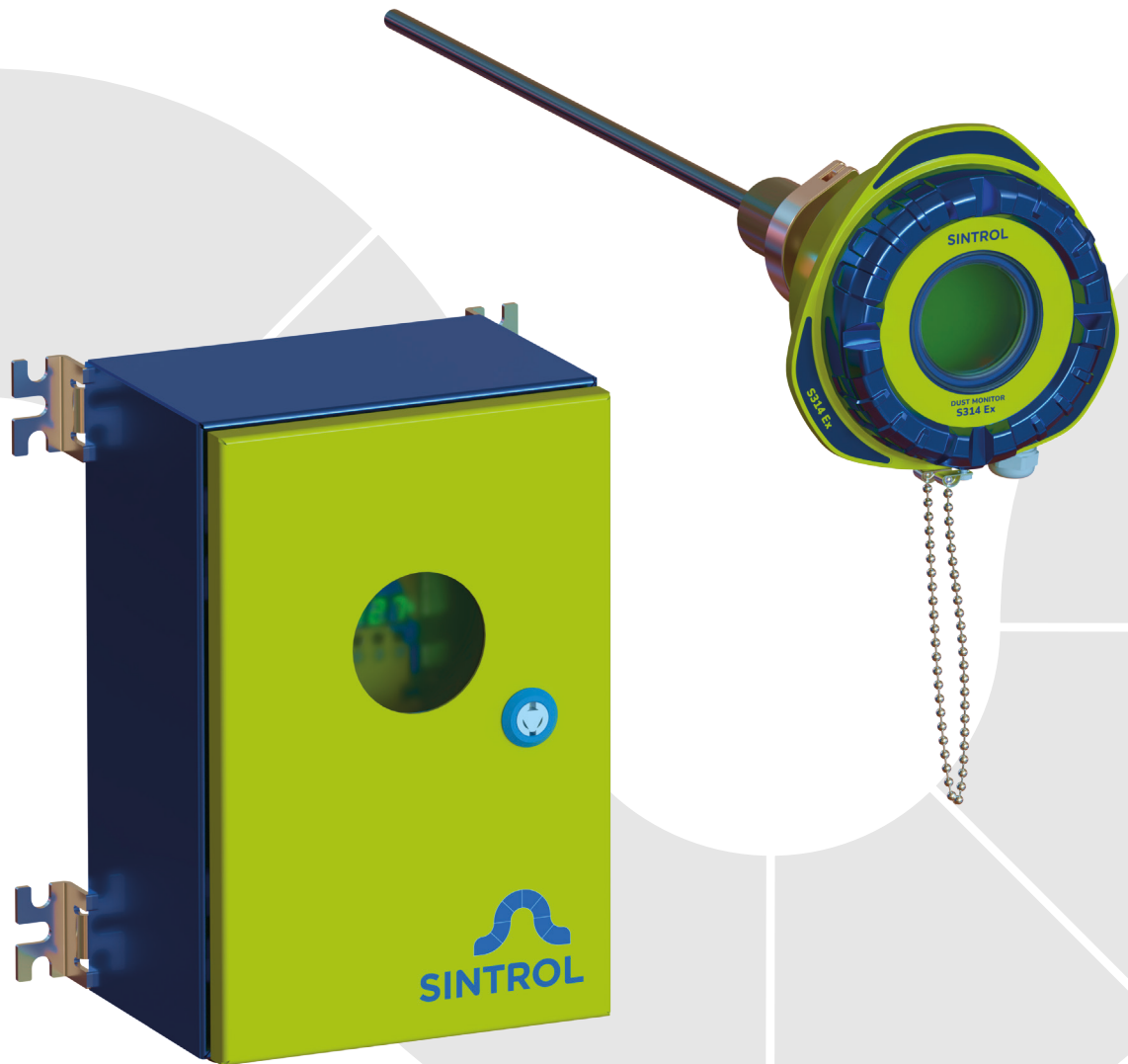


S314 & S314 Ex

Split Architecture Dust Monitors



**Reliable Dust Monitoring
for Demanding and
Hazardous Process
Environments**

S314 & S314 Ex - Split Architecture Dust Monitors

Dust Monitoring For Hazardous Environments

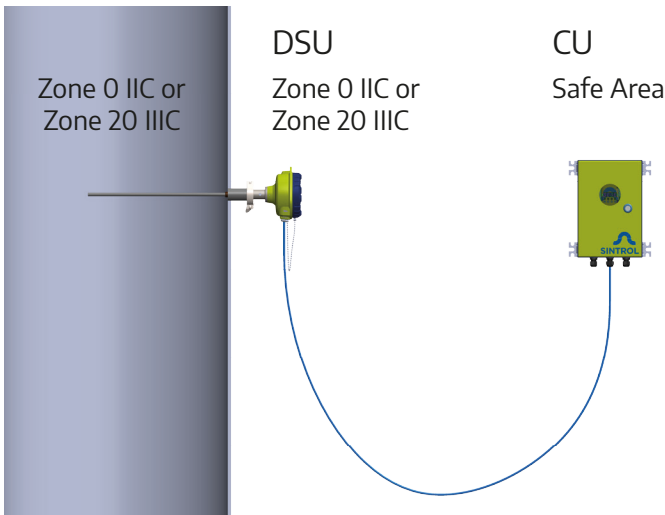
The S314 Ex is designed for continuous dust monitoring in hazardous process environments where explosive gas or dust atmospheres may be present.

Certified for both gas and dust hazardous areas, it is suitable for applications involving flammable gases, vapours, and mists as well as combustible dusts. Its split architecture enables the Dust Sensor Unit (DSU) to be installed directly at the measurement point within the hazardous area, while the electronics in the Connection Unit (CU) are located in a safe and easily accessible area.

This combination of hazardous-area capability and split architecture makes the S314 Ex particularly suitable for demanding industrial installations where access, safety and process conditions need to be considered together. The S314 can be used in non-hazardous locations.

Split Architecture For Flexible Installation

By separating the Dust Sensor Unit (DSU) from the Connection Unit (CU), the S314 and S314 Ex provide exceptional installation flexibility. The DSU can be mounted directly at the measurement point, while the CU can be installed at ground level or in another easily accessible area. With interconnection cable lengths of up to 500 meters, the CU can be located where access is easiest and safest. This arrangement is particularly beneficial for elevated ducts, rooftop installations, and other difficult-to-access process areas.



