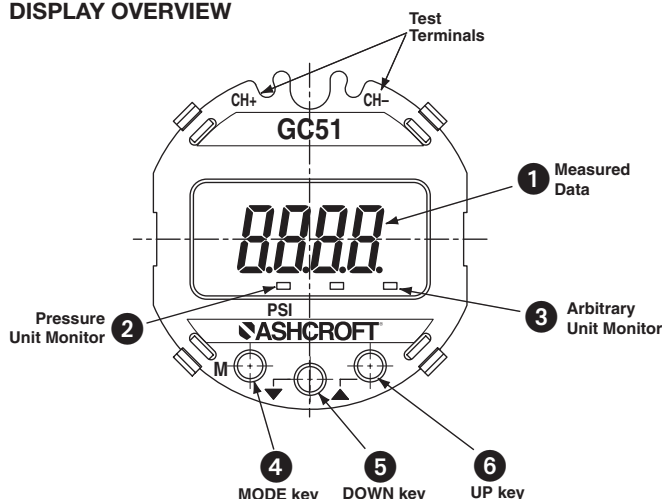


# Quick Start Function Summary Instructions for ASHCROFT® GC51 Version 6.03

(See Complete I&M Manual for Further Detail)



## DISPLAY OVERVIEW



Designation	Function
1 Measured Data Display	Pressure, linear scaling value, hold value (max./min), are displayed.
2 Pressure unit monitor	When either indicator is ON, the display is reading in PSI.
3 Arbitrary unit monitor	When this indicator is ON, the linear scaling value of an arbitrary unit is indicated on the display.
4 MODE button (M)	Used to switch the setting mode, the measurement mode and the setting item.
5 DOWN button (v)	Used to change (decrease) and select the set value and to zero-reset the hold function.
6 UP button (^)	Used to change (increase) and select the set value and to shift from the measurement mode to the zero adjustment mode.

1. Upon Power-Up the unit enters "Measure Mode" – displaying applied pressure.

2. Four functions available to the user in "Measure Mode".

A. **Zero Adjustment Mode:** Hold the UP (^) button for more than 3 seconds. This is not to be used for scaling of the output.

- If the zero point adjustment is performed correctly the message "ADJ" will be displayed for 2 seconds, and the display will return to the measurement mode.

B. **Key Lock**

Function	Key Manual	Indicator
Setting of key lock	MODE+ (^) one second	LoC (Key invalidity)
Release of key lock	MODE+ (^) one second	UnL (Key invalidity)

Operation during keylock

Function	Key Manual	Indicator
Zero adjust. mode	(^) key greater than 3 sec	LoC (Key invalidity)
Hold value reset	(v) key greater than 3 sec	LoC (Key invalidity)
Setting mode	(M) key greater than 3 sec	LoC (Key invalidity)
Peak indicator	(^) one push	Peak indicator
Bottom indicator	(v) one push	Bottom indicator

C. **Minimum Value "Capture"™:** Press DOWN (v) button to display the minimum value. The letter "L" will follow the reading indicating this is the minimum value. Press the DOWN button again to return to Measurement Mode.

**Note:** Press the button and release, do not "hold" the button down (will reset the values).

D. **Maximum Value "Capture"™:** Press UP (^) button to display the maximum value. The letter "H" will follow the reading indicating this is the maximum value. Press the UP (^) button again to return to Measurement Mode.

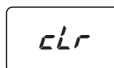
**Note:** If the button is held for 3 seconds it will go into zero adjustment mode.

### Minimum/Maximum Reset

The Minimum/Maximum values can be reset when in either Minimum/ Maximum display by holding the DOWN (v) button for more than three seconds, "clr" will appear on the display for two seconds and the Minimum and Maximum values will be removed.

**Note:** Values are maintained even if unit is powered OFF.

Hold reset message



- When first using unit be sure to Reset values to clear values in memory from the factory calibration process.
- Values are captured starting one minute after Reset, thus if unit is powered OFF during the one minute the values during that period will not be kept in memory.

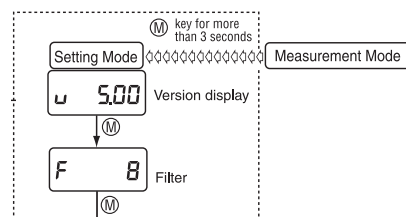
3. **Four functions available** to the User via "Setting Mode". To enter the "Setting Mode" hold "M" key for more than 3 seconds. (See last page for complete Setting Mode menu.)

A. **Filter (Damping)**

The filter is based on the moving average of the pressure data to decrease display "bounce" and to smooth the analog output due to system pressure fluctuations at the user's discretion.

Five selections: 0, 2, 4, 8 and 16 where 0=30ms (and in this case the filter is not active), 2=60ms, 4=120ms, 8=240ms, 16=480ms, use (^) (v) keys to change value.

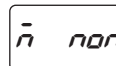
B. **Re-scaling in "psi" units:** "Pressure Display Mode"



allows for zero (4mA) and span (20mA) adjustment of -10 to +110% Span respectively.

