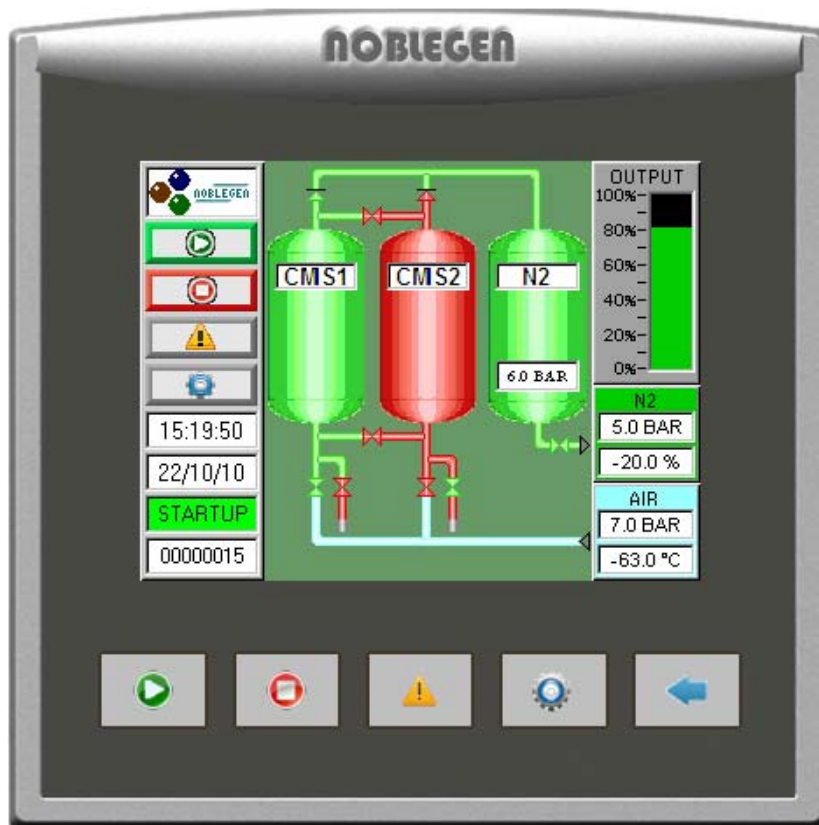


NOBLEGEN



HMI Touch Screen Manual

ALL MODELS

YOUR RELIABLE PARTNER IN LABORATORY GAS HANDLING

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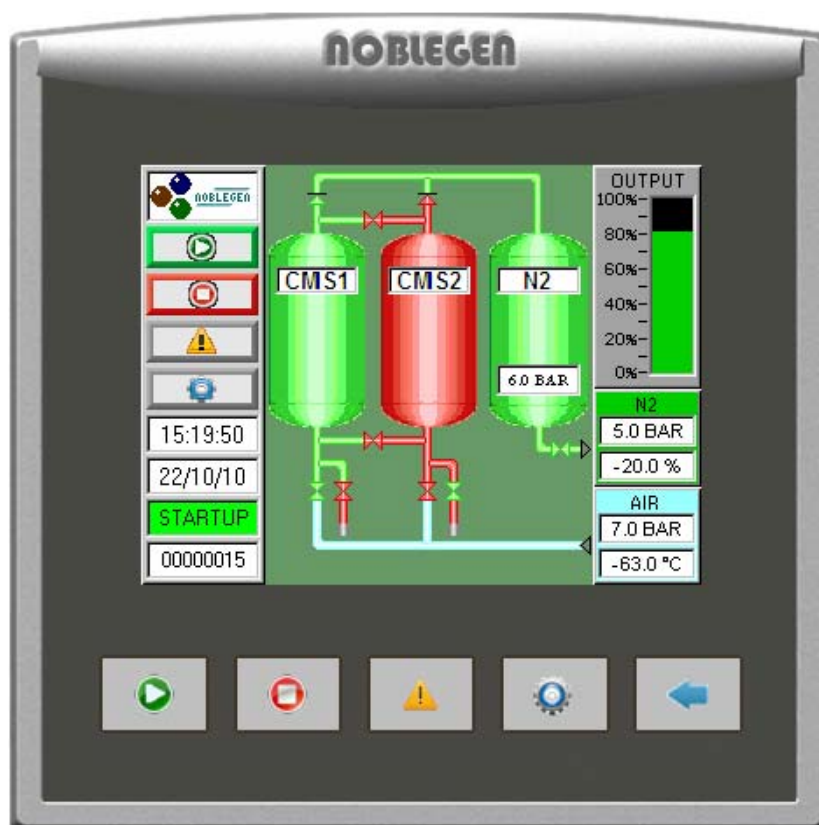
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OVERVIEW



All NobleGen laboratory and industrial gas generators incorporate a colour graphic touch-screen display showing the systems full operating conditions. The screen is easy to use gives the user all the necessary information to ensure the system is operating correctly and efficiently.

