

S4 Current Meter Family

Engineering Data & Specifications

Current Speed

Range	0-350 cm/sec (standard) 0-50, 0-100, 0-600, 0-750 cm/sec
Accuracy:	2% of reading +/- 1 cm/sec
Sampling Rate:	S4/S4A 2 Hz S4AH 5 Hz
Resolution:	2 Hz 0.03 to 0.35 cm/sec depending on range 5 Hz 0.037 to 0.43 cm/sec depending on range
Noise:	Less than the resolution for averages of 1 minute or longer 0.05 cm/sec rms for 10 second averages 0.25 cm/sec rms for 2 second averages 0.75 cm/sec rms for burst sampling (0.5 second rate)
Threshold:	Equal to resolution
Vertical Response:	True cosine response (internally software corrected with Tilt option)

Direction

Type:	Flux-gate compass
Range:	0-360
Resolution:	0.5 deg
Accuracy:	+/- 2 deg within tilt angles of 5 deg
Tilt:	+/- 4 deg for tilt angles between 15 and 25 deg

Memory

Type:	S4	CMOS static RAM (Non-restricted Lithium battery protected)
	S4A	Non-volatile flash memory
Battery Life:	S4	5 years
	S4A	No battery required
Capacity:	S4	64K bytes standard (128K, 256K, 512K, or 1M optional) 348,000 vector averages may be stored with 1M bytes
	S4A	5, 10, and 20 megabytes 7 million vector averages stored with 20 megabytes

Timekeeping

Type:	Temperature stable quartz oscillator
Accuracy:	+/- 12 minutes/year
Power:	Temperature stable non-restricted Lithium battery (3 years)

Power Supply

Type:	Internal batteries (6 Alkaline "D" cells), (Lithium optional)
Endurance:	Alkaline cells: 440 hours continuous logging. One year deployment with total on-time less than 440 hours. Lithium option: 1,600 hours continuous logging. Five years deployment with total on-time less than 1,200 hours.

Tilt Option

Angle Range:	+/- 45 deg
Resolution:	0.06 deg
Accuracy:	(Angle Output) +/- 0.25 deg (Speed Correction) +/- 1% of reading at 45 deg tilt

Mechanical

Size:	S4	25 cm (10 in) diameter
	S4 Deep	35.5 cm (14 in) diameter
Weight:	S4	Air: 11 kg (24 lb.), Water: 1.5 kg (4 lb.)
	S4 Deep	Air: 34.5 kg (76 lb.), Water: 10.5 kg (23 lb.)
Mooring:	In-line	
Through Load:	4,500 kg (10,000 lb.) working	
Pad Eyes:	Insulating liner, accepts 1.6 cm (5/8 in.) shackle pin	
Material:	Sphere, glass-filled cycloaliphatic epoxy. Mooring rod, Titanium 6 AL-4V	
Drag:	S4	4 kg (9 lb.) at 250 cm/sec (8 ft/sec)
	S4 Deep	0.63 kg (1.4 lb.) at 50 cm/sec 15.68 kg (34.57 lb.) at 250 cm/sec
Depth:	S4	1,000 m (3,200 ft) maximum
	S4 Deep	6,000 m (19,200 ft) maximum
Temperature:	Storage: -40 to +50 deg C Operating: -5 to +45 deg C	