Appendix

B   Model 268 Communicator

B-1

INTRODUCTION

This appendix provides basic communicator information on the Rosemount Model 268 SMART FAMILY Interface when used with a Model 1151 Smart Pressure Transmitter.

Included in this appendix are a menu tree, a table of fast key sequences, and information on using the Rosemount Model 268 SMART FAMILY Interface.
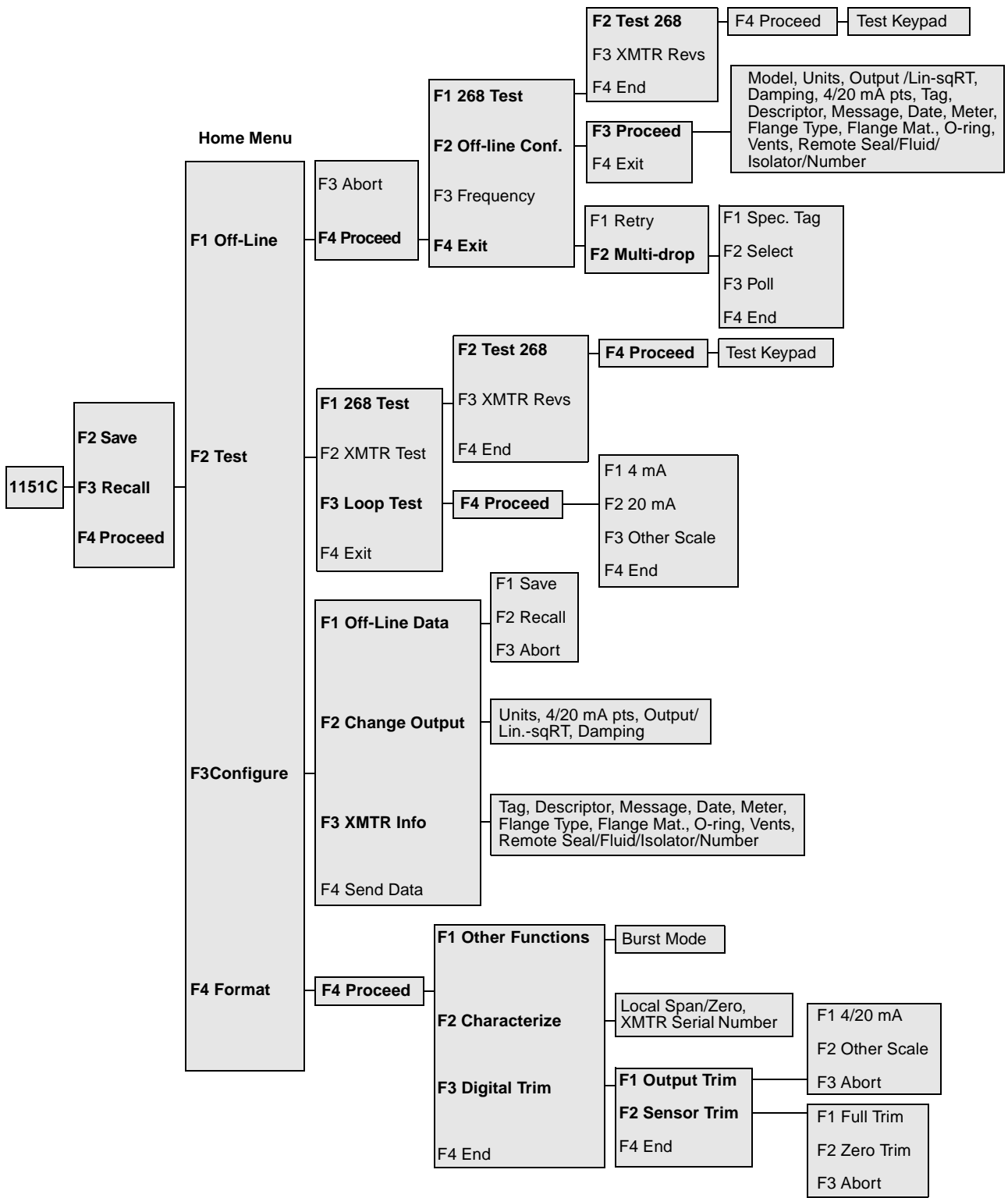
FIGURE B-1. 268 Menu Tree.

