



**MASS FLOW INDICATORS / CONTROLLERS – STEAM FLOW METERING SYSTEMS  
MODEL 845S ( Microprocessor based electronics )**

**Technical Catalogue**



( 96\*96, 5 digit for FR )



( 96\*96, LCD display )



( Wall mount enclosure )



( Wall mount enclosure )



( FLP Enclosure )

**Introduction**

Pantech Instrument's Model 845S represents FLOW INDICATORS /TOTALIZERS / CONTROLLERS for mass flow applications related to STEAMS flow. The instrument is so designed to accept 3 inputs of FLOW, PRESSURE and TEMPERATURE at a time. Based on these inputs, and high end algorithms of STEAM TABLES fed in the chip, the instrument calculates MASS INSTANTANEOUS FLOW RATE to a resolution of 4/4.5 digits. TOTALIZED value is displayed through 8 digits red LED and this totalizer value is always protected against power failures through internal memory structures of microprocessor. Optionally the instrument is designed to give two contact relay outputs and a RETRANSMISSION ISOLATED signal on INSTANTANEOUS FLOW RATE. Serial communication outputs for computer system interfaces are also given optionally. All configurations, calibrations and output fine tunings etc. can be performed by front four keys only without opening the instrument. In the core of all the functions lies the latest and highly proven microprocessor based chipsets. The high end softwares ensure the most user friendly interactions by the user. The instrument incorporates low drift operational amplifiers and industrial grade components for long trouble free operation. Burn in of each module ensures long trouble free operations.

Model 845S at a glance :

- 1)Used for the MASS FLOW CALCULATION of STEAMS particularly.
- 2)Accepts upto three inputs – FLOW ( mA ), PRESSURE ( mA ), TEMP ( mA / RTD Pt.100 / Thcpl ).
- 3)Gives efficient Pressure and Temp. Compensations for MASS FLOW CALCULATIONS.
- 4)Refers Hi end Algorithms along with Steam Tables data fed in the microprocessor chip.
- 5)The instrument can be configured to work on : SATURATED or SUPERHEATED or BOTH.
- 6)The user is allowed to FEED IN – Max Pressure range ( in Bars ), Operating Pressure in Bar, Operating Temp. in Deg. C, Flow range.

Pre-requisite data from the client :

- 1)Max. / Min. / Operating Flow rates of the system
- 2)Max. / Min. / Operating Pressure in line
- 3)Line size
- 4)Metering principle – Orifice / Vortex

**Specifications**

**Inputs – 3 nos.**

FLOW– 4-20mA / 0-20 mA DC / other linear type  
PRESSURE – 4-20 mA / 0-20 mA DC / other linear type  
TEMP.- 4-20 mA DC / RTD Pt. 100-3 wire / Thcpl with type  
\* The user can choose to bypass any of the pressure or temp. signal input incase that compensation not reqd. however in this case, the steam type and its flow calculation is a virtue of its input types totally.

**Calculations – Configurable by front keys**

Saturated steams  
Superheated steams  
Both – In AUTO MODE  
\* In AUTO mode, the instrument keeps sensing the shift overs of steam type and calculates accordingly automatically.

**Analog output**

- 1)Isolated / Non Isolated 4 – 20 mA DC
- 2)Isolated / Non Isolated 0-10 V DC
- 3) Other types on factory confirmations

**Contact output**

Maximum 2 sets of C,NC,NO on FLOW RATE

**Display (any one type)**

- 1)4 digit red LED for Instant flow rate, 4 digit green LED for Engg. Unit display, 8 digit red LED for totalized value ( LED size : 0.25" ) ( Engg. Units selectable )
- 2)16\*2 Alphanumeric LCD with above resolutions.

**Accuracy**

+/-0.1% of span

**Transmitter Power**

3\*24 V DC @ 40 mA

Other types on factory confirmations

**Power supply**

- 1)24 V DC
- 2)110 V AC, 50 Hz, +/- 10%
- 3)230 V AC, 50 Hz, +/- 10%
- 4)90-270 V AC – SMPS type
- 5)Specials on factory confirmations

**Backup**

Zero power RAM provided backup for data

**Power consumption**

6 VA max.

**Ambient temperature**

0 – 50 C.

**Storage temperature**

0 – 70 C.

**Humidity**

90% RH (non-condensing)

**Security**

Single level – Password protected

**Enclosures**

Weatherproof, Flameproof and all other standard types

**Mounting**

Panel / Wall / Field

**Dimensions**

96\*96 / 72\*144 / 144\*144 / SPECIALS

\*All config/calibration from front keys only



Following table describes the availability of several models with the company right now. A general preview is only presented to the user. The dimensional and display sizes are the relational virtues of each other and hence the user is always requested to clarify the specifications of instrument with the factory prior to placement of the order.

On confirmation with factory, changes of all types in all specifications is possible

Table with columns: Model, Mounting & Dimension in mm (H \* W \* D), Input, Power, Output option (Analog output, Contact output), Indication Options (Display resolution, Counter resolution), Display size. Rows include model 845S with Panel and Wall mounting options and various dimensions.

Ordering Information

Please confirm the availability of the model by cross checking the table mentioned on the backside.

Basic Model No. (Specified by first 3 digits)
845S-Mass flow meters for STEAMS

Mounting & Encl. (Specified by letter following 3 digits)
P-Weatherproof - Panel
W-Weatherproof - Wall
F-Flameproof - Wall / field
I-IP65 grade - wall / field
S-Specials

Flow Principle
O-Orifice type
V-Vortex type

Input (Specified by first digit following the letter)
1-3 \* ( 4-20 mA DC )
2-2 \* ( 4-20 mA DC ) & RTD
3-2 \* ( 4-20 mA DC ) & ThcpI

Power option (Specified by the second digit)
1-24 V DC
2-110 V AC
3-230 V AC
4-90-270 V AC - SMPS type
S-Specials

Analog O/P Option (Specified by the fourth digit)
0-None
1-mA/V DC isolated
2-mA/V DC non-isolated
S-Specials

Contact output option (Specified by the fourth digit)
0-None
1-1NO + 1NC on flow
2-2NO + 2NC on flow

Display Resolution (Specified by the sixth digit)
1-4 digit instantaneous
4 digit for Eng.units
8 digit totalizer
2-16\*2 alphanumeric LCD
with above resolution
\*\* Please mention the color of displays clearly
\*\* Customized developments can be made if the quantity permits

