# Smartrak Pipeline and Cable Tracker

**SMARTRAK** is the NEW Pipeline and Cable Tracking product family, designed and manufactured by Innovatum International in the UK.

SMARTRAK is smaller, lighter, uses less power and has more performance than previous magnetic pipeline and cable trackers.

SMARTRAK may be fitted to smaller vehicles than any other tracking system.

SMARTRAK uses automated calibration routines to improve performance and make operation simpler.

SMARTRAK is supplied in one wheeled case, ready to fit and run, complete with Tritech altimeter, all cables and a laptop PC.

SMARTRAK 3 – Passive Magnetic tracking only
SMARTRAK 6 – Tone tracking only
SMARTRAK 9 – Passive Magnetic and Tone tracking all in one unit

## SIP & SENSOR MOUNTING

The SIP may be mounted in any orientation provided:
**a)** The long axis of the cylinder is horizontal or vertically up (connectors at top)

**b)** The long axis or arrow is aligned fore/aft or across the ROV

Sensors must be at least 70 cms in front of the ROV. Sensor separation should be around 60 to 90 cms between sensors.

Sensors must be vertical to within 1 degree, and the separation must be identical to within 1 mm. Sensors should be mounted around 20 – 50 cms above ROV skids.

Altimeter may be mounted in any convenient location.

## INTERFACING INFORMATION

SMARTRAK SIP (Subsea Unit)

| | |
|---|---|
| Length | 24 cms |
| Diameter | 19 cms |
| Weight in air | 7 Kg |
| Weight in seawater approximate | 3.8 Kg |

SMARTRAK Sensors

| | |
|---|---|
| Length overall | 36 cms |
| Diameter | 4 cms |
| Weight in air | 1.1 Kg |
| Weight in seawater approximate | 0.3 Kg |

ROV Connector:
8 pin SUBCONN MCIL8F. Tail is provided with system

| | |
|---|---|
| pin 1 | RS232 down/ RS485 A |
| pin 2 | RS232 common /RS485 B |
| pin 3 | RS232 up |
| pin 4 | Internal ground |
| pin 5 | 24 Vdc @850 mA |
| pin 6 | 24 Vdc return |
| pin 7 | NC |
| pin 8 | NC |

Data link is bi-directional at 9600 baud. 232/485 is selected inside SIP by switches. RS485 is tested to 1.2 Km

Survey data output from surface PC is available.

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# Smartrak Performance

The following table gives SMARTRAK system performance as measured in a laboratory environment, and the estimated performance when installed on an ROV.

These performances are based on existing array configurations. New arrays are in test now, and significant performance gains will be available soon.

| | | System Alone | System on Vehicle * * |
|---|---|---|---|
| 1. | Passive Pipe (Data only normally available for approximately 80% of pipelength) | | |
| | Tracking & Depth (+/- 25 cm) | 4"dia 5 metres | 3 metres |
| | | 16" dia 8 metres | 6 metres |
| | | 48" dia 10 metres | 7 metres |
| 2. | AC Tone Tracking Mode | | |
| | Detection | 2.5 mA @ 2 metres | 5 mA @ 2 metres |
| | | 40 mA @ 30 metres | 80 mA @ 30 metres |
| | Detection & Direction | 5 mA @ 2 metres | 10 mA @ 2 metres |
| | Tracking & Depth (+/-10 cm) | 5 mA @ 1 metre | 10 mA @ 1 metre |
| 3. | DC Current Tracking Mode | | |
| | Detection | 0.4A @ 1.5 metre | 0.4A @ 0.75 metre |
| | | or 1.6A @ 3 metres | 1.6A @ 1.5 metre |
| | Detection & Direction | 0.4A @ 0.75 metre | 0.4A @ 0.5 metre |
| | | or 1.6A @ 1.5 metre | 1.6A @ 1 metre |
| | Tracking & Depth (+/- 25cm) | 0.4A @ 0.5 metre | 0.4A @ 0.4 metre |
| | | or 1.6A @ 1 metre | 1.6A @ 0.8 metre |
| 4. | Passive Cable 25mm (Magnetised) Only cables with a steel wire content can be tracked passively | | |
| | Detection | 5 metres | 3 metres |
| | Tracking (+/- 5 cm) | 3 metres | 2 metres |
| | Tracking & Depth (+/- 5 cm) | 2 metres | 1.5 metres |

* * Vehicle AC noise estimated at 0.2 nanotesla at sensors

* * Vehicle DC noise estimated at 20 nanotesla per foot at sensors)

Infield performance may be degraded due to local magnetic disturbances, vehicle noise, poor installation and incorrect operation

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