**Note:** 1. See menu schematic on last page for detail.

2. Must be in "Pressure Display Mode" option within "Setting Mode," this is noted on the screen by



Use (^) (v) keys to move between "Pressure Display Mode" and "Linear Display Mode" which is for re-scaling in "Arbitrary" units.

3. To adjust Output Zero Point (4mA) and Output Span Point (20mA) must be in the functional area as noted below and then adjustment is via (^) (v) keys. The value shown is a percentage of the pressure range (span) as noted on the product label (ex. If product was supplied as a 0-100psi range and the user desired the Output Zero Point to be "moved" from 0 psi to 50 psi then Output Zero Point would be 50.0 which is 50%.

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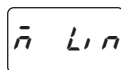
Notes shown below are from I&M manual.

Setting Item	LCD Display	Setting Description	Setting Range
Display mode		Selection of pressure display mode : non	non:pressure display mode Lin: linear display mode
Output zero point		Analog output zero point (4mA) : 10.0 (%Span)	Pressure range:-10 to 110% Span
Output span point		Analog output span point (20mA) : 90.0 (%Span)	Pressure range:-10 to 110% Span

**Note:** For setting of zero point and span point in the analog output, input the percent value over the pressure range.

**C. Re-scaling in “Arbitrary” units: “Linear Display Mode”.** This function allows the user to establish a linear relationship from the standard “psi” unit to any user defined unit.

**Note:** See menu schematic at end, must be in “Linear Display Mode” option within “Setting Mode”, this is noted on the screen by



Use  $\blacktriangle$   $\blacktriangledown$  keys to move between “Linear Display Mode” and “Pressure Display Mode.”

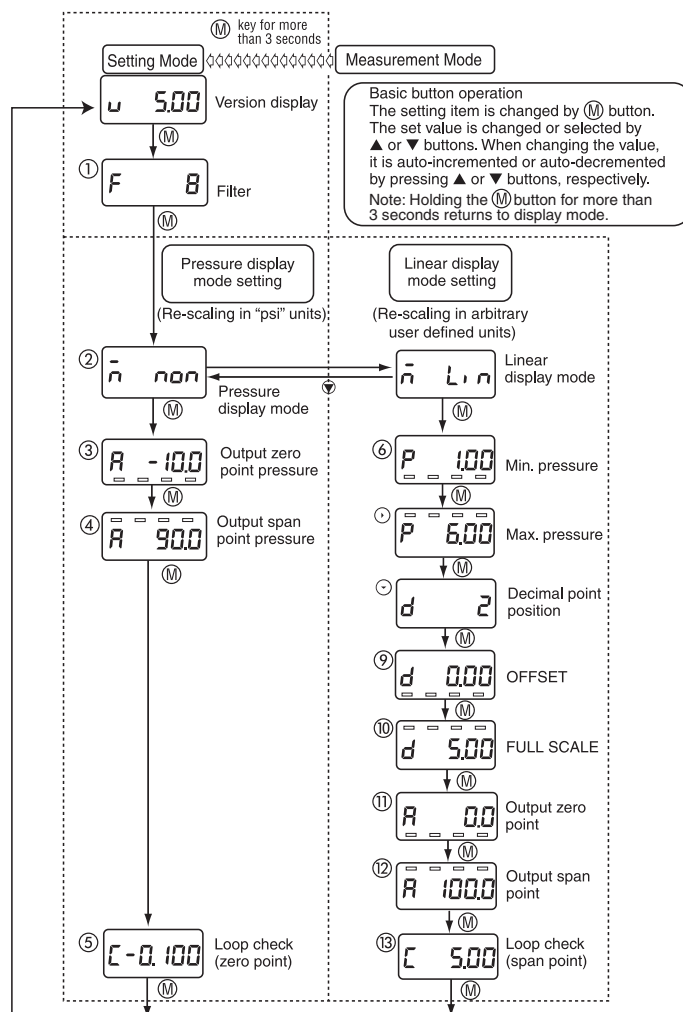
Setting Item	LCD Display	Setting Description	Setting Range
Display mode		Selection of pressure display mode : Lin	non:pressure display mode Lin:Linear display mode
Minimum pressure		Min. pressure corresponding to OFFSET 9 : 10 (psi)	Pressure range 0 to 75% Span
Maximum pressure		Max. pressure corresponding to FULL SCALE 10 : 60 (psi)	Pressure range 25 to 100% Span
Decimal point position		Display after decimal point Number of digits	0,1,2,3 digit : 2 (digit)
OFFSET		OFFSET corresponding to min. pressure 6 : 0.00 (ton)	-1999 to 1999
FULL SCALE		FULL SCALE corresponding to mAX. pressure 7 : 5.00 (ton)	-1999 to 1999
Output zero point		Analog output zero point (4mA) : 0.0 (%Span)	Max. display span: -10 to 110% Span
Output span point		Analog output span point (20mA) : 100.0 (%Span)	Max. display span: -10 to 110% Span

**Note:** Values shows are from example in I&M manual.

**D. Loop Check:** Use to send a 4-20mA signal meant to simulate applied pressure, can be accessed either through Pressure Display Mode or Linear Display Mode. See “Complete Setting Mode Menu” at end. Loop Check is noted on the screen with a prefix “C”. The display is indicating in actual units and starts at the zero (4mA) point.

