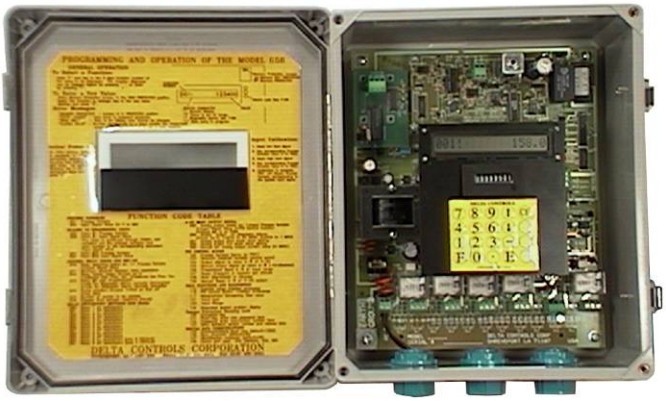
NONCONTACT OPEN CHANNEL FLOW METER
MODEL 658 ULTRASONIC FLOW METER

FEATURES

- DUAL MICROPROCESSORS PROVIDE HIGH RELIABILITY & IMPROVED PERFORMANCE.
- BUILT-IN KEYPAD FOR EASY FIELD CALIBRATION.
- SIXTEEN CHARACTER ALPHANUMERIC DISPLAY.
- EIGHT DIGIT NON-RESET TOTALIZER.
- SAMPLER PACER AND ALARM RELAYS.
- INTEGRAL RS-232 COMMUNICATIONS PORT.
- STORED EQUATIONS FOR MOST FLUMES. AND WEIRS; ALSO CUSTOM CURVES.
- OVERRANGE FEATURE-TOTALIZATION CONTINUES AT FLOW RATES GREATER THAN CALIBRATED MAXIMUM RATE (UP TO ANY PRESET LIMIT).
- ZERO OFFSET FEATURE TO CORRECT FOR ACTUAL SENDER/RECEIVER ELEVATION POSITION.
- MEMORY IS PROTECTED FOR OVER 5 YEARS FOLLOWING LOSS OF SUPPLY POWER.
- PROGRAMMABLE ACCESS LOCKOUT FUNCTION.
- SELF-DIAGNOSTIC TESTS & PROTECTION.
- SUBMERSIBLE SENDER/RECEIVERS.
- NARROW BEAM ANGLES TO ACCOMMODATE FLUMES DOWN TO 1” SIZE.



Narrow Beam

General Purpose

Explosion Proof

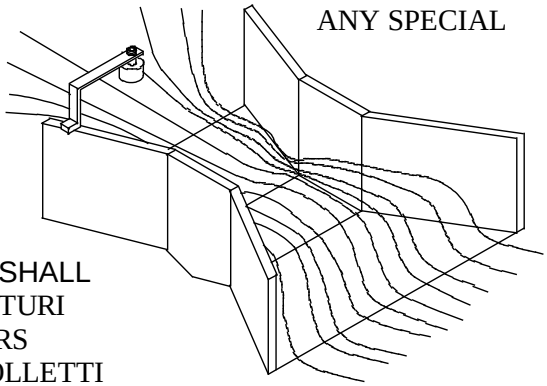
OPERATING PRINCIPLE

The 658 measures head or level in the flume or weir by transmitting sound pulses to the surface of the water. The sound pulses are reflected from the water and return to the sender/receiver as echoes. The time taken by the pulses to travel both directions is measured and divided by two to yield distance traveled. Distance measured is subtracted from the zero value of the flume or weir is proportional to flow rate and thus is used in a stored equation to calculate flow rate.

SIGNALS AND OUTPUTS

A 9-digit LCD display showing flow rate or accumulated flow quantity (resetable) is included. An isolated 4-20 MADC analog signal proportional to flow rate and an RS-232 communications port is standard. A 10 amp SPDT relay is provided and can be used for alarm and/or control functions. Relays can be programmed to drive a remote electromechanical totalizer, a loss-of-echo alarm, a high flow rate alarm, a flood alarm, and other functions. An optional 8-digit electro-mechanical totalizer that accumulates flow in gallons or other engineering units is available.