Easier Access

With the main electronics installed in a safe and accessible area, routine inspections and maintenance can be carried out quickly and efficiently.

Safer Maintenance

Routine maintenance can be performed from a safe and easily accessible location, minimizing the need to access elevated or difficult-to-reach measurement points. This enhances personnel safety, reduces downtime, and lowers maintenance costs by avoiding the need for scaffolding, lifting equipment, and additional access permits.

Better Visibility

Measurement values and device health status can be viewed from a convenient location without accessing the measurement point.

Continuous Insight Into Process Conditions

Real-time dust concentration monitoring

Gain continuous visibility into dust levels and process conditions. Monitor trends in real time, identify deviations immediately, and verify the effectiveness of process adjustments.

Early detection of process problems

Detect process disturbances before they escalate into costly failures. Identify leaking filter media, malfunctioning cleaning systems, and changes in cyclone, separator, or filtration performance at an early stage.

Process optimization and improved efficiency

Use continuous dust measurements to optimize process performance, improve product recovery, and maintain stable operating conditions. Real-time feedback helps operators identify opportunities for process improvements and energy savings.

Reduced downtime and maintenance costs

Early warning of abnormal conditions enables proactive maintenance planning, helping to prevent unplanned shutdowns, reduce troubleshooting time, and lower maintenance costs.