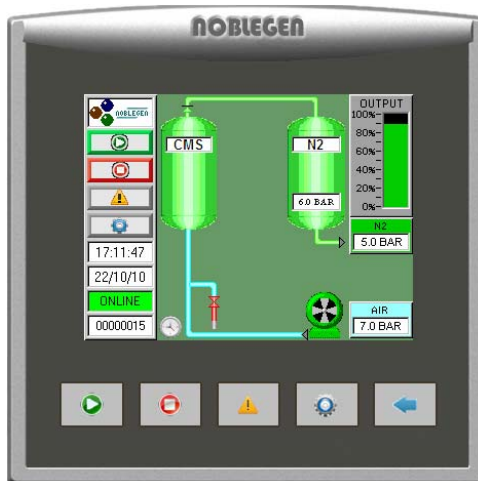
Use this manual to understand the main screen and functions available to the user.

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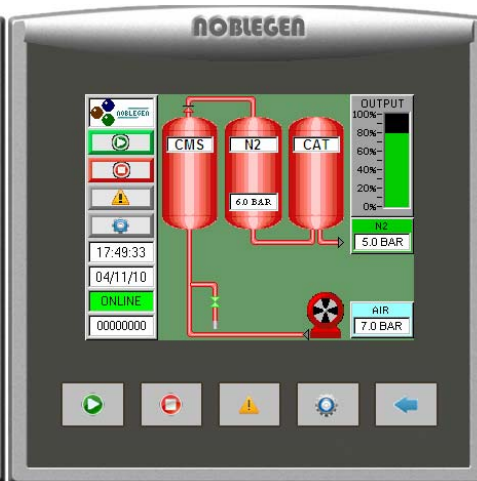
YOUR RELIABLE PARTNER IN LABORATORY GAS HANDLING

