

INSTALLATION INSTRUCTIONS

Original Issue Date: 12/06

Model: 5/7.3ECD, 4/6EFCD, 10/13/15EGD, 9/11EFGD, 13/15EGZD,
5/7.5/10EKD, and 4/6/8EFKD

Market: Marine

Subject: Two-Inch Digital Gauge Kit GM50822-KP1

Introduction

The remote two-inch digital gauge has controls that allow starting, stopping, resetting faults, and monitoring of generator set functions. See Figure 1.

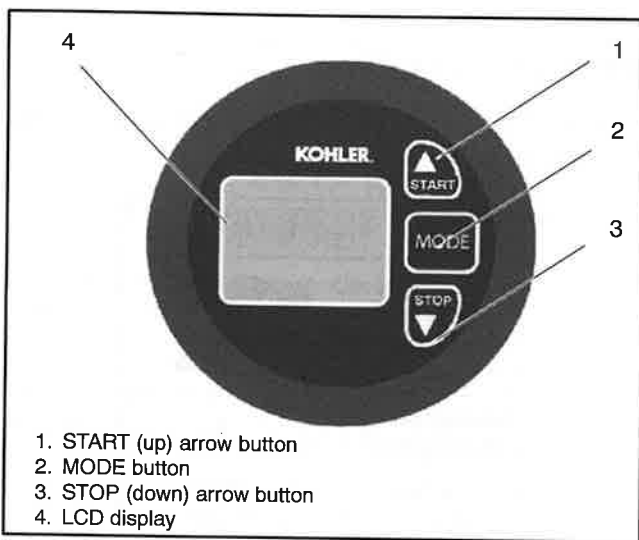


Figure 1 Gauge Pushbuttons

The gauge communicates with the generator set model(s) listed in Figure 2. A 12-pin customer-interface connector allows connection from the gauge to the generator set.

Generator Model	Controller Model
5/7.3ECD	ADC 2100
4/6EFCD	
10/13/15EGD	
9/11EFGD	
13/15EGZD	ADC II
5/7.5/10EKD	
4/6/8EFKD	

Figure 2 Generator/Controller Models

An ADC 2100 application program version of 2.20 or higher is required for complete digital gauge operation. If your version is lower than 2.20, see document TT-1285 titled *Program Loader Instructions* to load the latest version of the controller application code.

An ADC II firmware version of 1.7.00 or higher is required for complete digital gauge operation. If your version is lower than 1.7.00, download the firmware from the TechTools site or obtain a USB drive and follow the directions in **Upload Firmware Instructions** following.

Upload Firmware Instructions (ADC II Controller)

Perform the firmware installation instructions as described below:

1. Connect a DC battery supply to the generator set.

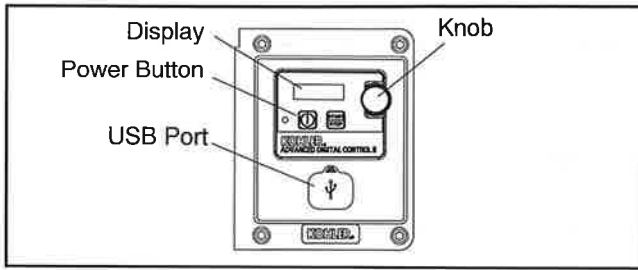


Figure 3 ADC II Controller

2. With the controller powered down (display off), insert the USB flash drive with firmware version ADC2U170.BIN into the USB port on the controller. See Figure 3.

3. Press and release the Power Button on the ADC II controller to power up the controller. After booting up, the display will show **USB: SAVE PARAMS & LOG:**

USB: SAVE
PARAMS & LOG

4. Rotate the knob until the display shows **USB: LOAD SOFTWARE:**

USB: LOAD
SOFTWARE

5. Press the knob and release. The display shows the file name **ADC2U170.BIN PUSH TO LOAD**. Press the knob and release to begin loading:

ADC2U170.BIN
PUSH TO LOAD → Loading... → Load
Complete

6. After the display returns to show **USB: SAVE PARAMS & LOG**, remove the USB flash drive:

USB: SAVE
PARAMS & LOG

7. Rotate the knob to verify that the display shows **SW version 1.7.00 (or later):**

SW version:
1.7.00

Note: Read the entire installation procedure including safety precautions before beginning installation. Perform the steps in the order shown.

Definitions

ADC 2100: Controller on the generator set which includes an LCD screen and RUN-OFF/RESET-AUTO master switch.

ADC II: Controller on the generator set which includes an LCD digital display, power button, engine start/stop button, pushbutton/rotary selector dial, and LED status indicator.

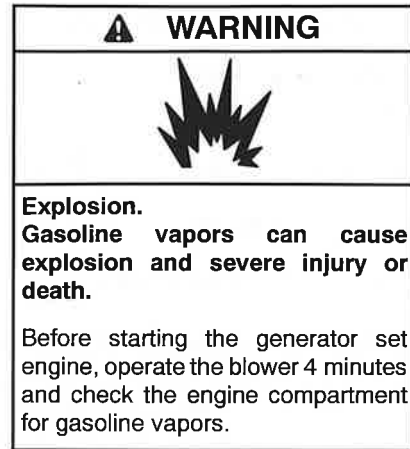
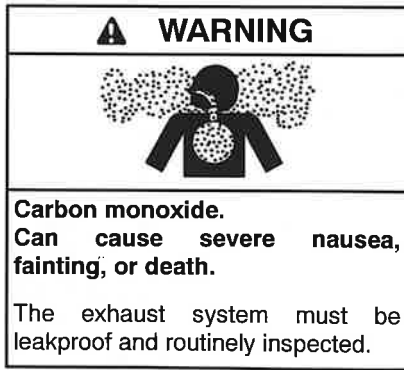
Running: The generator set is considered running at designed voltage or engine speed.

