	0→250

These settings are for custom sensor curve adjustments.

Note: For the standard sender use P002.





Fuel Sender Parameters			
	Fuel Tank percentage	Resistance	Range
P170	100%	190	0→250
P171	95%	182	0→250
P172	90%	165	0→250
P173	85%	154	0→250
P174	80%	142	0→250
P175	75%	127	0→250
P176	70%	120	0→250
P177	65%	110	0→250
P178	60%	102	0→250
P179	55%	95	0→250
P180	50%	86	0→250
P181	45%	78	0→250
P182	40%	73	0→250
P183	35%	67	0→250
P184	30%	58	0→250
P185	25%	52	0→250
P186	20%	37	0→250
P187	15%	26	0→250
P188	10%	16	0→250
P189	0%	1	0→250

Fuel Sender adjustment curve.