

Series 710

Technical Specifications

Series 710 Ratemeter and Totalizer



DESCRIPTION:

The 710 Series is an integrating totalizer/ratemeter which accepts analog signal inputs. The unit can be field programmed to accept 4-20mA, 0-20mA, 0-5V, 0-10V or 1-5V signals. An optional Square Law input is available for inputs that require square root extraction. A 4-20mA output option is available to control strip recorders or to transmit linear signal other peripherals. Two assignable set points are standard. The high and low scaling settings are programmable from the front panel. (Press the "lock" key once to freeze the display.)

FEATURES

- Programmable High and Low Scaling Settings
- 2 Relay Outputs (SPDT) with Set Points Assignable to Rate or Total
- User Selectable Rate, Total, Peak or Valley Display
- 0-5V, 0-10V, 1-5V, 4-20mA or 0-20mA Analog Input
- NEMA 4X/IP 65 Front Panel
- +24V Output Power For Peripherals
- Reset Button for Displayed Values
- Internally Calibrated (no potentiometers to adjust)

OPTIONAL:

- RS422/232 Serial Communications
- 4-20mA Output
- Square Root Extraction

SPECIFICATIONS:

Display: 4.5 digit rate; 6 digit total
0.55" high, 7 segment, LED.

Input Power: 110, 220 VAC $\pm 15\%$ or 12 to 24VDC.

Current: max. 300mA DC or 10.0VA (10W) at rated AC voltage.

Output Power: (AC powered units only)
+ 24VDC @ 50mA regulated $\pm 5\%$

Temperature:

Operating: +41°F (5°C) to +130°F (+54°C).

Storage: -40°F (-40°C) to +200°F (93°C).

Humidity: 0-90% Noncondensing

Memory: EEPROM stores data for ten years if power is lost.

Reset:

Front Panel: resets displayed values and control outputs.

Remote: 4-30VDC positive edge, resets totalizer and control outputs.

Input:

Standard: Linear 4-20mA, 0-20mA, 0-5V, 0-10V or 1-5V selectable from the front panel.

Optional: Square Law 4-20mA, 0-20mA, 0-5V, 0-10V or 1-5V is available for inputs that require square root extraction.

Input Impedance: Current: 100 Ω ; Voltage: 115K Ω

Overvoltage Protection: 50 V

Overcurrent Protection: 50 mA

Resolution: 14.5 Bits

Approvals: CE Compliant, CSA Listed (File No. LR91109),
NRTL/C pending

Calibration: The unit does all of the calibrations internally. There are no potentiometers to adjust and the unit never needs to be removed from the case.



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Control Outputs:

Standard: Open collector sinks 250mA from 30VDC when active.

Optional: 2 each Form C SPDT 5A @ 120/240 VAC or 28 VDC.

Set Points: The two control set points can be set at any number from 0 to 59999. The set point outputs can be assigned to rate or total. The unit comes standard with two open collector control outputs. Two 5 Amp, Form C relays are optional. The outputs are programmable from .01 to 599.99 sec or latched until reset when assigned to the total and a hysteresis (alarm range) when assigned to the rate.

Rate Display: Updates 4 times per second, Accurate to 4.5 digits. A user programmable low cutoff inhibits indications at low flow rates.

Totalizer: Integrates from the rate reading and accumulates up to 6 digits of total count. A totalizer divider allows the total to be divided by 1, 10, 100 or 1000. This feature is especially useful for users who deal with high total volumes.

Analog Output: The unit can be ordered with an optional 4-20mA output which is proportional to the rate display. The high and low settings are programmable from the front panel. Set "low" greater than "high" for inverted output. The output updates with each update of the rate. Accuracy is $\pm 25\%$ FS worst case. Compliance voltage must be 3 to 30 VDC non inductive.

Programming: Decimal points, Scaling from 0 to 59999 units per selected time base, set points, input type, security lock code, and assigning outputs are all programmable from the front panel.

Housing: Standard 1/8 DIN, high impact ABS plastic case (NEMA 4X/IP65 front panel).

Shipping Weight: 2 lbs.

