



DUSTHUNTER SB30

SCATTERED LIGHT DUST MEASURING DEVICES

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
DUSTHUNTER SB30	On request

The exact device specifications and performance data of the product may deviate from the information provided here, and depend on the application in which the product is being used and the relevant customer specifications.

Our regional sales organization will help you to select the optimum device configuration.

Other models and accessories → www.sick.com/DUSTHUNTER_SB30

Product description

The DUSTHUNTER SB30 is a measuring device for detecting low and medium dust concentrations, e.g., in hot or aggressive gases. The measurement is based on the proven measurement principle of backward light scattering. Installation is very easy from just one side of the duct. Two different penetration depths are available, enabling the measuring device to be adapted to highly diverse duct diameters.

At a glance

- For low to medium dust content
- Easy one-sided installation
- Automatic check of zero and reference point
- For medium to large duct diameters

Your benefits

- Easy installation, commissioning and operation
- Proven measurement not dependent on gas velocity, humidity, or particle load
- Cost-effective thanks to easy mounting from just one side; no alignment necessary
- Self-monitoring for very low maintenance
- Condition-based maintenance messages



Fields of application

- Emissions monitoring in industrial plants including, for example, power plants, heating systems, waste incineration plants, in steel production, and in cement plants
- Monitoring of dust concentrations downstream of filter plants
- Dust concentration measurements in flue gas ducts upstream and downstream of dust filters

Detailed technical data

DUSTHUNTER SB30 system

Measured values	Scattered light intensity, dust concentration (after gravimetric comparison measurement)
Measurement principles	Scattered light backward
Spectral range	640 nm ... 660 nm Laser, protection class 2, power < 1 mW
Measuring ranges	Scattered light intensity 0 ... 30 SI / 0 ... 3,000 SI Measuring ranges freely selectable; three measuring ranges pre-configured (0 ... 30/500/3.000 SI)
Response time (t₉₀)	1 s ... 600 s Freely adjustable via SOPAS ET software
Accuracy	± 2 % Of measuring range full scale
Process temperature	-40 °C ... +600 °C
Process pressure	With MCU-P control unit: -50 hPa ... 2 hPa With external purge air unit: -50 hPa ... 30 hPa
Duct diameter	≥ 500 mm
Conformities	TUEV type-examination China's EPA compliant
Electrical safety	CE
Analog outputs	1 output: 0/2/4 ... 20 mA, 750 Ω
Test functions	Automatic self-test (linearity, drift, aging) Manual linearity test with reference filter
Options	MCU control unit SCU control unit External purge air unit

DHSB-T30 sender/receiver unit

Description	Analyzer unit of the measuring system
Ambient temperature	-40 °C ... +60 °C
Enclosure rating	IP 66
Analog outputs	1 output: 0/4 ... 20 mA, 750 Ω Electrically isolated
Digital outputs	3 relay contacts: 48 V, 1 A For status signals
Digital inputs	2 potential-free contacts: For external maintenance switch, automatic self-test or linearity measurement
Dimensions (W x H x D)	For details see dimensional drawings

Weight	7 kg	
Power supply	Voltage	24 V
		Supply via MCU control unit or an external power supply
	Power consumption	≤ 4 W

MCU-N control unit

Description	Unit to control the system components and to evaluate and output the data provided by them	
Ambient temperature	-40 °C ... +60 °C	
Enclosure rating	IP 66	
Analog outputs	1 output: 0/2/4 ... 20 mA, 750 Ω Electrically isolated; two additional outputs if using I/O modules (option)	
Analog inputs	2 inputs: 0 ... 20 mA Not electrically isolated; two additional inputs if using I/O modules (option)	
Digital outputs	5 relay contacts: 48 V, 1 A Potential-free; for status signals	
Digital inputs	4 potential-free contacts	
Interfaces and bus protocols	Ethernet	Modbus TCP (via optional interface module)
	Ethernet	OPC (via optional interface module)
	Ethernet	SOPAS ET (via optional interface module)
	RS-485	Modbus RTU (via optional interface module)
	RS-485	PROFIBUS DP (via optional interface module)
	RS-485	SOPAS ET (via optional interface module)
	USB	SOPAS ET
Indication	LC display (option) Status LEDs: "Power", "Maintenance" and "Failure"	
Operation	Via LC-display (option) or software SOPAS ET	
Dimensions (W x H x D)	210 mm x 340 mm x 120 mm	
Weight	≤ 3.7 kg	
Power supply	Voltage	90 ... 250 V
		Version with 24 V DC available as an option
	Frequency	47 ... 63 Hz
	Power consumption	≤ 15 W
Options	Interface module(s) I/O module(s)	