If  $\blacktriangle$  button continues to be pressed, the linear display will auto-increment by linkage between the linear display and the analog output. By continuing to press  $\blacktriangledown$  button, auto decrement will occur. Release the button at the desired indication.

## Complete Setting Mode Menu



**Notes:** Actual values shown are based upon the examples shown in the I&M Manual.

Changes made within the Setting Mode are saved by returning to Measurement Mode before powering the unit “off.”

# Quick Start Function Summary Instructions for ASHCROFT® GC51 Version 6.03

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## 4. Wiring

Power supply requirements, 12-36Vdc, note installation recommendations as follows:

**Terminal Strip:** SMKDSP1.5/2-5.08 Phoenix contact

### A. Cable Requirements

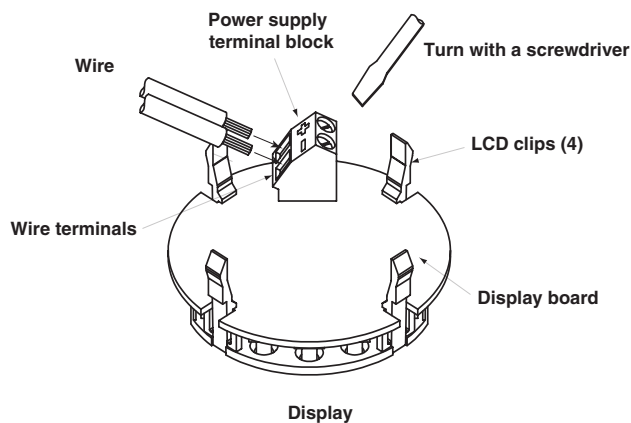
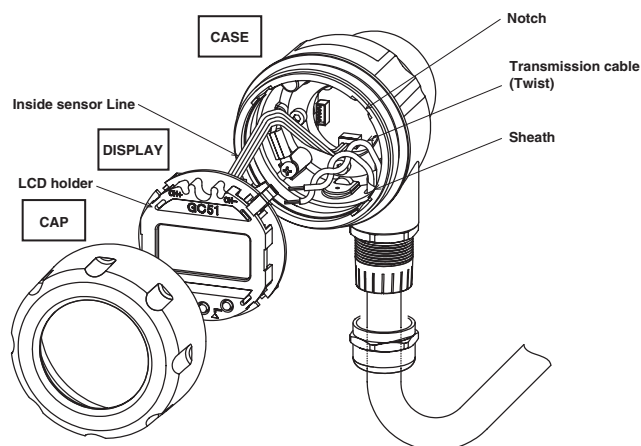
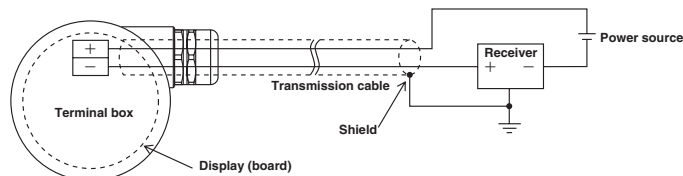
- Two core shielded cable
- Cable outer diameter: 0.35" to 0.47" (9-12mm)  
Required for proper installation with cable gland option
- Wire Gauge: 14-22 AWG (multi-strand or solid)

### B. Wiring Instructions

- Do not run pressure transmitter cable / wires within the same conduit as high voltage (line power) line to reduce the potential for noise (interference). Use dedicated conduit on GC51 cables / wires for optimum results.
- Cable diameter, specified above, must be maintained when using the Cable Gland termination to retain environmental ratings.
- When connecting shield / drain wire, only connect one end which should be at the received ground.
- Wire stripping instructions; remove cable jacket 2-3" and strip wires 0.25". Shield / drain wire should not be exposed at the pressure transmitter termination.

- Remove cover and carefully remove the display to access the terminal strip, take care not to mishandle the display and associated electronics.
- Turn display over to expose terminal strip, make positive and negative connections; insert wire equal to the recommended strip length (0.25").
- After completing connections, align the retaining clips of the display with the housing's notches and carefully place into the housing. Be sure that the internal sensor ribbon cable does not cross the power supply lines just installed.
- Be sure to properly tighten the sealing grommet when using the Cable Gland before applying tension to the cable; the cable gland provides strain relief and environmental sealing.
- Tighten GC51 cover to maintain environmental rating.
- Connect to power source and receiver, then apply power to confirm correct wiring.

- Power Supply Requirements: Although the 4-20mA signal can travel over long distances, a very common issue to arise involves inadequate power at the pressure transmitter – this results in voltage drop across the loop. Be sure to review the accompanying table to determine whether the 12-36Vdc has been received at the pressure transmitter.



### Load Limitations 4-20mA Output Only

Loop Resistance ( $\Omega$ )