MODELS

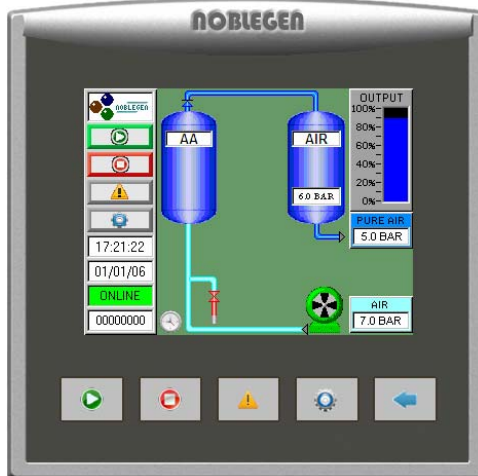
NG
SINGLE PSA



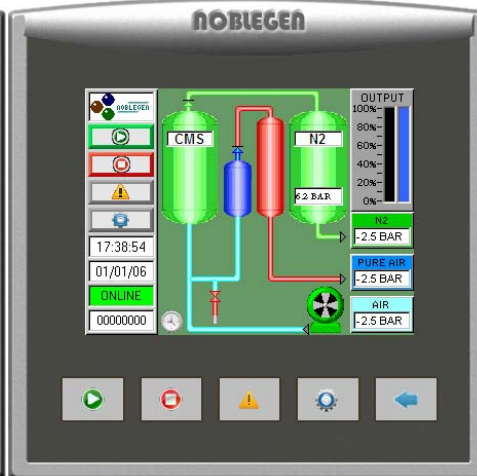
ZNG



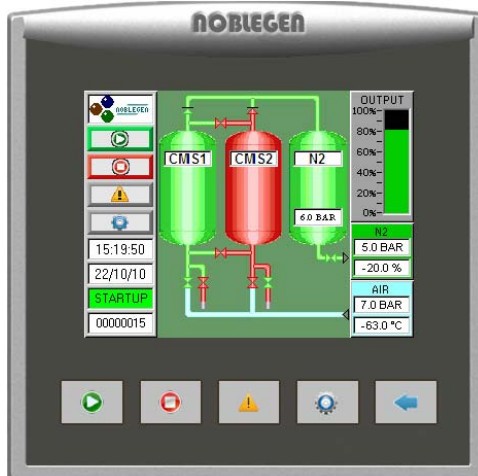
AG



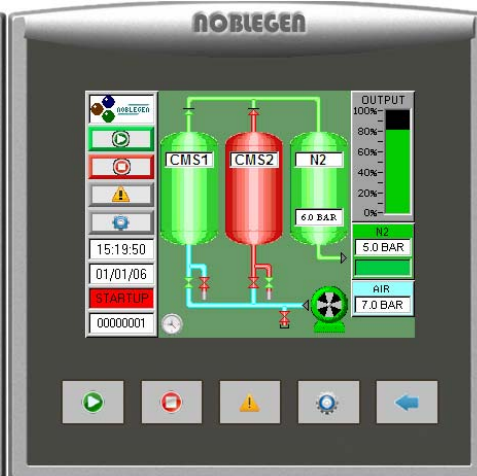
ANG



MAXIMUS
& LITE



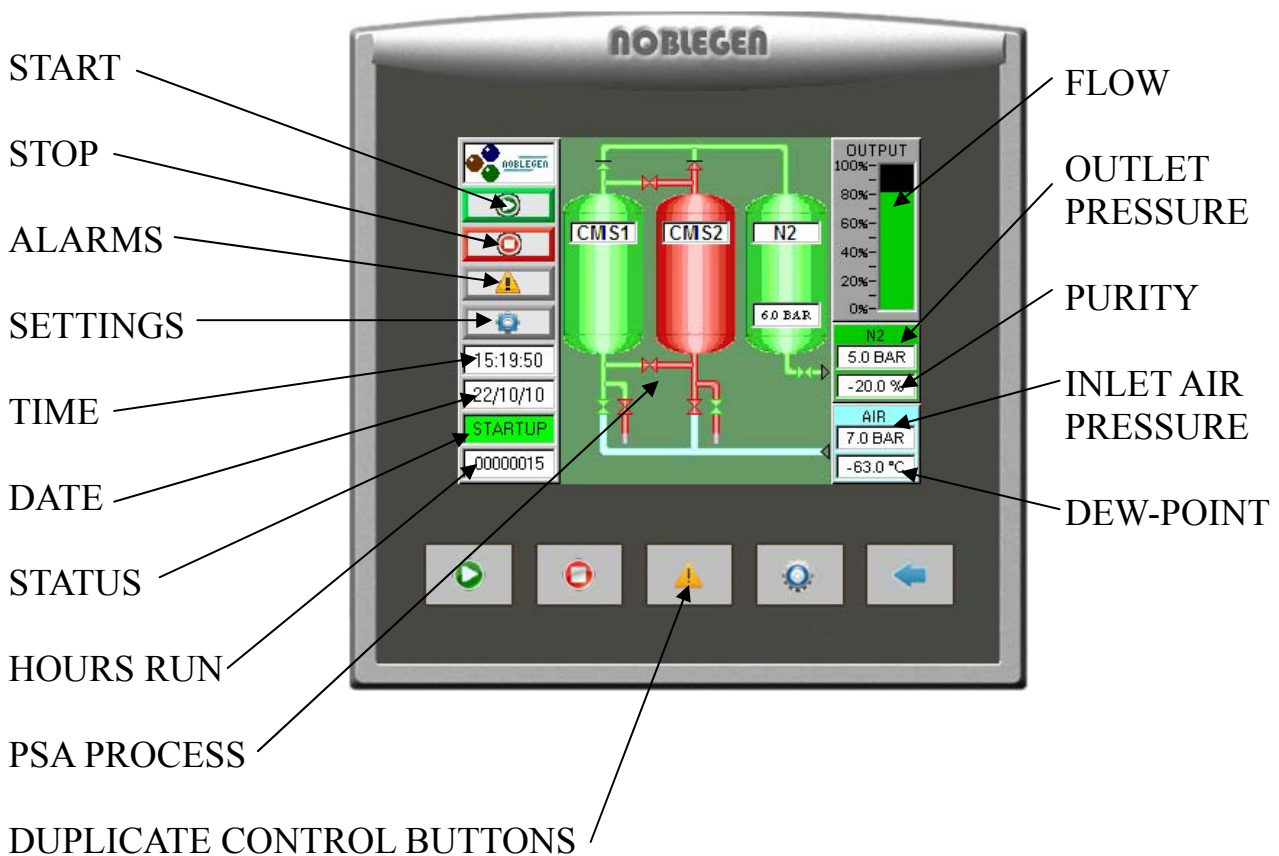
NG
DUAL PSA



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FRONT SCREEN



The front screens across all the models show similar readings as shown above, with the exception of models with compressor where the compressor is shown on or off (red or green).



