

FIGURE A

MOUNTING

MULTI-POINT™ Process Switch must be protected against moisture or excessive humidity. An enclosure is recommended for applications where the intended mounting location is subject to wash-down or adjacent to steam producing equipment.

- A-1. Refer to Figure A for mounting and clearance dimensions.
- A-2. Securely attach to a wall or rigid plate using the mounting flange at the rear of the unit.
- A-3. Allow adequate clearance to permit access to electrical terminals located on top of the unit.

ELECTRICAL CONNECTIONS

AC POWER — Process Switch requires nominal 115 Vac/60 Hz. (single phase) power for operation. Connections should be made using approved 3-conductor, source grounded cabling.

- B-1. Process Switch is internally fused @ 0.1 Amp. for the 115 Vac power input. (Refer to Figure B-1 for fuse location)
- B-2. Unit features plug-in type terminal blocks. Terminal block may be unplugged from unit when making connections. (Refer to Figure B-2)
- B-3. Maintain polarity (HOT/GND/NEUT) as indicated at terminals. (Refer to Figure B-3 for terminal designation detail.)

SIGNAL INPUT — Process Switch accepts any proportional, externally-powered two-wire 4-20 mAdc current loop from typical process transmitter (level, pressure or temperature). Unit incorporates input current limiting using a PTC resistor circuit that trips when the input exceeds 70 mAdc. An automatic reset feature restores continuity once current level drops accordingly.

- B-4. Unit must be wired in series with transmitter to maintain proper polarity at the + and - terminals. See Diagram.
- B-5. Connect twisted pair conductors (20 AWG two-conductor cable recommended) to INPUT terminals at unit.
- B-6. Internal input resistance is 132 Ohms nominal.

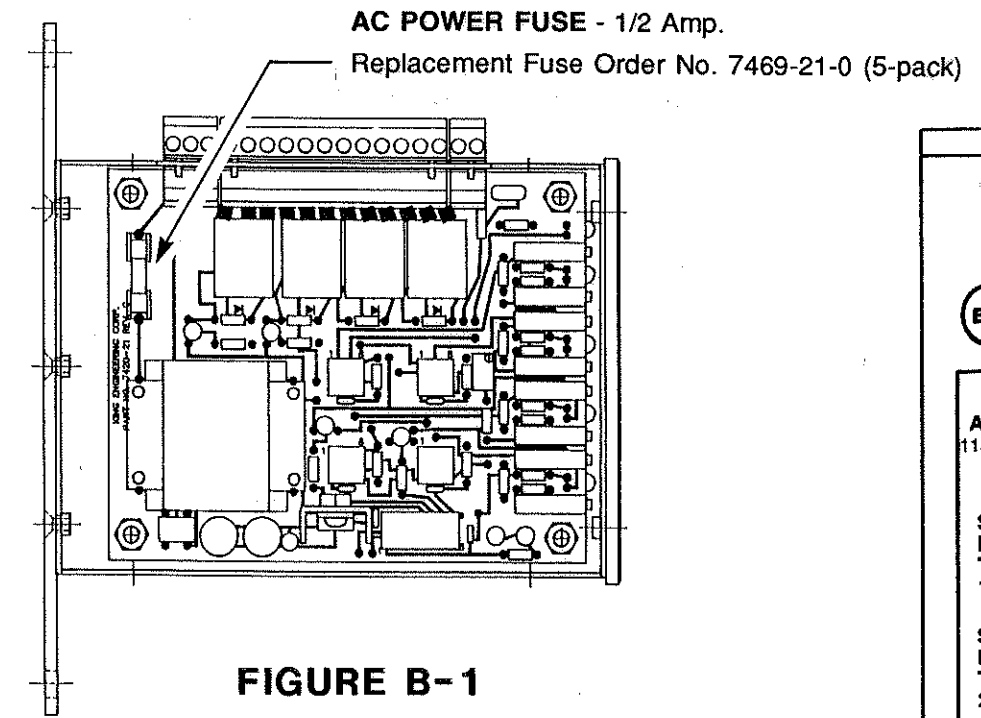
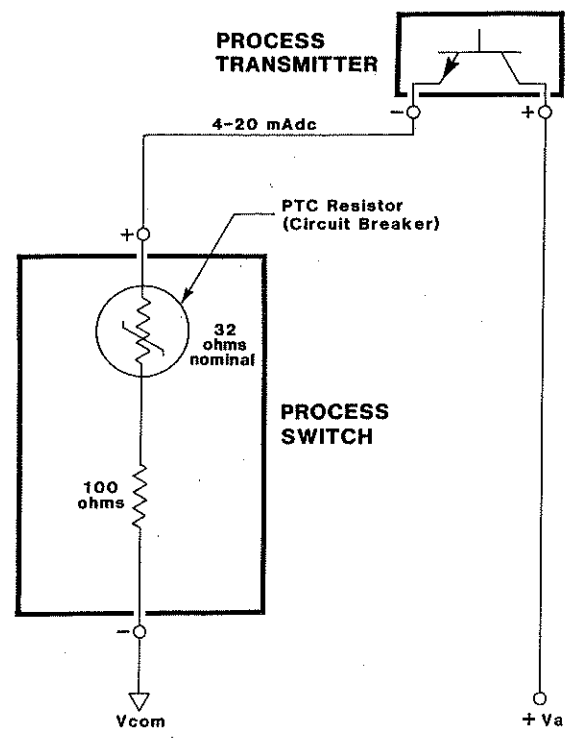


