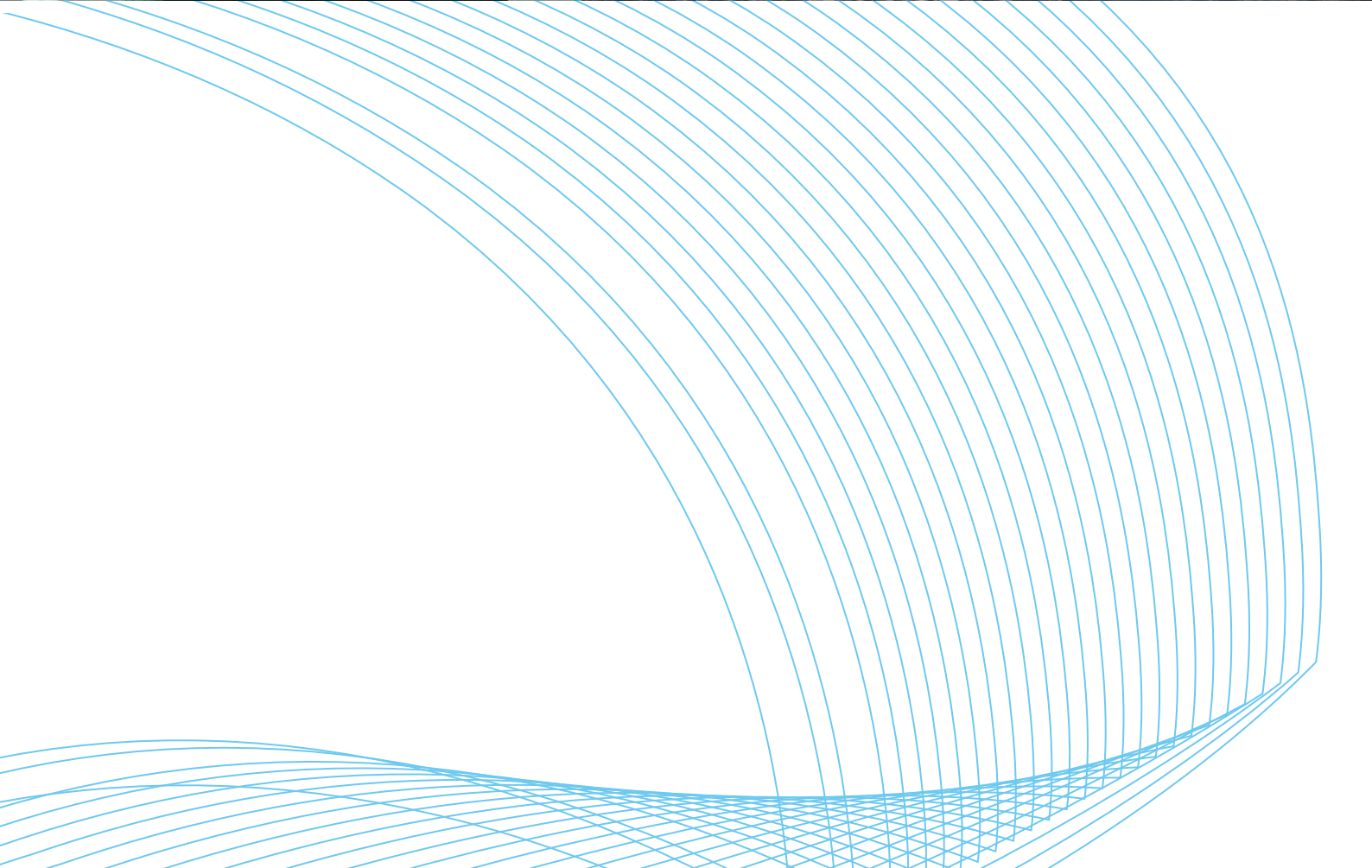# G16 SMOKE DENSITY MONITOR

MONITOR OPACITY
FOR EMISSION & PROCESS CONTROL

KEY FEATURES

- **Ensure environmental compliance**

- **Easy to install – minimal footprint**

- **Robust design with low maintenance cost**

- **Low cost of ownership – no consumable parts**

- **Simple & fast on-site validation**

- **Configurable number of detectors per monitor**

- **Multiple functions for control, graphic & data logging**

APPROVALS AND CERTIFICATES

- **DNV – GL type approval**

- **ABS type approval for Marine & Offshore Application**

CONTINUOUS SMOKE DENSITY MONITORING

The G16 Opacity Monitor is an advanced smoke and dust monitoring system designed to the highest standards for a wide range of industrial applications. The G16 Opacity Monitor has a small footprint making it very easy to install in new builds as well as retrofit.

The optional audit module enables the user to validate the performance of the monitoring system, thus demonstrating compliance as requested by authorities.

RELIABLE MONITORING

The Transceiver with laser, optical system and electronics are of rugged construction with a high environmental rating. The double pass measurement combined with a perfectly aligned optical laser secures a high level of performance and reliability, even on large duct diameters.