COMPRESSOR ON



COMPRESSOR OFF

Where dew-point and oxygen levels are not shown the display box will be faded out and if ANG model the flow display is split into 2 graphs, blue for air and green for nitrogen.

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CONTROLS



LOGO—PUSH TO DISPLAY CONTACT DETAILS

START BUTTON

STOP BUTTON

ALARMS—PUSH TO ACCESS ALARM PAGE

SETTINGS PAGE—PUSH TO ACCESS SETTINGS

TIME—PUSH TO SET LOCAL TIME

DATE—PUSH TO SET CURRENT DATE

STATUS—DISPLAYS GENERATOR STATUS

HOURS RUN



← BACK

Duplicate control buttons on the bottom of the screen can also be used to operate the generator and access screens.

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ALARMS



WHEN ALARM OCCURS—ALARM IS DISPLAYED IN STATUS DISPLAY AND BEEPER WILL SOUND



PUSH BUTTON TO DISPLAY ALARM LIST AS BELOW

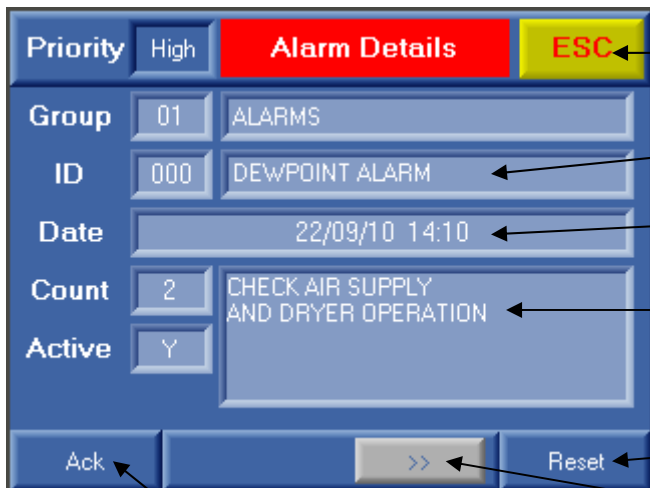
ALARM LIST



RETURN TO MAIN SCREEN

PUSH FOR ALARM DETAIL

ALARM DETAIL



RETURN TO ALARM LIST

ALARM DETAIL

TIME AND DATE OF ALARM

HELP MENU TO CORRECT ALARM

RESET

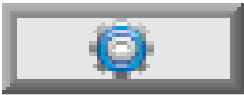
RESET BEEPER

NEXT ALARM

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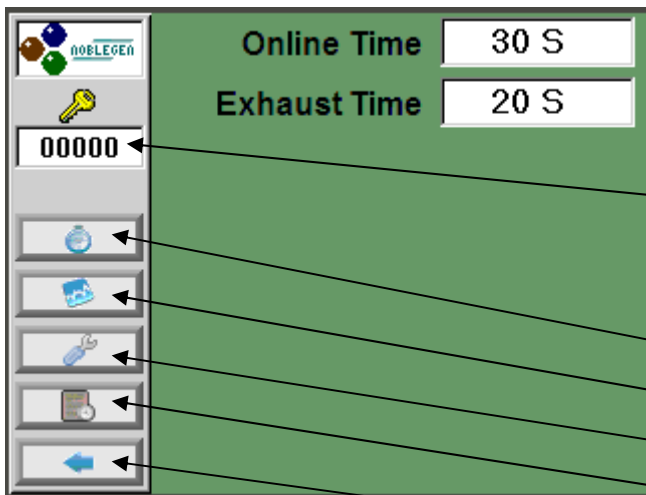
YOUR RELIABLE PARTNER IN LABORATORY GAS HANDLING

