

# MODEL 3000

## Current meter, Flow Calculator - Datalogger

Still the best  
Choice !

The new Model 3000 is a hand held computer and data logger designed specifically for the measurement of open channel velocities and the on-site computation of stream discharges (flow). Features Include:



The Model 3000 Indicator is a data-logging version of the Model 2100, allowing the operator to input all measurement data usually kept on a clipboard while crossing a stream. The Model 3000 records depths, widths, velocities and angles along with time & date of measurements. It figures the "Q" and can upload all this information in spreadsheet-acceptable format to your PC for further study and record keeping. It updates and is fully compatible with all previous Swoffer instruments.



Model 3000 with optional sensors

- Efficient *Photo-Fiber-Optic* sensor coupled with precision quartz crystal controlled electronics provide accurate repeatable data in most flow conditions.
- The *Model 3000* Indicator displays data in feet and meters per second. Toggle the 0 key at the main screen to change from one to the other.
- Velocity averaging is fully user adjustable. Anything from 1 to 999 seconds of averaging can be chosen. The *Model 3000* automatically powers up using your last averaging time period. If you use 40 seconds, it stays at 40 seconds until you change it.
- Velocities can be a single averaged measurement or can be the *accumulated average* of as many measurements as desired, all controlled from the keypad.
- Sensor components (propeller, rotor, and rotor shaft) are easily and inexpensively replaceable. Carry spares into remote locations and you'll never have to return early because of a bent propeller or bucketwheel, or a lost propeller magnet or rotor shaft.
- Wide choice of sensor carriers or "wands" to accommodate virtually any open stream velocity measuring requirement.
- Indicator keys are color coded, grouping related functions into like colors.
- Lightweight, portable system is easy to work with all day in the field. *Model 3000* Indicator uses the same rugged, weatherproof instrument housing as the earlier Model 2100 and Model 2200 but with added water incursion protection and data storage features.
- A simple and *accurate* method of user-accomplished calibration is provided with the *Model 3000*. No other current meter provides the user a method of checking and changing calibrations in the field.
- Calibration settings for 10 different sensors/propellers can be stored in the indicator and the *Model 3000* is completely compatible with all earlier Swoffer Instruments' sensors (Models 1000, 2000, 2100 and 2200).
- The *Model 3000* is also specifically designed to function with Price type AA & Pygmy current meters using either the optical adapters pioneered by Swoffer Instruments in the Models 2200 and USGS-HIF Optic-Head sensors or with meters using the newer magnetic head contactors. The Model 3000 can in fact be field calibrated to operate with any sensor that uses a contact closure signal system.
- Prompts on the *Model 3000* liquid crystal display assist the user through all operations; from simple velocity measurements to discharge flow computations.
- On-board clock time-stamps data collected while in the Discharge Mode. (Month, day, year, hour & minutes). Data units (feet or meters) is also saved and uploaded with file transfers.
- In the Discharge Mode as many as 1000 "stations" in from 1 to 100 stream cross-sections can be acquired and stored in memory. Station No. (width) and station depth are entered directly by the keypad and velocity and flow is computed by the *Model 3000*.
- If stations have velocities at an angle other than perpendicular to the stream cross-section the angle can be input by keypad. The *Model 3000* then applies a cosine correction for that Station; necessary for using the Model 3000 with vertical axis current meters only.
- The accumulated discharge for a transect can be computed and displayed at any time during or after a transect. Individual Stations in a transect can be added or deleted as desired and each component of a station (*Station No.*, *Depth*, *Velocity* and *Angle*) can also be edited.
- All discharge data in the *Model 3000* can be transferred to a Personal Computer via USB for further processing. Simple file transfer software and a USB connection cable is provided.



3000-1514 and 3000-1518 wands

**MODEL 3000 CURRENT METER SPECIFICATIONS \***

**VELOCITY RANGE** 0.1 to 25 Feet Per Second (propeller meters)  
(0.03 to 7.5 Meters Per Second )

**DISPLAY** Two line by 16 character Liquid Crystal Digital.

**RESOLUTION** To three decimals, both feet and meters.

**ACCURACY** Can be held to within 1% with periodic user-  
required calibration tests and adjustments.

**DISPLAY AVERAGING** User adjustable from 1 to 999 seconds. Remains  
unchanged with each power-up until purposely  
reset. Velocities obtained within each sampling  
period can be averaged with successive periods .

**OPERATING TEMPERATURE**

LCD	Min. -4° F (-20°C)
	Max. 158°F (70°C)
Sensor	Min. 0° F (-17.8°C)
	Max. 194° F (90°C)

**POWER REQUIRED** Four AA batteries. Alkaline or rechargeable  
nicads.

**INDICATOR SIZE** 4 by 6 by 2 inches (15.2 by 10.2 by 5.1 cm)

**INDICATOR WEIGHT** 25 oz. (including 4 AA batteries).

**INDICATOR MATERIAL** Vacuum-formed ABS with a clear acrylic viewing  
lens over the LCD.

**INDICATOR KEYPAD** Back-printed polycarbonate in four colors plus  
black. Tactile feedback membrane type contacts  
with minimum actuation pressure required for long  
life and water resistance.

**FASTENERS** Stainless Steel & Brass.

**SENSOR WAND MATERIALS** Aluminum = 6061-T6, Stainless Steel = #303

**SENSOR BODY AND ROTOR** *Acetron GP (rotor body) & Ertalyte® TX, an  
internally lubricated thermoplastic polyester that  
provides enhanced wear over all previous rotor  
materials.*

**SENSOR PROPELLER** Glass-filled nylon. 2" diameter is supplied. Other  
sizes are available for special applications.

**ELECTRICAL CONNECTION** Polyurethane jacketed, Kevlar core, high strength  
cable. Two-conductor sensor signal system.  
Circular plastic, water resistant connector with  
twist-lock operation. Connections use gold plated  
contacts.

**CABLE LENGTH** Equal to wand at full extension plus five feet.  
Special lengths to 1000 feet are also available.

**SENSOR TYPE** *PHOTO-FIBER-OPTIC* - two-conductor electrical  
with all electronics permanently encapsulated in  
epoxy resin.



3000-LX, 3000-STDX, 3000-12, -13, -14  
wands



Optional Waterproof Carrying cases for  
Model 3000