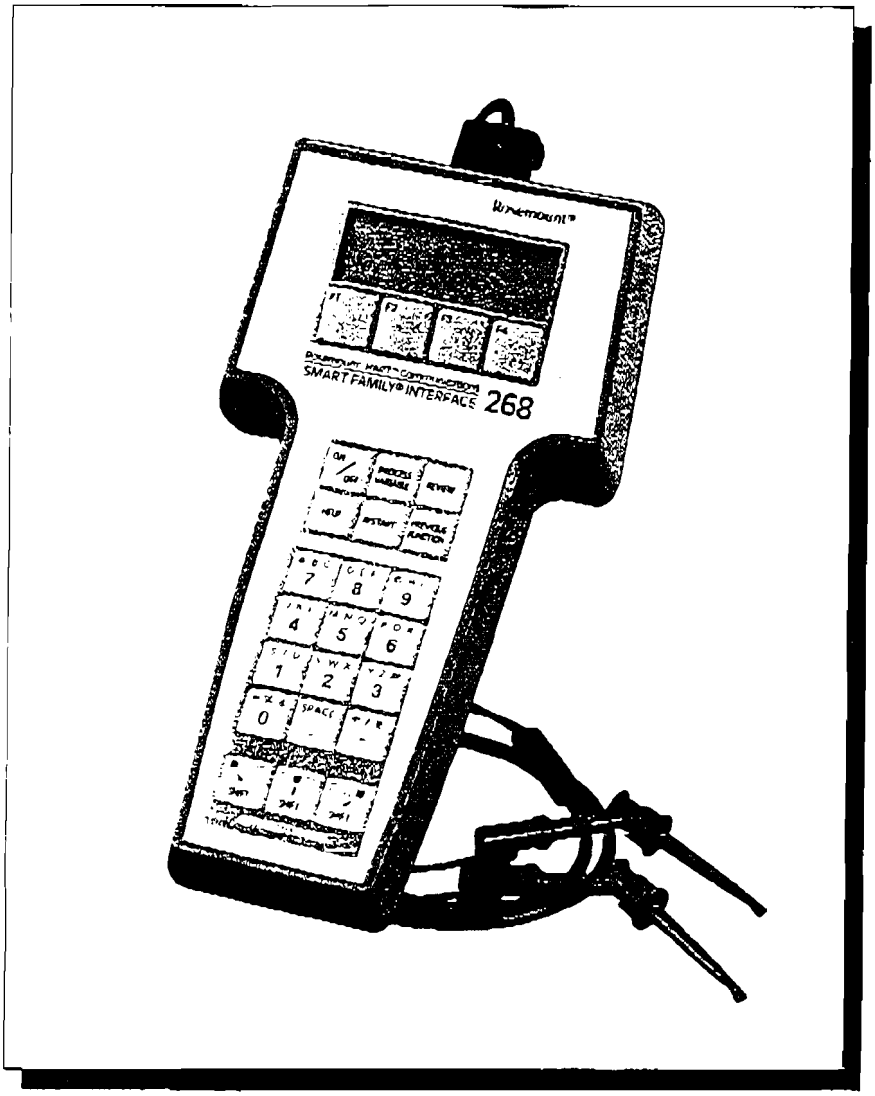
SMART FAMILY
Interface Featuring HART® Communications



ROSEMOUNT
Measurement
Control
Analytical
Valves

- *Common interface for all Rosemount SMART FAMILY® instruments*
- *Digital communications via the HART® protocol without interruption of transmitter output signal*
- *Easy to operate*
- *Microprocessor-based electronics*
- *Large 4 line × 20 character display*

INTRODUCTION

The Model 268 Smart Family® Interface* is the common denominator for Rosemount SMART FAMILY microprocessor-based field instruments. From any wiring termination point in the loop, it can communicate with each instrument in this family, including: level, density, mass flow, analytical, pressure, temperature, and magnetic flowmeter transmitters. When connected to one of the Rosemount smart transmitters shown in Figure 1, this hand-held, battery-powered unit can perform diagnostic, configuration, and interrogation functions. Moreover, configuration data can be stored in the Model 268 while it is offline for later downloading to one or more transmitters. Simultaneous communication capabilities allow the Model 268 to receive data from and send data to a transmitter without disrupting the transmitter's signal to the control room.

COMMUNICATION

The Model 268 communicates with Rosemount smart transmitters via the HART® protocol, which uses a frequency shift keying (FSK) technique based on the Bell 202 communications standard. Communication is accomplished by superimposing a high-frequency signal on top of the 4–20 mA output signal. The Rosemount implementation of this technique allows simultaneous communication and output without compromising loop integrity.

KEYPAD FUNCTIONS

The Model 268 membrane keypad features a complete alphanumeric key set, six dedicated function keys, and four software-defined function keys. The software-defined keys vary in function, depending on the transmitter and the task in question. Dedicated key functions are always the same, and can be accessed at virtually any time while the Model 268 is in use.

Alphanumeric Keys

The alphanumeric key set is used to enter information pertaining to transmitter parameters. Three shift keys are used to access alphabetic characters.

