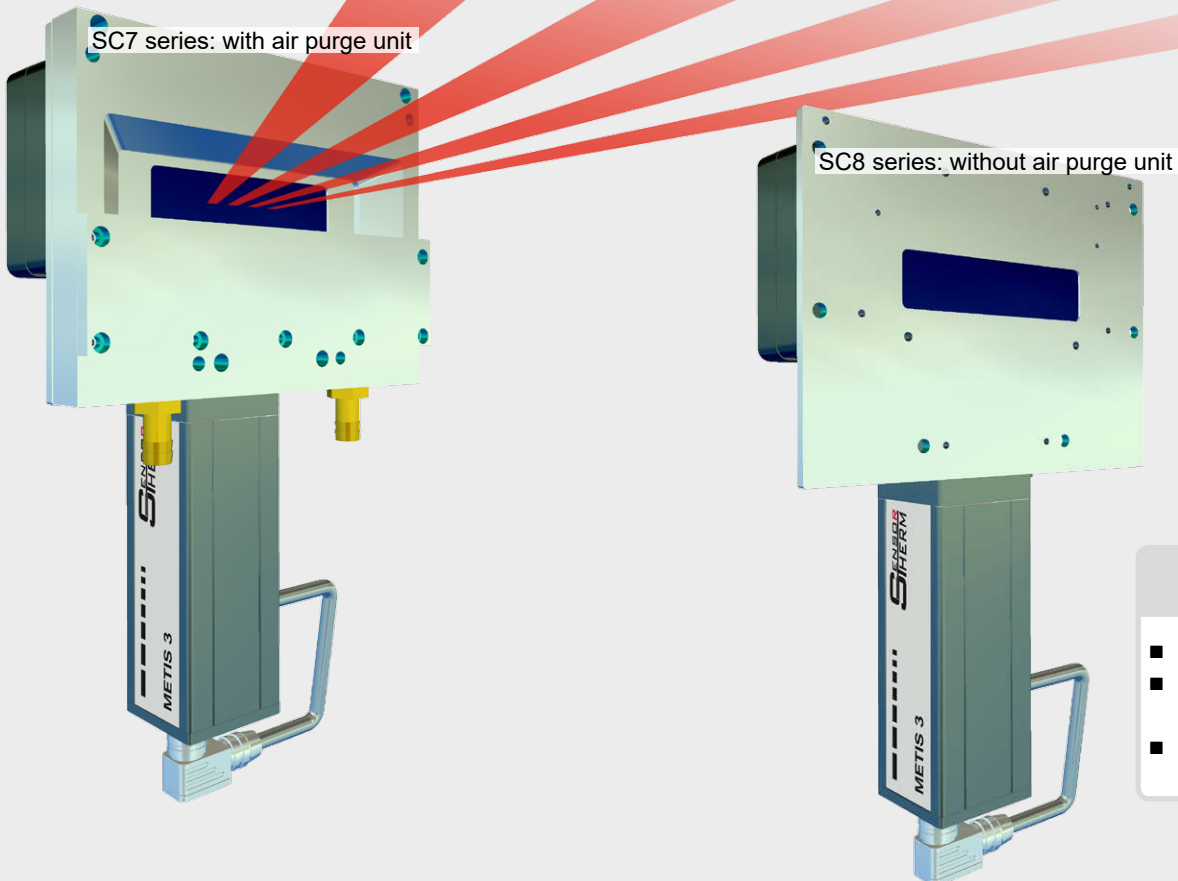


Galaxy SC7x / SC8x

Line Temperature Scanner



Highest Quality Measurements by

- Digital signal processing
- Continuous ambient temperature compensation
- Optimized optical components

Temperature scanner for the linear scanning of objects.

■ Temperature evaluation

- **Autonomous** via analog signals with output of the continuous measuring temperature or temperature profile, of minimum, maximum and average temperatures as well as angular position
- **Via PC** via Ethernet or RS485 to transfer the same temperatures as well as evaluation and optimization through graphic display of the measurement results and continuous monitoring of the specified angular position

■ Typical application

- Surface structure and production process analysis
- Recognition of relevant details and weak points
- Temperature peak detection on slabs, billets or steel strips
- Temperature peak detection on slabs, billets or steel strips
- Temperature monitoring in flat glass production
- Replaces up to 16 pyrometers by sequential scanning of the measuring points

Universally applicable

with all METIS pyrometers
with RS485 interface

Fastest scans

Up to approx. 150 Hz at
10000 steps / second

Individually customizable

Up to 16 adjustable
measuring regions

Temperature Measurement Along the Line

Galaxy line scanners swivel the spot size of a pyrometer back and forth and thus enable a continuous temperature monitoring of single wide or even several objects on a line.

