



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 $\pm 0.004\text{m/s}$ 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 that 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 x2 Windows based PC software, for instrument setup, data extraction and display of tabular and graphical data plots. DataLog x2 is license free.

Ordering

0106001SC	Model 106 Self-Recording/Direct Reading Fitted with: • Speed and Direction sensors Supplied with: - Communications lead (3m Y lead) - Switch Cap - Software - Operating manual, Tool kit and transit case.
0106003SC	As 0106001SC plus Temperature option
0106004SCXX	As 0106001SC plus Depth option
0106005SCXX	As 0106001SC plus Temperature & Depth
Note:	(XX denotes pressure transducer range)
0105005SC	Control Display Unit set, comprising deck lead and Model 8008 CDU.