

84 GHz Non-Contact Radar

The NCR-84 is an 80 GHz radar used for continuous, non-contact level measurement in liquids. It is designed specifically for precise, reliable measurement in challenging conditions specific to liquids such as excessive steam, vapor, condensation, or surface foam. The signal is focused in a very narrow beam angle, allowing for precise aiming to avoid obstructions in the tank such as agitators, mixers, fittings, or heating coils. The NCR-84 is also appropriate for use in tanks with turbulent product surfaces, viscous media, and slurries.



Principle of Operation

The NCR-84 sends out short radar pulses toward the measured product via the antenna system. The product surface reflects the signal waves, which are then received back by the antenna system. The instrument calculates the level from the running time of the radar pulses and the entered tank height. The beam angle is as narrow as 3° depending on the version selected.

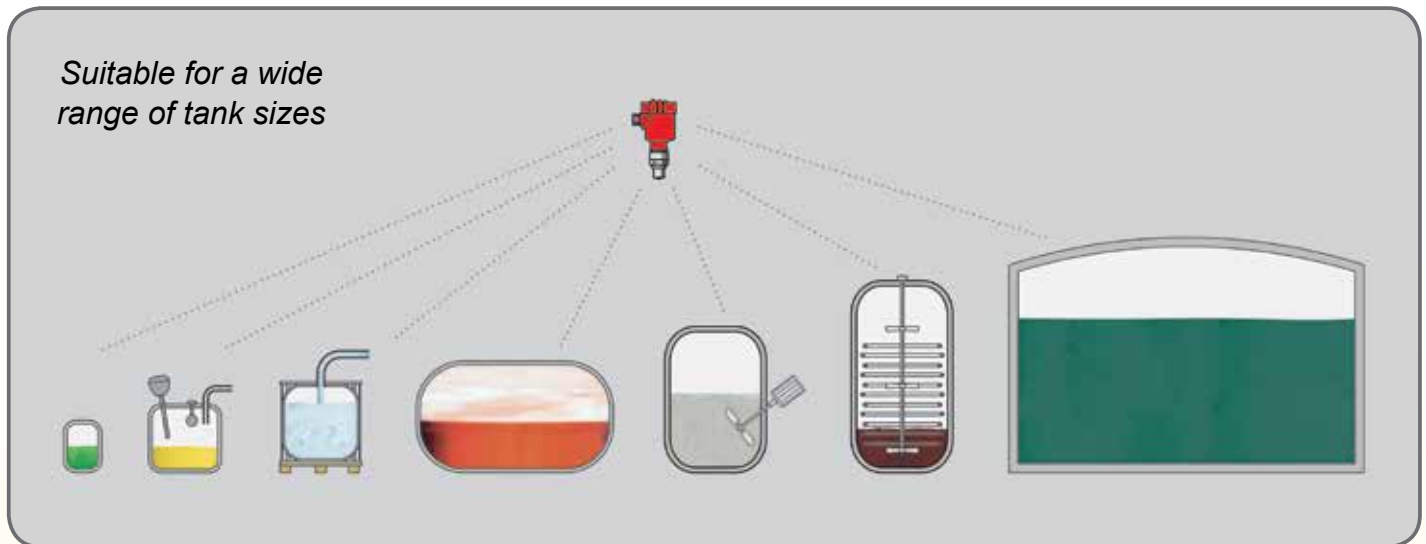
Features You'll Appreciate

Plant-Friendly Operation

- Quickly setup and diagnose using the BinDisc module under the unit lid
- Simple configuration and commissioning, even in complex vessels
- Encapsulated PTFE antenna is resistant to buildup and is maintenance free

Versatile Mounting Options

- Threaded, flange, and hygienic options for a wide variety of industries and applications
- Plastic antenna option for lower pressure and temperature ranges
- Process fittings as small as $\frac{3}{4}$ " for use on very small mounting sockets
- Compact design for reliable measurement in small tanks
- Hygienic and 3A fittings for compliance in food and pharmaceutical applications



Superior Performance

- Narrow beam angle avoids obstructions and interference from buildup
- Precise signal focusing for targeted level measurement in confined spaces
- High accuracy, even when sensor is mounted near the tank wall
- Unaffected by changes in material density, temperature, or pressure
- Chemical resistant construction for long service life in harsh conditions

Data Monitoring Options



BinView

The BinView SaaS takes data from the NCR-84 as well as other types of level sensors and sends it to the cloud for processing. Users log in to a website, enter credentials, and are presented inventory data instantaneously. Any device with internet access can be used to view data including a smartphone, tablet, or PC. BinView is offered as an annual subscription with a modest cost based upon the number of tanks and gateways.

