


## OPERATION

When the Quick Start procedure is complete...

1.  to enter the RUN mode  
 "----" is displayed briefly...

The AIRANGER SPL rapidly takes measurements, verifies repeatability, and calculates Readings.

The Reading is displayed continuously.

The Bar Graph indicates material level (0 to 100%), regardless of the Operation selected.

If "▲" is displayed the vessel level has exceeded 80% and not yet fallen below 75% (High Alarm).

If "▼" is displayed the vessel level has fallen below 20% and not yet exceeded 25% (Low Alarm).

When in alarm, the corresponding relay is de-energized.

Alarm	Relay #
High	1
Low	2

2. 

Readings are displayed in % (based upon Operation).

level                                          space or distance  
 Empty → Span = 0 → 100%                  Empty → Span = 100 → 0%

3. 

View mA output value in the Auxiliary Reading display.

level                                          space or distance  
 Empty → Span = 4 → 20mA                  Empty → Span = 20 → 4mA

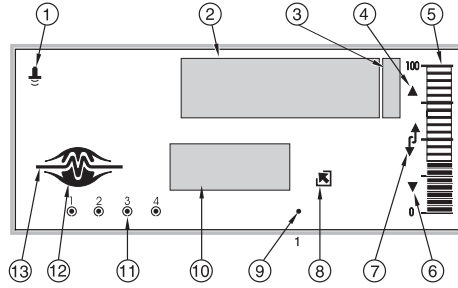
4. 



View the Failsafe Time Left in % (before "LOE" is displayed).

If the value reaches 0, the "old" Reading, Bar Graph, relays, and mA output are "held" and "LOE" flashes.











When a valid measurement is made, the value resets to 100. The AIRANGER SPL advances to the "new" level; operating displays and outputs accordingly.

## RUN MODE DISPLAY FUNCTIONS



- ① Transducer
- ② Reading
- ③ Units
- ④ High Alarm
- ⑤ Bar Graph
- ⑥ Low Alarm
- ⑦ Filling / Emptying
- ⑧ Data Out
- ⑨ Transducer Active
- ⑩ Auxiliary Reading
- ⑪ ○ Relay Number  
● Relay Status
- ⑫  Normal Operation
- ⑬  Failsafe Operation

## RUN MODE KEYPAD FUNCTIONS

-  Display mA output in ⑫.
-  Display temperature in ⑫.
-  Display Empty / Fill Rate in ⑫.
-  Display Failsafe Time Left in ⑫.
-  Key in Parameter # to display value in ⑫.
-  Display Material Level in ⑫.
-  Display Distance in ⑫.
-  Initiate program mode access ( see  ).
-  Display Units / % in ③ (complete program mode access).

## PERFORMANCE EVALUATION

Monitor system performance, under all operating conditions.

If alternate display, relay, or mA output operation is required, or "LOE" is displayed, see instruction manual.

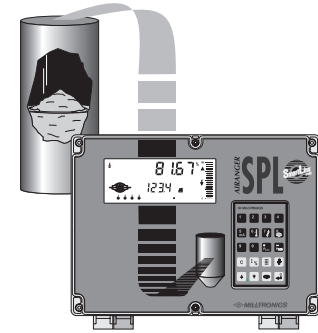
**Connect (or enable) alarm/control equipment only after satisfactory performance is verified.**

**MILLTRONICS**

## AIRANGER SPL

Quick Start Guide PL-465

April 2001



33454650  
 Rev. 1.3



AIRANGER SPL

## GENERAL

Quick Start details the minimum recommended start up procedure for most AIRANGER SPL installations.

Refer to the individual product instruction manuals for complete installation and interconnection instructions for the:

AIRANGER SPL  
 Ultrasonic Transducers  
 TS-3 Temperature Sensors (if used)  
 BIC-II Buffered Interface Converter (if used)

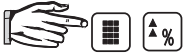
Ensure all process control equipment is disabled until satisfactory AIRANGER SPL performance is verified.

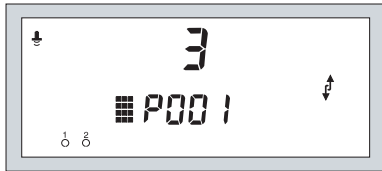
## INITIAL START UP

1. Place the programmer in the AIRANGER SPL enclosure lid recess.

2. Apply power to the AIRANGER SPL,

□□□□ is displayed.

3.  to enter the program mode and display . . .



During the following procedure:

a) If the selection desired is already displayed...  
 no entry is required. (Advance to the next step.)

b) If an entry error is made...


 and try again.

**STEP 1** Which type of **Operation** is desired?  
 (P001)

- 0 = **off** (point out of service)
- 1 = **level** (how full the vessel is)
- 2 = **space** (how empty the vessel is)
- 3 = **distance** (from the transducer face)

e.g.  for level



 to advance

**STEP 2** Which **Material** is being monitored?  
 (P002)

- 1 = **liquid** (flat level surface)
- 2 = **solid** (uneven sloped surface)

e.g.  for liquid



 to advance

**STEP 3** Which **Measurement Response** is desired?  
 (P003)

- 1 = 0.1 m/min slow
- 2 = 1 m/min •
- 3 = 10 m/min •
- 4 = 1.7 m/sec •
- 5 = 17 m/sec fast

(Slower response improves measurement stability!)

e.g.  for 10 m/min



 to advance

**STEP 4** Which **Transducer** is connected (check nameplate)?  
 (P004)

### ULTRASONIC

- 0 = not entered
- 1 = ST-25
- 2 = ST-50
- 3 = ST-100
- 4 = LR-21
- 5 = LR-13

### ULTRASONIC/TEMPERATURE

- 100 = ST-H
- 101 = XCT-8
- 102 = XPS-10
- 103 = XCT-12
- 104 = XPS-15
- 105 = XPS-30
- 106 = XPS-40
- 107 = XLT-30
- 108 = XLT-60
- 109 = XLS-30
- 110 = XLS-60
- 111 = XKS-6
- 112 = XRS-5

e.g.  for LR-21



 to advance

**STEP 5** Which measurement **Units** are desired?  
 (P005)

- 1 = metres (m)
- 2 = centimetres (cm)
- 3 = millimetres (mm)
- 4 = feet (ft)
- 5 = inches (in)

e.g.  for feet



 to advance


**STEP 6** Where is **Empty** (transducer face to vessel bottom)?  
 (P006) (Presets Span to the maximum recommended value).

0.000 to 9999  
 e.g.  for 60 Units



 to advance

**STEP 7** What is the **Span** (Empty to highest material level)?  
 (P007)

0.000 to 9999  
 e.g. 



Proceed to OPERATION.