Safety Precautions

Observe the following safety precautions while installing and operating the gauge.

⚠ WARNING
<p>Accidental starting. Can cause severe injury or death.</p> <p>Disconnect the battery cables before working on the generator set. Remove the negative (-) lead first when disconnecting the battery. Reconnect the negative (-) lead last when reconnecting the battery.</p>

Disabling the generator set. Accidental starting can cause severe injury or death. Before working on the generator set or equipment connected to the set, disable the generator set as follows: (1) Move the generator set master switch to the OFF position. (2) Disconnect the power to the battery charger. (3) Remove the battery cables, negative (-) lead first. Reconnect the negative (-) lead last when reconnecting the battery. Follow these precautions to prevent starting of the generator set by an automatic transfer switch, remote start/stop switch, or engine start command from a remote computer.



Carbon monoxide symptoms. Carbon monoxide can cause severe nausea, fainting, or death. Carbon monoxide is a poisonous gas present in exhaust gases. Carbon monoxide poisoning symptoms include but are not limited to the following:

- Light-headedness, dizziness
- Physical fatigue, weakness in joints and muscles
- Sleepiness, mental fatigue, inability to concentrate or speak clearly, blurred vision
- Stomachache, vomiting, nausea

If experiencing any of these symptoms and carbon monoxide poisoning is possible, seek fresh air immediately and remain active. Do not sit, lie down, or fall asleep. Alert others to the possibility of carbon monoxide poisoning. Seek medical attention if the condition of affected persons does not improve within minutes of breathing fresh air.

Operating the generator set. Carbon monoxide can cause severe nausea, fainting, or death. Be especially careful if operating the generator set when moored or anchored under calm conditions because gases may accumulate. If operating the generator set dockside, moor the craft so that the exhaust discharges on the lee side (the side sheltered from the wind). Always be aware of others, making sure your exhaust is directed away from other boats and buildings.

Ignition-protected equipment. Explosive fuel vapors can cause severe injury or death. Gasoline vapors can cause an explosion. USCG Regulation 33CFR183 requires that all electrical devices (ship-to-shore transfer switch, remote start panel, etc.) must be ignition protected when used in a gasoline and gaseous-fueled environment.

Parts List

Two-Inch Digital Gauge

Kit: GM50822-KP1		
Qty.	Description	Part Number
1	Decal, warning	249494
1	Gauge, digital	GM50577
1	Harness, wiring	GM50821

1 Installation Procedure

1.1 Remove the Generator Set From Service.

1. For units equipped with the ADC 2100 controller: Place the generator set master switch in the OFF position.

For units equipped with the ADC II controller:
Push the generator set power button OFF.

2. Disconnect the generator set engine starting battery, negative (-) lead first.

1.2 Install the Remote Digital Gauge.

1. Consider the following when mounting the remote digital gauge:
 - A dry location in the wheelhouse or bridge.
 - The wiring harness length.
 - The mounting depth and overall size.
2. See Figure 4 for the gauge mounting dimensions.

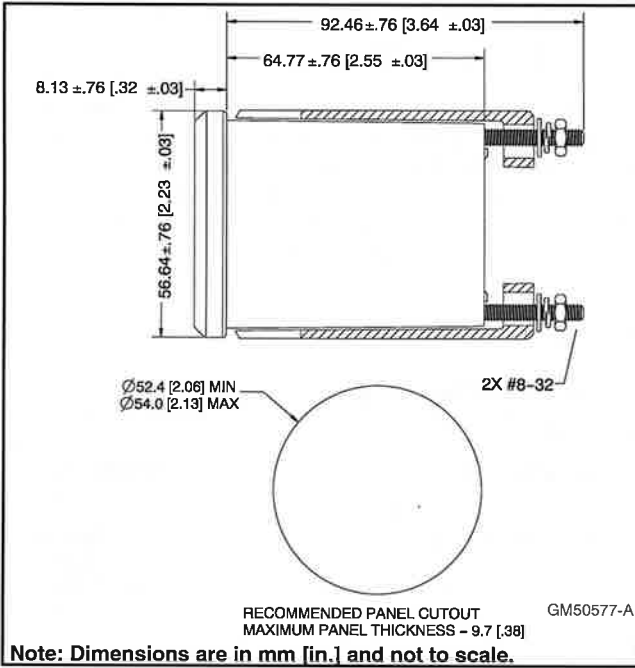


Figure 4 Two Inch Digital Gauge Mounting Dimensions

3. Connect the 8-pin gauge harness connector to the 8-pin digital gauge connector. See Figure 6.
4. Connect the 12-pin connector end of the connection harness to the generator set's customer-interface 12-pin connector. See Figure 6 and Figure 7. Use a remote extension harnesses if additional length is required.

Note: Order a remote extension harness kit, if required. DO NOT use more than 3 remote harness kits and DO NOT exceed 22.86 m (75 ft.) in harness length. See Figure 5 for kit selection.

