

INTEGRIPod™ SM

Stand-alone Motion Data Logger



INTEGRIPods™

The Pulse **INTEGRIPod™ SM** is a standalone motion monitoring system. It allows movement of a structure to be recorded in its on-board memory over a long period of time (see examples). Data is downloaded into a computer for subsequent post data processing. The basic measurement includes:

- Tri axial acceleration (basic model)
- Tri plane angular rate (optional model)

From the measurements, various other parameters can be derived:

- Linear displacement
- Acceleration due to motion
- Average Inclination
- Harmonics

A Pulse proprietary data viewing software called **INTEGRIVIEW™** is supplied with the device for users to view the collected data. A dedicated all-in-one kit is also available for this device.

DEPLOYMENT OF LOGGERS

The data logger contains all electronics, batteries and sensors enclosed in a cylindrical casing. After initialization using a computer, loggers can be deployed to the designated locations. This may simply involve strapping directly to the structure using bands or design of tailor-made interfaces to suit (available for diver or ROV operation for subsea use).

MOUNTING METHOD

Strapped using suitable bands

Retrofit ROV friendly cradles

Cradle options

Strapped, bolted, magnetic holder

Analogue signal inputs

Number of inputs	8 Maximum
Input range	0 – 2.5V
Accuracy / resolution	0.0012v/0.0006V

MEMORY DISK READER

Communication	Centronic (parallel) port
Case size	80mm x 140mm x 40mm
Case material	ABS
Power	PP3 9V batteries
Supply Current	2mA maximum

FORMAT OF DOWNLOADED DATA FILES

Downloaded files	Time stamp files Data records for each session Compatible with Excel
Time stamp file	ASCII format
Data record file	ASCII format, Raw voltages for all sensors inputs

MAXIMUM LOGGING PERIODS (EXAMPLES)

Continuous logging @ 50Hz	50 days
Continuous logging @ 10Hz	25 days
10 minute logging every 0.5 hours @10Hz	75 days



Left: ROV deployable Holders
Right: Holders for ROV logger



INTEGRIPod™ software to control pods

LOGGER SPECIFICATION

G Sensors
 Sensor direction X, Y and Z
 Range (g) ± 1.2 and ± 2
 Cut-off response 4.5 Hz or configurable
 Accuracy ±0.002 rms with 1.2g range
 AC temp effect No measurable effect
 DC temp drift Calibration can be provided
 Alignment error 0.3 deg between axis
 Sensor-X direction Indicated on the logger body
 Sensor calibration Use gravity (1g and -1g)

Angular rate sensors

Sensing direction X-Z, Y-Z and X-Y
 Range +/- 10 deg/s (nominal)
 Cut-off response 10Hz
 Accuracy +/- 0.05 deg/s rms
 Alignment error 0.3 deg
 Data recording frequency
 Record frequency (Hz) 30, 20, 15, 10, 5, & 2
 150 Hz on special request
 <+/- 0.5% of the frequency error

Logging programme

Logging mode Continuous and intermittent
 In intermittent mode
 Log on period (min) 1, 10, 15, 20, 30
 Cycle period (hour) 0.5, 1, 1.5, 2, 2.5, 3, 4, 5, 6

Communication ports

Port RS232 port
 Connection method Standard RS232 cable

On-board memory

Memory media 128 Mb memory (standard)
 -needs formatting by reader

Software

Operating system Win95, 98, 2000, NT, XP,
 Functions
 -Diagnostic check of loggers
 -Initialise loggers
 -Download data from loggers
 -On-line logging
 -Battery/memory life calculation

Power supply

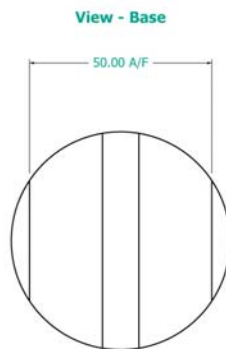
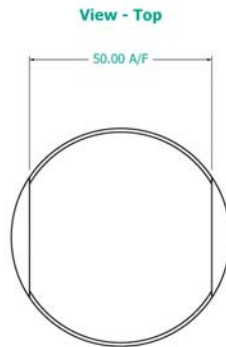
Batteries 2 D-size 3.6V lithium
 Battery capacity 13,500mA-hour nominal
 Current (logging) 11-42mA (different sensors)
 Standby 3mA maximum

Casing

Material Superduplex stainless steel
 Size (mm) 60 diameter x 310 length
 Weight in air 3.5kg (with batteries)
 Weight in water 2.0kg (with batteries)
 Direction of sensor-X Polarisation slot on base

Environmental

Operating 2° C to 30° C
 Storage -5° C to 50° C
 Pressure rating 3000 m water depth
 Seals 3 'O-rings' on cap



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