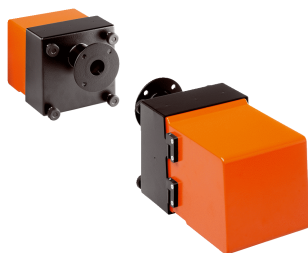


DUSTHUNTER T100

TRANSMITTANCE DUST MEASURING DEVICES

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
DUSTHUNTER T100	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_T100

Product description

The DUSTHUNTER T100 is a measuring device for dust at medium to high concentrations. Basic measuring value is transmittance. Opacity and extinction can be calculated and displayed as well as the dust concentration after gravimetric calibration. The device has an integrated contamination check. The DUSTHUNTER T100 is approved according to EN 15267.

At a glance

- For medium to high dust concentrations
- On-board contamination check
- Automated thorough check of zero and reference point
- For small to large measuring distances

Your benefits

- Easy installation, commissioning and operation
- Measurement independent of gas velocity, humidity and particle charge
- Low maintenance due to self-monitoring
- Approved according to EN 15267



Fields of application

- Emissions monitoring at power plants and waste incineration plants
- Monitoring of filter systems
- Monitoring of dust load in factory halls
- Control of fresh air and exhaust air units

Detailed technical data

DUSTHUNTER T100 system

Measured values	Transmittance, opacity, relative opacity, extinction, dust concentration										
Performance-tested measurands	Dust concentration										
Measurement principles	Transmittance measurement										
Spectral range	450 nm ... 700 nm										
Measuring ranges	<table> <tr> <td>Transmittance</td> <td>100 ... 80 % / 100 ... 0 %</td> </tr> <tr> <td>Opacity</td> <td>0 ... 20 % / 0 ... 100 %</td> </tr> <tr> <td>Relative opacity</td> <td>0 ... 20 % / 0 ... 100 %</td> </tr> <tr> <td>Extinction</td> <td>0 ... 0.1 / 0 ... 2</td> </tr> <tr> <td>Dust concentration</td> <td>0 ... 200 mg/m³ / 0 ... 10,000 mg/m³</td> </tr> </table> <p>The measurement depends on measuring distance and dust properties</p>	Transmittance	100 ... 80 % / 100 ... 0 %	Opacity	0 ... 20 % / 0 ... 100 %	Relative opacity	0 ... 20 % / 0 ... 100 %	Extinction	0 ... 0.1 / 0 ... 2	Dust concentration	0 ... 200 mg/m ³ / 0 ... 10,000 mg/m ³
Transmittance	100 ... 80 % / 100 ... 0 %										
Opacity	0 ... 20 % / 0 ... 100 %										
Relative opacity	0 ... 20 % / 0 ... 100 %										
Extinction	0 ... 0.1 / 0 ... 2										
Dust concentration	0 ... 200 mg/m ³ / 0 ... 10,000 mg/m ³										
Certified measuring ranges											
Dust concentration (transmittance)	0 ... 0.1 Ext / 0 ... 0.05 Ext / 0 ... 0.2 Ext / 0 ... 0.5 Ext / 0 ... 1 Ext										
Response time (t₉₀)	1 s ... 600 s Freely adjustable										
Accuracy	± 2 %										
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										
Process gas humidity	Non-condensing										
Duct diameter	0.5 m ... 2.5 m 2 m ... 5 m 4 m ... 12 m										
Conformities	Approved for plants requiring approval 2001/80/EC (13. BImSchV) 2000/76/EC (17. BImSchV) 27.BImSchV TA-Luft (Prevention of Air Pollution) EN 15267 EN 14181 MCERTS 2010/75/EU										
Electrical safety	CE										
Test functions	Automatic self-test (linearity, contamination, drift, aging) Contamination limit values: warning at 20%, fault at 30% Manual linearity test with reference filter										
Options	External purge air unit										

DHT-T10 and DHT-T21 sender/receiver unit

Description	Cross-duct measurement system analyzer unit
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Ambient temperature	-40 °C ... +60 °C
Enclosure rating	IP 66
Dimensions (W x H x D)	212 mm x 241 mm x 429 mm (for details see dimensional drawings)
Weight	≤ 6.5 kg
Power supply	
	Voltage 24 V
	Supply via control unit
	Power consumption ≤ 15 W

DHT-R0x and DHT-R1x reflector unit

Description	Reflector unit with triple reflector
Enclosure rating	IP 66
Dimensions (W x H x D)	212 mm x 241 mm x 364 mm (for details see dimensional drawings)
Weight	DHT-R00, DHT-R01, DHT-R02: ≤ 3 kg

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	3 outputs: 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 Status LEDs: "Power", "Maintenance" and "Failure"
Operation	Via LC-display 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 m ³ /h	
Ambient temperature	-40 °C ... +45 °C Intake temperatures for purge air	
Enclosure rating	IP 66	
Analog outputs	3 outputs: 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 Status LEDs: "Power", "Maintenance" and "Failure"	
Operation	Via LC-display or software SOPAS ET	
Dimensions (W x H x D)	300 mm x 455 mm x 220 mm	
Weight	≤ 13.5 kg	
Power supply		
	Voltage	90 ... 250 V Version with 24 V DC available as an option
	Frequency	47 ... 63 Hz
	Power consumption	≤ 70 W
Auxiliary gas connections	Purge air	
Options	Interface module(s) I/O module(s)	

