

Flow Transducers

TRIMEC DUALPULSE

Insertion flow transducer.



IF500

Wide application

Typical industry applications include:
 Hot and chilled water.
 Fire system.
 Thermal energy monitoring.
 Water treatment and reticulation.
 Chlorination.
 Chemical injection systems.
 Boiler feed water.
 Steam condensate.
 Batching systems.



IF600

Stainless steel insertion flow transducer with two independent pulse outputs.		
Velocity range:	0.3~10 metres/second.	
Protection:	IP68 Submersible.	
Pressure:	80 bar (1500 PSI) max.	
Temperature:	Standard: -40~100°C (3 options available up to 200°C).	
Cable length:	3 metres of screened 5 core as standard.	
Material:		
Body:	316L SS.	
Rotor shaft:	316L SS.	
O-ring:	Viton.	
Rotor:	PEEK with graphite PTFE impregnated bearing.	
Outputs standard:	Transmission to 1000m max.	
Output 1:	Voltage pulse self generated, 1.5V x 10µ/sec. (2 wire) 220~240 Hz max.	
Output 2:	Open collector NPN, 5~24Vdc square wave. (3 wire) 220~240 Hz max.	

MODEL	DESCRIPTION	PRICE
IF500 (was DP490)	Stainless steel insertion flow transducer . Pipe sizes: 40~900mm. (1.5~36") Process connection: 1.5" BSPT (G1.5) or NPT. Flow range: 0.25~6300 litres/second. (4~99600 US gall/min)	\$1240.00

OPTIONS	Add price
High temperature: 125°C. c/w term box.	\$375.00
150°C. c/w term box. NPN output only.	\$375.00
-60~200°C. c/w term box. Voltage pulse only. Includes IS output.	\$1470.00
Output type: Reed switch output only. (For use with an IS barrier in hazardous areas). Non magnetic rotor. NPN output. (For liquids with ferrous impurities). Intrinsically safe. Coil output. c/w term box.	N/C \$35.00 \$1120.00

MODEL	DESCRIPTION	PRICE
IF600 (was DP525)	Stainless steel insertion flow transducer. Suitable for hot tap installations. Pipe sizes: 50~2500mm. (2~100"). Process connection: 2" BSPT (G2) or NPT. Flow range: 0.4~49000 litres/second. (6~780000 US gall/min).	\$1440.00

OPTIONS	Add price
High temperature: 125°C. c/w term box.	\$520.00
150°C. c/w term box. NPN output only.	\$520.00
-60~200°C. c/w term box. voltage pulse. Includes IS output.	\$2125.00
Output type: Reed switch output only. (For use with an IS barrier in hazardous areas). Non magnetic rotor. NPN output. (For liquids with ferrous impurities). Intrinsically safe. Coil output. c/w term box.	N/C \$35.00 \$1120.00

Construction

A durable peek rotor with a graphite-PTFE impregnated peek bearing rotates around a 3mm diameter 316SS shaft to promote longevity. The body is all 316L stainless steel.

The unique metering head and aerofoil shaped rotor is designed to extend the linear measuring range to cover flow velocities from 0.2~10m/sec.

Batch Controller

Features:

- ◆ Large 8 digit LCD batch total display & cumulative totaliser.
- ◆ Robust IP66 field mountable housing with protection cover or DIN panel mount version.
- ◆ Simple flow chart touch key programming.
- ◆ Scalable universal high speed pulse & frequency flow inputs.
- ◆ Two stage control available for soft start & close sequencing.
- ◆ PIN protected programming.
- ◆ Automatic overrun compensation.
- ◆ Missing pulse (*no flow*) alarm.
- ◆ Maximum batch size limiting.
- ◆ Non-volatile memory.
- ◆ Multiple batcher interlock function (*network up to 10 controllers*).
- ◆ Reverse polarity protection.



universal field mount

TRIMEC ECOBATCH

High speed batch controller.

Display: 8 digit alphanumeric, 9mm character height displays.
 Engineering units displayed: litres, gallons, m3, lbs, kgs or no eng. units displayed.
 Input types (*pulse & frequency*): reed switch, open collector, coil (*15mV P-P min.*), namur & other proximities. Max. frequency 10Khz.
 Control outputs: two 1A NPN open collectors, 24Vdc max.
 two SPDT 5A relays (*with ac & DIN powered versions*).
 Alarm output (*no flow alarm*): 1A open collector (*NPN/PNP selectable*), 24Vdc max
 Status interlocks: batch status output, batch inhibit input, network looping.
 Enclosures (*two styles*): IP66 (*NEMA 4X*) GRN field mount or DIN panel mount.
 Operating temperature: -10~80°C.