Remote Extension Harness Kit Numbers	Length m (ft.)
GM32333-KP1	4.6 (15)
GM32333-KP2	7.6 (25)

Figure 5 Remote Extension Harness Kits (For Gauge to Generator Set)

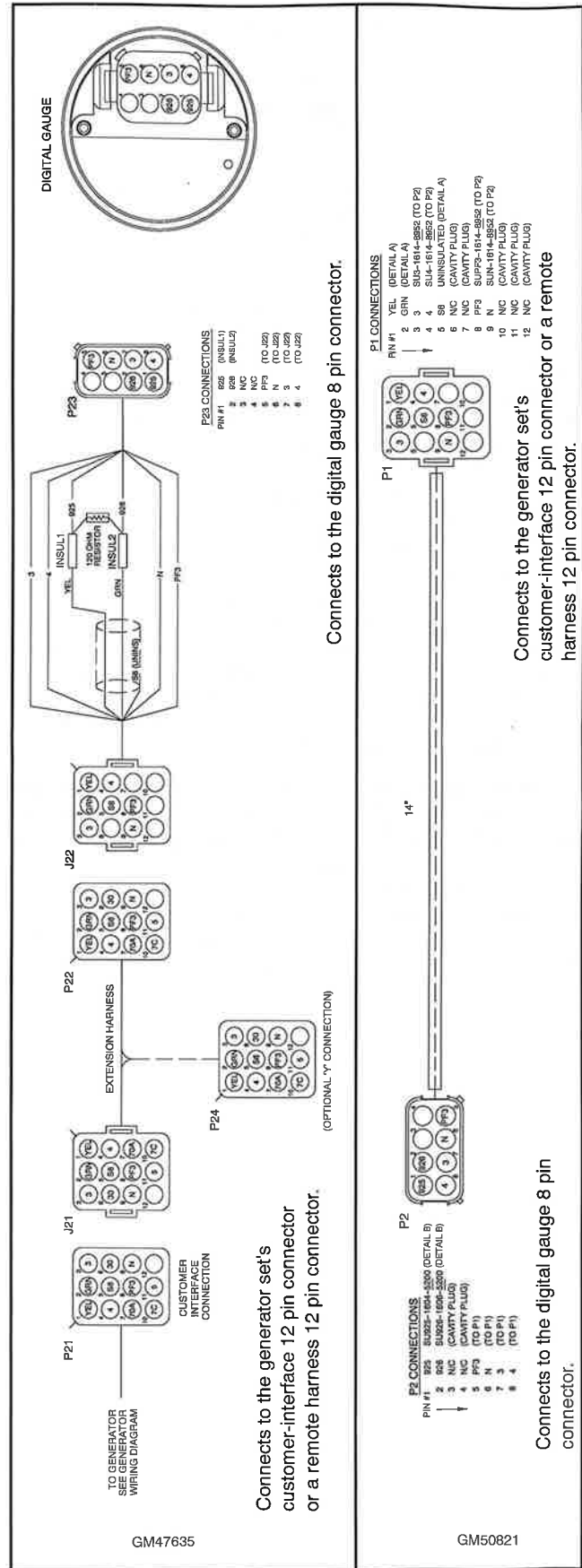


Figure 6 Remote Two inch Digital Gauge Connection Harness GM47635 and Connection Harness GM50821

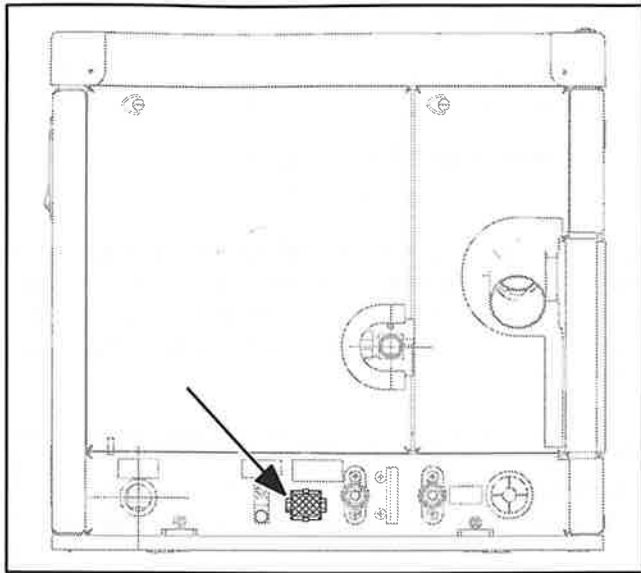


Figure 7 Remote Customer Interface Connector
(Typical for Units with an ADC 2100
Controller)

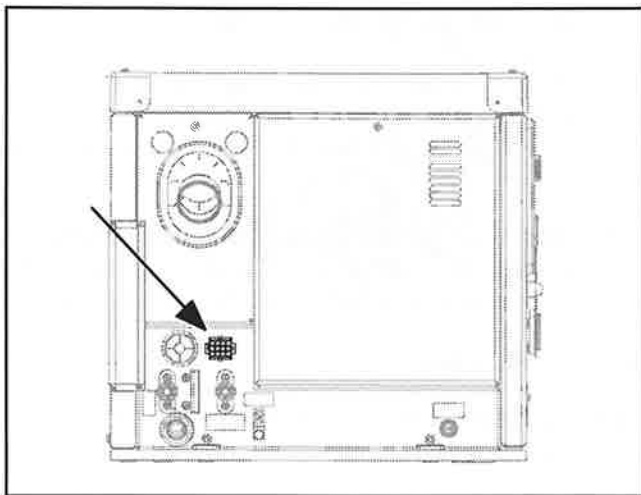


Figure 8 Remote Customer Interface Connector
(Typical for Units with an ADC II Controller)