Home Menu

1151C

- **F2 Save**
- **F3 Recall**
- **F4 Proceed**

F1 Off-Line
- F3 Abort
- **F4 Proceed**

F1 268 Test
F2 Off-line Conf.
- F3 Frequency
- **F4 Exit**

F2 Test 268
- F3 XMTR Revs
- F4 End

- F4 Proceed — Test Keypad

F3 Proceed
- F4 Exit

Model, Units, Output /Lin-sqRT, Damping, 4/20 mA pts, Tag, Descriptor, Message, Date, Meter, Flange Type, Flange Mat., O-ring, Vents, Remote Seal/Fluid/Isolator/Number

- F1 Retry
F2 Multi-drop

- F1 Spec. Tag
- F2 Select
- F3 Poll
- F4 End

F2 Test

F1 268 Test
- F2 XMTR Test
F3 Loop Test
- F4 Exit

F2 Test 268
- F3 XMTR Revs
- F4 End

F4 Proceed — Test Keypad

F4 Proceed
- F1 4 mA
- F2 20 mA
- F3 Other Scale
- F4 End

F3 Configure

F1 Off-Line Data
- F1 Save
- F2 Recall
- F3 Abort

F2 Change Output
Units, 4/20 mA pts, Output/Lin.-sqRT, Damping

F3 XMTR Info
Tag, Descriptor, Message, Date, Meter, Flange Type, Flange Mat., O-ring, Vents, Remote Seal/Fluid/Isolator/Number

- F4 Send Data

F4 Format

F4 Proceed

F1 Other Functions — Burst Mode

F2 Characterize — Local Span/Zero, XMTR Serial Number

F3 Digital Trim
F1 Output Trim
F2 Sensor Trim
- F4 End

- F1 4/20 mA
- F2 Other Scale
- F3 Abort

- F1 Full Trim
- F2 Zero Trim
- F3 Abort

- F4 End

TABLE B-2. Model 268 Fast Key Equivalents.

| Function	Model 268 Fast Key Sequences
Analog Output	F3, F2
Analog Output Alarm	Not Applicable
Burst Mode Control	F4, F4, F1
Burst Operation	Not Applicable
Calibration	Not Applicable
Characterization	F4, F4, F2
Damping	F3, F2, F2
Date	F3, F3, (F1 x 3)
Descriptor	F3, F3, F1
Digital To Analog Trim (4–20 mA Output)	F4, F4, F3
Disable Local Span/Zero Adjustment	F4, F4, F1
Field Device Information	F3, F3
Full Trim	F4, F4, F3, F2, F1
Keypad Input (Trim Points)	F3, F2, F1
Loop Test	F2, F3
Lower Range Value	Process Variable Key, F2
Lower Sensor Trim	F4, F4, F3, F2, F1, F2
Message	F3, F3, F1, F1
Meter Type	F3, F3, (F1 x 4)
Number Of Requested Preambles	Not Applicable
Percent Range	Not Applicable
Poll Address	F1, F4, F4, F2, F3
Pressure	Process Variable Key
Range Values	F3, F2, F1
Rerange	F4, F4, F3, F1, F1
Scaled D/A Trim (4–20 mA Output)	F4, F4, F3, F1, F2
Self Test (Transmitter)	F2, F2
Sensor Information	F3, F3
Sensor Temperature	Process Variable Key, F3
Sensor Trim Points	F3, F2, F1
Status	Not Applicable
Tag	F3, F3
Transfer Function (Setting Output Type)	F3, F2, F1, F1
Transmitter Security (Write Protect)	Not Applicable
Trim Analog Output	F4, F4, F3, F1
Units (Process Variable)	F3, F2
Upper Range Value	Process Variable Key, F2
Upper Sensor Trim	F4, F4, F3, F2, F1, F3
Zero Trim	F4, F4, F3, F2, F2

CONNECTIONS AND HARDWARE

The Model 268 can communicate with a transmitter from the control room, the transmitter site, or any other wiring termination point in the loop. To communicate, it must be connected in parallel with the transmitter; the connections are non-polarized.