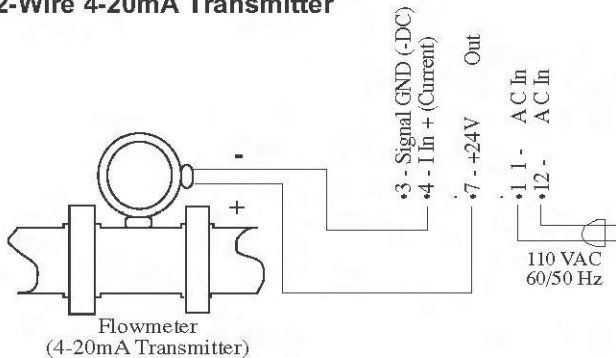
Accuracy:

<u>RANGE</u>	<u>% FS ERROR</u> (worst case)	<u>% FS ERROR</u> (typical)
0-20 mA	0.1%	.05%
4-20 mA	0.1%	.05%
0-10 VDC	0.2%	0.1%
0-5 VDC	.25%	.15%
1-5 VDC	.25%	.15%

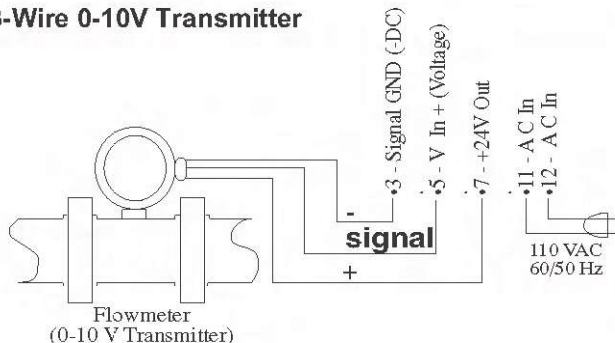
Square Law: (above 5% of bottom range) 0.1%
(5V inputs .4%) Worst case over complete range: 2%

Temperature Stability: Will not drift more than 20 parts per million per °C from 5°C to 54°C

2-Wire 4-20mA Transmitter

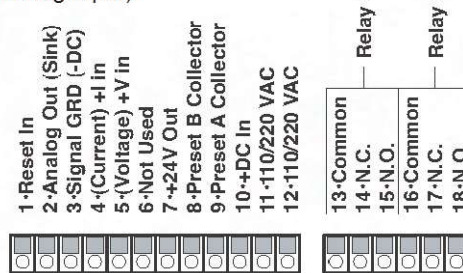


3-Wire 0-10V Transmitter



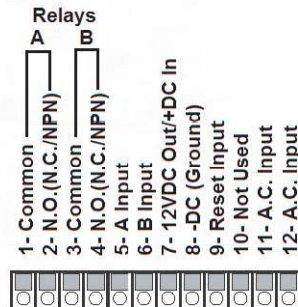
WIRING:

(Analog Input)

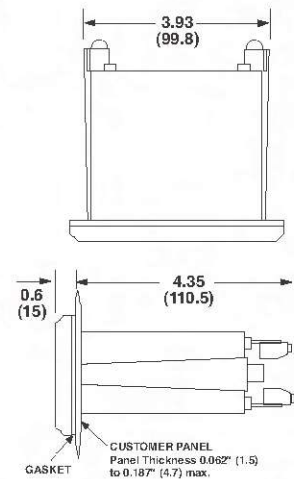
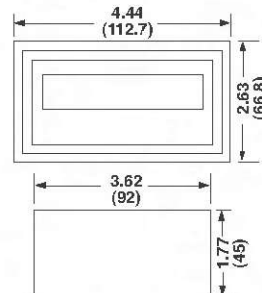


13- V+
14- I Sink

(Pulse Input)



Dimensions:



Ordering Information

Example: 710

Series: 710
710 = Ratemeter / Totalizer

Operating Voltage:

A= 110 VAC = 15% or 12 to 24 VDC (Analog Input Only)

110 VAC \pm 15% or 12 to 15 VDC (Pulse Input Only)

B= 220 VAC = 15% or 12 to 24 VDC

Inputs:

L= Analog Linear (standard)

S=Analog Square Law (optional)

P= Pulse 4 to 30 VDC

Control outputs:

1= 2 - Open Collector Outputs (standard)

2= 2 - 5 Amp Form C Relays (optional, standard for pulse output)

Options (Multiple Options Available)

A= Analog Output (4-20 mA)

C1= RS 232 communications

C2= RS 422 communications

NEMA4 Enclosure Available - Consult Factory