EASY OPERATION

The operator interface (HMI) provides easy system configuration and verification thanks to a menu driven user-friendly interface. The interface consists of a touch screen and alarm digital outputs, analog outputs and Modbus TCP/IP communication for integration into any system.

The G16 Opacity Monitoring System can be arranged with audit module for easy on-site verification.
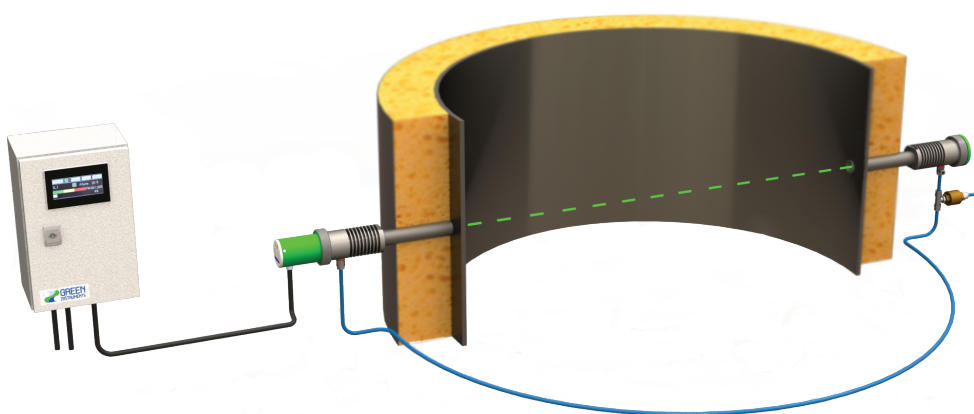
RELIABLE & ROBUST DESIGN

LOW MAINTENANCE

The G16 Opacity Monitor is designed to resist heat and vibration, thus the system is robust while operating in the extreme working environment in and around smoke stacks on board vessels.

The purge air system will protect the optical windows against soot contamination. The optical parts can be cleaned easily without any special tools. With no moving parts, the system does not require much maintenance except occasional cleaning of the lenses and calibration.

ENVIRONMENTAL COMPLIANCE

Installing a G16 Opacity Monitor will help you comply with environmental standards. This will avoid fines, time consuming investigation and costly delays.

Monitoring the exhaust gas emission will contribute positively to your image as an environmentally responsible company.

PERFECTING SENSIBLE TECHNOLOGY

SPECIFICATIONS - G16

CONTROL AND MONITORING UNIT

Power supply	Standard: 20 - 30 VDC - 2 A -
	Optional: 100 - 240 VAC - 50/60 Hz 1.4 A
Ambient temperature	0 °C - 55 °C
Communication options:	All included as standard
Analog output	2 x 4 - 20 mA max. 500 Ω - active & linearized
Digital output	4 x alarm relays
Bus	Modbus TCP/IP
Alarm levels	Alarm level is configurable
	Warning level is automatic set at 50% of the alarm level
Alarm delay	Default 0 s /programmable (0 - 1800 s)
Accuracy	Better than 2 % of full scale
Enclosure	IP 65 steel box
Dimensions	H×W×D: 300x200x150 mm/5.5 kg

TRANSCEIVER INCL. AIR MODULE

Measuring range	0 - 100 % Opacity
Measuring principe	Transmission dual pass
Flue gas temperature	Above dewpoint up to 400 °C
Flue gas pressure	-500 to +500 hPa
Ambient temperature	0 - 55 °C (Class A)
Purge air supply	5-10 NLPM. Air quality to meet ISO 8573-1:2010 Class 3:3:3
Enclosure class	B/IP 66
Dimensions/weight	OD 75 mm, length 220mm/1800 g
Scanning distance	0.5 to 10.0 m

REFLECTOR INCL. AIR MODULE

Flue gas temperature	Above dewpoint up to 460°C
Flue gas pressure	-500 to + 500 hPa
Ambient temperature	0°C – 55°C (Class A)
Purge air supply	5-10 NLPM. Air quality to meet ISO 8573-1:2010 Class 3:3:3
Vibration class	B
Enclosure class	B/IP 66
Dimensions & weight	OD 75 mm, length 143 mm, 1500g

ASSESSORIES AND OPTIONAL

Welding sockets	1" mild steel tubes
Brackets	Support & alignment brackets to support welding sockets
Audit module	Audit module & audit targes for easy on-site validation
Others	Sealing/purge air compressor
	Visualization, recorder and data logging

EUROPE
Green Instruments A/S
sales@greeninstruments.com
Erhvervsparken 29
9700 Brønderslev, Denmark
Tel: +45 96 45 45 00

AMERICA
Green Instruments USA, Inc.
usa@greeninstruments.com
6750 N. Andrews Avenue Suit 200
Fort Lauderdale, FL - 33309, USA
Tel: +1 954 613 0400

ASIA
Green Instruments (S) Pte. Ltd.
pua@greeninstruments.com
240 Woodlands Industrial Park E5
Woodlands Bizhub, Singapore 757302
Tel: +65 9822 5777