



## Flow sensor *Model- P812*



*Plastic Sensor*



*Stainless Steel Sensor*



*Flame proof Flow sensor*



*HOT tap assembly*

**NUCLUS** P812 Paddlewheel Flow Sensors is highly repeatable, reliable performance, rugged sensors & little or no maintenance. The Model P812 has open collector signal output (sink) and has a wide dynamic flow range of 0.5 to 5 m/s ( 0.3 to 20 ft/s ). The sensor use to measures liquid flow rates in full pipe. Sensors can be installed in 15 NB to 300 NB (0.5 to 12 in.) Line size. To install this sensor in process line **NUCLUS** offers types of fittings. These fittings, which include tees with threaded & flange end, weld adapter and block design to seat the sensor to the proper insertion depth into the process flow.

### Applications

- Water Treatment
- Filtration Systems
- Chemical / Pharmaceutical
- Bottling / Distillery
- Concrete Batching plant
- Textile / Process machine automation

### Line size selection

Size	15 NB	25 NB	40 NB	50 NB	65 NB	80 NB
Min flow m3/hr	0.26	0.88	2.04	3.50	6.30	7.80
Max flow m3/hr	2.60	8.80	20.4	35.0	63.0	78.0
Size	100 NB	125 NB	150 NB	200 NB	250 NB	300 NB
Min flow m3/hr	14.0	22.0	32.0	56.0	88.0	126
Max flow m3/hr	140	220	320	560	880	1260

### Technical specifications of flow sensor P812

Flow Rate Range:	0.5 to 5 m/s ( 1.6 to 16.4 ft./s)
Pipe Size Range:	15 NB to 300 NB (0.5 to 12 in.)
Linearity:	±1% of full range
Repeatability:	±0.5% of full range
Min. Reynolds Number Required:	4500
Wetted Parts	
Sensor Body	Polypropylene (black) or PVDF (black) SS 304 / SS 316
O-rings:	Viton / Teflon
Rotor Pin:	Hastelloy C
Rotor:	Black PVDF.
Frequency:	38 Hz per m/s nominal (11.6Hz per ft/s nominal)
Supply voltage:	10 to 24 VDC regulated
Supply current:	<20 mA @ 10 to 24 VDC
Output Type:	Pulse output ( NPN )
Cable Length:	5 m (16.4 ft.) Standard
Operating Pressure:	PP: max10 bar(145 psi) @ 25°C PVDF: max12 bar(175 psi) @ 25°C
Operating Temperature:	PP: -10°C to 70°C (14°F to 158°F) PVDF: -10°C to 100°C (14°F to 212°F)

## Types of Sensor installation fittings

Weld Block



S.S T Fitting with Threaded End



S.S T Fitting with stub End



S.S T Fitting with welded flange



ABS T fitting solventable end



ABS T fitting threaded end



S.S T Fitting with Triclone end



Weld Adapter



## Flameproof Flow meter

**NUCLUS** flameproof flow meter is flow rate indicator cum totaliser with analog output 4 to 20 mA / 2 to 10 VDC & optional Digital output i.e. RS232 is available. This model can be mount either panel / field mounting. **NUCLUS** flameproof flow meter model have programmable scale factor with direct flow rate reading in M3/hr / LPH / LPM / LPS / GPMus / GPMuk, andtotaliser reading in m3 / Liters / Gallon. This model have optional Relay output which is operate on Totalizer (used for Batching and Dosing application ) or operate on flow rate ( used as flow switch ) .



### Technical Specifications for Flameproof Flow meter

<b>FUNCTION-</b>	Rate indicator cum Totalizer
<b>DISPLAY -</b>	16 X 2 Lcd display.
<b>SUPPLY VOLTAGE-</b>	230 V AC.
<b>LINEARITY-</b>	±1% of full range
<b>REPEATABILITY-</b>	±0.5% of full range
<b>INPUTS-</b>	Nuclus flow sensor (P812)
<b>CONFIGURATION LOCK-</b>	Password protection.
<b>CALIBRATION-</b>	Using front membrane keys
<b>OUTPUT-</b>	5A pot. Free Relay @230VAC 4 to 20 mA / 2 to 10 VDC Rs232 ( optional )
<b>METER SIZE-</b>	370 mm X 180 mm X 150 mm
<b>HOUSING-</b>	Flameproof Housing

**NUCLUS** model P282 is flow rate indicator cum totaliser. This model can be mount either panel / field mounting. Model P282 have programmable scale factor with direct flow rate reading in M3/hr / LPH / LPM / LPS / GPMus / GPMuk, and totaliser reading in m3 / Liters / Gallon. This model have optional Relay output which is operate on Totalizer (used for Batching and Dosing application ) or operate on flow rate ( used as flow switch ) .