5. Use rubber grommets and cable ties as necessary to protect and secure the wiring from sharp objects, exhaust system, water, and any moving parts.
6. For gasoline-powered generator sets, select a location as near as practical to the generator remote digital gauge for mounting warning decal part number 249494. See Figure 9. The decal should be visible when starting the generator set from the remote digital gauge. Before applying the decal, ensure that the surface is clean and dry.

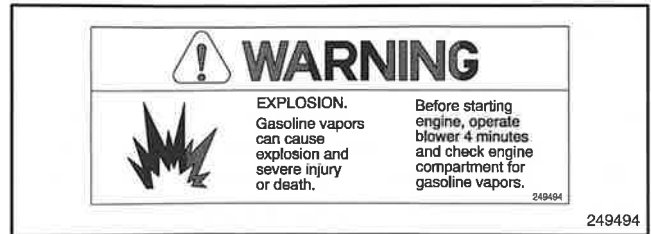


Figure 9 Decal

1.3 Restore the Generator Set to Service.

1. Check that the generator set master switch is in the OFF position.
2. Reconnect the generator set engine starting battery, negative (-) lead last.

1.4 Set the ADC 2100 Communications Parameter. See Section 1.5 for ADC II Controllers.

The ADC 2100 controller must be configured for communication including gauge operation.

Set the Cn parameter on the ADC 2100 generator set controller to Cn08 or Cn09 for communications on the 2-inch gauge. See Figure 10. Consult the generator set installation manual or TT-1364 for instructions to set the Cn parameter on the ADC 2100.

ADC 2100 Parameter	Setting	Description
Communications, Cn	Cn08	2-inch gauge with engine ECM for generator set #1
	Cn09	2-inch gauge without engine ECM for generator set #1

Figure 10 ADC 2100 Communications Parameter (Cn) Settings

1.5 Set the ADC II Communications Parameter. See Section 1.4 for ADC 2100 Controllers.

The ADC II controller must be configured for communication including gauge operation. Under the CAN A (communications) parameter, set the CAN A parameter to Smartcraft †. Consult the generator set installation manual for full instructions to set the CAN A parameter.

Note: After changing the CAN A communication setting, power off and then power on the controller.

† SmartCraft™ is a trademark of Mercury Marine, a division of Brunswick Corporation.

2 Configuration Mode

The configuration mode can be selected from any other mode by pressing and holding the **MODE** button for 5 seconds. While in the configuration mode, use the **MODE** button to select the desired parameter to change. Currently the gauge supports changing the gauge I.D. and/or units.

Use the arrow (up) button ▲ or arrow (down) button ▼ to set the desired selection.

Gauge I.D. Configuration Procedure

1. Press and hold the **MODE** button for 5 seconds to enter the configuration menu. See Figure 11.

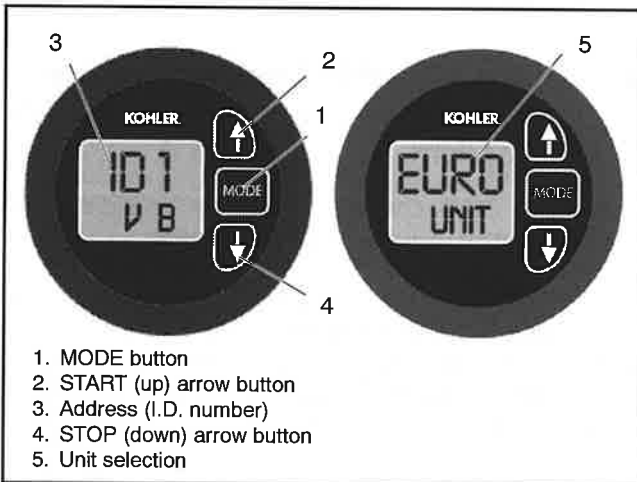


Figure 11 Configuration Menu Displays

2. Use the **START** arrow (up) button ▲ or **STOP** arrow (down) button ▼ to select the generator set address 1.

Note: The generator set addresses (I.D. numbers) 2 thru 4 are reserved for future use and currently not available.

Note: The gauge's software version will be shown on the second line of the I.D. screen, preceded by the character "V".

3. After all selections have been made, wait 30 seconds before pressing the gauge again to save the configuration and to exit from the configuration mode.

Unit Configuration Procedure

1. Press and hold the **MODE** button for 5 seconds to enter the configuration menu.
2. Press the **MODE** button again to prompt—SAE—for English or—EURO—for Metric unit selection.

Units displayed in English will show temperature in Fahrenheit (°F) and pressure in psi (pounds per square inch). Units displayed in metric will show temperature in Celsius (°C) and pressure in kilopascal (kPa). See Figure 12.