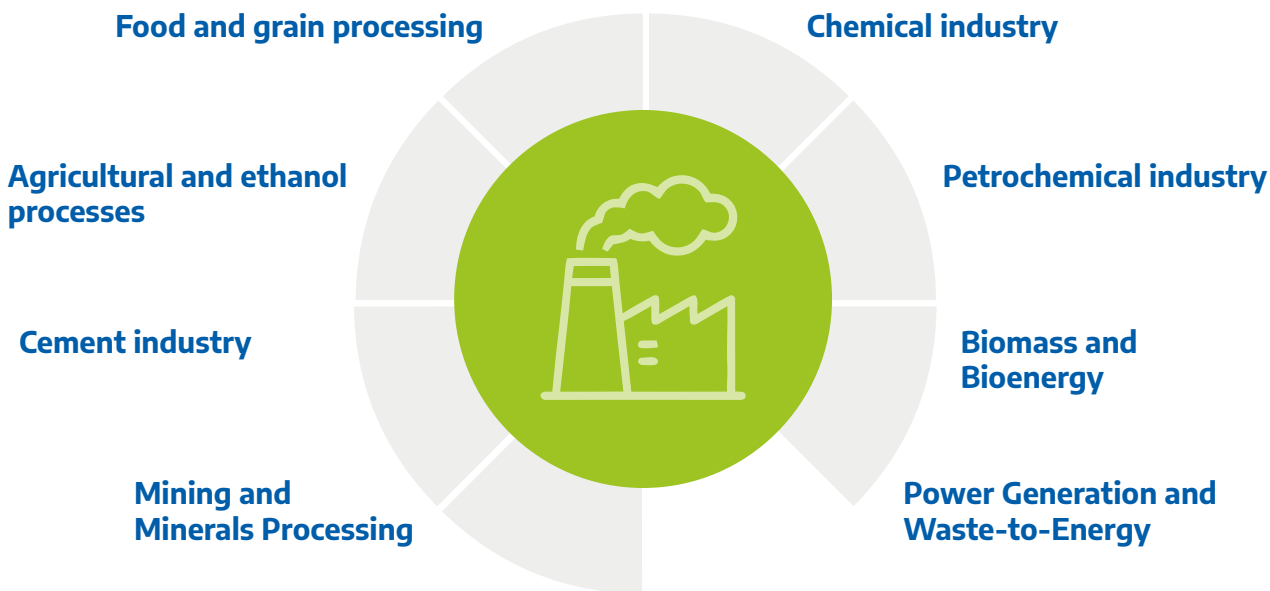
Improved product quality and yield

By maintaining consistent process conditions and detecting performance changes early, continuous monitoring helps reduce product loss and supports more predictable product quality.

Emissions monitoring and environmental compliance

Continuously monitor particulate emissions and identify abnormal emission events as they occur. Real-time data supports environmental reporting, demonstrates compliance with permit requirements, and enables rapid response to process or filtration problems before emission limits are exceeded.

Typical Industries For Using Split Dust Monitor



Choose The Right Model

S314

The split architecture combines reliable dust measurement with simplified installation, maintenance, and daily operation. By keeping the electronics in a safe and easily accessible location, it improves personnel safety while reducing maintenance effort and costs.