FIGURE 1. The Model 268 SMART FAMILY Interface Can Be Used with Any Member of the Rosemount SMART FAMILY Pressure, Temperature, Level, Flow, Density, and Analytical Instruments.

Dedicated Keys

ON/OFF turns the Model 268 on and off.

PROCESS VARIABLE displays actual process variable readings in engineering units and as a percent of span as received from the transmitter the Model 268 is connected to. The displayed process variable is updated approximately once every two seconds. The 4–20 mA range points may also be viewed using this key.

REVIEW allows a user to view all information currently held in Model 268 memories or in the memory of a connected transmitter.

HELP further defines the function of the soft keys currently shown on the Model 268 display.

RESTART allows the user to initiate communication with a smart transmitter without turning the Model 268 off. Upon connection to a new transmitter, pressing this key will load information from the new transmitter into the Model 268 working register.

PREVIOUS FUNCTION returns the user to the previous decision level.

Software-Defined Keys

The four software-defined keys just below the display of the Model 268 carry out functions specific to each transmitter.

As with other Rosemount SMART FAMILY instruments, the Model 268 carries out test, configure, and format functions. It can test the transmitter and the loop, as well as its own operation. In the configure mode, the Model 268 can be used to change transmitter input/output characteristics and transmitter information parameters. The format mode is used during the initial set up of a transmitter and for maintenance of the digital electronics.

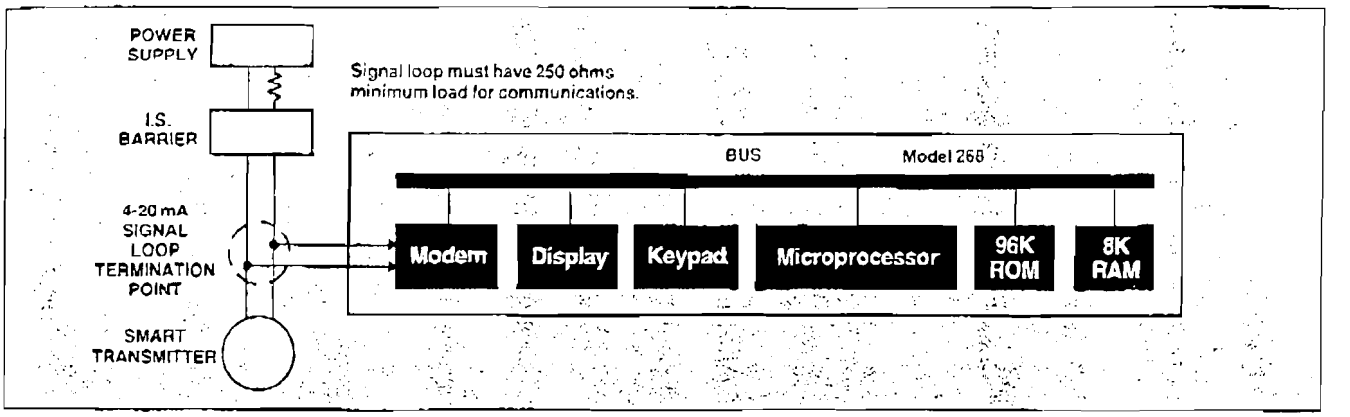


FIGURE 2. Model 268 SMART FAMILY Interface Block Diagram.

SPECIFICATIONS

Functional Specifications

Memory

Nonvolatile memory retains contents when the Model 268 is powered down, so long as a charged battery pack is installed.

Power Supply

Five AA 1.5 V batteries. (Rechargeable Nickel-Cadmium battery pack optional.)

Performance Specifications

Temperature Limits

Operating Limits

32 to 122 °F (0 to 50 °C).

Storage Limits

–4 to 158 °F (–20 to 70 °C).

Humidity Limits

Operates in 0–95% relative humidity under noncondensing conditions below 104 °F (40 °C) without error.

Hazardous Locations Certifications

CENELEC/BASEEFA Intrinsic Safety Certification

I1 EEx ia IIC T5 (T_{amb} = 50 °C).
Certificate No. Ex 89C2279.

Factory Mutual (FM) Intrinsic Safety and Non-incendive Approval

I5 Intrinsically safe for Class I, Division 1, Groups A, B, C, and D; Non-incendive for Class I, Division 2, Groups A, B, C, and D.

Canadian Standards Association (CSA) Intrinsic Safety Approval

I6 Intrinsically safe for Class I, Division 1, Groups A, B, C, and D.

Standards Association of Australia (SAA) Intrinsic Safety Certification

I7 EEx ia IIC T5.
Class I, Zone 0.
Certificate No. 1057U.

