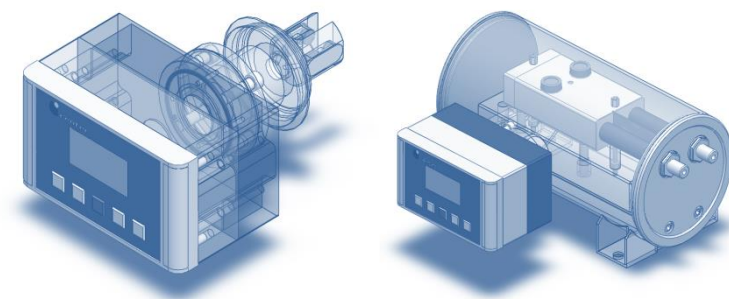


## The Centec Group

Centec is a privately owned group of companies. With a focus on the processing industries, we are rapidly growing in the major world markets. We have a global sales and service structure, with our own subsidiaries and a network of qualified distributors. Our international operations include mechanical, electrical and process automation engineering, with skid manufacture and pipework fabrication; as well as our own switch cabinet production. This infrastructure allows efficient logistics, short lead times and strict adherence to delivery deadlines. The quality of our products is excellent, so is the price-performance ratio.



**Innovation. Dedication. Centec.**

**Germany**  
Centec GmbH  
Wilhelm-Röntgen-Strasse 10  
63477 Maintal  
Tel.: +49 6181 18 78 0  
Fax: +49 6181 18 78 50  
info@centec.de

**Czech Republic**  
Centec automatika s.r.o.  
Pekařská 8/601  
155 00 Praha 5  
Tel.: +420 257 084 111  
Fax: +420 235 518 701  
prodej@centec.cz

**USA**  
Centec LLC  
P. O. Box 820  
Germantown, WI 53022-0820  
Tel.: +1 262 251 8209  
Fax: +1 262 251 8376  
info@centec-usa.com

**UK**  
Centec UK  
Stalworths, The Street  
Great Tey, Colchester, Essex, CO6 1JS  
Tel.: +44 1206 21 19 21  
Fax: +44 1206 21 19 16  
info@centec-uk.com

**Serbia**  
Centec Serbia  
Bogdana Žerajića 34/III  
11000 Beograd  
Tel.: + 381 11 358 11 24  
Fax: + 381 11 358 11 24  
info@centec.rs

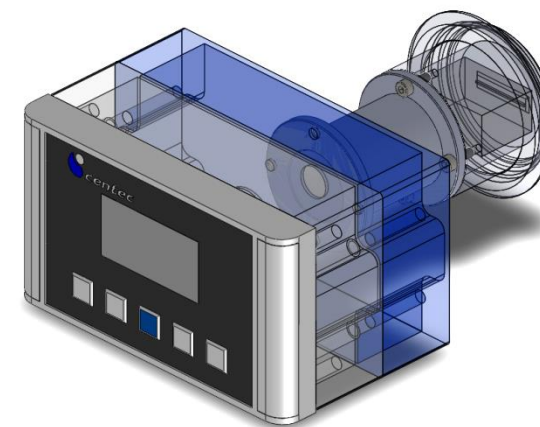
**India**  
Centec RRR Systems & Sensors Pvt Ltd  
RRR House, Plot 80, Sector 23  
Turbhe Naka, Navi Mumbai - 400 705  
Tel.: +91 22 2783 3655 & 2783 1348  
Fax: +91 22 2783 4814  
mail@centecrrr.com

**Brazil**  
Centec América Latina Ltda  
Largo de Sao Francisco de Paula nº 26  
Centro Cep. 20051 070 Rio de Janeiro  
Tel.: +55 21 2223 2066  
Fax: +55 21 2223 0324  
centeclatina@terra.com.br

**CARBOTEC NIR**

## Measurement of Carbon Dioxide Content

### Centec Process Sensors



Automated  
process skids  
and high precision  
sensors from a  
single source.  
**Centec.**

# CARBOTEC NIR

## The Principle

CARBOTEC NIR revolutionizes continuous dissolved CO<sub>2</sub> measurement in liquids. Designed for applications that require maximum sensitivity and high accuracy, this innovative device is ideally suited for food and beverage manufacturers – especially for breweries and soft drink plants. The new generation of CARBOTEC sensors is based on Attenuated Total Reflection (ATR) technology. While transmitting a sapphire glass crystal, near infrared (NIR) light is reflected several times at the surface. The surface of the crystal is in contact to the carbonated liquid. Since the CO<sub>2</sub> molecules in the liquid absorb the specific wavelength of the transmitting light, each reflection decreases the intensity according to the CO<sub>2</sub> content. The sensor is of extreme precision and provides “true” carbon dioxide content by quantifying the infrared absorption of the dissolved CO<sub>2</sub> only. The measurement result is not influenced by any other gases such as nitrogen in beer. Due to the lack of moving parts, the instrument is virtually maintenance free. Any temperature drifts of the measured signal are automatically compensated by an internal Pt100 sensor.



**CARBOTEC NIR**  
Transmitter Version

- Available as Transmitter Version with Local Display
- Highly Precise and Fast Measurement of Dissolved CO<sub>2</sub>
- ATR Technology to Monitor Only “True” CO<sub>2</sub> Content
- Short Response Time and Excellent Long-Term Stability
- Hygienic Execution and Full CIP Capability
- No Moving Parts, Virtually Maintenance Free
- Outstanding Price-Performance-Ratio

## Technical Data CARBOTEC NIR

Measuring Range	0 - 10 g/l
Accuracy	± 0,05 g/l
Repeatability	± 0,01 g/l
Response Time	≤ 20 s
Pressure of Operation	max. 10 bar
Temperature of Operation	- 10 - + 100 °C
Temperature Compensation	Pt100
Material	1.4404/AISI 316L, sapphire glass, EPDM (FDA), PTFE (FDA)
Connections	compatible to Varivent® Inline-Housings DN65 - DN150; others on request
Input	6 x digital (24 VDC)
Output	3 x digital (24 VDC) & 2 x analog (4 - 20 mA)
Profibus DP	option
Enclosure Rating	IP65
Power Supply	24 VDC