

## SCOUT<sub>PLUS</sub> Features and Specification

### Overview

- The SCOUT<sub>PLUS</sub> is one of the sensor and logger component of an IceSpy *System5*. A typical *System5* comprises of a number of SCOUT, SCOUT<sub>PLUS</sub> units, one or more BASE units and PC with special PC application software. Optional ECHO and external sensors are also available.
- The SCOUT<sub>PLUS</sub> is a combination of two Sensors (Dual channel), housed together with power source (battery), radio transmitter, real-time clock and data storage facilities.
- The SCOUT<sub>PLUS</sub> comprises a single PCB mounted within a custom plastic enclosure. The enclosure is ultrasonically welded to form a watertight enclosure. An external antenna is over moulded onto the plastic case. A waterproof connector is available for external sensors, housed in a moulding case. A wall or shelf mounting fixture is provided as an integral part of the design.
- There is an internal temperature sensor (-40°C to +70°C) in all units.
- An optional external sensor is configurable for temperature, humidity, door event and others.
- All communication such as upload of settings and download of data is via radio link
- Radio range: up to 1000 metres in free space
- The SCOUT<sub>PLUS</sub> is in continual communication with other elements of *System5*



### Functions

- Measurement, storage and transmission of accurate temperature (and other) readings at predefined intervals
- Automatic fixed recording intervals of 10 minutes and 1 hour
- Automatic and continual broadcast of current data to BASE units (optionally via ECHO units) every 1 minute (approx)
- Alarms:
  - Yellow LED flashes every 10 seconds to signify correct operation
  - Red and Blue LEDs operate during radio communication activity
- Can be contacted (using *System5* PC application and BASE unit) to download all stored data

### Data

- Temperature accuracy EN 12830 Class 1
- Temperature accuracy (internal sensor)
  - +/-0.5°C between -40°C and +70°C
- Temperature accuracy (external sensor) -80°C to +140°C
  - +/-0.5°C between -40°C and +85°C
  - +/-1.0°C between -50°C and -40°C and above +85°C
  - +/- 5°C below -50°C
- Optional calibration +/-0.2°C between -40°C and +70°C (+85°C for external)
- Unique fixed serial number pre-programmed into each unit.
- External sensor serial identical to internal sensor with suffix of ".01"
- Overwrites oldest data when full
- 4000 date/time/temperature records for each channel, divided between two separate logging intervals:
  - 2000 records with 10-minute data, covering the last 13+ days;
  - 2000 records with 60-minute data, covering the last 80+ days.
- Calibration data table. Can be reconfigured (by radio link) for calibration offsets at 64 distinct points,
- for internal sensor and for standard reference external sensor. Calibration of actual external sensors available.
- Build level data (software and hardware versions) retrievable by radio link



## SCOUT<sub>PLUS</sub> Features and Specification

### Interfaces

- Low-power Radio :
  - Frequency: 433.9 MHz (UK/Europe), licence-free band. R&TTE harmonised standard
  - Power: max 10mW, duty cycle <0.1%
  - Transmission rate (broadcast mode) approx. every 60 seconds
  - Length of radio packet approx.20-30 ms
- Setup (configuration) options selected on PC and transmitted by radio link via BASE unit
  - Calibration data for temperature sensor (authorised users only)
- Download time approx 300 records per second, fully error-checked –actual download speed will vary depending on radio link strength
- Download includes full configuration details:
  - unique IceSpy recognition,
  - serial number,
  - received signal level,
  - build standard hardware,
  - software version number,
  - CRC data check value
  - calibration (authorised users only)
- Information transmitted in broadcast:
  - unique IceSpy recognition,
  - serial number,
  - latest value, e.g. temperature
  - CRC data check value.

### Environment / Mechanical / Electrical

- Climatic Environment EN 12830 Type D
  - Operating temp. range: -40°C to +70°C, humidity 0-100%.
  - Storage temperature range: -40°C to +85°C
- Internal and external sensor type : thermistor NTC Curve matched
- External sensor (temperature) range -80°C to +140°C
- Dimensions: Body length 120mm plus antenna 150mm approx.
- Case: ABS with rubber over-moulding for sealing antenna and LEDs
- Weight: 80g excluding external sensor
- Dust / Waterproofing: IP67 (with external sensor connected)
- Multi-purpose mounting clamp for secure fixing
- Battery Sealed into unit, Expected Life 5 years , depends on conditions of use