MODEL 707

CURRENT LOOP PROCESS CONTROLLER
With Dual Limits μP Compatible

FEATURES

- ±4½ Digits, .5"
- Dual Limits for Over, Between & Under
- Modular Construction
- "3T" Parallel BCD
- ¼ DIN Package
- μP Compatible
- 150 Hours Burn-in
- Splash Proof Cover Available
- Detects Open or Shorted XMTR
- ±5V CMV
- Zero & Span Adjust to Display Engineering Units

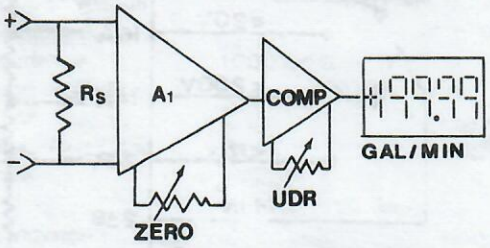
DESCRIPTION (See Model 700 on Page 2 .)

The 707 uses the same MAIN FRAME as the Model 700 with all its features and flexibility (see pages 2 & 3). When the 707 is ordered, a Plug-in P.C. Board (No. 707) is installed at the factory or Mod Center converting the 700 into a 2 wire Process Loop Indicator. In addition to conditioning the Input Signal, the 707 contains an Under-Over Signal Detector, factory calibrated (field adjustable) that forces the display and BCD to flash negative for signals 10% under the low end and flash positive for signals 100% over the high end of calibration (i.e. ≤3.6mA≥36mA Signal will flash for a 4-20mA Range).

Linearized Output proportional to the Signal Input is available at connector to drive recorders, etc. Its Output is 0-2Vdc F.S. @ 1mA maximum.

Ranges
Eight ranges are available to cover most standard XDCR Applications, refer to Ordering Information or contact the factory for special calibration.

BLOCK DIAGRAM INPUT STAGE



SPECIFICATIONS @25°C

Accuracy and Linearity	±0.01% ±1 Digit
Common Mode Rejection Ratio	90dB
Common Mode Voltage	±10Vdc to Dig. Gnd.
Noise Rejection	80dB @ 50/60Hz
Temperature Coefficient	±50PPM/°C
Sample Rate	3/Sec. Nominal, 20 Maximum, (specials)
Overload Indication	Display Flashes
Polarity	Automatic
Display	±1.9.9.9.9 ½" LED
Power Consumption	1.5 Watts
Temperature	−10 to 60°C oP −20 to 70°C Stored
Humidity	To 60% RH Std. to 90% Special
Zero Control	±5000 Counts
Span Control	±5000 Counts
Analog Output	0-2Vdc @ 1mA

TERMINAL DESCRIPTION

Lower Connector
Two models are available, AC Input and DC Input.

AC Models: Connect 1 and 2 to Hi Side of 115 Vac and 3 and 4 to Low Side of 115 Vac. For 230 Vac, connect 1 to Hi, 4 to Low and Jumper 3 and 2. Pin 5 is the common to both relays or TRIAC (if ordered). Pin 6 is the normally open contact of the **Low Limit** and will close to Pin 5 when this limit is exceeded (reading below limit). Pin 7 is the contact of the **High Limit** and will close to 5 when the reading is above the **High Limit. Do not exceed Power Rating.** Pin 9 is the unregulated output of the DC Supply (9Vdc +20%) maximum current available is 50mA. Pin 10 is — Signal Output (Analog Common) maximum CMV to AC Line is 1200V, maximum CMV to Digital Ground is +2V. Pin 11 is the + Output, maximum voltage to either AC Line or Digital Ground is 1200V for voltage models and 200% of range for current models. Pin 1[illegible] is Digital Ground, Pin 15 is +5Vdc (Vcc) 20mA available f[illegible] external use. Pin 12 + Input, Pin 13 — Input.

DC Models: Identical to AC Models except the CMV is determined by External Power Supply. For 5 Vdc Models, Pin 15 is the +5Vdc Input (300mA). Pin 9 is the 7 to 12 Vdc Input for 12V Models. AC connections are deleted.

Note: Pins 10-15 are common to upper connector.

Upper Connector (Solder Tail Type)
The label on the unit is self explanatory. The following description will explain in more detail the functions of terminals. Side B (Top) 1, 2, 3 and 19 and side A 28 are Output Disable lines for the "3T" BCD corresponding to each Digit. When open or at +5V, will disable the output of the BCD Buffers and force the Hi Z State, when at Ground (Logic 0) the output will represent the display reading in BCD Format. These pins must be grounded for normal operation of the digital limits. Pin A29 ID Input Disable, when at +5V or open will prevent the BCD Data from the A-D from being entered into the "3T" BCD Converter. It must remain at ground (Logic 0) for normal operation. BCD Data Outputs (per label) are "3T" Type and capable of driving 1TTL Load. Pin 18B + Sign is at Logic 1 for Positive Signals and at Logic 0 for Negative Ones. Pin 20B Strobe, there are 5 Negative Pulses (one for each digit) at the end of the conversion. Pin 21B UDR Underrange Output will go Low (Logic 0) when the input signal is below 1800 counts. Pin 13A OVR Overrange Output normally at Logic 0 will switch to Logic 1 when the input signal is over 20000 counts. Pin 1A Ref. is the output of the Internal Reference nominally 1.0000Vdc. When Ratiometric Option is ordered, it becomes the External Reference Input (max. 2Vdc). Pin 2A Cl[illegible] is the unit's clock output nominally 100KHz. Pin 3A −5Vdc O[illegible]put @ 5 mA max.

Pin 6A Busy will only be low during the Auto Zero Period and high during the conversion time. Pin 19A D. Blank, grounding this in-

(cont'd)

TERMINAL DESCRIPTION *(cont'd)*

put will blank the display except for D.P. and Sign; Pin 21A L. Test when grounded will test for all segments except D.P. and Sign. Pin 22A Hold when grounded will hold the next conversion. See lower connector for description of other Pins that are common to both connectors. + Signal input at Pin 27B; − Signal input at Pin 28B; +analog output at Pin 23B; − analog output (analog ground) at Pin 22B.

ORDERING INFORMATION

MODEL 707 X X X

Range	Input	Input Impedance	†Readout
*0	0-20mAdc	50 OHMS	0000-10000
1	1-5mAdc	200 OHMS	0000-10000
2	4-20mAdc	50 OHMS	0000-10000
3	10-50mAdc	20 OHMS	0000-10000
*4	0-5Vdc	100K OHMS	0000-10000
5	1-5Vdc	100K OHMS	0000-10000
6	0-10Vdc	100K OHMS	0000-10000
*7	−10V to +10Vdc	100K OHMS	0000-10000

Display

0 ... 4½ Digits

Power/Relays

0 ... 5Vdc ±5%, No Relays
1 ... 5Vdc ±5%, w/Relays
2 ... 12Vdc ±5%, No Relays
3 ... 12Vdc ±5%,w/Relays
4 ... 115/230 Vac, No Relays
5 ... 115/230 Vac, w/Relays
6 ... 5Vdc/Triac 3A@240 Vac
7 ... 12Vdc/Triac 3A@240 Vac
8 ... 115/230 Vac/Triac 3A@240 Vac

*Note: These ranges do not offer "Below Range" flashing display.

Note: Connectors included.

†Note: Standard Display is 0000 to 10000 counts for specific input, specify your calibration, if other than standard.

Note: Refer to MAIN FRAME 700 for Standard features and specifications.