Selection	English Units	Metric Units
Temperature	°F (Fahrenheit)	°C (Celsius)
Pressure	psi (pounds per square inch)	kPa (kilopascal)

Figure 12 Configuration Menu Unit Selections

3. Use the **START** arrow (up) button ▲ or **STOP** arrow (down) button ▼ to select English or Metric units. See Figure 11.
4. After all selections have been made, press the **MODE** button for five seconds to save the configuration. Afterwards, the gauge will exit the configuration mode.
5. After making all selections, wait 30 seconds before pressing the gauge again in order to save the configuration and exit the configuration mode.

2.1 Fault Codes

Refer to Section 4, Fault Codes to see the descriptions of displayed faults.

3 Gauge Operation

3.1 Pushbuttons

Three pushbuttons control the gauge functions. See Figure 13:

- **MODE** button: Used to change the function of the LCD display and access submenus and adjust settings.
- **START** arrow (up) button ▲: Used to move between screens, start the generator, and modify settings.
- **STOP** arrow (down) button ▼: Used to move between screens, stop the generator, and modify settings.

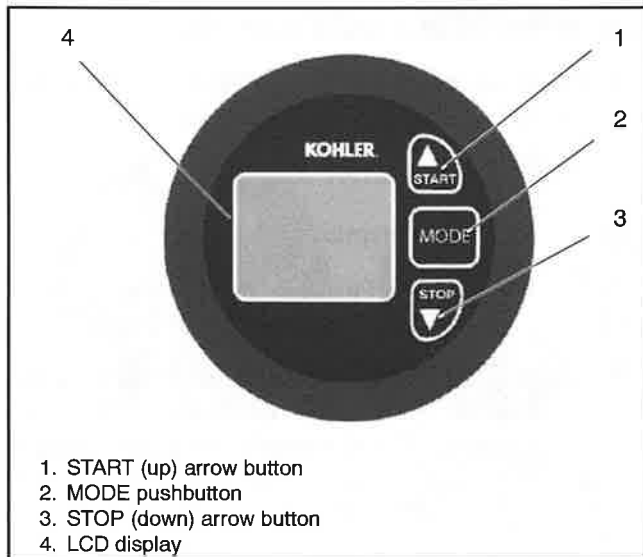


Figure 13 Gauge Pushbuttons

3.2 Operating Mode Description

The gauge receives information from the generator set's controller; however, some of the controller information is sent from the engine control unit (ECU). The gauge is powered through the generator set's starting battery.

See Figure 14 for illustrations of display screens for the various LCD screen modes. The gauge has five operating modes:

- **Wakeup Mode:** Press any pushbutton on the gauge to activate wakeup mode. Once the gauge is activated, the LCD screen will display a KPS code for three seconds. See Figure 14.

Note: If the ADC 2100 controller master switch is in the OFF position, the gauge will not be able to wake the ADC 2100 controller.

Note: If the ADC II controller power button is OFF, the gauge will not be able to wake the ADC II controller.

- **Normal Mode:** This mode displays the following generator status parameters when the generator set is running:
 - Hours
 - Engine Speed
 - Battery Voltage
 - AC Frequency
 - AC Voltage
 - Engine Temperature

The normal mode will display only the following parameters when the generator set is NOT running:

- Hours
- Battery Voltage

Among the status parameters is an indicator shown as an asterisk used to indicate when the generator set is running. This generator running indicator is located on the hours screen and is shown before the characters HRS.

Note: If the generator is running, each asterisk segment will blink on and off in a clockwise direction. If the generator is *not* running, all asterisk segments will remain on and will *not* blink.

- **Start/Stop Mode:** Allows remote starting and stopping of the generator set engine. See Section 3.3, Generator Start/Stop, for operation sequence.
- **Sleep Mode:** After one hour of generator set and gauge inactivity, the backlight display turns off.
- **Fault Mode:** Displays the fault and warning codes as shown when a fault or warning condition is detected. To clear the fault code see Section 4, Fault Codes.



Figure 14 Gauge LCD Screen Displays

3.3 Generator Start/Stop

1. Read all equipment decals located on the generator set and safety precautions found in the provided literature before starting the generator set.
2. The operator can access gauge modes, such as Start/Stop Mode, after the generator set has been restored to service and the ADC 2100 master switch is in the AUTO position or the ADC II is powered ON. See Section 1.3, Restore the Generator Set to Service.
3. See Section 3.1, Pushbuttons, and Section 3.2, Operating Mode Description, before operating the remote digital gauge.

Using the GEN START Function

1. Press the **MODE** button until GEN STRT appears on the LCD screen. See Figure 15.

Note: The GEN STRT code will not appear if:

- the generator set is already running.
- an error fault is existing. To clear the fault code see Section 4, Fault Codes.

Note: If the engine does not start within 60 seconds of the command, an alarm will sound. For all models, the gauge displays an ERR code. See Section 3.4, Alarm Silence/Activate.

2. Press the **START** arrow (up) button ▲ until SEND STRT appears on the LCD screen.

Note: If the **START** arrow (up) button ▲ is pressed and released too fast, the gauge will go back to the normal mode without sending the start command.

If the generator was successfully started, the gauge will go into the normal mode and display the HRS characters (hours screen). Blinking asterisk segments will appear next to these characters on the LCD screen to indicate the generator is running.