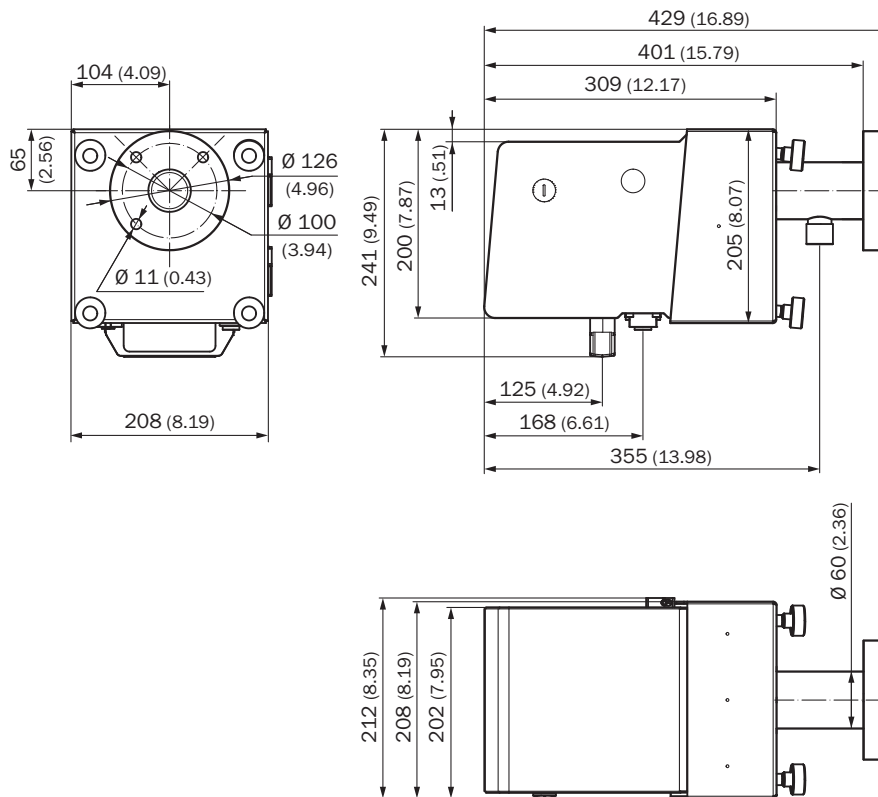
SLV4-2 purge air unit, 2BH1300, 3-ph

Description	Unit to provide dust-free air for flushing of optical surfaces	
Gas flow rate	38 m ³ /h ... 63 m ³ /h At 30 hPa counter pressure, depending on low pressure inside the filter	
Ambient temperature	-20 °C ... +40 °C	
Enclosure rating	IP 54	

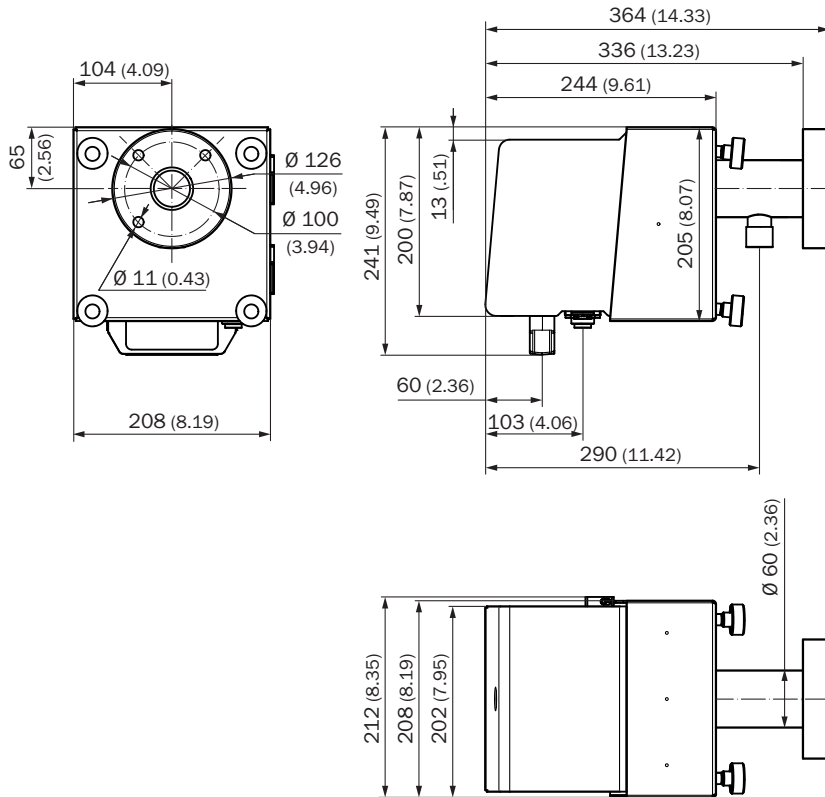
Dimensions (W x H x D)	550 mm x 550 mm x 258 mm (for details see dimensional drawings)
Weight	18 kg
Power supply	Three-phase current 3-phase, Δ : 200 ... 240 V, 50 Hz, 2.6 A, 350 W 3-phase, Δ : 220 ... 275 V, 60 Hz, 2.3 A, 450 W 3-phase, Y: 345 ... 415 V, 50 Hz, 1.5 A, 350 W 3-phase, Y: 380 ... 480 V, 60 Hz, 1.3 A, 450 W
Auxiliary gas connections	Purge air: 40 mm
Test functions	Pressure switch (switching point -35 hPa)
Integrated components	2-step air filter, type Europiclon, dust capacity 200 g