Field Mounting



Panel Mounting

### Technical Specifications for P282

<b>FUNCTION-</b>	Rate indicator cum Totalizer
<b>DISPLAY -</b>	16 X 2 Lcd display.
<b>SUPPLY VOLTAGE-</b>	230 V AC.
<b>LINEARITY-</b>	±1% of full range
<b>REPEATABILITY-</b>	±0.5% of full range
<b>INPUTS-</b>	Nuclus flow sensor (P812)
<b>CONFIGURATION LOCK-</b>	Password protection.
<b>CALIBRATION-</b>	Using front membrain keys
<b>OUTPUT-</b>	5A pot. Free Relay @230VAC
<b>METER SIZE-</b>	110 mm X 110 mm X 150 mm
<b>CUTOUT SIZE-</b>	90 mm X 90 mm
<b>PROTECTION RATING-</b>	IP65 for field mounting unit

**NUCLUS** model P383 is flow rate indicator cum totaliser with analog output 4 to 20 mA / 2 to 10 VDC & optional Digital output i.e. RS232 is available. This model can be mount either panel / field mounting. P383 model have programmable scale factor with direct flow rate reading in M3/hr / LPH / LPM / LPS / GPMus / GPMuk, and totaliser reading in m3 / Liters / Gallon. This model have optional Relay output which is operate on Totalizer (used for Batching and Dosing application ) or operate on flow rate ( used as flow switch ) .



Field Mounting



Panel Mounting

### Technical Specifications for P383

<b>FUNCTION-</b>	Rate indicator cum Totalizer
<b>DISPLAY -</b>	16 X 2 Lcd display.
<b>SUPPLY VOLTAGE-</b>	230 V AC.
<b>LINEARITY-</b>	±1% of full range
<b>REPEATABILITY-</b>	±0.5% of full range
<b>INPUTS-</b>	Nuclus flow sensor (P812)
<b>CONFIGURATION LOCK-</b>	Password protection.
<b>CALIBRATION-</b>	Using front membrain keys
<b>OUTPUT-</b>	5A pot. Free Relay @230VAC 4 to 20 mA / 2 to 10 VDC Rs232 ( optional )
<b>METER SIZE-</b>	110 mm X 110 mm X 150 mm
<b>CUTOUT SIZE-</b>	90 mm X 90 mm
<b>PROTECTION RATING-</b>	IP65 for field mounting unit



**NUCLUS** model P181 is flow rate indicator . This model can be mount either panel / field mounting. This model have programmable scale factor with direct flow rate reading in M3/hr / LPH / LPM / LPS / GPMus / GPMuk.



Field Mounting



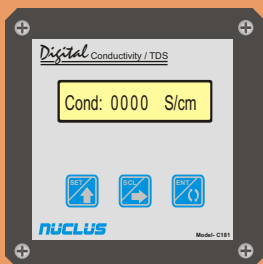
Panel Mounting

### Technical Specifications for P181

<b>FUNCTION-</b>	Rate indicator only
<b>DISPLAY -</b>	16 X 1 Lcd display.
<b>SUPPLY VOLTAGE-</b>	230 V AC.
<b>LINEARITY-</b>	±1% of full range
<b>REPEATABILITY-</b>	±0.5% of full range
<b>INPUTS-</b>	Nuclus flow sensor (P812)
<b>CONFIGURATION LOCK-</b>	Password protection.
<b>CALIBRATION-</b>	Using front membrain keys
<b>METER SIZE-</b>	110 mm X 110 mm X 150 mm
<b>CUTOUT SIZE-</b>	90 mm X 90 mm
<b>Protection Rating-</b>	IP65 for field mounting unit

# Digiflow Conductivity / TDS Model- C181

**NUCLUS** make a *Digital* Conductivity / TDS indicator model- C181 are suitable for a wide variety of applications from high purity water quality monitoring to weak acids and bases. electrode surface finishes are controlled to ensure measurement accuracy and repeatability. Double threaded connections in either ½ inch or ¾ inch BSP enable quick and easy installation in submersible or in-line configurations. Microprocessor based electronics allow wide operating range and long term signal stability.



### Technical Specifications for C181

<b>FUNCTION-</b>	Conductivity & TDS Indicator
<b>DISPLAY -</b>	16 X 1 Lcd display
<b>SUPPLY VOLTAGE-</b>	90 to 230 V AC ( SMPS Power SUPPLY )
<b>LINEARITY-</b>	±2% of full range
<b>REPEATABILITY-</b>	±0.5% of full range
<b>INPUTS-</b>	from Nuclus Cell
<b>CONFIGURATION LOCK-</b>	Password protection.
<b>CALIBRATION-</b>	Using front keys
<b>PROTECTION-</b>	IP 65
<b>METER SIZE-</b>	110mm X 110 mm X 140mm
<b>RANGE-</b>	1 to 1000 µs/cm / TDS

**NUCLUS** make a *Digital* Conductivity / TDS Controller, model- C282 is Conductivity / TDS indicator with one relay output which can be use for giving set point for alarm / stop the process.

## Nuclus Control

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