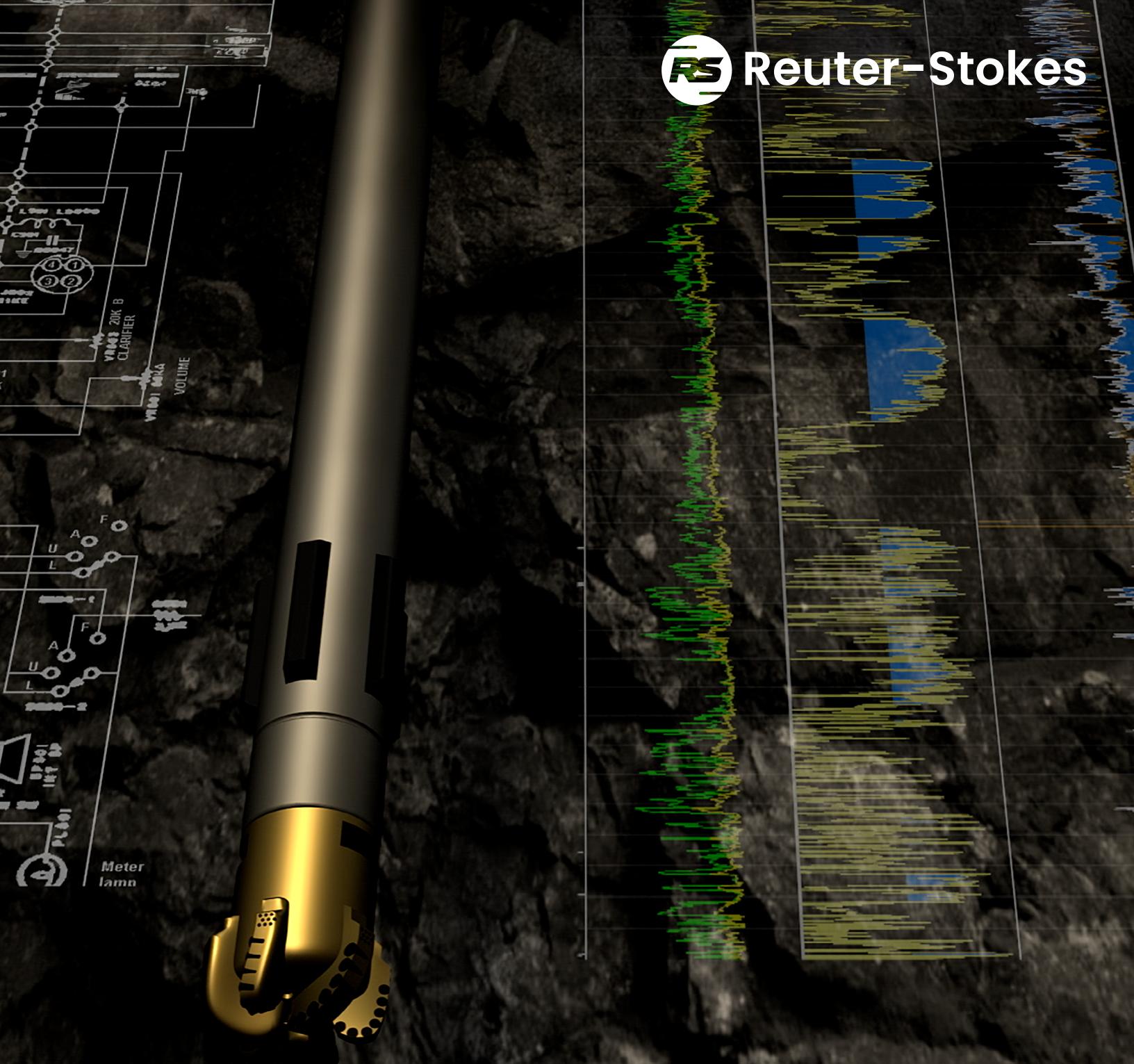




Reuter-Stokes



Downhole drilling product solutions

Decades of critical solutions in harsh environments

Reuter-Stokes provides sensors and electronics to support your downhole operations. We provide scintillation detectors for gamma-ray and spectroscopy applications and neutron detection to confirm you have the best data for your formation evaluation. Our uniquely rugged design ensures the largest volume scintillation crystals can be used in operations with minimal footprints while keeping sensitive equipment safe from damage.

