

CONTINUOUS LEVEL SYSTEMS

The NCL Continuous Level measurement System comprises gamma emitting isotope (source) in holder and strip type gamma detector. The source and detector are attached on opposite sides of the vessel (in which the level is to be measured). As material (solid or liquid) raises up in the vessel, it increasingly blocks off the beam of gammas emitted from the source. The detector measures the received gammas and converts it into suitable electrical signals for the Indicator /Transmitter to process and output % level. The measurement is non-contacting, non-intrusive, and unaffected by process conditions such as pressure, temperature etc.

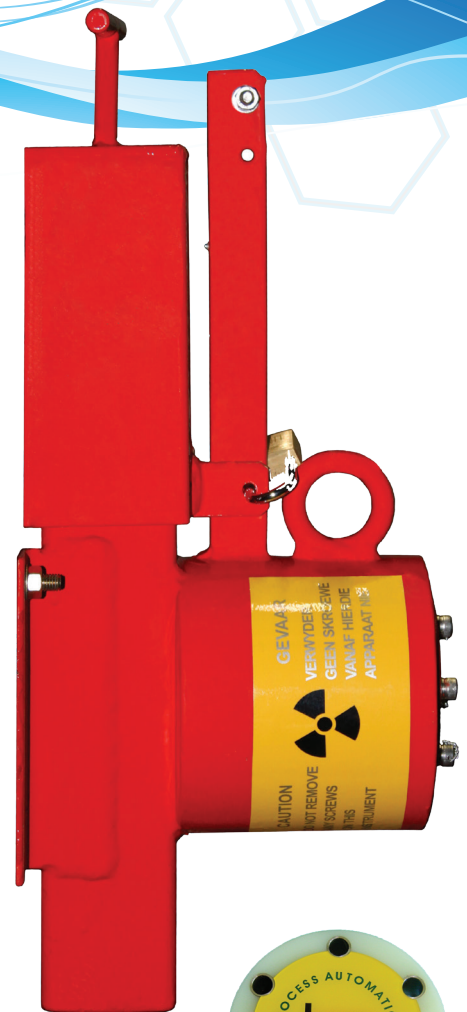
The Source Holder Assembly

The source holder is fabricated from mild steel (optionally others) to exceed the requirements of the Department of Health / Directorate Radiation Control. The source holder emits a curtain of gamma radiation specially collimated to suit the application requirements.

The source holder may be equipped with our optional electronic tag (I-TAG®) which removes the problem of illegible or missing Source Holder Identification Tags. I-TAG® offers the user greatly increased safety from gamma radiation exposure, since the I-TAG® may be read electronically in a non-contact method (using the I-TAG® Reader), at a safe distance from the source holder.

The Detector Assembly (LSA)

Depending on the measurement range, multiple Level Sensor Assemblies (LSA) may be required. The detector housing is fabricated from mild steel (optionally others) and attaches to the vessel in which the level is to be measured. The Gamma detector assembly is located within this housing.



Scintillating Detector

This detector type has a far greater sensitivity than the older technology Ion Chamber detector, resulting in greatly reduced isotope activity. Features of this detector type are:-

- Greater sensitivity resulting in lower isotope activity.
- Lower radiation levels – greater margins of safety.
- High noise immunity, RS-485 type output capable of driving through long cable distances to the remote mounting transmitter (up to 1000 m).



The Transmitter / Indicator

The NCL-520 Continuous Level system incorporates the modular UNIPRO® transmitter which is mounted remote from the Level Sensor Assembly (LSA). This UNIPRO® transmitter may be expanded in functionality to meet almost every need in terms of I/O and interface.

The NCL-520 system can provide Set Point control in the form of a 4-20 mA output which may be used to drive a Level control element. It can also be equipped to provide alarms etc.

All the Industry standard Field Bus systems are supported.

Technical Data

Detector type	High sensitivity Scintillator type
Transmitter	UNIPRO®
Outputs	4-20 mA proportional to level. Other outputs optional
Field Buss support	All the major field busses are supported.
Power Supply	Transient free instrument quality power; 110 VAC, 50/60 Hz 220 VAC, 50/60 Hz
Detector enclosure	Epoxy painted mild steel to IP 65 protection. Others optional.
Operating Temperature	-10°C to 45°C
Weight	Approx. 100kg – 300kg - Dependent on the measurement range and isotope activity etc.