FIGURE B-1



SIGNAL LOOP DIAGRAM

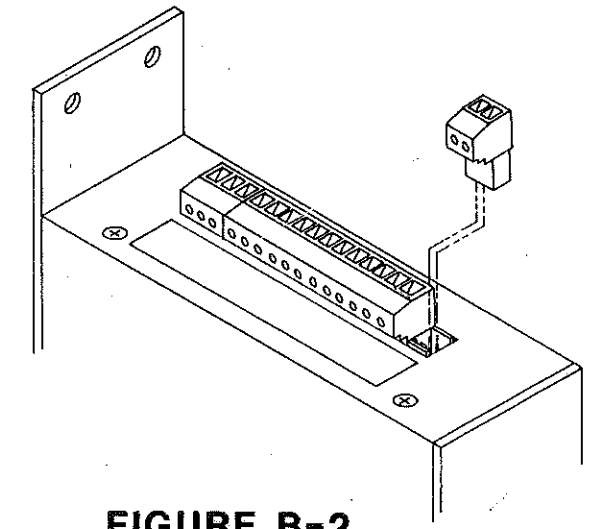


FIGURE B-2
PLUG-IN TERMINAL CONNECTORS

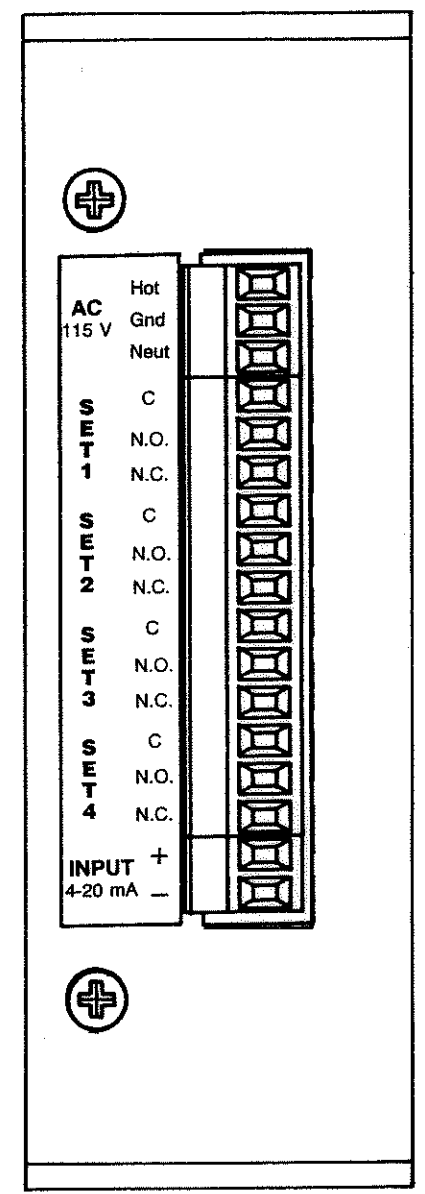


FIGURE B-3
POWER / OUTPUT RELAY / SIGNAL INPUT TERMINALS

INSTALLATION INSTRUCTIONS

TITLE
KING-GAGE®
 MULTI-POINT PROCESS SWITCH
 SINGLE-CHANNEL ANALOG 4-20 mA PROCESS CONTROL

			DATE	9-20-89
C	4/95	Revised per ECR no. 3397		
B	2/1/90	REVISED RESETS	DRAWN BY	M. Ellinger
A	9/20/88	RELEASED	APPROVED	[Signature]



DWG. NO.	K-1090-1-5880	REV.	
PAGE 1 OF 2		C	

OUTPUT SWITCHING RELAYS

Four (4) independent SPDT relays are provided. Form-C configuration includes N.O. (normally-open), N.C. (normally-closed) and C (common) relay contacts. These connections are labelled "SET1, SET2, SET3, SET4" corresponding to the front panel set-point adjustments and status indicators. Setpoints are adjustable over the full range of the input signal and may be used for "High" or "Low" values as desired.

- C-1. Relay contacts are related for 3.0 Amp maximum @ nominal 115 Vac. Do not exceed rated current when wiring external circuit to these switching relays.
- C-2. NOTE: Relays are energized when set-point milliamp values are exceeded. Based on this, the following statements generally apply . . .
- When wiring "HIGH" set-point relays, circuit should typically be wired to the N.O. contacts.