Binventory

For plant operations that want to install software locally, Binventory is a robust and affordable option. This software is a one-time purchase for the base software with viewer software sold separately. Periodic upgrades are issued every few years

at a nominal cost. Easy-to-use with a simple graphical interface, Binventory can monitor inventory for up to 255 tanks at one or multiple sites using a company's LAN, WAN, or VPN. Binventory is a great alternative to using a PLC, HMI, or SCADA system as it requires no special programming or added costs.

Digital Panel Meters

For plants that want real-time data on the ground near the tanks, a digital panel meter gives instant data access to production personnel at the push of a button. Multiple tanks can be networked to a single meter to save time walking from silo-to-silo to get readings. Meters can be programmed to display in gallons, head-space, or level. They are a popular addition to software among users of non-contact radars.



Adaptable to Many Liquid Applications



- Storage tanks containing a wide variety of aggressive or volatile liquids
- Small vessels or space-constrained areas, such as in pilot plants
- In mixers or vessels with agitators
- Retrofitting existing tanks without costly modifications
- Transport containers for chemicals and additives
- Tall and narrow vessels storing juice, milk, or beer
- Vessels with changing pressure such as carbonated beverages or wine
- Tanks used for processing, mixing, or storing edible liquids or slurries
- Mixing tanks for yogurt, sauces, or soups
- Petroleum processing and storage tanks from crude oil to finished products

Versions for a Variety of Liquid Applications



<p>Version: Threaded</p> <p>Description: Threaded version for mounting on 3/4" or 1-1/2" threaded socket or adapter fitting</p> <p>Application: Small and medium vessels such as storage tanks, filling systems of small process vessels</p> <p>Mounting: 3/4" NPT 1-1/2" NPT</p> <p>Beam Angles: 3/4": 14° 1-1/2": 7°</p>	<p>Version: Flange</p> <p>Description: Flange version suitable for use in extremely aggressive liquids</p> <p>Application: Storage and process vessels in chemicals and petrochemicals</p> <p>Mounting: 2", 3", 4", 5", 6" and 8" flange</p> <p>Beam Angles: 2": 6° 3": 3°</p>	<p>Version: Hygienic Fittings</p> <p>Description: Stainless steel process fittings designed for easy cleaning and hygienic conditions</p> <p>Application: Food processing and pharmaceutical processing with sanitary requirements</p> <p>Mounting: 2" or 3" hygienic clamp</p> <p>Beam Angle: ≤ 6°</p>	<p>Version: Plastic Antenna</p> <p>Description: Suitable for less demanding pressure or temperature ranges</p> <p>Application: Storage containers of different sizes, with internal structure or narrow shafts</p> <p>Mounting: 6.7" or 11.8" mounting strap; 3", 4", 6", or 8" flange</p> <p>Beam Angle: 3°</p>
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NCR-84 General Specifications

Frequency: 80 GHz

Measuring Range: 98 feet (30 m)

Accuracy: ≤ 0.04 inches (1 mm)

Power Requirements: 12-35 V DC

Enclosure Rating: Available protection ratings up to IP68

Antenna Type: Encapsulated PTFE

Process Temperature: -321° to +392°F (-196° to +200 °C)

Ambient Temperature: -40° to +176°F (-40° to +80 °C)

Process Pressure: -1 to 25 bar (-100 to 2500 kPa/- 4.5 to 362.6 psig)

Housing Material: Plastic, stainless steel, or aluminum in single or double-chamber versions



NCR84-0319-BLC