PALMER-BOWLUS
LEOPOLD-LAGCO
MANNING
FORMULA
“H” FLUMES
ANY SPECIAL



PARSHALL
VENTURI
WEIRS
CIPOLLETTI
KENNISON NOZZLE

DELTA CONTROLS CORPORATION

MODEL NUMBERING SYSTEM

	BASIC TYPE & SENSOR		SUPPLY VOLTAGE		HOUSING RATE		OPTIONS
MODEL EXAMPLE	658C	-	1	-	4X	-	EMC

M/N	S/R TYPE	MATERIAL
658B	NARROW BEAM	PVC
658C	GEN'L PURPOSE	PVC
658D	EX-PROOF	316SS

M/N	DESCRIPTION
1	120 VAC
2	240VAC
3	24VDC

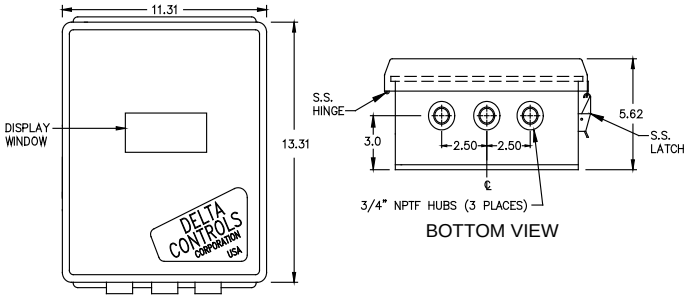
M/N	DESCRIPTION (OIL & CSA LISTED)
4X	HOSEPROOF, POLYESTER/ GLASS FIBER, STST HINGE AND LATCH
7C	EX-PROOF; CLASS 1, DIVISION 1, GROUPS C,D; 4X; ALUMINUM

M/N	DESCRIPTION
AA	NONE
EMT	8 DIGIT, NONRESET TOTALIZER, ELECTROMECHANICAL
PSM	2' PIPE STAND MOUNT BKT
*P	ADD'L CABLE; REPLACE * WITH TOTAL FEET REQUIRED C/F IF OVER 100 FEET

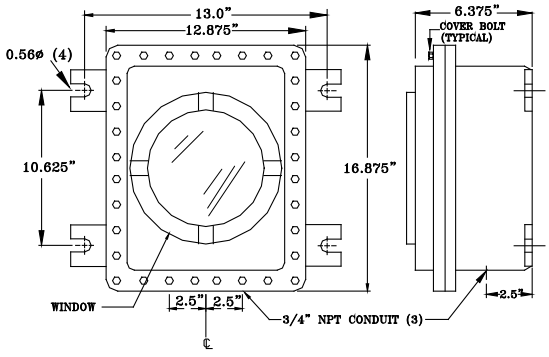
SPECIFICATIONS

GENERAL TYPE: Microprocessor based.
POWER REQUIREMENTS: 120 or 240VAC; 24VDC
AMBIENT TEMPERATURE RANGE: -20º to 160ºF without heater.
ANALOG OUTPUT: Isolated 4-20 MADC, up to 1,000 loop ohms. Better than 0.001 (12 bit) resolution.
DIGITAL INPUT/OUTPUT: RS-232 to a host computer or telemeter.
ALARMS: High flow rate, low flow rate, overrange and lost echo; 10 amps.
CALIBRATION ENTRY: Board mounted keypad, 20 keys.
CALIBRATION PARAMETERS: Zero, flume or weir type, flume size, maximum flow rate (or custom 20 point head to flow curve), blanking, dampening, flow engineering units to be displayed, sampler frequency rate, alarm set points, RS-232 baud rate, failsafe action for outputs, and a lockout code to prevent tampering by unauthorized persons.
INDICATION: Board mounted 16 character, alpha-numeric LCD display; user selectable to read flow rate, head, accumulated flow, temperature, calibration parameters and diagnostic data. Accumulated flow can be reset for various time studies. LCD illuminated display is optional.
MEMORY PROTECTION: Non-volatile, maintains stored data for more than 5 years following loss supply power. No battery to replace.
SELF-DIAGNOSTICS: Continuos self-checking; various actions programmable for various modes of detected failure.
TEMPERATURE COMPENSATION: Automatic using high accuracy 2-wire temperature transmitter; reads in ºF or ºC.
ACCURACY: 0.5% of sender/receiver range.
REPEATABILITY: 0.10% of sender/receiver range.
WIRING CONNECTIONS: Clamp type up to 12 gage (2mm).
RELAYS: Four; SPDT, 10 amp at 240 VAC contacts
S/R SENSOR: Seal welded and potted; submergible, -40 to +150ºF; 25 feet cable; 2 wire integral temperature transmitter; ¾" NPT stem mounting

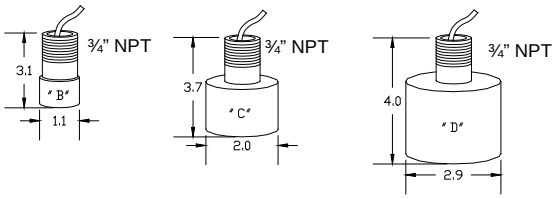
OUTLINE DIMENSIONS



4X HOSEPROOF



EXPLOSIONPROOF



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