# Automation und Messtechnik GmbH





- ➤ Safety by distance: Telescope may be extended continuously up to a total length of approx. 4 m
- ➤ Measuring quantity J<sub>s</sub> (AD-t) or H\*(10) (AD-t/H, /E)
- > Gets all the benefits from the 6150AD:
  - Automatic range selection
  - Smart time constant
  - Acoustic single pulse detection
  - Digital calibration providing high accuracy
  - Simultaneously measures current value, average value, and maximum value of dose rate, as well as dose
  - Alarm thresholds for both dose and dose rate including one freely programmable threshold each
- **➤** Low current consumption
- > Robust waterproof aluminium housing

# TELETECTOR® PROBE 6150AD-t (/H, /E)

Telescopic Probe for the Dose Rate Meter 6150AD® for measuring photon radiation (gamma and X-radiation) and for detecting beta radiation

TELETECTOR® is our trademark (German registration number 303 55 581)

6150AD® is our trademark (German registration number 303 55 582)

### **APPLICATION**

The Teletector Probe 6150AD-t is a portable probe for the Dose Rate Meter 6150AD to measure photon radiation (gamma and X-radiation). Two GM counting tubes placed at the telescope's end serve as detectors covering a very wide dose rate range. The low range tube is placed behind the window in the front of the tube housing and can also detect beta radiation.

The stainless steel telescope can be continuously extended up to approximately four metres. This allows to increase the distance to the radiation source thereby reducing exposure. Furthermore it helps to measure at places difficult to reach. As long as the key above the probe's handle is kept depressed, the 6150AD operates with its internal tube. This allows radiation conditions at the user's place to be checked temporarily.

This data sheet only specifies the Teletector Probe, not the 6150AD meter it is used with. It is assumed throughout this data sheet that the reader is familiar with the 6150AD (see the 6150AD data sheet).

The 6150AD-t is designed for the classical quantity  $J_S$ . The 6150AD-t/H is designed for Ambient Dose Equivalent H\*(10). The AD-t/E is the same as the AD-t/H except a different internal probe code requiring 6150AD »/E« basic meters. The German PTB approval only applies to the »6150AD-t/E« model. This shall eliminate classical  $J_S$  models. Nevertheless, for international use we strongly recommend »/H« models over »/E« models.

### **SCOPE OF DELIVERY and ACCESSORIES**

The Teletector Probe 6150AD-t comes with an integrated short probe cable and the removable carrying strap. The Dose Rate Meter 6150AD is *not* included.

# **Source Holder and Adapter (optional accessories)**

The check source 6706 (333 kBq Cs-137) or equivalent together with source holder and adapter allow a reproducible radiological check of either counting tube. 6150AD-t: requires holder 761.4 and adapter 761.5. 6150AD-t/H: requires holder 761.16 and adapter 761.5. 6150AD-t/E: requires holder 761.16 and adapter 761.5/E.

### Probe cover 6112B-142 (optional accessory)

The probe cover made of colourless plastic foil protects the extended telescope against contamination and also against dirt and humidity, e.g. in case of outdoor use.

# Aluminium Case 6605.22 (optional accessory)

This case (see photo on the front page) is recommended for safe transport and storage.

## **TECHNICAL DATA**

	Teletector Probe 6150AD-t, /H, /E
Low range detector (energy compensated)	beta gamma end window tube ZP1400 or equivalent, effective length 40 mm, sensitivity approx. 5800 pulses per µSv
High range detector (energy compensated)	gamma tube ZP1300 or equivalent, effective length 8 mm, sensitivity approx. 100 pulses per µSv
Detector selection	automatically with hysteresis: > 10 mSv/h: high range < 2 mSv/h: return to low range