FIGURE B-3. Bench Hook-up (Smart Transmitters).
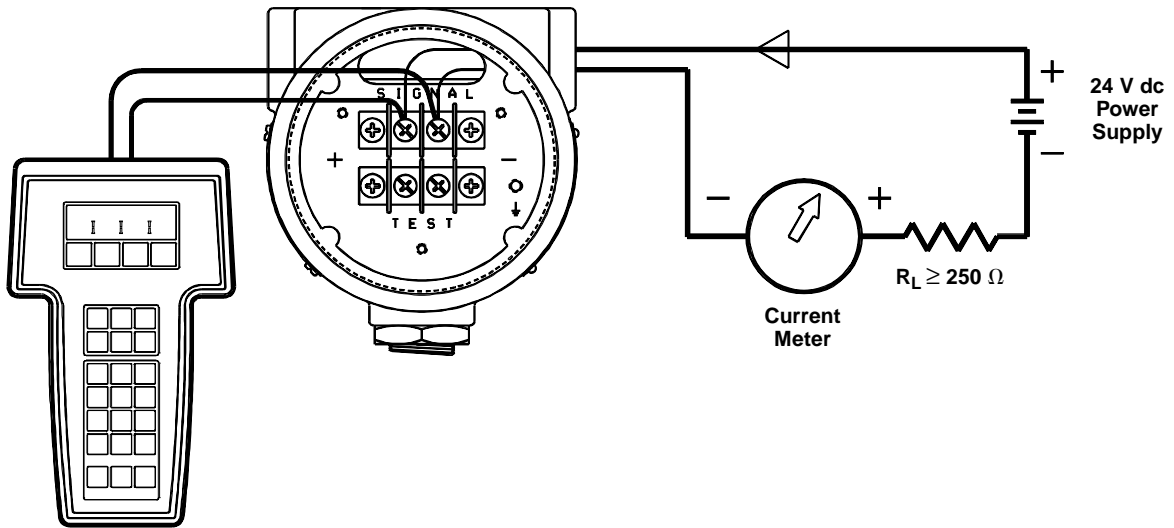
FIGURE B-4. Field Hook-up (Smart Transmitters).
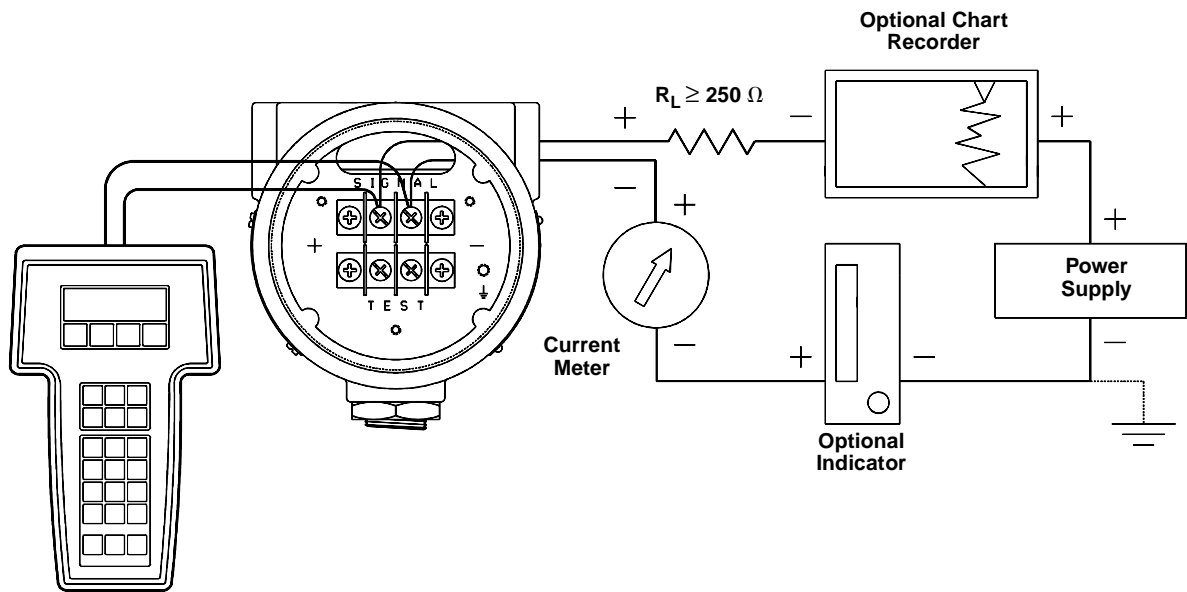
COMMUNICATOR KEYS

The keys of the Model 268 include the dedicated, alphanumeric and shift, and function keys that vary depending on the task being performed. The dedicated key functions are always the same.