Dimensional drawings (Dimensions in mm (inch))

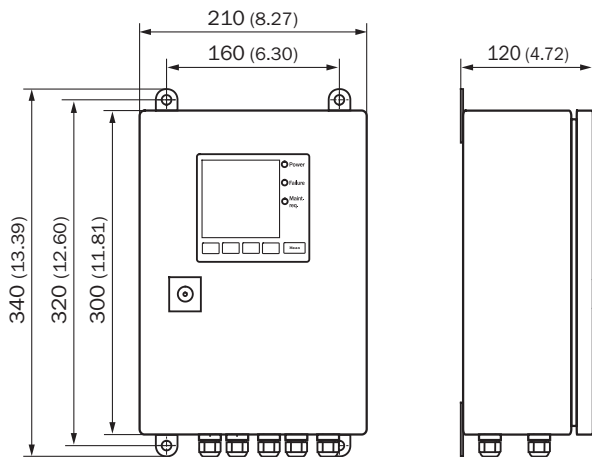
DHT-T10 sender/receiver unit



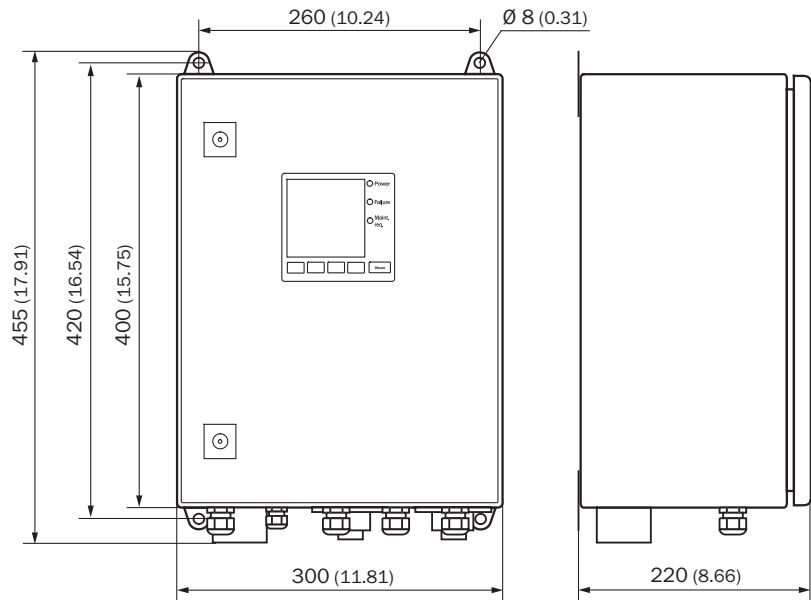
DHT-R0x reflector unit



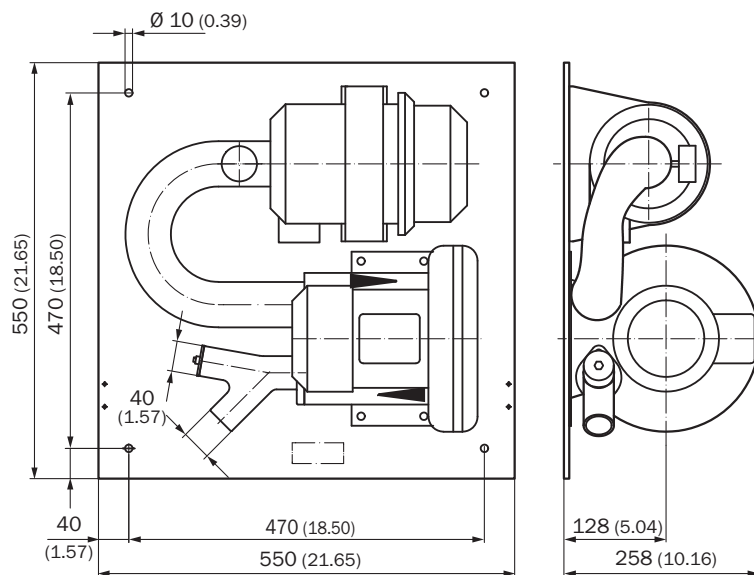
MCU-N control unit; wall-mounting enclosure, compact version (for non-hazardous areas only)



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



SLV4-2 purge air unit, 2BH1300



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.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com