MCU-P control unit

Description	Unit to control the system components and to evaluate and output the data provided by them. With integrated purge air unit.
Gas flow rate	≤ 20 m³/h
Ambient temperature	-40 °C ... +45 °C Intake temperatures for purge air
Enclosure rating	IP 66

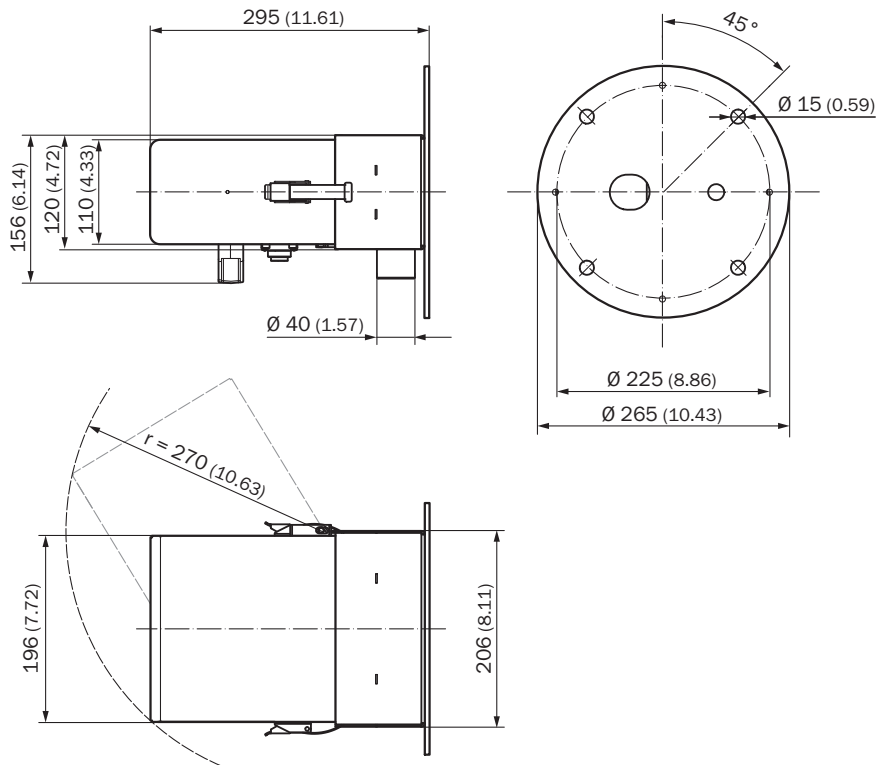
Analog outputs	1 output: 0/2/4 ... 20 mA, 750 Ω Electrically isolated; two additional outputs if using I/O modules (option)														
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Indication	LC display (option) Status LEDs: "Power", "Maintenance" and "Failure"														
Operation	Via LC-display (option) or software SOPAS ET														
Dimensions (W x H x D)	300 mm x 455 mm x 220 mm														
Weight	≤ 13.5 kg														
Power supply	<table border="0"> <tr> <td>Voltage</td> <td>90 ... 250 V Version with 24 V DC available as an option</td> </tr> <tr> <td>Frequency</td> <td>47 ... 63 Hz</td> </tr> <tr> <td>Power consumption</td> <td>≤ 70 W</td> </tr> </table>	Voltage	90 ... 250 V Version with 24 V DC available as an option	Frequency	47 ... 63 Hz	Power consumption	≤ 70 W								
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Auxiliary gas connections	Purge air														
Options	Interface module(s) I/O module(s)														