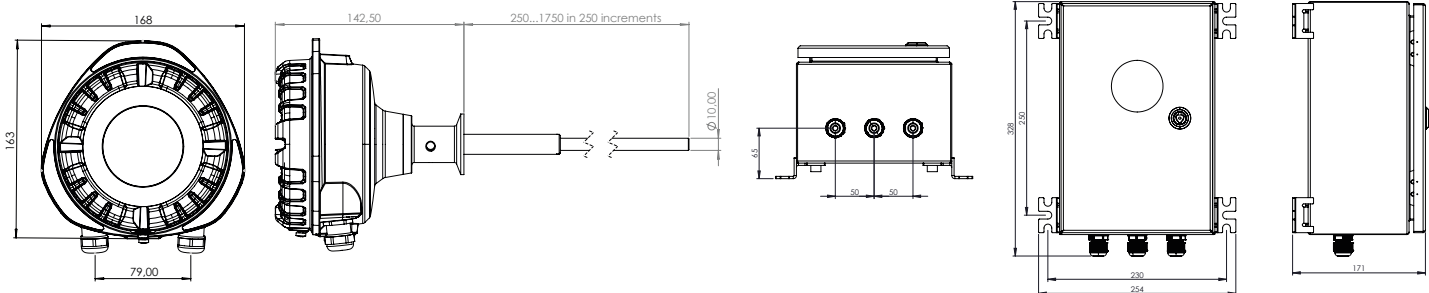
S314 Ex

Certified for flammable gas and combustible dust hazardous areas, the S314 Ex combines reliable dust measurement with a split architecture that simplifies installation, maintenance, and daily operation. Keeping the electronics in a safe and easily accessible location improves personnel safety and helps reduce maintenance costs.

If split architecture is not required and the measurement point is in a non-hazardous area, a standard Sintrol general-purpose dust monitor may provide a more cost-effective solution.



Parameter	Value
Measured objects	Total Suspended Particles (TSP)
Measurement principle	Inductive Electrification
Measurement range	Detection limit 0.01 mg/m ³ Up to several g/m ³
Power supply	24 VDC +- 10% / 100-240 VAC +-10% 50/60 Hz Up to 10 W AC/DC
Output signals	2 × Independent SPDT dry contact relays (max 30 V DC / 5 A or 240 V AC / 5 A, cos φ = 1), Isolated active 4 ... 20 mA output loop (max loop resistance 500 Ω)
Communication interfaces	2 × Serial communication RS 485, USB
Communication protocols	Modbus RTU over RS-485; Sintrol Network (SNT) over USB and RS-485
Interconnection cable	Customer supplied, max. length 500 m. S314 Ex: IEC 60079-14 compliant 2 × 2 × 0.75 mm ² twisted-pair cable with overall shield.
Wetted parts	Probe: Stainless steel (316L/1.4404) Insulation: PPS (Ryton® R-4) Option PTFE coated probe, only available for S314, not for Ex version
Probe length	500 mm standard. 250 mm optional. Up to 1750 mm in 250 mm increments using extension sections. PTFE-coated probes: 250, 500, 750, 1000 or 1500 mm.
Installation diameter	0.2 - 7.0 m
Ambient temperature	S314: -40...+60 °C S314 Ex: -30...+60 °C
Process temperature	S314 with 316L probe: max. 300 °C (572 °F) optionally up to 700 °C (1292 °F) S314 with PTFE coated probe: max. 250 °C (482 °F) S314 Ex with 316L probe: max 200 °C (392 °F)
Process pressure	S314: max. 600 kPa (87.02 psi) in temperatures up to 300 °C (572 °F) S314: max. 300 kPa (43.51 psi) in temperatures up to 700 °C (1292 °F) when high-temperature process connection is used S314 Ex: max. 600 kPa (87.02 psi) in temperatures up to 200 °C (392 °F)
Humidity	Max 95% relative humidity (non-condensing)
Flow velocity	3 - 40 m/s (10 - 130 ft/s)
Ordering information	S314 PC901054 S314 Ex PC901056



Parameter	Dust Sensor Unit (DSU)	Connection Unit (CU)
Ingress protection	IP66	IP66
Power supply	Intrinsically safe power supply from Connection Unit Ui=5.3 V, Ii=0.068 A ja Pi=0.36 W	24 VDC +- 10% / 100-240 VAC +-10% 50/60 Hz Up to 10 W AC/DC Built-in barriers
Enclosure material	Powder-coated aluminum	Powder-coated steel
Weight	1.5 kg	5 kg (±200 g)
Hazardous locations	II 1 G Ex ia IIC T6...T3 Ga (Zone 0, 1 & 2) II 1 D Ex ia IIIC T85...T201 Da (Zone 20, 21 & 22)	Safe Area Only