Measuring regions and the measuring speed, the pyrometer's spot size is guided over the objects, can be adjusted, with a high-speed bridging between separate measuring regions, the objects are detected as quickly as possible.

This enables extensive evaluations:

- Temperature profiles provide information about the temperature distribution between edge and middle object areas
- Maximum, average and minimum value of each scan of the material to be measured, provide a quick overview of compliance with the necessary object temperatures.

Technical Data

Model	SC71 / SC81	SC72 / SC82	SC73 / SC83	SC75 / SC85
Scanning angle / steps	3,6° – 90° (25 – 1600 single steps) in 0.05625°-steps adjustable			
Scanning frequency	Adjustable from 6.25 Hz (90° scan angle) to ca. 150 Hz (3.6° scan angle), with 1–10000 steps/s			
Measurement regions	16	16	16	16
Analog outputs for measurement regions	0 + 1*)	4 + 1*) (0/4–20 mA according to pyrometer setting)	8 + 1*) (0/4–20 mA according to pyrometer setting)	16 + 1*) (0/4–20 mA according to pyrometer setting)
Measurement uncertainty	– Each output = 0.15% of the input value			
Position analog output	*) 1 x angular position, *): switchable to measurement region output. 0/4–20 mA = 0–90°; corresponds to step 0–1600			
Pyrometer analog output	1 x temperature profile 0/4–20 mA (according to pyrometer setting)			
Digital inputs / outputs	2	2	4	4
Serial interfaces	<ul style="list-style-type: none"> ■ RS485 (half-duplex, bus-compatible), baud rate 19.2–921.6 Kbit / s ■ Ethernet 100 Mbit/s ■ Integrated USB service interface for parameterization 			
Operating modes	<ul style="list-style-type: none"> ■ Positioning mode: for measuring at a certain point ■ Single scan: back and forth or in one direction and back with maximum speed ■ Continuous scan: scanner runs continuously 			
Power supply	18–36 V DC, max. 1.5 A (plus power consumption of the connected pyrometer)			
Protection class	IP65 (according to DIN 40 050) with protective window, closed housing, mounted pyrometer and screwed connectors			
Weight	2.2 kg (without pyrometer)			
Ambient temperature	0–53°C device temperature			
Storage temperature	-20–60°C			
Rel. humidity	Non-condensing conditions			
CE label	According to EU directives for electromagnetic immunity			

Galaxy scanners SC81, 82 and 85 can be combined with all pyrometers of the METIS series with RS485 interface, METIS M3 and H3, so that a flexible connection to a wide variety of measurement tasks is guaranteed, the pyrometers are automatically recognized by the scanner.

This also applies to the technical data of the pyrometer used, which can also be easily removed or replaced for maintenance work.

Typical Applications: Scanning Single or Multiple Objects

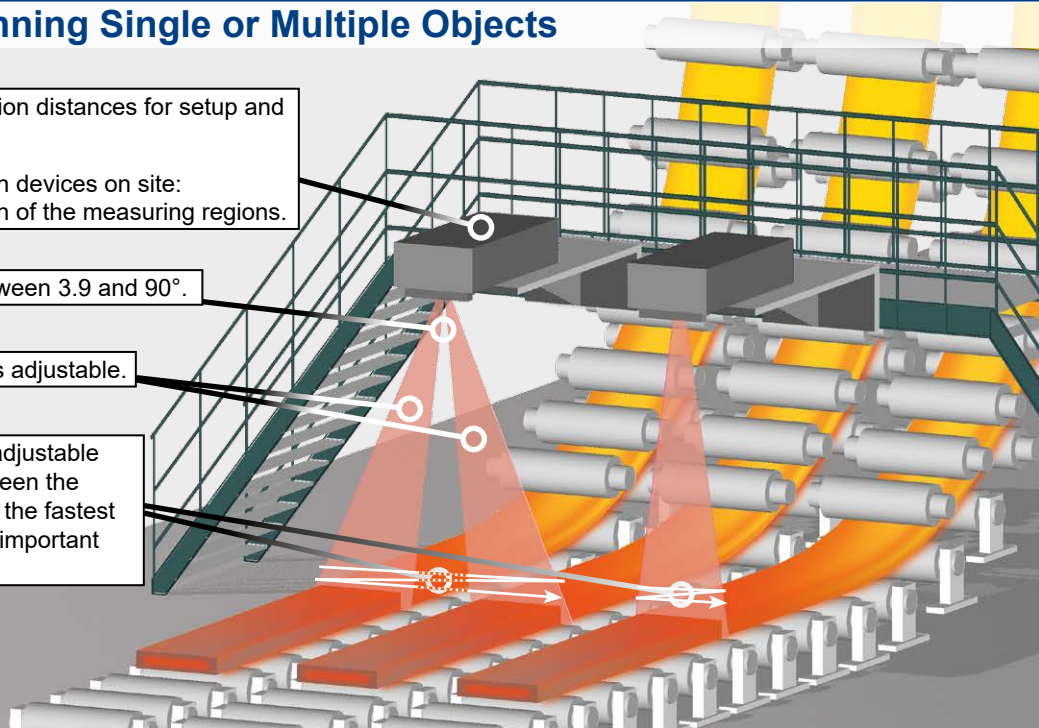
Serial interfaces for long data transmission distances for setup and evaluation on PC or PLC.