SLV4-2 purge air unit, 2BH1300, 3-ph

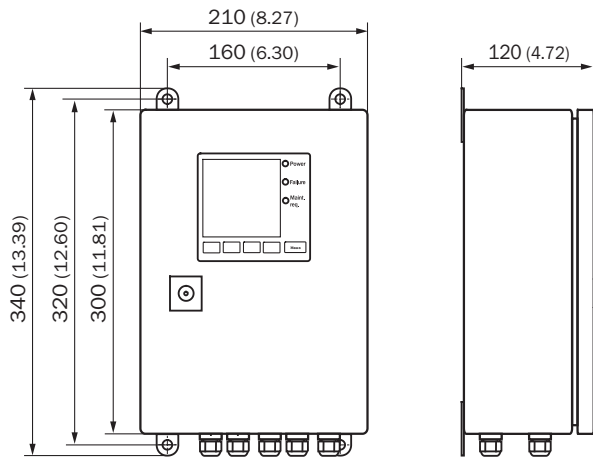
Description	Unit to provide dust-free air for flushing of optical surfaces		
Gas flow rate	38 m³/h ... 63 m³/h At 30 hPa counter pressure, depending on low pressure inside the filter		
Ambient temperature	-20 °C ... +40 °C		
Enclosure rating	IP 54		
Dimensions (W x H x D)	550 mm x 550 mm x 258 mm (for details see dimensional drawings)		
Weight	18 kg		
Power supply	<table border="0"> <tr> <td>Three-phase current</td> <td>3-phase, Δ: 200 ... 240 V, 50 Hz, 2.6 A, 350 W 3-phase, Δ: 220 ... 275 V, 60 Hz, 2.3 A, 450 W 3-phase, Y: 345 ... 415 V, 50 Hz, 1.5 A, 350 W 3-phase, Y: 380 ... 480 V, 60 Hz, 1.3 A, 450 W</td> </tr> </table>	Three-phase current	3-phase, Δ: 200 ... 240 V, 50 Hz, 2.6 A, 350 W 3-phase, Δ: 220 ... 275 V, 60 Hz, 2.3 A, 450 W 3-phase, Y: 345 ... 415 V, 50 Hz, 1.5 A, 350 W 3-phase, Y: 380 ... 480 V, 60 Hz, 1.3 A, 450 W
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Auxiliary gas connections	Purge air: 40 mm		
Test functions	Pressure switch (switching point -35 hPa)		
Integrated components	2-step air filter, type Europiclone, dust capacity 200 g		

Dimensional drawings (Dimensions in mm (inch))

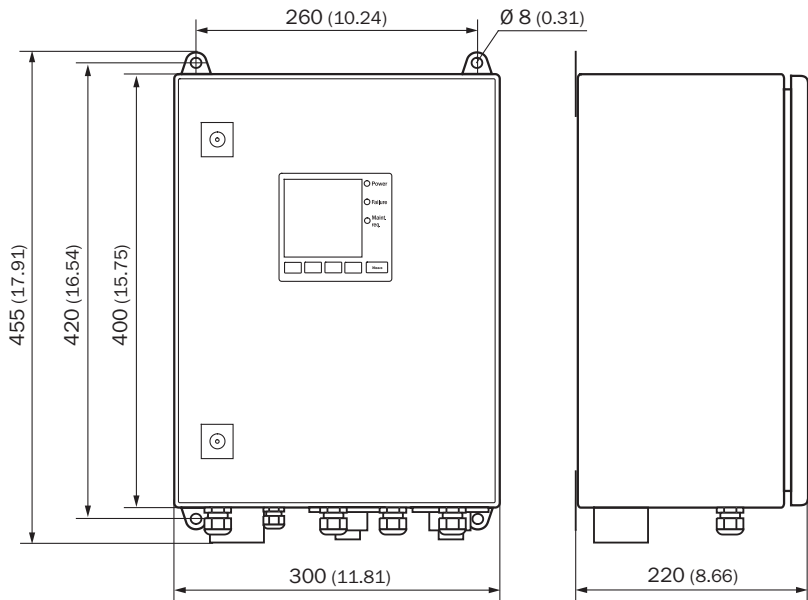
DHSB-T30 sender/receiver unit



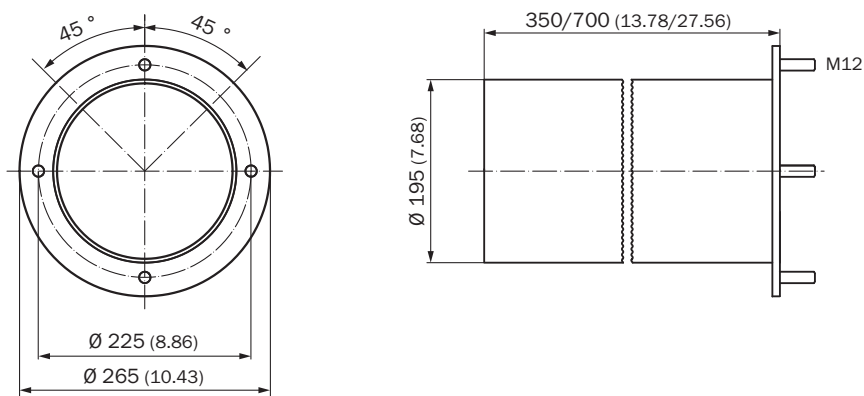
MCU-N control unit; wall-mounting enclosure, compact version (for non-hazardous areas only)



