



**INTEGRATES SQUARED FLOW DATA**  
Accepts  $\Delta P$  Input

**DIGITAL RANGING**  
Multiple Ranges for Precise Calibration

**HIGH ACCURACY**  
 $\pm 0.1\%$  Over 0 to 100% of Range

**DUAL-SLOPE TECHNIQUE**  
Provides Continuous Integration

The Model SIT, Squared Input Integrating Totalizer, can be used to derive total flow data directly from the output of a differential pressure transmitter and orifice plate combination. In addition, this versatile device, when supplied with the -TX option, can power a 2-wire  $\Delta P$  transmitter.

The SIT computes the square root by continuous dual slope integration and provides a pulse output proportional to the total. The 2-to-1 span ranges, which are derived from the basic range by digital dividing, permit precise scaling of the output count rate in convenient engineering units, such as gallons, barrels, or pounds.

Flow data at the low end of any range is generally considered inaccurate and should not be totalized. The SIT includes a count dropout, which is user adjustable from 0.5% to 20% of the full scale flow.

In addition to the standard enclosure, illustrated, the SIT is available in a compact plug-in card (PC), or in a field-mount explosion-proof housing (EX). A wide variety of counters and mounting arrangements is also available.

## SIT-Squared Input Totalizer

**INPUT:** Squared current or voltage signals from  $\Delta P$  transmitters.

**Current:**

- 1-5MA into 200 ohms nominal
- 4-20MA into 50 ohms nominal
- 10-50MA into 20 ohms nominal
- SC Selectable current input

**Voltage:**

- 0-5V, 1-5V standard
- 0.5 megohm minimum input impedance
- Other voltages optional

**FRONT PANEL ADJUSTMENTS:** Adjustable with 22-turn potentiometers

**Span:** With maximum selected input, output adjustable within a selected output span.

**Zero:** For an input of  $\pm 10\%$  of maximum input range, adjusts output to 0% of selected output span.

**OUTPUT:** 24 volt, 35 ms pulse compatible with external standard electronic or electro-mechanical totalizers. Optional relay contact output (-RR Option) available.

**Output Spans:**

- A1 50 through 100 CPH
- A2 25 through 50 CPH
- A3 12.5 through 25 CPH
- A 100 through 200 CPH
- B 200 through 400 CPH
- C 400 through 800 CPH
- D 800 through 1600 CPH
- E 1600 through 3200 CPH
- F 3200 through 6400 CPH
- G 6400 through 12,800 CPH
- H 12,800 through 25,600 CPH
- J 25,600 through 51,200 CPH
- A1-J All the above ranges, selected by internal dip switch

**Count Dropout:** 0.5% to 20% of input full scale (adjustable)

**PERFORMANCE:**

**Calibration Capability:**  $\pm 0.1\%$  of span (linearity)

**Repeatability:**  $\pm 0.01\%$  of span

**Ambient Temperature:**

**Range:**  $-18^{\circ}\text{C}$  to  $+72^{\circ}\text{C}$  ( $0^{\circ}\text{F}$  to  $+165^{\circ}\text{F}$ )

**Effect:**  $\pm 0.01\%/^{\circ}\text{F}$  over above range

**Isolation:** Isolation between power input and input-output is standard. Input-output isolation is achieved by specifying the optional relay output.

**POWER INPUT:**

- 24Vdc, 45Vdc,  $\pm 10\%$
- 117Vac, 220Vac, 240Vac, 50/60Hz,  $\pm 10\%$
- 5 watts nominal

**Line Voltage Effect:** ac or dc:  $\pm 0.005\%/1\%$  line voltage change

**OPTIONS:**

- FS Front panel switch selected output ranges (A1-J)
- IT Integral bracket mounted, 6-digit manual or non-reset totalizer (electro-mechanical)
- PR Solid-state power relay-5A at 117Vac only inductive
- RR SPST relay contact output-1A at 28Vdc non-inductive (NO standard, specify NC if required)

- TX Two-wire transmitter excitation-35Vdc at 25mA max. to power 4-20mA two-wire field transmitter.
- ET Electronic totalizer drive
- RF Patented filter assembly for RFI/EMI protection exceeding SAMA standard PMC 33.1 1978 Class 2, a, b, c.
- ED8 Integral bracket mounted, 8 digit electronic counter elect reset only; Solid-state LCD counter

For other options, see Housings, Options & Accessories brochure

**HOUSING:**

- STD Standard enclosures as illustrated
- AB Angle bracket mounting
- CP Conduit plate for use with standard units
- EUR High-density plug-in Euro Card (international specs)
- EX Explosion-proof enclosure, Single Unit-Div. 1
- GP General purpose enclosure, Single Unit-NEMA 1
- OT Oiltight enclosure, Single Unit-NEMA 12
- PC Plug-in card
- PM Panel mount enclosure
- WT Watertight enclosure, Single Unit-NEMA 4
- TCE Transparent cover enclosure

**CERTIFICATION:** CSA

**WEIGHT:** Approximately 2 lbs. (908 grams)

**ORDERING INFORMATION:**

Specify the following:

1. Input-range of voltage or current
2. Output-range letter as listed (Factory calibration to specified range optional)
3. Power input
4. Options
5. Housing

**SAMPLE MODEL NUMBER:**

SIT/4-20MA/E/117AC/-RR-TX [STD]