



Technical Catalogue

FLOW INDICATORS / CONTROLLERS – NATURAL GAS FLOW METERING SYSTEMS – AS PER AGA3 Nx19 NORMS and CONDITIONS MODEL 845N (Microprocessor based electronics)

Introduction

Pantech Instrument's Model 845N represents FLOW INDICATORS / TOTALIZERS / CONTROLLERS for flow applications related to NATURAL GAS flow. These are majorly applicable in ORIFICE TYPE FLOW METERING systems. The instrument is so designed to accept 3 inputs of FLOW, PRESSURE and TEMPERATURE at a time. Based on these inputs, and other fed in parameters, the instrument calculates the INSTANTANEOUS NATURAL GAS FLOW RATE to a resolution of 4.5 digits. These calculations totally comply with AGA3, Nx19 Norms and conditions. 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. All configurations, calibrations output fine tunings, parameter feed ins 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 NATURAL GAS FLOW METERINGS based on AGA-3 Nx19 norms of ORIFICE FLOW METERING SYSTEMS.
- 2)The high accurate calculations and heavy algorithms fed in the instrument thus allows it to be used for CUSTODIAL TRANSFER OF NATURAL GAS applications.
- 3)Accepts three inputs – FLOW (mA), PRESSURE (mA), TEMP (mA / RTD Pt.100).
- 4)The user is required to FED IN – DP Transmitter range in MMWC, Pressure range in Kg/cm2, Flow rate for retransmission output, Orifice diameter in mm, Pipe inside diameter in mm, Specific gravity, mole % CO2 gas, mole % N2 gas, DP threshold in %.
- 5)Response time in microseconds.
- 6)Automatic Decimal selection in FLOW RATE CALCULATIONS. To give the highest possible resolutions in the flow rate.
- 7)Calculates Flow rates in NM3/Hr. or SM3/Hr. – as selected.

Pre-requisite data from the client :

- 1)Max. / Min. / Operating Flow rates of the system
- 2)Max. / Min. / Operating Pressure in line
- 3)Operating Temperature
- 4)Line size

Specifications

Inputs – 3 nos.

FLOW– 4-20mA / 0-20 mA DC
 PRESSURE – 4-20 mA / 0-20 mA DC
 TEMP.- 4-20 mA DC / RTD Pt. 100-3 wire

Calculations – Fixed

As per AGA-3 Nx19 orifice metering algorithms

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)5 digit red LED for Instant flow rate, 3 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

Communication outputs

Modem connectivity

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



(96*96, 5 digit for FR)



(96*96, LCD display)



(Wall mount enclosure)



(Wall mount enclosure)



(FLP Enclosure)



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 845N 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)
845N-Natural Gas Flow meters

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

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) & Thcpl

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)
1-5 digit instantaneous
3 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