Reuter-Stokes has the advanced technologies and rigorously controlled quality assurance needed to deliver precise and reliable downhole sensors. **We have invested in our production capacity by adding over 1,600 square feet of dry room production space and an additional vibration table for scintillation crystal processing to our 163,000 square foot plant in Twinsburg, Ohio.**



Neutron detectors



Reuter-Stokes has been providing neutron detectors to customers around the world for 70 years. With over 70,000 neutron detectors sold to date, customers can be assured they'll get the perfect detector for their application requirements.

Features and benefits:

- Neutron count-rate plateau slope <4% per 100 V within the operating voltage range.
- At least 150 V common plateau between +25°C and 200°C (77°F to 392°F) with <2% count rate shift.
- Patented anode suspension minimizes shock-induced false counts.

Part #	Application	Diameter (in.)	Operating voltage range	Plateau length >175°C	Resolution (%)	Sensitivity (cps/nv)	Active length (in.)	Overall length (in.)	Total pressure (PSIA)
RS-P4-0604-225	Drilling	0.75	1050-1300 V	4%/100 V 150 V length	17	11.5	4.0	6.5	170.0
RS-P4-0606-209	Drilling	0.75	1150-1625 V	4%/100 V 150 V length	15	18.7	6.0	8.2	178.1
RS-P4-0803-241	Wireline	1.00	1100-1400 V	4%/100 V 150 V length	20	10.0	3.0	4.9	66.0
RS-P4-0803-264	Drilling	1.00	1250-1700 V	3%/100 V 150 V length	25	12.4	2.7	5.9	181.3
RS-P4-0804-250	Wireline	1.00	1000-1600 V	3%/100 V 200 V length	10	16.9	4.0	7.6	149.0
RS-P4-0806-211	Wireline	1.00	1250-1500 V	3%/100 V 250 V length	10	22.5	5.9	9.6	90.0
RS-P4-1004-219	Wireline	1.25	1000-1700 V	3%/100 V 150 V length	12	17.5	4.1	5.8	60.0
RS-P4-1206-219	Wireline	1.25	1050-1300 V	3%/100 V 150 V length	16	42.0	6.0	7.6	150.0
RS-P4-1208-204	Wireline	1.50	1200-1600 V	3%/100 V 150 V length	15	52.0	8.0	11.5	100.3
RS-P4-1406-219	Wireline	1.75	900-1250 V	3%/100 V 150 V length	15	49.0	6.0	8.5	147.7
RS-P4-1408-205	Wireline	1.75	1100-1600 V	3%/100 V 200 V length	15	62.1	8.0	9.9	91.5
RS-P4-1606-219	Wireline	2.00	1000-1600 V	3%/100 V 150 V length	15	45.0	6.0	9.4	59.6
RS-P4-1808-229	Wireline	2.25	1300-1600 V	2%/100 V 200 V length	15	90.0	8.0	10.3	150.0
RS-P4-2012-204	Wireline	2.50	1100-1700 V	2%/100 V 200 V length	15	130.0	12.0	15.9	61.5

Gamma sensors

Delivering one of the industry's highest sensitivities, Reuter-Stokes' gamma sensors provide geologists and drilling contractors with the precise measurements required for accurate formation evaluation.

Reuter-Stokes offers a broad range of gamma sensor configurations, including crystal size, mounting and interface adaptations, as well as integrated radioactive calibration sources. Crystal packages can be optimized for light output, energy resolution, and sensitivity per customer requirements.



Features and benefits:

- Operating temperatures: to 200°C (392°F)
- Shock survivability to 1,000 g, 0.5msec duration
- Random vibration rating up to 20 grms, 10 to 1,000 Hz



Part #	Sensor Diameter	Sensor Length	Window Diameter	Thread	Crystal Diameter	Crystal Length
RS-S1-0646-000	1"	4.8"	0.787"	15/16-32 UN-2A	0.841"	4.32"
RS-S3-0710-000	1"	1.453"	0.787"	15/16-32 UN-2A	0.841"	0.98"
RS-S3-0724-000	1"	2.938"	0.787"	15/16-32 UN-2A	0.841"	2.48"
RS-S1-0740-000	0.875"	4"	0.662"	13/16-32 UN-2A	0.707"	3.387"
RS-S1-0828-000	1.125"	2.875"	0.907"	11/16-28 UN-2A	0.948"	1.98"
RS-S1-1046-000	1.375"	4.8"	1.157"	15/16-28 UN-2A	1.212"	4.171"

