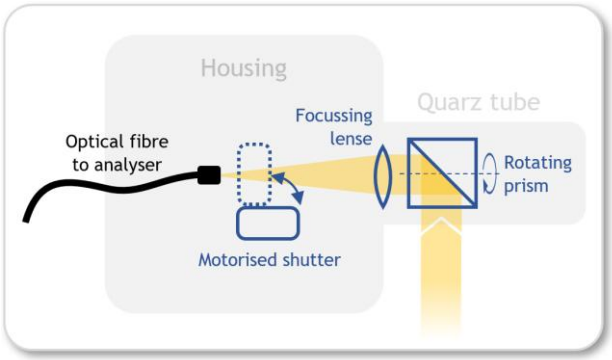
SkySpec 1D Telescope unit v.260

FAST AND ACCURATE POINTING FOR UV/VIS/IR REMOTE SENSING

GENERAL

- Telescope unit with motorised viewing elevation axis
- Integrated inclination sensor for real-time elevation correction
- Acceptance angles down to tenths of degrees
- Optional integrated glow-discharge lamp and shutter for automatic calibration of connected analyser units
- Highly customizable to meet your specific requirements and interfaces

Field application with optional tripod and mounting adapter.



Schematic of opto-mechanics

EXAMPLE APPLICATIONS

- Passive remote detection of atmospheric trace gases (e.g. NO_2, O_3, SO_2, HCHO, H_2O, HONO, IO, BrO, Glyoxal) and aerosol
- Measurements of surface reflection properties
- Solar induced plant fluorescence measurements

HIGHLIGHTS

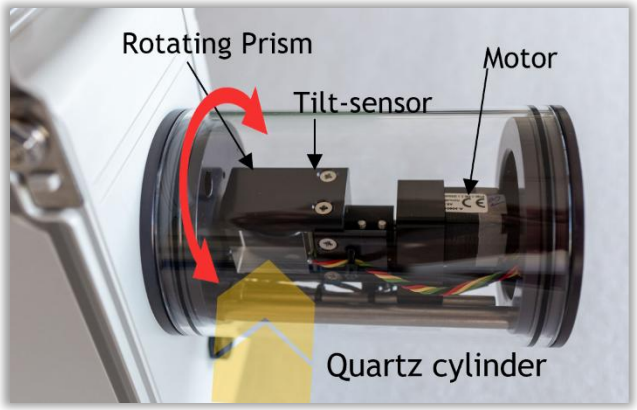
BENEFITS	INNOVATION
High measurement accuracy	• Fused silica optical components enable large spectral range • Narrow vertical field of views possible, optimized for MAX-DOAS applications • Viewing elevation is monitored and real-time corrected by means of an integrated inclination sensor → Ideal for applications on ships or other moving platforms
Simple setup & operation	• Simple instrument setup and start up • Low maintenance, easy cleaning of optics • Connection via optical fiber or fiber bundles for high flexibility • Monitoring of measurement conditions with optional camera systems and various internal sensors
Long lifetime	• Quartz cylinder construction around light entrance optics minimizes outside moving parts • Water proof with IP64, snow resistant • Designed for long term operation • Internal humidity monitoring to avoid water condensation

TYPICAL SPECIFICATIONS

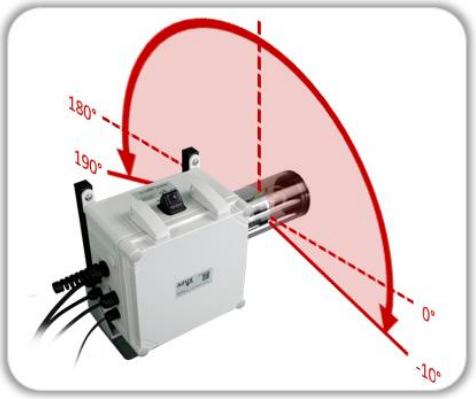
Spectral range	200 nm to 2 µm wavelength (fused silica optical components)[1]
Operation temperature range	-30°C to 50°C
Elevation range and accuracy	-10° to 190°, automatic correction with < 0.2° accuracy (1σ)
Field of view FWHM, height x width[1]	< 0.3° x 1°
Optical fibre connection[1]	Various configurations available, (e.g. SMA, 7 x 100 µm fibre bundle, cross-sectional converter)
Telescope optic[1]	focal length (internal): 75 mm; (external): infinite at 400 nm wavelength clear aperture: 22.5 mm
F-Number[1]	f/4
Start-up time	< 10 s
Camera FOV[1]	120° x 90°

Mechanical stability		Robust for harsh environmental conditions, water proof (IP 64), automatic heater prevents freezing and water condensation on optics.
Additional Sensors	Temperature:	1°C accuracy, ambient, telescope
	Pressure:	0.5% accuracy, ambient
	Humidity:	± 3% accuracy in relative humidity
Power consumption		Typ. < 2 W (max 20 W with heating) 12 V
Weight		< 6 kg
Size (WxDxH)		Box only: 20 x 13.5 x 20 cm[3] Tube length: 12.3 cm
Mounting options		Tripod, wall mount, mast, rail
Data communication[1]	Telescope control:	RS232 protocol (SUB-D 9) USB adapter included
	Camera Signals:	Analogue (chinch), External Analogue-to-USB Video grabber included

[1] Custom configuration possible, [2]FOV widened due to diffusor system



Close-up of telescope entrance optics

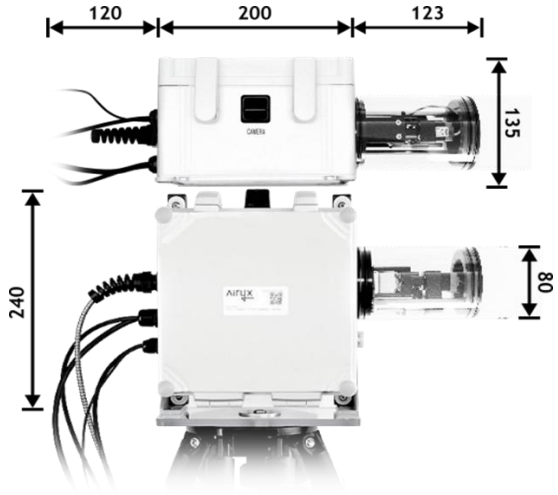


Elevation motor range

OPTIONAL COMPONENTS & CONFIGURATIONS

- Custom optical fibre configuration for best compatibility with your spectrometer/analysing unit.
- Integrated, wide FOV camera (2 cameras cover the full sky) to monitor measurement conditions; various mounting options/directions.
- Integrated mercury (HG) wavelength calibration lamp system
- Integrated diffusor system, which enables direct-sun observations by homogenizing and attenuating the incoming radiation.
- Fibre and cable length extensions up to 20 m
- Heated Azimuth 2D motor (for low temperature operation)
- Frames, tripods and adapters for simple mounting
- Spare parts and maintenance set
- Online installation and support service

DIMENSIONS



All dimensions in mm