Dedicated Keys

On/Off

Use this key to turn the unit on and off. When the Model 268 is turned ON, it searches for a transmitter in the 4–20 mA loop. If no transmitter is found, the Model 268 offers the opportunity to try again, select "MULT DROP" or "OFF-LINE".

Process Variable

Use the Process Variable key to display up-to-date process variable readings from the transmitter in engineering units, milliamps, pulse rate, and shedding rate. It also displays totalized flow.

Review

The Review key allows you to step through all the information currently held in the four memory locations of the transmitter and Model 268 — SAFE MEM, OFLN MEM, WORK REG, and XMTR MEM.

FIGURE B-5. Model 268 Communicator.
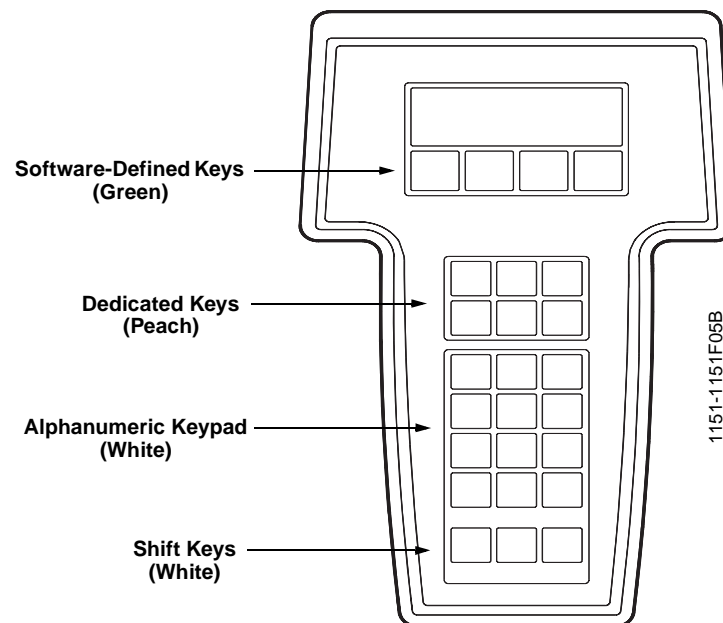
Help

Use the Help key to explain the software-defined key functions (F1-F4) in detail.

Restart

Use the Restart key to initiate communication with a transmitter while the Model 268 is still turned on. Upon connection to a new transmitter, pressing this key loads information from the new transmitter into the Model 268 working register.

Previous Function

The Previous Function key returns you to the previous decision level and allows you to select a different software-defined key function.

Alphanumeric and Shift Keys

Some menus require data entry. Use the alphanumeric and shift keys to enter all alphanumeric information into the Model 268.

FIGURE B-6. Model 268 Communicator Alphanumeric and Shift Keys.
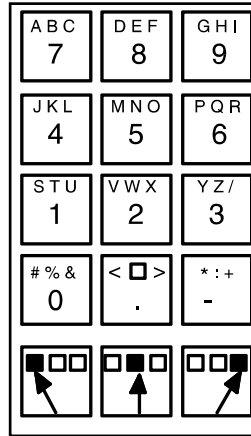
If you press an alphanumeric key alone from within an edit menu, the bold character in the center of the key appears. These characters include the numbers 0 through 9, the decimal point (.), and the dash symbol (–).

To enter an alphabetic character, first press the shift key that corresponds to the position of the letter you want on the alphanumeric key. Then press the alphanumeric key. For example, to enter the letter R, first press the right shift key, then the "6" key (see Figure B-7). Do not press these keys simultaneously, but one after the other.

FIGURE B-7. Data Entry Key Sequence.
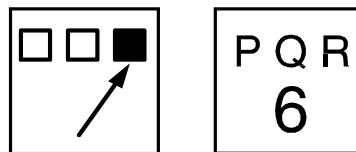
Function Keys

Use the four software-defined function keys, located below the LCD, to perform software functions. On any given menu, the label appearing above a function key indicates the function of that key for the current menu. As you move among menus, different function key labels appear over the four keys.

FAST KEY SEQUENCES

The Model 268 fast key sequences provide quick on-line access to transmitter variables and functions. Instead of stepping your way through the menu structure, you can press a fast key sequence to move from the Home Menu to the desired variable or function. On-screen instructions guide you through the rest of the screens.