SETTINGS



PUSH TO DISPLAY SETTING SCREEN AS BELOW

LABORATORY GENERATORS

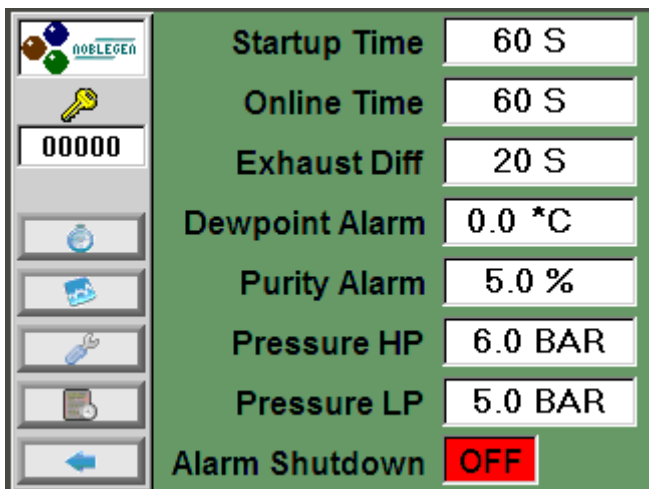


PASSWORD INPUT



TIMER FUNCTION
TREND GRAPH
SERVICE RECORDS
ALARM HISTORY
BACK TO MAIN PAGE

INDUSTRIAL GENERATORS

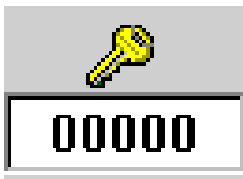


NOTE: ALL SETTINGS ARE FACTORY SET, ONLY AUTHORISED PERSONNEL CAN HAVE ACCESS TO PASSWORDS AND SETTINGS.

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YOUR RELIABLE PARTNER IN LABORATORY GAS HANDLING

SETTINGS CONTINUED (FACTORY SETUP)



PUSH TO DISPLAY PASSWORD SCREEN
WHEN SETUP PASSWORD IS ENTERED THE PAGE BELOW
IS DISPLAYED

ALL GENERATORS

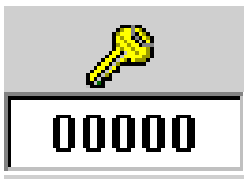
 Unit Type 1=Maximus 2=NG1 - 5 3=NG6 - 7 4=AG 5=ANG 6=ZNG 7=NG6 - 7 CLS	Unit Type	3	NG6 TO NG7	MODEL
	Model Number	NG6-1		SERIAL NUMBER
	Serial Number	W5999		DATE SET
	Build Date	22/10/10		SOFTWARE VERSION
	Software Version	NOBLEGEN V1.0		LOGO SETUP
	Customer Logo	← →		CONFIRM AND SET
		CONFIRM		

THIS SCREEN CAN ONLY BE ACCESSED BY AUTHORISED PERSONNEL.

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YOUR RELIABLE PARTNER IN LABORATORY GAS HANDLING

SETTINGS CONTINUED (FLOW SETUP)



PUSH TO DISPLAY PASSWORD SCREEN
WHEN SETUP PASSWORD IS ENTERED THE PAGE BELOW
IS DISPLAYED

ALL GENERATORS

RECEIVER VOLUME (LITRES)

FLOW OF GENERATOR

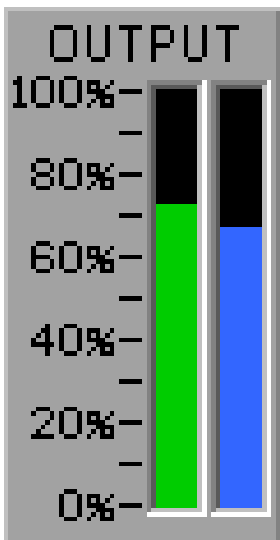
ACTUAL FLOW MEASURED

SET POINT (MAX FLOW)

PURITY READING

CALIBRATE TO

THIS SCREEN CAN ONLY BE ACCESSED BY AUTHORISED PERSONNEL.

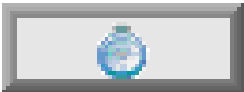


THE PERCENTAGE OF FLOW IS INDICATED ON THE
MAINSCREEN AS SHOWN. NITROGEN FLOW SHOWN
IN GREEN, AIR FLOW SHOWN IN BLUE.