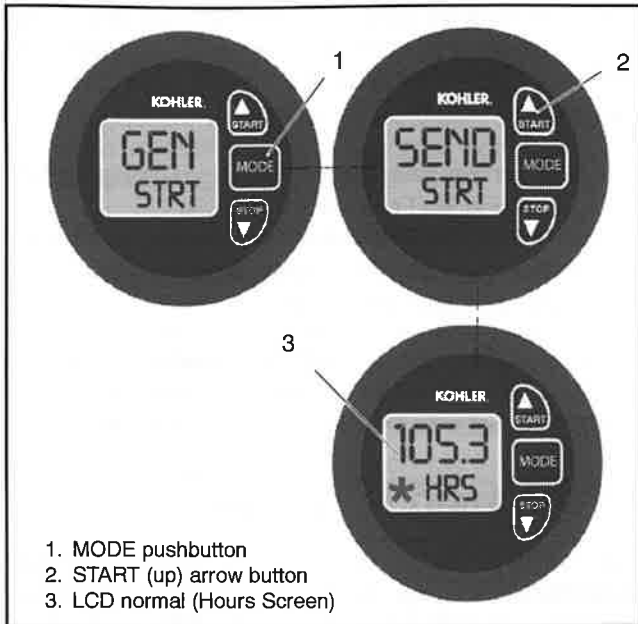


Figure 15 Gen START Gauge Pushbutton Functions

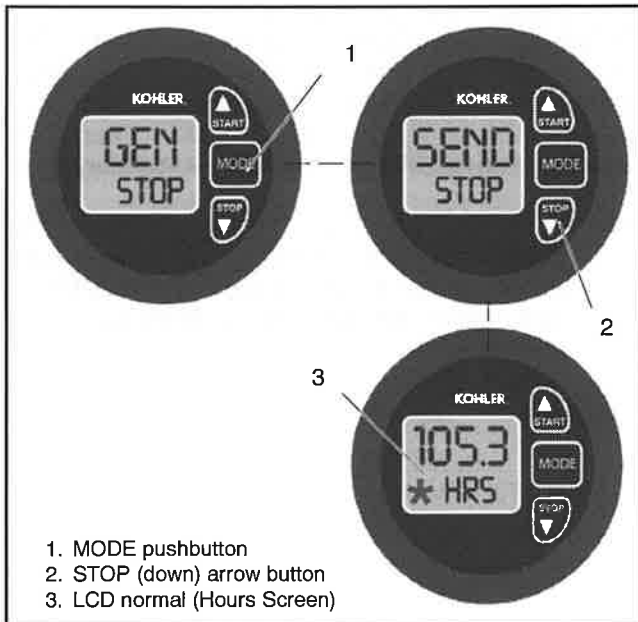


Figure 16 Gen STOP Gauge Pushbutton Functions

Using the GEN STOP Function

1. Press the **MODE** button until GEN STOP appears on the LCD screen. See Figure 16.
2. Press the **STOP** arrow (down) button ▼ until SEND STOP appears on the LCD screen.

If the generator was successfully stopped, the gauge will go into the normal mode and display the HRS characters (hours screen) and *will not* display the blinking asterisk segments; however, the power is still activated and the generator set is now in standby mode.

Note: The GEN STOP code will not appear if the generator set is not running.

Note: If the generator does not stop within 60 seconds of the command, an alarm will sound. For all models, the gauge displays an ERR code. See Section 3.4, Alarm Silence/Activate.

Using the SLEEP function

For units with an ADC 2100 controller: The ADC 2100 controller automatically sends a sleep command to the gauge after 48 hours of inactivity. In addition, the gauge will go into sleep mode one hour after the ADC 2100 master switch is placed in the OFF position. Toggling the ADC 2100 controller master switch to the RUN position *will not* wake up the gauge. When the ADC 2100 controller master switch is in the AUTO position, press any button on the gauge to wake up the gauge and the ADC 2100 controller.

For units with an ADC II controller: The ADC II controller automatically sends a sleep command to the gauge after 48 hours of inactivity. Pressing any button, or turning the knob, or closing contacts 3 and 4 on the ADC II controller *will not* wake up the gauge. When the ADC II power button is ON, press any button on the gauge to wake up the gauge and the ADC II controller.

3.4 Alarm Silence/Activate

Alarm Silence

Press the **STOP** arrow (down) button ▼ to silence the alarm. See Figure 16.

Alarm Activate

Press the **START** arrow (up) button ▲ to activate the alarm. See Figure 15.

4 Fault Codes

There are two types of fault codes; WARN and ERR. Either of these codes can be sent from the controller or from the ECM to the gauge.

If the gauge displays a WARN fault code, the gauge's screen displays a red flashing background and sounds an alarm. When the warning first occurs, the gauge enters the fault mode and displays the warning code. While the warning is present, the gauge provides an additional mode called a fault mode. The fault mode is located between the normal mode and gen start/stop mode. The controller automatically clears the warning when the condition no longer exist. For more information see Section 4.3 and Section 4.4 for ADC 2100 Fault Codes or Section 4.5 and Section 4.6 for ADC II Controller Fault Codes.

If the gauge displays an ERR fault code, the gauge's screen displays a red flashing background and sounds an alarm. While the error is present, the gauge locks into a fault mode. All other modes are locked out with the exceptions of the configuration mode and the sleep mode.

Note: Always identify and correct the cause of a fault shutdown before resetting the controller. Consult the Operation Manual for guidance and items to check.