Fast Key Sequence Conventions

The fast key sequences for the Model 268 use the following conventions for their identification:

F1, F2, F3, F4–Refer to each function key located directly below the LCD on the Model 268.

(F2 x 7)–Means to push the F2 key seven consecutive times.

**Process Variable**–Refers to the dedicated key located below the function keys on the Model 268.

To return to the Home Menu, use the function keys to exit the current task and press the PREVIOUS FUNCTION (dedicated key) as many times as necessary.

The fast key sequences are applicable only from the Home Menu. The Home Menu lists the model and tag, and labels the four function keys Offline, Test, Configure and Format (see Figure B-8). After completing a task, return to the Home Menu if you intend to use the fast key sequences. Fast key sequences will not work from any other Model 268 screen.

NOTE
Certain tasks require that you set the control loop to manual control before completing them. Fast key sequences often include a warning to return the loop to manual.

FIGURE B-8. Model 268 Home Screen.


```
Model: Model 1151
Tag: XXXXXXXX
Off-    | Test   | Con-   | For
line    |        | fig    | mat
```
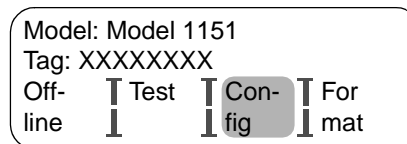
To return to the Home Menu, use the function keys to exit the current task and press PREVIOUS FUNCTION as many times as necessary. When the Home Menu appears, you can use another fast key sequence to reach a desired task.

NOTE
Certain tasks require that you set the control loop to manual control before completing them. Fast key sequence steps often include the warning to return the loop to manual. If the loop is not in manual control, be sure to watch for this screen. If it comes up during the fast key sequence, set the loop to manual before continuing with the task.

Fast Key Sequence Examples

Date

To change the date following the menu structure, you would start at the Home Menu and press F3 for **Configure,** F3 for **XMTR Info,** and F1 three times in a row to reach the Date function. The fast key sequence is F3, F3, [F1 x 3].

Loop Test

To perform the Loop Test, start at the Home Menu and press F2 for Test, F3 for Loop Test, and F4 for Proceed (after the loop is set to manual). The Function Key Sequence is F2, F3, F4.

DIAGNOSTICS MESSAGES   The following table provides a guide to diagnostic messages of the
Model 268.

Message	Description
CAUTION– Progressing will clear Ofln Mem	Off-line Memory is cleared for new information.
Data saved in OFLN Mem for downloading	Off-line configuration data are saved in the Off-line Memory and can be downloaded or sent to the flowmeter at an appropriate time.
Different XMTR type connected–XMTR Mem not changed	The flowmeter did not accept data sent because the data is meant for a different type of transmitter.
End of list	
ERR–filter auto adjust	The low pass filter auto-adjust sequence error occurs under the following conditions: • no flow in pipe • erratic flowrate • filter tracking disabled Remedy conditions and repeat function.
ERR–Hard/software is not compatible	
ERR–Not in output mode	
ERR–Not XMTR command	The flowmeter does not understand the command sent by the Model 268. Press F4, RESTART to restart the flowmeter, or press F3 to suppress the error message and REVIEW the software revision level. You may need to contact the Rosemount Service Center.
ERR–Out of range	
ERR–PV out of limits	
ERR–Update failure	
ERR–Value was too hi	
ERR–Value was too lo	
ERR–XMTR fault	
ERR–XMTR will not support command	The flowmeter does not understand the Model 268 command. Press F4, RESTART or press F3, REVIEW to review the software revision level of the flowmeter. Check compatibility.
ERR–268 Data err	
Errors Detected–XMTR Mem not changed	The flowmeter did not accept data because it contained nonpermissible values. Data errors must be corrected and the data sent again.
FAILURE–Electronics	
Gen failure–No. 1	
Making changes permanent–PLEASE WAIT	Data is being sent to the flowmeter and the flowmeter is accepting the data.
No data modified to send	Data with no changes is being sent. Press F4 to continue.
No data saved in OFLN Mem	There are no data in the Off-line Memory to review.