- When wiring "LOW" set-point relays, circuit should typically be wired to the N.C. contacts.

SET-POINT STATUS INDICATORS/CALIBRATION

The LED status indicators illuminate when set-point milliamp value is exceeded. These indicators are used when adjusting the individual set-points.

SET-POINT ADJUSTMENTS — Two (2) adjustments are provided for each set-point. These are 20-turn potentiometers, labelled "COARSE" and "FINE" adjustment. Refer to Figure D detailing the front panel and adjustment points.

- D-1. Before adjusting the set-point, turn "FINE" potentiometer completely to the left or right. Next, make ten (10) turns in the reverse direction to ensure equal amount of increase and decrease adjustment.
- D-2. Turn "COARSE" adjustment until LED is illuminated, then turn back slowly to where the LED goes off. (Each complete turn of the "COARSE" potentiometer equals approximately 1.0 mA)
- D-3. Use "FINE" adjustment to find the precise point where the LED is triggered. (Each complete turn of the "FINE" potentiometer equals approximately 0.005 mA change)

An alternate method of adjusting set-points is to input a simulated 4-20 mA signal. By slowly varying the milliamp signal, precise value of existing setting (including deadband) can be determined prior to making adjustments to the set-point.

FACTORY PRESETS

Unless otherwise noted, the Process Switch is preset at the factory to the following nominal values (± 0.1 mA):