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SETTINGS CONTINUED (TIMER FUNCTION)



PUSH TO DISPLAY TIMER FUNCTION SCREEN

TIMER SCREEN

	On	Off		On	Off	
Monday	08:00	12:30	✓	13:00	16:00	✓
Tuesday	08:00	12:30	✓	13:00	16:00	✓
Wednesday	08:00	12:30	✓	13:00	16:00	✓
Thursday	08:00	12:30	✓	13:00	16:00	✓
Friday	08:00	12:30	✓	13:00	16:00	✓
Saturday						
Sunday						

Timer Enable **ON**

THE GENERATORS ARE EQUIPPED WITH A TIMER FUNCTION TO SAVE ENERGY. THIS PAGE ALLOWS THE USER TO SET TIMES AND ENABLE OR DISABLE THE FUNCTION

TOUCH TO SET TIMES

TOUCH TO ENABLE / DISABLE THAT DAY

BACK TO LAST SCREEN

TOUCH TO ENABLE OR DISABLE TIMER FUNCTION

THE USER CAN SET UP TO 2 TIMER SETTINGS PER DAY AND ONCE THE BOX IS **TICKED** THIS TIMING FUNCTION WILL OCCUR ON THE SAME DAY EACH WEEK.

THE EXAMPLE ABOVE SHOWS THE GENERATOR STARTING AT 08:00 THEN SWITCHING OFF AT 12:30PM. THEN BACK ON AT 13:00 AND OFF AT 16:00 MONDAY TO FRIDAY. THE GENERATOR WILL REMAIN OFF AT WEEKENDS.

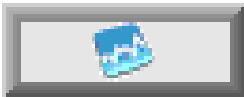
NOTE: FOR HIGH PURITY 10PPM GENERATORS THE SYSTEMS MUST PURGE FOR 2-4 HOURS BEFORE USE TO ENSURE CORRECT PURITY IS REACHED. WHEN SETTING TIMINGS ALLOW FOR START UP PURGE TIME BEFORE USE.

WHEN THE TIMER IS ENABLED A CLOCK SYMBOL  WILL BE VISABLE ON THE MAIN SCREEN.

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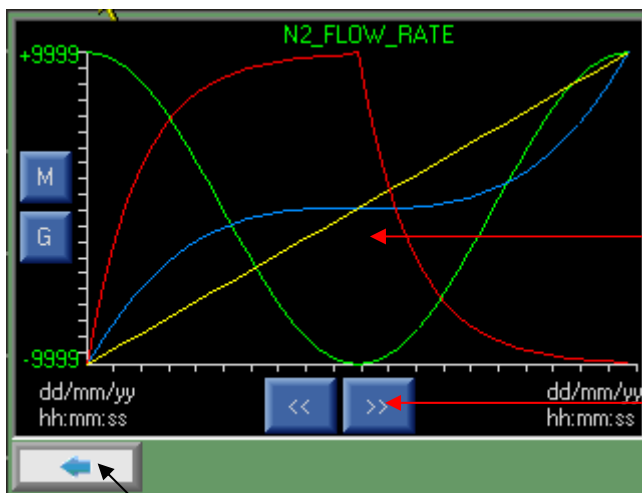
YOUR RELIABLE PARTNER IN LABORATORY GAS HANDLING

SETTINGS CONTINUED (TREND GRAPH)



PUSH TO DISPLAY TREND GRAPH SCREEN

GRAPH SCREEN



TOUCH SCREEN TO CHANGE
DISPLAY OF FLOW-RATE, PURITY,
DEW-POINT AND PRESSURE

HISTORY FORWARD / BACK

BACK TO LAST SCREEN

THE TREND GRAPH GIVES VALUABLE INFORMATION WHICH CAN BE USED IN QA BATCH OR TEST DATA ANALYSIS. THIS INFORMATION CAN BE EASILY DOWNLOADED INTO MS EXCEL SPREADSHEET FORMAT AND SAVED AS A HISTORY.

WHILE RUNNING TESTING IN YOUR LABORATORY OR PROCESS SUCH AS FOOD PACKAGING THE PURITY AND FLOW OF GAS FROM THE LAST 30 DAYS CAN BE VIEWED, DOWNLOADED AND PRINTED TO RECORD AS PART OF YOUR QA PROCEDURE.

TO DOWNLOAD THE TREND GRAPHS THE GENERATOR MUST BE CONNECTED TO A SUITABLE COMPUTER OR LAPTOP.