MODEL	DESCRIPTION	PRICE
	High speed batch controller. Field Mount.	
EB101D0FM	Ecobatch dc powered two stage batch controller.	\$1460.00
	High speed batch controller. Panel Mount.	
EB100D2PM	Panel mount AC or DC supply c/w 2 SPDT SA relays.	\$1960.00



DIN panel mount version

Positive Displacement Flowmeters

The TF Series range of positive displacement flowmeters offer a high level of accuracy & repeatability. These precision meters are used for flow rate measurement in flow monitoring and control applications and for totalising in dispensing and batching.

TF Series meters are suitable for use with a wide range of clean liquids including viscous lubricants, chemicals, food bases and non-conductive low viscosity solvents either pumped or gravity fed.

Meter selection:

Meters are selected based on flow range, pressure, temperature, material compatibility and functionality.

Aluminium meters are ideal for petroleum products including oils and grease, fuels and fuel oils.

Stainless steel meters are suited for chemicals, water based products and the food, cosmetic and pharmaceutical industries.

TF Series meters are available as blind meters with pulse output or with integral or remote totalisers, flow rate displays or preset batch controllers. These instruments provide a local LCD display, monitoring and control outputs including 4~20mA, scaled pulse, flow alarms outputs or batch control.

Pulse meters outputs can be interfaced to most electronic displays or instrumentation. The reed switch is used when external power is not available and can be used in intrinsically safe loops. The output from the hall sensor is an NPN open collector providing high speed solid state pulses ideal for precise dispensing and batch control.



Small



Medium



Large

Common Features:

- ◆ High accuracy & repeatability, direct reading flowmeter.
- ◆ No requirement for flow conditioning (straight pipe runs etc).
- ◆ Simple to install, easy to service (low number of parts).
- ◆ Stainless steel or aluminium models.
- ◆ Measures high & low viscosity liquids.
- ◆ Measures conductive & non-conductive clean liquids.
- ◆ Available with a variety of outputs and functions.
- ◆ Intrinsically safe & explosion proof models available.
- ◆ Quadrature pulse output option & bi-directional flow.

TRIMEC

TF Series Oval Pulse Meters.

Positive Displacement Flowmeters.

Operating temperature:	-20~120°C.
Repeatability:	typically ±0.03%.
Protection:	IP66/67 (NEMA4X), optional Exd IIB T6 or I.S.
Reed switch output:	30Vdc x 200mA max.
Hall effect output:	3 wire open collector, 5~24Vdc max., 20mA max.
Control outputs:	two 1A NPN open collectors, 24Vdc max. two SPDT 5A relays (<i>with ac & DIN powered versions</i>)
Electrical connection:	M20 x 1.5mm or ½" NPT female threaded .

MODEL	DESCRIPTION	PRICE
TF006	TF Series - Small Capacity Flowmeters. Accuracy @ 3cp: ±1%. Max pressure: Aluminium = 15 bar. 316SS = 34 bar. Recommended filtering: 75 micron minimum. Flow range: 2~100 litres/hr. Nominal size: 6mm. Output pulse resolution: Reed switch: 1050 pulses/litre. Hall effect: 1050 pulses/litre.	
TF006A	Body: Aluminium ¼" BSP.	\$1260.00
TF006S	Body: 316 stainless steel ¼" BSP.	\$1683.00
TF008	Flow range: 15~550 litres/hr. Nominal size: 8mm. Output pulse resolution: nominal. Reed switch: 355 pulses/litre. Hall effect: 710 pulses/litre.	
TF008A	Body: Aluminium 3/8" BSP.	\$1170.00
TF008S	Body: 316 stainless steel 3/8" BSP.	\$1580.00
Small Option	High pressure 316 stainless steel. Max press. = 400bar	POA
TF025A	TF Series - Medium Capacity Flowmeters. Accuracy @ 3cp: ±0.5%. Recommended filtering: 250 micron minimum. Flow range: 10~150 litres/min. Nominal size: 25mm. Output pulse resolution: nominal. Reed switch: 27 pulses/litre. Hall effect: 107 pulses/litre. Quadrature Hall option: 54 pulses/litre quad.	
TF025S	Body: Aluminium 1" BSP. Max pressure: 68 bar.	\$2455.00
TF025S	Body: 316 stainless steel 1" BSP. Max pressure: 100 bar.	\$3300.00
TF80HA	TF Series - Large Capacity Flowmeters. Accuracy @ 3cp: ±0.5%. Body: Aluminium. Recommended filtering: 350 micron minimum. Flow range: 50~1000 litres/min 3" BSP. Max pressure: 12 bar. Nominal size: 80mm. Output pulse resolution: Reed switch: 1.55 pulses/litre. Hall effect: 6 pulses/litre. Quadrature Hall option: 3 pulses/litre quad.	\$9020.00
TF100A	Flow range: 75~1500 litres/min 4" BSP. Max pressure: 10 bar. Nominal size: 100mm. Output pulse resolution: nominal. Reed switch: 1.1 pulses/litre. Hall effect: 4.4 pulses/litre. Quadrature Hall option: 2.2 pulses/litre quad.	POA
ALL Options	Optional functions and/or outputs (with RT, BT & EB instruments).	POA