Message	Description
No data saved in SAFE Mem	There are no data in the Safe Memory to review.
Ofln Mem not compatible with WORK REGS–Data not transferred	The data stored in Off-line Memory and Working Register are from different kinds of transmitters, or the Off-line Memory is empty. Press F4, REVIEW, F2 to see the data in Off-line Memory and connect the Model 268 to similar transmitter.
SAFE Mem from diff XMTR than WORK REGS–Data not transferred	Data in the Safe Memory and Working Register are from different transmitters. Press F4, REVIEW, F1 and find the flowmeter serial number. Connect the Model 268 to the flowmeter with that serial number and press RESTART.
SAFE Mem not compatible with WORK REGS–Data not transferred	The unique identifier in the Safe Memory and the transmitter are different. Press F4, REVIEW, F1 to see the data in the Safe Memory. Connect the Model 268 to the matching transmitter and press RESTART.
The XMTR has returned an error	
WARN–Used nearest legal table value	The value entered has too many decimal places. The Model 8800 defaults to the closest value available.
WARN–Value at limit reverse direction	The entered value is beyond the upper or lower limit. Adjust to a value within the limits.
WARN–Value entered is illegal, re-enter	The Model 268 will not accept the entered value. Enter an acceptable value (see relevant section in manual).
WARN–Value out of limits, altered by 268, re-check data	The Model 268 could not store the entered value so it changed to the maximum allowable value. Check the new value.
WARNING–Analog output outside range points	
WARNING–Control loop should be in manual	Before sending the data that could affect the 4–20 mA output signal, set the loop to manual control. After it is set, press F4.
WARNING–Data transmission error	Previous communication between Model 268 and the flowmeter was not successful. If this message appears repeatedly, check the loop for a source of noise that could corrupt the signal.
WARNING–Loop may be returned to auto	After completing a communication that required the loop to be set in manual, you may return the loop to automatic control.
WARNING–Match xmtr S/N to nameplate S/N	Check to be sure that the entered flowmeter serial number is the same as that on the flowmeter nameplate.
WARNING–Not on line	The key you have pressed is not applicable for off-line configuration tasks.
WARNING–Process has been aborted	Indicates that the self-test has been aborted by pressing any key.
WARNING–PV out of range	
WARNING–Some of the changes were not saved in the xmtr mem	Flowmeter did not receive all configuration changes. Note differences in configuration data and reconfigure the flowmeter accordingly.
WARNING–This address already being used	Another transmitter is already using the entered multi-drop address. Enter a new address.

Message	Description
WARNING–This will erase work reg	Data in the Working Register will be replaced with data from a another location.
WARNING–XMTR/268 not in communication	Model 268 did not get answer from flowmeter: • Check connections • Check that power is reaching flowmeter • Check for minimum 250 ohms resistance in loop
WARNING–XMTR in output mode	During start-up and restart, the transmitter milliamp output does not reflect the process variable. Press F4.
WARNING–XMTR is not communicating	Model 268 did not get answer from flowmeter: • Check connections • Check that power is reaching flowmeter • Check for minimum 250 ohms resistance in loop
WARNING–268 does not know this XMTR	Model 268 recognizes a Rosemount transmitter in the loop but cannot communicate with it. The message usually indicates a software revision level incompatibility between the Model 268 and the transmitter.
XMTR Mem diff than WORK Regs–XMTR not changed	Data in the Working Register and in the flowmeter have different unique identifiers. The Model 268 was probably connected to different flowmeter without RESTART or power-off/power-on sequence. Press RESTART to erase the Working Register or save the Working Register to the Off-line Memory and download to the proper flowmeter at a later time.
XMTR Security: On–XMTR will not accept changes to Memory	
XMTR still busy	Flowmeter is running a computational or diagnostic routine and cannot respond to the Model 268 instructions. Press the PREVIOUS FUNCTION key to cancel.
XXXX=YYYY ERR–Illegal value	
XXXX=YYYY ERR–Out of range	
XXXX=YYYY ERR–Span too small	
XXXX=YYYY ERR–Valu was too hi	
XXXX=YYYY ERR–Valu was too lo	
XXXX=YYYY ERR–LRV too hi	
XXXX=YYYY ERR–LRV too lo	
XXXX=YYYY ERR–LRV & URV out limits	
XXXX=YYYY ERR–URV too hi	
XXXX=YYYY ERR–URV too lo	
XXXX=YYYY ERR–268 data err	
268 Failure–No. 1	
268 Failure–No. 2	
268 Test: FAIL	