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YOUR RELIABLE PARTNER IN LABORATORY GAS HANDLING

SETTINGS CONTINUED (SERVICE RECORDS)



PUSH TO DISPLAY SERVICE RECORDS PAGE

SERVICE RECORDS SCREEN

Hours	Hours Run	Date	Completed By	
4000	4010	11/11/10	JOHN SMITH	✓
8000				
12000				
16000				
20000				
24000				
28000				
32000				

TOUCH SCREEN TO ENTER NAME

PRESS SAVE WHEN FINISHED

BACK TO LAST SCREEN

NEXT SCREEN

AT 4000 HOUR INTERVALS THE GENERATOR WILL ALARM TO TELL THE USER TO ORDER THEIR SERVICE KIT AND CARRY OUT MAINTENANCE. THE USER CANNOT CLEAR THE ALARM UNLESS THE SERVICE RECORDS ARE UPDATED AND SAVED.

SIMPLY ORDER THE SERVICE KIT, CARRY OUT THE SERVICE, THEN ENTER THE SERVICE RECORDS PAGE. THE HOURS RUN WILL ALREADY SHOW AND SO WILL THE DATE, PUSH THE SCREEN—COMPLETED BY—THEN ENTER THE NAME OF THE PERSON CARRYING OUT THE SERVICE.

PRESS SAVE TO STORE THE RECORD, NOTE: ONCE SAVED THE RECORDS CANNOT BE CHANGED.

THE—NEXT SCREEN—BUTTON TAKES YOU TO THE NEXT PAGE OF SERVICE RECORDS FOR 36,000 HOURS ONWARDS.

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YOUR RELIABLE PARTNER IN LABORATORY GAS HANDLING

SETTINGS CONTINUED (ALARM HISTORY)



PUSH TO DISPLAY ALARM HISTORY SCREEN

HISTORY SCREEN

BACK TO PREVIOUS SCREEN

ALARM HISTORY

Trigger Rise Time	22/09/10 14:10	Duration
Trigger Fall Time	22/09/10 14:10	00:00:06
Ack. Time	01/01/0 00:00	00:00:00
Reset Time	01/01/0 00:00	00:00:00

HISTORY FORWARD / BACK

EACH ALARM WHICH HAS OCCURED IS DISPLAYED ONTHIS SCREEN,SHOWING TYPE, DATE, TIME AND DURATION OF ALARM.

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YOUR RELIABLE PARTNER IN LABORATORY GAS HANDLING

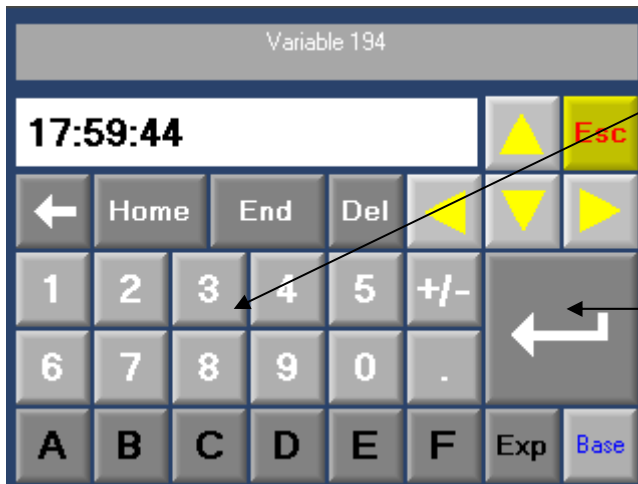
SETTINGS CONTINUED (TIME AND DATE)

17:21:22

PUSH TIME OR DATE TO SET AS BELOW

01/01/06

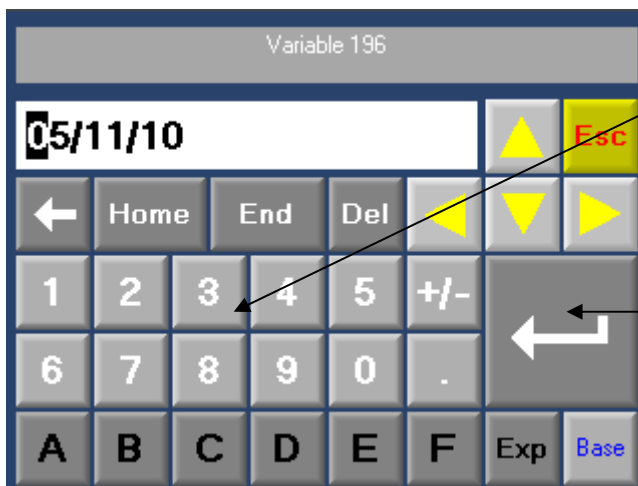
TIME SCREEN



USE KEYPAD TO SET CURRENT TIME

PRESS TO SET

DATE SCREEN



USE KEYPAD TO SET CURRENT TIME

PRESS TO SET

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YOUR RELIABLE PARTNER IN LABORATORY GAS HANDLING

SETTINGS CONTINUED **(HOURS RUN)**



HOURS RUN SHOWN

THE HOURS RUN COUNTER ONLY DISPLAYS THE HOURS THAT GAS IS PRODUCED. WHEN IN STOP AND ECONOMY THE HOURS COUNTER WILL STOP.