4.1 Clearing Errors

To clear the error, press the mode button. If the controller successfully clears the error, the gauge returns to the normal mode. However, if the error remains, the gauge remains in the fault mode. After correcting the error, the user must resend the clear fault message to the controller by pressing the mode button. For more information, see Section 4.3, ECM Fault Codes.

Note: Always identify and correct the cause of a fault shutdown before resetting the controller. Consult the Operation Manual for guidance and items to check.

For units with an ADC II controller: Locally, at the ADC II controller, there is a limit of 2 resets and consecutive restart attempts for a Coolant Loss fault shutdown.

Remotely, at the gauge, the following fault shutdowns cannot be reset and restarted remotely:

- Locked Rotor fault shutdown
- Low Oil Pressure (LOP) fault shutdown
- Coolant Loss fault shutdown

If the cause of these fault shutdowns cannot be identified and corrected, contact a Kohler authorized distributor/dealer to perform the required maintenance.

4.2 GEN START Fault Codes

The normal mode can function if a fault WARN code appears on the gauge; however, it will remain disabled if an ERR code appears. For example, if the gauge does not receive a response from the ADC 2100 controller, a fault code 72ERR is displayed as shown in Figure 17. To clear an ERR fault code, press the mode button. See Section 4.3 or Section 4.5, ECM Fault Codes. For more information on WARN fault codes, see Section 4.4 or Section 4.6, Controller Fault Codes. For more information on AF ERR, see Section 4.7, Auxiliary Fault.

Note: If the generator does not start or stop within 60 seconds of the command, an alarm will sound. For all models, the gauge displays an ERR code. See Section 3.4, Alarm Silence/Activate.

4.3 ECM Fault Codes (ADC 2100 Controllers)

Fault codes are displayed on the gauge when a fault condition is detected by the engine control module (ECM) and are listed in Figure 17.

Note: Fault codes listed in **BOLD** are errors that will prevent the generator from running. See Figure 17.

ECM Fault Code	Digital Gauge Display	Description
0	—	No Faults
9	9 ERR	Throttle position sensor input high
10	10 ERR	Throttle position sensor range high
11	11 ERR	Throttle position sensor range low
12	12 ERR	Throttle position sensor input low
15	15 WARN	Control limit fault (Exhaust pressure warning CO-4)
17	17 ERR	Speed bias potentiometer (pot) input high
18	18 ERR	Speed bias potentiometer (pot) input low
39	39 ERR	Electronic throttle control (ETC) sticking
40	40 WARN	Electronic Spark Trigger (EST) 1 low
41	41 WARN	Electronic Spark Trigger (EST) 1 high
42	42 WARN	Electronic Spark Trigger (EST) 2 low
43	43 WARN	Electronic Spark Trigger (EST) 2 high
46	46 ERR	Injector fault
47	47 ERR	Low oil pressure
48	48 ERR	Electronic throttle control (ETC) spring test failed
49	49 ERR	Map sensor input high
50	50 ERR	Map sensor input low
51	51 ERR	Electronic throttle control (ETC) driver fault
52	52 WARN	Battery sensor input high
53	53 WARN	Battery sensor input low
54	54 WARN	Transducer voltage (XDRP) sensor input high
55	55 WARN	Transducer voltage (XDRP) sensor input low
56	56 WARN	Intake air temperature input sensor high
57	57 WARN	Intake air temperature input sensor low
58	58 WARN	Coolant sensor input high
59	59 WARN	Coolant sensor input low
60	60 ERR	Oxygen sensor input high
61	61 ERR	Oxygen sensor input low
62	62 ERR	Seawater pump pressure
64	64 ERR	Engine overspeed fault
65	65 ERR	Coolant sensor range high
66	66 ERR	Trim valve output fault
67	67 ERR	Trim valve lower DC fault
68	68 ERR	Trim valve upper DC fault

69	69 ERR	O ² switching fault
70	70 ERR	Gaseous O ² adapt limit fault
72	72 ERR	CAN receive message fault
73	73 ERR	Fuel pump fault
74	74 ERR	Starter fault
—	Start Fault or Stop Fault	Engine start/stop error. See Section 3.3.

Figure 17 Fault Codes Displayed for ECM Faults

4.4 Controller Fault Codes (ADC 2100 Controllers)

Fault codes are displayed on the gauge when a fault condition is detected by the ADC 2100 controller and are listed below. See Figure 18.

Note: Fault codes listed in **BOLD** are errors that will prevent the generator from running. See Figure 18.

ADC 2100 Fault Code	Digital Gauge Display	Description
0	—	No faults
1	HB WARN	High battery voltage
2	LB WARN	Low battery voltage
8	OC ERR	Overcrank
12	LOC ERR	Loss of coolant
14	AF ERR	Auxiliary fault input (See Section 4.7, Auxiliary Fault)
15	OU ERR	Overvoltage
16	UU ERR	Undervoltage
17	OF ERR	Overfrequency
18	UF ERR	Underfrequency
29	CO-2 ERR	Excessive exhaust backpressure
61	EC61 ERR	Loss of CAN communications
64	CO-3 ERR	Loss of CO sensor communication
65	CO-6 WARN	CO sensor defect
66	CO-5 WARN	CO detected, warning level
67	CO-1 ERR	CO detected, shutdown level
1000	1000 ERR	Engine control unit (ECU) data loss *
1001	1001 ERR	Start fault *
1002	1002 ERR	Stop fault *

* Fault generated by the digital gauge.