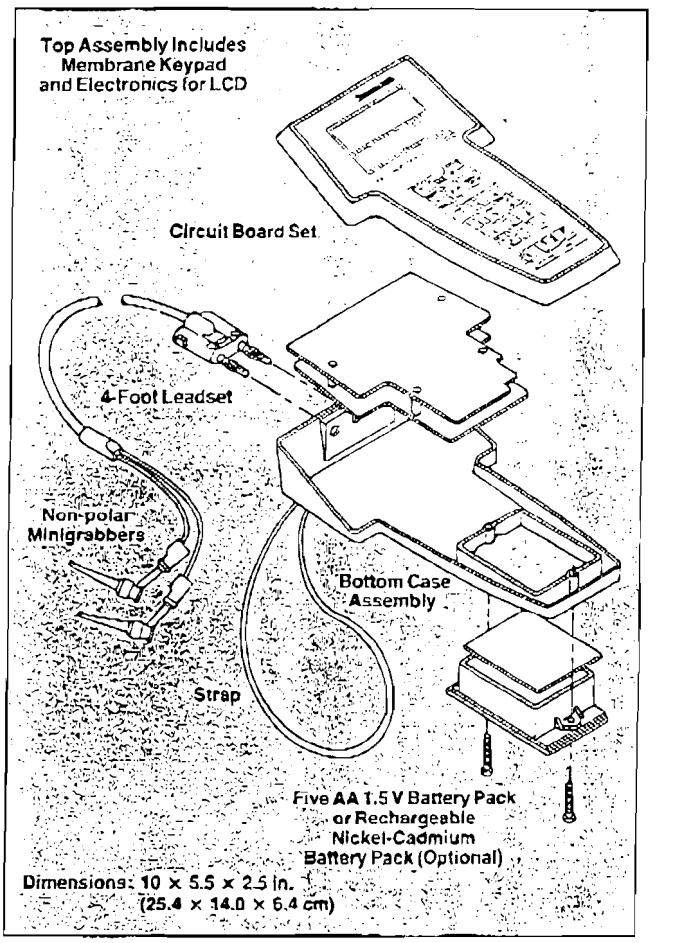


FIGURE 3. Model 268 Exploded View.

Physical Specifications

Display

4-line liquid crystal display with 20-character line width.

Keyboard

Complete alphanumeric keyboard, six dedicated function keys, and four software-defined keys.

Weight

Approximately 2 lb (0.9 kg) including batteries.

ORDERING INFORMATION

MODEL	SMART FAMILY INTERFACE ①
0268A	

CODE	POWER PACK OPTION
D	Battery holder for disposable AA batteries
R	Rechargeable NiCad battery pack and recharger

CODE	RECHARGER SERVICE AND PLUG TYPE
1	115 V ac, U.S. plug
2	220/230 V ac, European plug
9	None

CODE	LANGUAGE
E	English
F	French
G	German
I	Italian

CODE	OPTIONS
I1	CENELEC/BASEEFA Intrinsic Safety Certification (available with power pack Option Code R only)
I5	Factory Mutual (FM) Intrinsic Safety and Non-incendive Approval (available with power pack Option Code R only)
I6	Canadian Standards Association (CSA) Intrinsic Safety Approval
I7	Standards Association of Australia (SAA) Intrinsic Safety Certification

0268A	D	9	E	TYPICAL MODEL NUMBER

① Complete kit includes SMART FAMILY Interface, AA battery pack, 5 AA batteries, leadset with MINI GRABBERS™ and alligator clips, and transit case. Options include NiCad battery pack with charger, language selection, and certifications. If the NiCad battery pack is selected, one spare battery pack per Model 268 is recommended.

TABLE 1. Spare/Replacement Parts.

PART NUMBER	DESCRIPTION
00268-1049-0002	AA alkaline battery pack
00268-1050-0002	NiCad battery pack
00268-1051-0001	Lead set with adapters
00268-1026-0001	115 V ac recharger (U.S. plug)
00268-1027-0001	220/230 V ac recharger (Eur. plug)
00268-1016-0001	Transit case

The Rosemount SMART FAMILY Instruments

Rosemount SMART FAMILY microprocessor-based instruments include: pressure, temperature, level, mass flow, density, analytical, and magnetic flowmeter offerings. Communication with each member of the family can be carried out with the same device—the Model 268 SMART FAMILY Interface. In addition, each of the instruments can communicate with Rosemount control systems.

Other SMART FAMILY Product Data Sheets

PDS 4593 Model 1151 Smart Pressure Transmitter
PDS 4394 Model 1151 Smart Retrofit Kit
PDS 4622 Model 3051C Differential Pressure Transmitter
PDS 4623 Model 3051C Gage Pressure Transmitter
PDS 4659 Model 3044C Temperature Transmitter
PDS 4668 Model 8712C Magnetic Flowmeter Transmitter
PDS 4635 Model 3001C Hydrostatic Pressure Transmitter
PDS 4637 Model 3001S Solid-State Hydrostatic Pressure Transmitter
PDS 4640 Model 3201 Hydrostatic Interface Unit
PDS 4595 Model 3311 I/P Transducer (remote pressure reading only)
I71-2054 C/T Model 2054 C/T Analyzer
I71-2024 pH Model 2054 pH Analyzer
I71-2081 pH Model 2081 pH Transmitter

Rosemount Inc.
Measurement Division
12001 Technology Drive
Eden Prairie, MN 55344 USA
Tel (612) 941-5560
Telex 4310012
Fax (612) 828-3088

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