Note: Other models/ranges available include **TF004, TF015, TF040, TF050.**

Flow Rate Totaliser

TRIMEC RT12 SERIES

Flow rate totaliser.

Display:	8 digit alphanumeric, 9mm character height displays: * 8 digit total (resettable). * 8 digit accumulated total. * 5 digit instantaneous flow rate. * programming prompts and messages.
Input:	Pulse/frequency. Reed switch, open collector, Namur and sine wave with 20mV min P-P voltage (typical of turbine coils). Dual inputs, A+B, A-B or A÷B. 4~20mA analogue input.
Input Hz range:	0~5kHz. (rate display min 0.25Hz).
K-factor range:	0.001~999999.999. (floating decimal point during K-factor entry).
Rate time base:	Selectable as units per second, minute, hour or day.
Power supply:	* Self powered by lithium batteries. * External via reg. 8~24Vdc. * Optionally via the 4~20mA output loop.
Pulse output:	Scaleable NPN/PNP selectable, transistor. 100mA resistive load. Auto ranging pulse width with 1:1 ratio, defaulting to a min of 300ms.
Alarm output:	Two NPN/PNP selectable, transistor outputs, low and high flow alarms with adjustable deadband, 100mA resistive load.
Analogue output:	4~20mA 2 wire loop powered. 12~24Vdc. (750 ohms @ 24Vdc).
Enclosure:	Powder coated aluminium, IP67.
Temperature:	-20~80°C.



Scaleable Pulse Output

A selectable NPN or PNP transistor output with variable pulse width is provided to ensure compatibility with commonly used PLC inputs, counters and metering pumps. The default width of 300ms (frequency permitting) enables most PLC's to successfully scan the incoming pulses with standard input circuits, avoiding the need for, and additional cost of high speed counter inputs.

Loop powered 4~20mA output

An optional high resolution analogue output enables transmission of the instantaneous flowrate. The output reflects any linearisation that may be programmed.

Flow Alarm Outputs

Optional NPN or PNP selectable low and high flowrate alarms have independently adjustable deadbands to provide application flexibility and enable connection to commonly used devices.

MODEL	DESCRIPTION	PRICE
RT121D0FM	Universal flow rate totaliser. Field Mount. Pulse/frequency input. 2 wire 4~20mA loop powered, flow alarms and dual input.	\$1430.00
RT120D2PM	Universal flow rate totaliser. Panel Mount. Pulse/frequency input. Panel mount AC or DC supply c/w 2 SPDT SA relays.	\$2070.00
Option		
-IS	Intrinsically safe - ATEX approved.	\$125.00

Overview

The RT12 flowrate totaliser has been specifically designed to operate with common pulse producing flowmeters such as positive displacement, turbine and paddle-wheel sensors, without the need for external power.

All data is retained in the event of power loss or battery removal. Ultra low power consumption provides many years of service from replaceable lithium batteries.

External power may be applied to interface with common controllers such as PLC's via the scaleable pulse output and/or optional analogue output.

Multipoint linearity correction of the flowmeter input is available to enhance accuracy and extend flow sensor rangeability.

Flexibility of wall or pipe mounting via optional stainless steel brackets.

Direct on meter and panel mounting versions are available.



Simple Programming

Simple flow chart programming with English prompts enables the user to configure the RT12 with ease.

