



## PORTABLE RADIATION MEASUREMENT

# STTC

Wide Range Gamma  
Probe

### FEATURES

- Measurement of  $H^*(10)$  ambient gamma dose equivalent rate
- Energy compensated Geiger Mueller detector
- Gamma dose rate measurement up to 10 Sv/h (1000 rem/h)
- STTC-W Waterproof version for 25 m (82 ft) immersion



### DESCRIPTION

The STTC probe (right) is designed for gamma equivalent dose rate measurement. It can be connected to any CSP™ survey meter with the appropriate cable.

For instruments already integrating a compensated Geiger Mueller detector, this probe extends the instrument measurement range and supports remote measurements up to 20 m (65 ft).

The STTC instrument has a compact and robust metal case which includes the Geiger Mueller detector, the high-voltage power supply and the pulse shaping circuits.

The STTC instrument uses the Time-to-Count algorithm from Mirion, enabling a unique range of measurement with only one Geiger Mueller detector. By using only one detector, the STTC unit offers a better angular response than any other probe with an equivalent measurement range. Additionally, the multiple detector switching effect is not an issue for the STTC probe.

The STTC unit is part of Canberra™ SMART Probe (CSP) family. It includes all key components of hardware circuitry (high voltage power supply, amplifier, discriminator, etc.) Also, the intelligence associated with controlling those components is located in the probe – that is control and storage of key parameters, settings, calibrations, probe ID, alarm settings (10 values for each unit to display with default setting), etc. Thus the probe is a fully-integrated subsystem communicating the measurement to the instrument.

With high voltage and acquisition of the data occurring in the probe rather than the instrument, measurement quality is no longer dependent on external device quality (cable, host instrument). Moreover, a CSP probe is using a serial protocol to communicate with the host that can be an instrument or a PC.

Calibration and QA measurements can be performed directly with the probe, without even using any instrument, by connecting the probe to a computer with Canberra Smart Probe Software (CSPS™), allowing your instruments to remain deployed in the field.

Once calibrated, STTC unit is ready to be used as a 'plug and play' probe to start a QA measurement in rem/h, rem, Sv/h, Sv depending on the connected host instrument. The STTC probe connects to a CSP meter via a 1.5 m, 10 m, 20 m CSP cable or via CSP-COM™ module to computer.

The STTC probe is able to store up to 1000 data points from a data logging procedure handled via the host instrument. These data are: index, date/time, measurement value, selected unit and counting time.

STTC probe's firmware can be upgraded via CSPS software, a USB cable and a PC to always keep the probe up to date.

The STTC instrument is also available in the Tele-STTC version which integrates the probe in a pole. See Tele-STTC instrument documentation for more details.

The STTC-W unit (left) is the waterproof version of the STTC probe. It includes a 20 meter cable on a reel and a ballast. The STTC-W cable is mounted on the probe body via a cable gland to ensure that it remains waterproof down to 25 meters (82 ft).

# STTC | WIDE RANGE GAMMA PROBE

## SPECIFICATIONS

### Nuclear

- Display Units: Sv/h, Sv or rem, rem/h depending on meter connected; H\*(10) ambient gamma dose equivalent rate (according to ICRP60)
- Emitters: Gamma
- Detector: Energy Compensated Geiger Mueller
- Sensitivity: 0.74 c/s for  $\mu\text{Sv/h}$  ( $^{137}\text{Cs}$ )
- Measurement Range: 0.1  $\mu\text{Sv/h}$  to 10 Sv/h (10  $\mu\text{rem/h}$  to 1000 rem/h)
- IEC Approved Range: 0.7  $\mu\text{Sv/h}$  to 10 Sv/h (70  $\mu\text{rem/h}$  to 1000 rem/h)
- IEC Energy Range: Gamma 36 keV to 1.5 MeV
- Background: Ambient <0.1  $\mu\text{Gy/h}$  (10  $\mu\text{R/h}$ ), 0.10 c/s
- Maximum Integrated Dose: Approximately 500 Sv

### Ergonomic

- Display: Provided by host instrument or PC
- Alarm Setpoints: 10 values for each unit to display. Saved in probe memory. They can be changed with CSPS software and a PC

### Electrical

- Power: Supplied by survey meter (low voltage only)
- Consumption: 9 mA to 40 mA depending on dose rate

### Mechanical

- Housing: Aluminum
- Dimensions (without connector):
  - STTC Probe: 132.5 x 35 mm (5.22 in. x 1.4 in.) (L x D)
  - STTC-W Probe: 162 x 45 mm (6.38 in. x 1.77 in.) (L x D)
- Weight (STTC): 130 g (0.3 lb), without cable

### Environmental

- Temperature: -10 °C to +50 °C (+14 to +122 °F)
- Relative Humidity: 40% to 95% at +35 °C
- Cleaning: Housing easy to decontaminate
- Water Resistance:
  - STTC Probe: Waterproof 1 m (3.28 ft) deep underwater if not connected (IP67). IP55 if connected to CSP cable
  - STTC-W (probe end): IP68 – Waterproof 25 m (82 ft) deep underwater

### Norm

- CEM: Conforms
- CE: Meets CE requirements
- IEC: Approval to IEC 60846 (document # 9011-OD-U6457/2009)

## ORDERING INFORMATION

- STTC Probe: EM83023
- STTC-W Probe: EM97953
- CSP Cable (1.5 m – 4.9 ft): EM77336
- CSP Cable (10 m – 32.8 ft): EM85920
- CSP Cable (20 m – 65.6 ft): EM80653
- CSP-PC Cable: EM78466
- CPCS (calibration software):
  - CPCS-E (English SI units): EM80643
  - CPCS-R (English US units): EM80642
  - CPCS-F (French SI units): EM78468