SETPOINT 1	5.90 mA - 6.10 mA
SETPOINT 2	9.90 mA - 10.10 mA
SETPOINT 3	13.90 mA - 14.10 mA
SETPOINT 4	17.90 mA - 18.10 mA

DEADBAND 0.16 mA

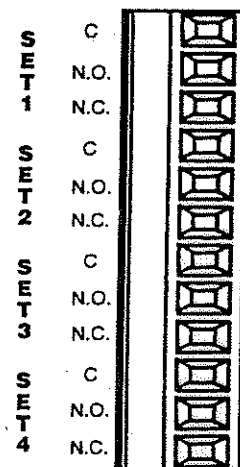


FIGURE C-1

OUTPUT RELAY ELECTRICAL TERMINALS

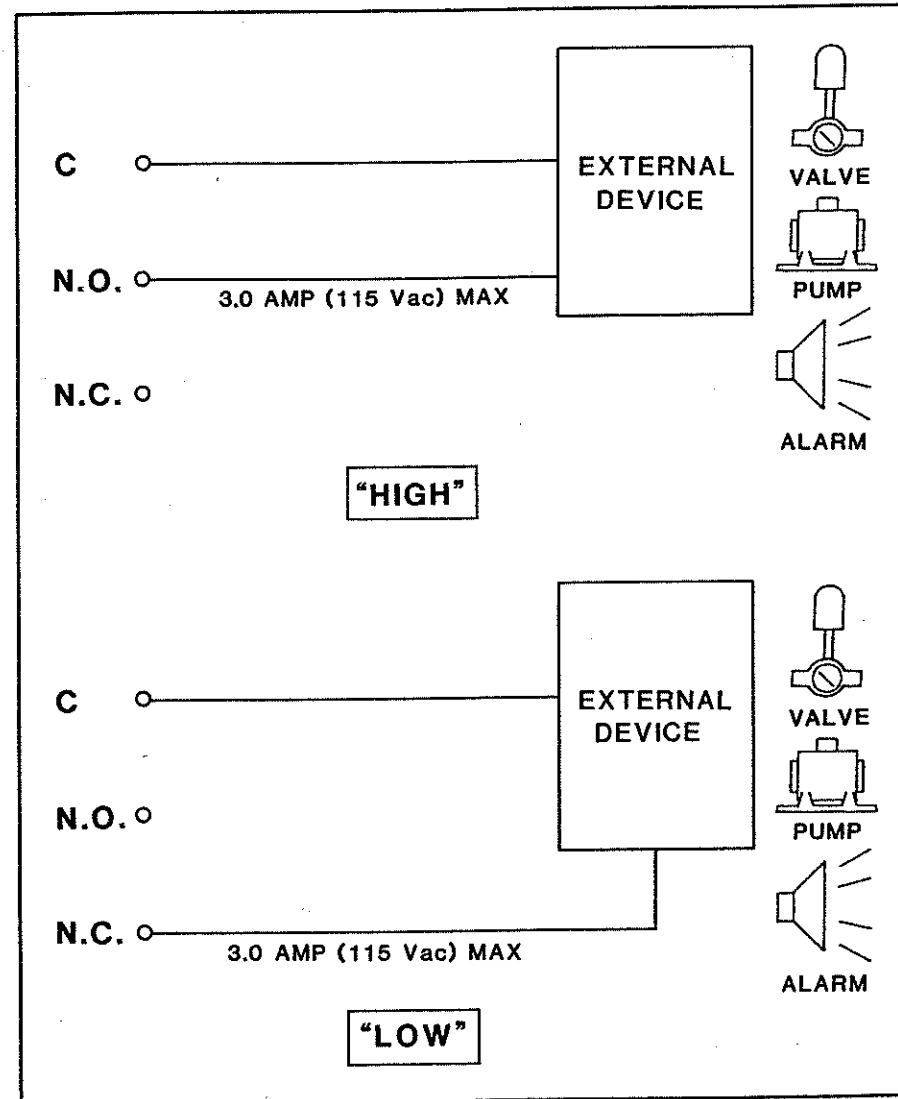


FIGURE C-2

TYPICAL HIGH AND LOW RELAY CIRCUIT DIAGRAMS

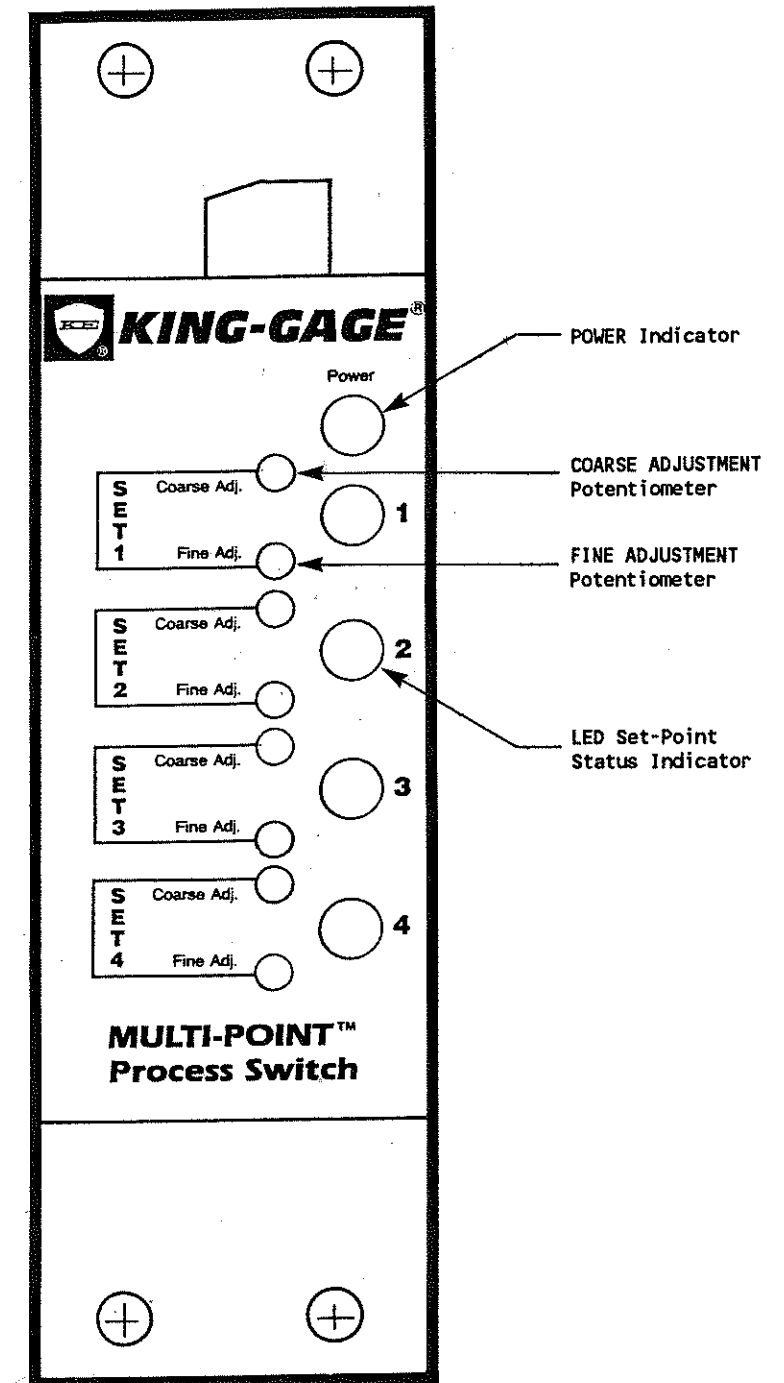


FIGURE D

INSTALLATION INSTRUCTIONS

TITLE

KING-GAGE

MULTI-POINT PROCESS SWITCH

SINGLE-CHANNEL ANALOG 4-20 mA PROCESS CONTROL

		DATE	9-20-89
C	4/95	Revised per ECR no. 3397	
B	3/1/90	REVISED RESETS	DRAWN BY M. Ellinger
A	3/20/89	RELEASED	APPROVED <i>[Signature]</i>



Box 1228, Ann Arbor, Michigan 48106 U.S.A.

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PAGE 2 OF 2

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