Once in program mode the scrolling prompts guide you through the entire programming routine greatly reducing the need to refer to the manual.

The RT12 is fully user programmable and has selectable PIN protection for security.

Positive Displacement Flowmeter

TRIMEC MULTIPULSE

Positive displacement flowmeter.



- ◆ Metered liquids range from non conductive low viscosity solvents through to extremely viscous lubricants, chemicals and food bases.
- ◆ No stagnate chambers to harbour contaminants.
- ◆ No restrictions on mounting orientation and the flowmeter may be operated under vacuum flow, pumped flow or gravity flow conditions.
- ◆ Particularly suited to batching and dispensing duties.
- ◆ Meter performance is independent of flow profile eliminating the need for straight pipe runs.
- ◆ Multipulse flowmeter utilise the oscillating piston design principle. The only moving part.
- ◆ Intrinsically Safe = Reed switch output (without Hall device fitted) + approved intrinsically safe barrier.



APPLICATIONS:

316L Stainless Steel		Aluminium
Alcohols	Margarine	Gasoline
Acetic acid	Mayo-	Fuel oils
Caustic soda	naise	Ketones
Ethanol	Molasses	Lube oils
Fuel addi-	PVA glue	Greases
tives	Resin	Solvents
Glucose	Tallow	
Hexane	Urethane	
Insecticides	Water	
Latex	Xylene	
Liquid sugar	Yeast	

UPVC
Specialist applications
Sodium hypochlorite
Photographic solutions

Positive displacement flowmeter with two independent pulse output signals which are linearly proportional to volumetric flow rate.

Materials:

Body: manifold and terminal cover: 316L SS, Aluminium or UPVC.
 Piston: PTFE (standard) – optional PEEK polyetheretherketone or carbon filled teflon.
 O-ring: Viton (standard) – optional EPR, teflon or Buna-N (nitrile).
 Partition: 316L SS (standard) – optional Ceramic (for non-lubricating liquids).

Temperature: a. -40~60°C. (UVPC meters, max 40°C).
 b. +10~120°C.
 c. +60~150°C (output 2 only).

Accuracy: ±0.5% of rate.
 Reed switch output: 30Vdc max. voltage / 20mA max current.
 Square wave output: 5~24Vdc / 20mA max. 3 wire NPN open collector.
 Protection: IP67. - Optional, Ex d IIB T6 (Class 1, Division 1).

Output 1: Reed switch output. Voltage free contact closure.
 The reed switch is classed as a 'simple device' and can be used in hazardous areas when connected via an approved intrinsically safe barrier.

Output 2: Square wave output.
 An open collector pulse output produced by a solid state Hall Effect device.
 This three wire device requires 5~24Vdc excitation voltage and produces a high resolution NPN square wave conditioned output.

MODEL	DESCRIPTION		PRICE
MP15A MP15S MP15H	Material:	Aluminium. 30 bar max.	\$1414.00
	Material:	316L SS. 100 bar max.	\$2704.00
	Material:	316L SS. 350 bar max.	\$3696.00
	Size:	15mm. ½" BSPP.	
	Flow range:	10~500 litres/hour.	
	Output:	Reed switch. 200 pulses/litre. Square wave. 400 pulses/litre.	
MP25A MP25S MP25H	Material:	Aluminium. 80 bar max.	\$1872.00
	Material:	316L SS. 100 bar max.	\$3368.00
	Material:	316L SS. 200 bar max.	\$4260.00
	Size:	25mm. 1" BSPP.	
	Flow range:	120~3000 litres/hour.	
	Output:	Reed switch. 20 pulses/litre. Square wave. 100 pulses/litre.	
MP40A MP40S MP40H	Material:	Aluminium. 80 bar max.	\$3700.00
	Material:	316L SS. 100 bar max.	\$5490.00
	Material:	316L SS. 250 bar max.	\$6252.00
	Size:	40mm. 1½" BSPP.	
	Flow range:	250~8000 litres/hour.	
	Output:	Reed switch. 7.3 pulses/litre. Square wave. 44 pulses/litre.	
MP50A MP50S	Material:	Aluminium. 20 bar max.	\$4586.00
	Material:	316L SS. 38 bar max.	\$7415.00
	Size:	50mm. 2" BSPP.	
	Flow range:	700~20000 litres/hour.	
	Output:	Reed switch. 2.5 pulses/litre. Square wave. 20 pulses/litre.	

