



MODEL 106 Current Meter



The Model 106 Current Meter is a light weight, cost effective impeller current meter, designed for real time current measurement or short to medium term autonomous deployments. Titanium construction ensures durability, and the optional temperature and pressure sensors increase the versatility of the instrument. Ideal for use in rivers and coastal applications, or from small boats, the Model 106 is simple to use with either the Windows based PC software supplied, or an optional dedicated display unit.

Sensors

Speed

Type: High Impact Styrene Impeller
 Size: 125mm diameter by 270mm pitch
 Range: 0.03 to 5m/s
 Accuracy: $\pm 1.5\%$ of reading above 0.15m/s
 ± 0.004 m/s below 0.15m/s

Direction

Type: Flux gate compass
 Range: 0 to 360°
 Accuracy: $\pm 2.5^\circ$
 Resolution: 0.5°

Temperature

Type: Thermistor
 Range: -5 to 35°C
 Accuracy: $\pm 0.2^\circ\text{C}$
 Resolution: 0.01°C

Pressure

Type: Strain Gauge Transducer
 Range: 50, 100, 200 or 500 dBar
 Accuracy: $\pm 0.2\%$ Range.
 Resolution: 0.025% Range

Data Acquisition

The current meter works on a basic 1 second cycle, during which the impeller counts are taken and a single compass heading reading is made. From this, East and North velocity vectors are calculated, which are then summed over the averaging period. The additional parameters of temperature and pressure (if fitted) are sampled once every sample period, and averaged over the averaging period.

Data Recovery

Direct to PC via communications port. Maximum RS232 data rate of 19200 baud.

Switching On/Off

The meters are switched on and off through software control, either by the DataLog™ software or by using the Model 8008 CDU. However, for autonomous, self recording operation the 106 is supplied with a subconn switch cap which fits in place of a direct cable connection.

Display Unit

The Model 106 may be used with a dedicated display unit for real time operations allowing instrument setup and data display.

Size: 244 x 193 x 94mm, 2kg
 Protection: IP67 (10 secs @ 0.3m)

Memory

512 Kbyte Solid State Memory. Each parameter record uses 2 bytes. As an example, this gives a duration of over 1 week with full parameter sampling every 10 seconds, or 220 days with sampling every 5 minutes.



Power

Internal: 1 x D cell. 1.5v alkaline cell gives approximately 30 days at 10 second sample rate, or 56 days at 5 minute sample rate. 3.6v Lithium cell gives approximately 90 days at 10 second sample rate, or 180 days at 5 minute sample rate.
 External: For external supply, 12-20v DC is required. Power can also be taken from the Model 8008 CDU.

Communications

Fitted with Subconn MCBH10F (Brass)
 RS232 to PC over cable lengths up to 200m.
 Digital Current Loop to Model 8008 CDU, or to PC over longer cable lengths (requires additional adaptor).

Physical

Instrument

Materials: Titanium, acetal and ABS plastic
 Size: 640mm x 50mm Ø, (tail 133mm wide x 270mm high)
 Weight: 3kg (air), 2kg (water)
 Depth Rating: 500m

Shipping

Model 106 Size: 84 x 42 x 39cm
 Model 106 Weight: 17kg
 50m Cable Size: 42 x 33 x 49cm
 50m Cable Weight: 11kg

Software

System is supplied with DataLog™ Windows based PC software, for instrument setup, data extraction and display of tabular and graphical data plots. DataLog is license free.

Ordering

0106001SC Model 106 Self Recording/Direct Reading unit, fitted with speed and direction sensors. Supplied with communications lead (3m Y lead), switch cap, set of tools, operating manual, software and system transit case.
 0106003SC As 0106001SC plus Temperature option
 0106004SCXX As 0106001SC plus Depth option
 0106005SCXX As 0106001SC plus Temperature & Depth option (XX denotes pressure transducer range)
 0105005SC Control Display Unit set, comprising deck lead and Model 8008 CDU.