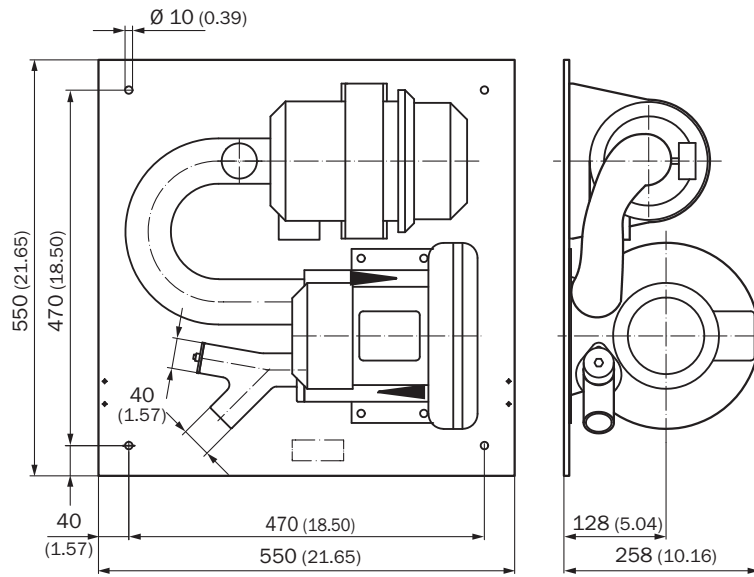
MCU-P control unit; wall-mounting enclosure, compact version (for non-hazardous areas only)



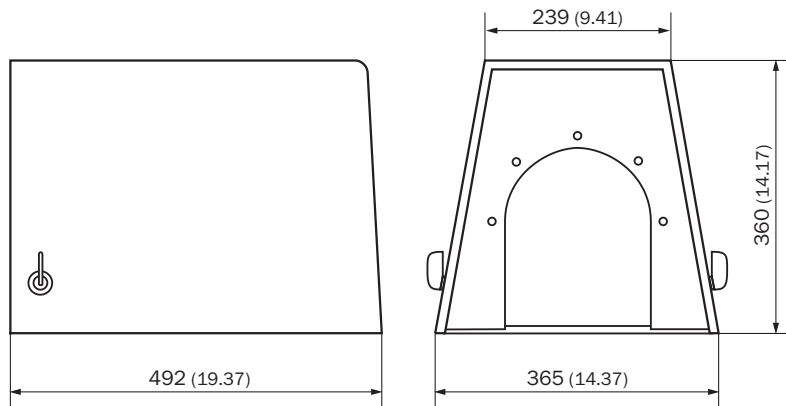
Mounting flange, $D_1=195$ mm



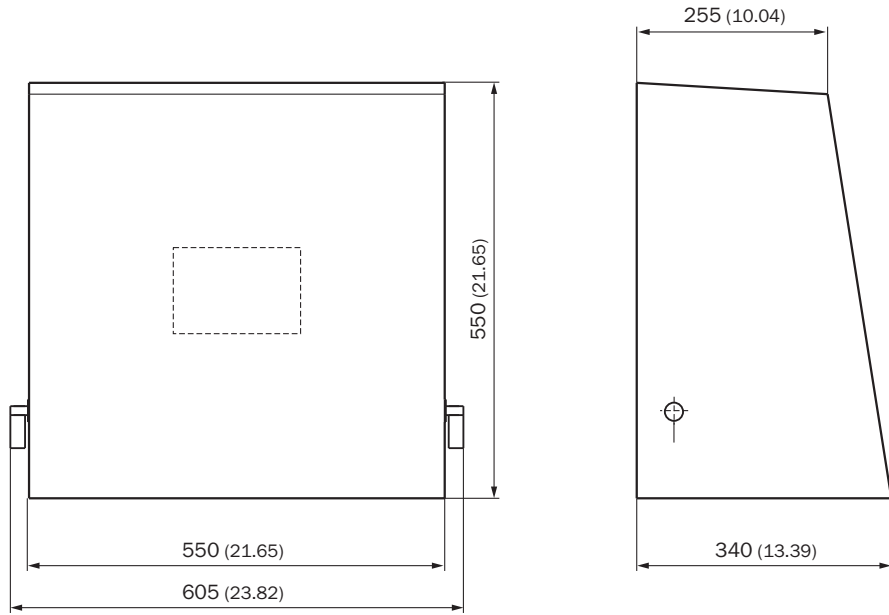
SLV4-2 purge air unit, 2BH1300



Weather hood for DHSB/DHSF-R1/DHC-R1



Weather hood for SLV4/SLV5/SLV7 purge air unit



SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

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