OPTIONS

For process connections of: NPT, Tri-clamp, Flanges.	POA
Integrally mounted electronic register: RT12-1DO Flowrate totaliser, Loop powered, pulse out and alarms.	\$1430.00
Note: These must be remotely mounted if the operating temperature exceeds 80°C.	

Turbine Flowmeters

TRIMEC PULSE TURBINE

Turbine flowmeter.

Turbine flowmeters are precise, reliable and rugged units for the volumetric flow measurement of clean low viscosity liquids in the petrochemical, pharmaceutical, food processing and general industrial applications.

Materials:

Body: 304 SS, (316 SS optional).

Bearings: Tungsten carbide sleeve.

Temperature: -50~150°C, (-50~240°C optional).

Pressure: 250 bar max for threaded units. Flanged units to ruling.

Pressure drop: Approx 0.28 bar at max flow. (SG=1, viscosity=1 cSt).

Linearity: ±0.5% over 10:1 turndown.

Viscosity: 10 cSt recommended maximum to maintain linear range.

Output: Pulse. Reluctance type pick-off coil. Second pick-off optional. (20mV P/P min), max 50m transmission.



Shown with a RT12 Series Rate Totaliser fitted

Overview

Pulse turbine flowmeters are precise, reliable and robust units for the volumetric flow measurement of clean low viscosity liquids.

Stainless steel construction with tungsten carbide bearings provides long life with a wide range of aggressive and non-lubricating liquids in petrochemical and general industrial applications.

Fifteen sizes cover flows from 0.11 to 7000 m³/hr. with ±0.5% linearity.

Enhanced linearity is available in larger sizes where custody transfer performance is required.

The standard pick-off coil is supplied with either a military style plug or a junction box with terminal strip. Integral preamplifiers are available for harsh environments, to extend transmission distance or to interface with secondary instruments that require a conditioned signal input.

An integral RT12 series flowrate totaliser is optionally available to provide local indication with 4~20mA and Hi/Lo flow alarm outputs and/or scaleable pulse output.



Calibration

Sizes 25mm (1") and larger are calibrated on positive displacement prover loops in accordance with current API standards. For each meter size calibration is performed at five points across the nominal flow range to ensure optimum performance in every application.

MODEL	DESCRIPTION	PRICE
PT010	Meter size: 15mm. Process connection: 0.5" BSP. Flow range: 0.11~1.1 m ³ /hr.	\$4820.00
PT015	Meter size: 20mm. Process connection: 0.75" BSP. Flow range: 0.4~4 m ³ /hr.	\$4820.00
PT020	Meter size: 20mm. Process connection: 0.75" BSP. Flow range: 0.8~8 m ³ /hr.	\$4820.00
PT025	Meter size: 25mm. Process connection: 1" BSP.. Flow range: 1.6~16 m ³ /hr.	\$5260.00
PT040	Meter size: 40mm. Process connection: 1.5" BSP. Flow range: 3.4~34 m ³ /hr.	\$5260.00
PT050	Meter size: 50mm. Process connection: 2" BSP. Flow range: 6.8~68 m ³ /hr.	\$5260.00

The following meters are flanged units. Further information on request.

PT080	80mm.	13.5~135 m ³ /hr.	POA
PT100	100mm.	27~270 m ³ /hr.	
PT150	150mm.	55~550 m ³ /hr.	
PT200	200mm.	110~1100 m ³ /hr.	
PT250	250mm.	190~1900 m ³ /hr.	
PT300	300mm.	270~2700 m ³ /hr.	
PT400	400mm.	400~4000 m ³ /hr.	
PT500	500mm.	700~7000 m ³ /hr.	

Hygienic models.

The design allows the meter to be in-line cleaned and sterilised by chemical methods.

Sizes 012 to 080 can have Tri-clamp hygienic ferrules.

POA

	MT-Mini Turbine Range.		
MT001	Flow Range litres/min:	0.05~0.5	POA
MT002	Flow Range litres/min:	0.12~1.5	POA
MT003	Flow Range litres/min:	0.2~4.5	POA
MT004	Flow Range litres/min:	0.25~6.5	POA
MT005	Flow Range litres/min:	0.3~10	POA
MT006	Flow Range litres/min:	0.5~15	POA

Strainers

It is recommended that Y type strainers are fitted in line to the smaller size meters (15 to 50mm) to provide mechanical protection to the measuring elements.