IN SINGLE PSA GENERATORS THE PRODUCTION HOURS IS WHEN THE COMPRESSOR OR AIR INLET VALVE ARE ACTIVATED, IN EXHAUST / REGENERATION MODE THE HOURS COUNTER STOPS.

THIS TYPE OF COUNTER CAN EXTEND SERVICE INTERVALS BY UP TO 30%.

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ALARM CONDITIONS

A rectangular yellow box with a black border containing the word "ALARM" in red, uppercase letters.

WHEN AN ALARM OCCURS THE DISPLAY ABOVE WILL SHOW IN THE STATUS BAR ON THE SCREEN AND A BEEPER WILL SOUND EVERY 20 SECONDS. YOU MUST GO TO THE ALARM SCREEN TO ACKNOWLEDGE THE ALARM AND FIND THE CAUSE.

THE ALARMS ARE:-

- DEW-POINT HIGH

IF THE AIR INLET MOISTURE LEVEL REACHES THE PREDETERMINED LIMIT OF THE PSA SYSTEM THEN THE GENERATOR WILL ALARM. THE USER MUST CHECK THEIR INCOMING AIR SUPPLY INCLUDING FILTERS AND DRYER FUNCTIONS.

- OXYGEN HIGH

IN THE SETTINGS SCREEN THE HIGH OXYGEN ALARM IS SET, IF THE OXYGEN LEVEL REACHES THIS THE GENERATOR WILL ALARM. THE USER MUST CHECK THE GENERATOR FUNCTION AND OUTLET FLOW TO ENSURE CORRECT OPERATION OF THE SYSTEM.

- SERVICE ALARM

THE SERVICE PERIOD FOR THE GENERATORS IS RECOMMENDED AT 4,000 OPERATING HOURS. WHEN THE HOURS RUN REACHES THE 4,000 HOURS THE GENERATOR WILL ALARM. THE USER SHOULD ORDER THE SPARES KIT AND CARRY OUT THE MAINTENANCE, AND UPDATE RECORDS PAGE.

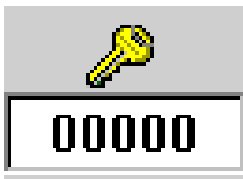
- BATTERY LOW

IF THE INTERNAL PLC / SCREEN BATTERY RUNS LOW THEN THE GENERATOR WILL ALARM. A NEW BATTERY SHOULD BE ORDERED AND CHANGED OUT.

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OXYGEN CALIBRATION



PUSH TO DISPLAY PASSWORD SCREEN
WHEN SETUP PASSWORD IS ENTERED THE PAGE BELOW
IS DISPLAYED

CALIBRATE SCREEN

FLOW RATE	
N2	
VOLUME	11.16667
MAX FLOW	67
ACTUAL FLOW	0
CALIBRATE TO	67
CALIBRATE	

PURITY	
ACTUAL PURITY	0.1 %
CALIBRATE TO	0.0 %
CALIBRATE	

SEE PAGE 10 TO ACCESS SCREEN.

CONNECT A CALIBRATED OXYGEN ANALYSER TO THE OUTLET OF THE GENERATOR AND OBTAIN A CERTIFIED GAS CYLINDER OF THE APPROPRIATE PURITY REQUIRED.

ONCE CALIBRATION GAS IS FLOWING THROUGH THE CELL AND A KNOWN PURITY CAN BE TAKEN FROM AN EXTERNAL OXYGEN ANALYSER, THE USER CAN PUSH THE: CALIBRATE TO AS ABOVE.

ENTER THE OXYGEN LEVEL IN EITHER PPM OR % AND PRESS CALIBRATE. BOTH THE ACTUAL PURITY AND CALIBRATE TO READINGS SHOULD NOW READ THE SAME, THIS MAY TAKE A FEW SECONDS TO COMPLETE.

ONCE COMPLETE, DISCONTINUE CALIBRATION GAS AND ANALYSER, RETURN TO MAIN SCREEN.