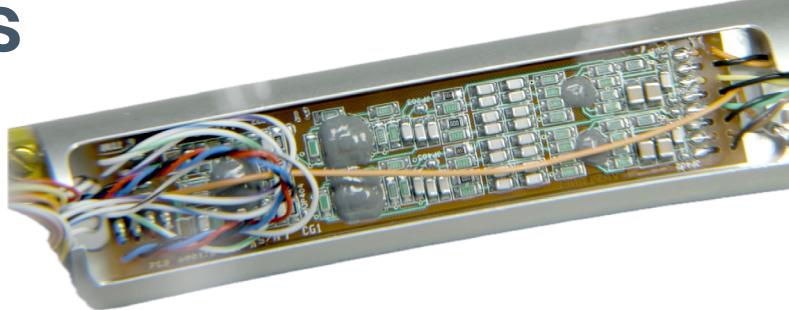
Note: All measurements are in inches ("). All gamma sensors are qualified to the drilling specifications of vibration up to 20 grms, 10 to 1,000 Hz and shock up to a 750g, 0.5ms duration. Gamma sensors are available as crystal packages or with a PMT. Thread size can be modified to larger sizes as needed.



Directional sensors and orientation modules

Reuter-Stokes orientation modules provide unsurpassed measurement accuracy and calibration stability, helping customers reach total depth in harsh drilling environments. Innovative compact electronics and packaging designs result in smaller, more reliable orientation modules with borehole survey technology designed to fit into the smallest tools.

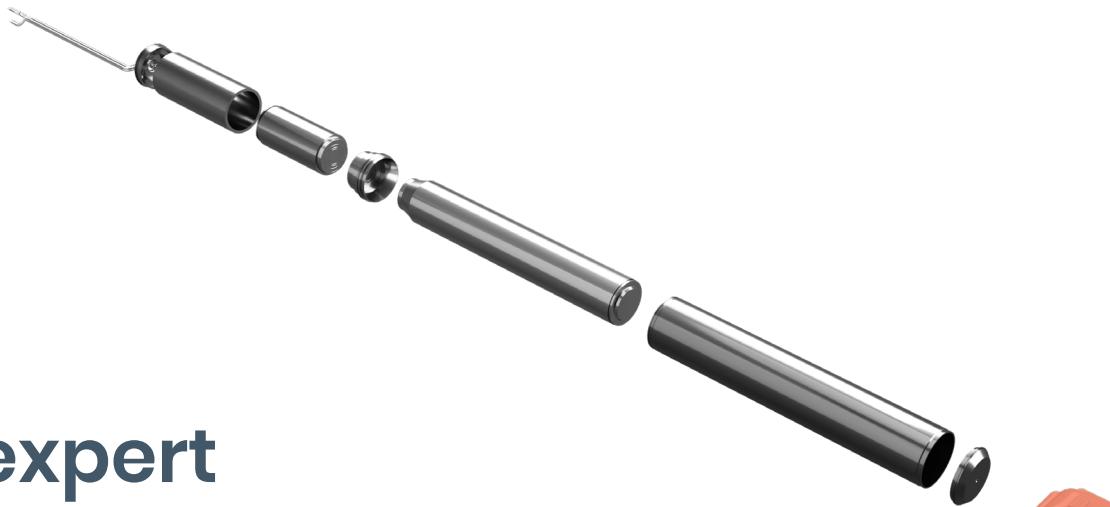
By providing measurements with minimal downhole power consumption, the orientation module minimizes the operational costs associated with downhole batteries and enables the horizontal drilling techniques required for unconventional well development.



Features and benefits:

- Operating temperature range from -20°C to 175°C (-4°F to 347°F)
- Customizable: sizes, electronics packages, configurations
- State-of-the-art total field calibration lab

Talk to an expert



As the upstream oil and gas market continues to evolve with faster drilling and advanced measurements, Reuter-Stokes has been at the forefront of delivering customized formation evaluation and directional sensor measurements for oilfield services companies and Measurement While Drilling / Logging While Drilling (MWD/LWD) system OEMs around the globe.

While Reuter-Stokes primarily works with customers to develop custom product offerings, we also stock standard sizes to meet your immediate needs.

Reuter-Stokes' application and customization expertise ensures you will receive reliable products built for your specific purpose.

reuter-stokes.com