	Teletector Probe 6150AD-t, /H, /E
Measuring	/H, /E models: ambient dose equiva-
quantity	lent H*(10); others: exposure dose $J_s$
Energy range and	max. ±40% within:
angular range	low range tube: 65 keV to 1.3 MeV
	high range tube: 65 keV to 3 MeV
, , , , , , , ,	and ±45°
	ion is perpendicular to the axis)
Indicated dose	analogue: 0.1 µSv/h to 10 Sv/h
rate range	digital: 0.00 µSv/h to 9.99 Sv/h
Useful dose rate	2 µSv/h to 9.99 Sv/h (fluctuations
range	stronger than 15% below 2 µSv/h)
Linearity of dose	deviation max. ±10%, calibration with
rate measurement	
Instrumental	max. 50 nSv/h,
background	typically less than 15 nSv/h
Overload	overrange indication up to 100 Sv/h
Digital dose range	
	with 6150AD5-6: 0.00 μSv - 9.99 Sv
Predefined alarm	Dose rate:
thresholds	250 μSv/h 10 mSv/h
	1.0 mSv/h 2.5 mSv/h
	25 mSv/h (disabled)
	Dose: none
User programma-	one freely programmable threshold
ble alarm	for each dose and dose rate (with
thresholds	smart models 6150AD5 & AD6 only)
Temperature	-30°C to + 50°C, deviation max.
range	±10% referred to indication at +20°C
Humidity	nominal range 0 to 95% within speci- fied temperature range
Atmospheric	nominal range 60 to 130 kPa (600 to
	indinina fande od to 130 ki a todo to i
Diessule	
pressure Geotropism	1300 mbar)
Geotropism	1300 mbar) none (no change of response as a
Geotropism	1300 mbar) none (no change of response as a result of gravitational effects)
Geotropism  Power supply	1300 mbar) none (no change of response as a result of gravitational effects) 4.75 Volt out of 6150AD
Geotropism  Power supply Battery life includ-	1300 mbar)  none (no change of response as a result of gravitational effects)  4.75 Volt out of 6150AD  with a 6LR61 alkaline battery:
Geotropism  Power supply	1300 mbar) none (no change of response as a result of gravitational effects) 4.75 Volt out of 6150AD
Geotropism  Power supply Battery life includ-	1300 mbar)  none (no change of response as a result of gravitational effects)  4.75 Volt out of 6150AD  with a 6LR61 alkaline battery: approx. 200 hours at low dose rates with the 6150AD's illumination off
Geotropism  Power supply  Battery life including the 6150AD	none (no change of response as a result of gravitational effects) 4.75 Volt out of 6150AD with a 6LR61 alkaline battery: approx. 200 hours at low dose rates with the 6150AD's illumination off aluminium die-cast, scratch-resistant paint, waterproof, protection class IP
Geotropism  Power supply  Battery life including the 6150AD	none (no change of response as a result of gravitational effects) 4.75 Volt out of 6150AD with a 6LR61 alkaline battery: approx. 200 hours at low dose rates with the 6150AD's illumination off aluminium die-cast, scratch-resistant paint, waterproof, protection class IP 67 according to DIN 40050 if
Geotropism  Power supply  Battery life including the 6150AD	none (no change of response as a result of gravitational effects) 4.75 Volt out of 6150AD with a 6LR61 alkaline battery: approx. 200 hours at low dose rates with the 6150AD's illumination off aluminium die-cast, scratch-resistant paint, waterproof, protection class IP 67 according to DIN 40050 if telescope fully retracted and protec-
Geotropism  Power supply  Battery life including the 6150AD  Housing	none (no change of response as a result of gravitational effects) 4.75 Volt out of 6150AD with a 6LR61 alkaline battery: approx. 200 hours at low dose rates with the 6150AD's illumination off aluminium die-cast, scratch-resistant paint, waterproof, protection class IP 67 according to DIN 40050 if telescope fully retracted and protective cap applied
Geotropism  Power supply  Battery life including the 6150AD	none (no change of response as a result of gravitational effects)  4.75 Volt out of 6150AD  with a 6LR61 alkaline battery: approx. 200 hours at low dose rates with the 6150AD's illumination off aluminium die-cast, scratch-resistant paint, waterproof, protection class IP 67 according to DIN 40050 if telescope fully retracted and protective cap applied  length 910 mm to 4120 mm depend-
Geotropism  Power supply  Battery life including the 6150AD  Housing	none (no change of response as a result of gravitational effects)  4.75 Volt out of 6150AD  with a 6LR61 alkaline battery: approx. 200 hours at low dose rates with the 6150AD's illumination off aluminium die-cast, scratch-resistant paint, waterproof, protection class IP 67 according to DIN 40050 if telescope fully retracted and protective cap applied  length 910 mm to 4120 mm depending on telescope position,
Geotropism  Power supply  Battery life including the 6150AD  Housing	none (no change of response as a result of gravitational effects)  4.75 Volt out of 6150AD  with a 6LR61 alkaline battery: approx. 200 hours at low dose rates with the 6150AD's illumination off aluminium die-cast, scratch-resistant paint, waterproof, protection class IP 67 according to DIN 40050 if telescope fully retracted and protective cap applied  length 910 mm to 4120 mm depend-

Energy Response Normalised to Indication at Cs-137 (662 keV)