Figure 18 Fault Codes Displayed for ADC 2100 Controller Faults

There are a few fault codes displayed on the digital gauge that may refer to multiple shutdown/warning conditions. If a fault code appears on the digital gauge's display, check the controller display to see more detailed information regarding the fault. The controller display contains extended fault text information that doesn't appear on the digital gauge display.

4.5 ECM Fault Codes (ADC II Controllers)

Fault codes are displayed on the gauge when a fault condition is detected by the engine control module (ECM) and are listed in Figure 17.

Note: Fault codes listed in **BOLD** are errors that will prevent the generator from running. See Figure 17.

ECM Fault Code	Digital Gauge Display	Description
Fault Shutdowns:		
TPS input hi	9 ERR	Throttle Position Sensor Input High
TPS range hi	10 ERR	Throttle Position Sensor Range High
TPS range lo	11 ERR	Throttle Position Sensor Range Low
TPS input lo	18 ERR	Throttle Position Sensor Input Low
ETC sticking	39 ERR	Electronic Throttle Control Sticking
ETC driver	51 ERR	Electronic Throttle Control Driver Fault
MAP input hi	49 ERR	Map Sensor Input High
MAP input lo	50 ERR	Map Sensor Input Low
Trans hi	54 WARN	XDRP Sensor Input High
Trans lo	55 WARN	XDRP Sensor Input Low
IAT input hi	56 WARN	Intake Air Temp. Input Sensor High
IAT input lo	57 WARN	Intake Air Temp. Input Sensor Low
ECT input hi	58 ERR	Coolant Sensor Input High
O2 input hi	60 ERR	Oxygen Sensor Input High
O2 input lo	61 ERR	Oxygen Sensor Input Low
O2 adapt	N/A	O2 Adapt Limit Fault
CAN loss	72 ERR	CAN Receive Message Fault
Overload	AF ERR	Power Limit Shutdown
EST 1 Low	40 WARN	Spark 1 Timing Low
EST 1 High	41 WARN	Spark 1 Timing High
EST 2 Low	42 WARN	Spark 2 Timing Low
EST 2 High	43 WARN	Spark 2 Timing High
Injector	46 ERR	Injector Fault
ETC spring	48 ERR	Electronic Throttle Control Spring Test Failed
Hi exh temp†	15 WARN†	ECM High Exhaust Gas Temp
Warnings:		
Oil sens err	47 ERR	Oil Pressure Sensor Input Shorted
ECT input lo	59 WARN	Coolant Sensor Input Low
O2 sens open	AF ERR	O2 Open Circuit
O2 limit err	69 ERR	O2 Limit Error

Starter	74 ERR	Starter Fault
Overload	AF ERR	Power Limit Warning

† If receiving this fault, contact a Kohler authorized distributor/dealer.

Figure 19 Fault Codes Displayed for ECM Faults

4.6 Controller Fault Codes (ADC II Controllers)

Fault codes are displayed on the gauge when a fault condition is detected by the ADC II controller and are listed below. See Figure 20.

Note: Fault codes listed in **BOLD** are errors that will prevent the generator from running. See Figure 20.

ADC II Fault Code	Digital Gauge Display	Description
Over crank	OC ERR	Shutdown: Overcrank
Locked rotor	OC ERR	Shutdown: Locked Rotor
Low oil pres	47 ERR	Shutdown: Low Oil Pressure
Over speed	64 ERR	Shutdown: Engine Overspeed
Coolant loss	62 ERR	Shutdown: Sea Pump Pressure
Hi eng temp	AF ERR	Shutdown: High Engine Temp.
Aux input	AF ERR	Shutdown: Auxiliary Fault Input
Hi CO: sensor	CO-1 ERR	Shutdown: CO Detected (shutdown level)
Hi CO: engine	N/A	Shutdown
No CO sensor	CO-3 ERR	Shutdown: Loss of CO Sensor Heartbeat
Over voltage	OU ERR	Shutdown: Over Voltage
Under volt	UU ERR	Shutdown: Under Voltage
Over freq	OF ERR	Shutdown: Over Frequency
Under freq	UF ERR	Shutdown: Under Frequency
HVR Comm Err	AF ERR	Shutdown: Communication Loss
Check engine	AF ERR	Shutdown: Check Engine
ECM voltage	AF ERR	Shutdown: No or Low Voltage to the ECM
High battery	52 WARN	Warning: ECM Battery Voltage is High
Low battery	53 WARN	Warning: ECM Battery Voltage is Low
Weak battery	53 WARN	Warning: Weak Battery
Hi CO: engine	15 WARN	Warning: Power Limit
Hi CO: sensor	CO-5 WARN	Warning: CO Detected (warning level)
CO sensr err	CO-6 WARN	Warning: CO Sensor Defect
Low oil press	AF ERR	Warning: Low Oil Pressure
Hi eng temp	AF ERR	Warning: High Engine Temp
Maint req	AF ERR	Warning: Maintenance Required

Figure 20 Fault Codes Displayed for ADC II Controller Faults

4.7 Auxiliary Fault

An "Aux Input Shutdown" (such as but not limited to halon, CO, etc.) is transmitted from a user-defined device connected to wire 30 (P1-12 connection in the ADC 2100 controller). For auxiliary faults, refer to the component manufacturer's literature for additional fault clearance instructions.