Analog outputs for connecting evaluation devices on site:
For position and temperature information of the measuring regions.

Scanning angle adjustable between 3.9 and 90°.

16 measurement regions adjustable.

High scanning speed or adjustable high-speed bridging between the measurement regions for the fastest possible evaluation of all important information.



Features

Constantly exact measurement results

- Dense protective screen
- Continuous transmission adjustment to the measuring angle of the protective screen
- Air purging unit to keep the protective window clean
- Fast and exact stepper motor, designed for 24h continuous operation

Alignment

- All optics with measuring distances of the METIS pyrometer series can be used
- Laser targeting light from the pyrometer can be used
 - Step mode for precise setting of the measuring regions

Connections

- Pyrometer connection
- Analog outputs for measured value (temperature profile) and angular position
- Depending on the model, up to 16 additional analog outputs, separately for each measuring region
- Ethernet and RS485 interface for connection and data transmission with long cable lengths
- Digital inputs / outputs for external device control or for output of switching signals at temperature events

Protective housing

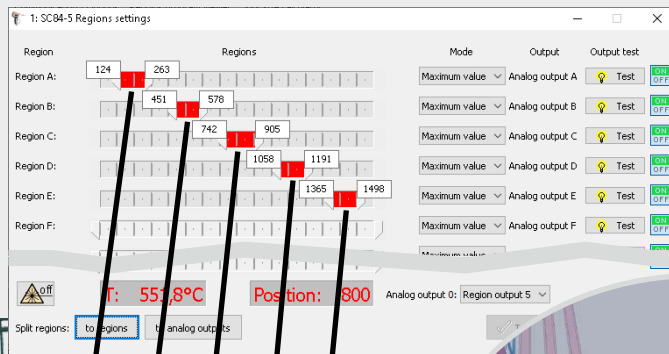
- Air purge unit for scanner or for protective housing
- Cooling plate with integrated water flushing to protect against high radiation temperatures

Set up, start, evaluate

Using the *SensorTools* software, all necessary settings can be made and the measurement results can be evaluated.

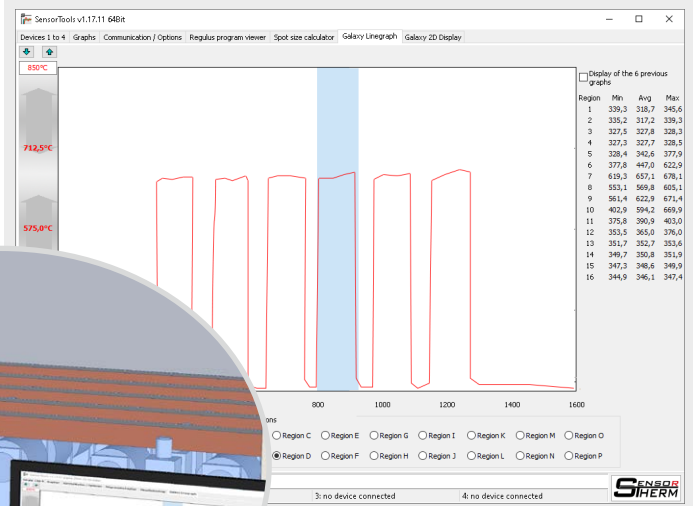
Set up and define measuring zones

- **Define measurement regions:** simply define by using a slider, a single step or via entry
- Set temperature output for each region



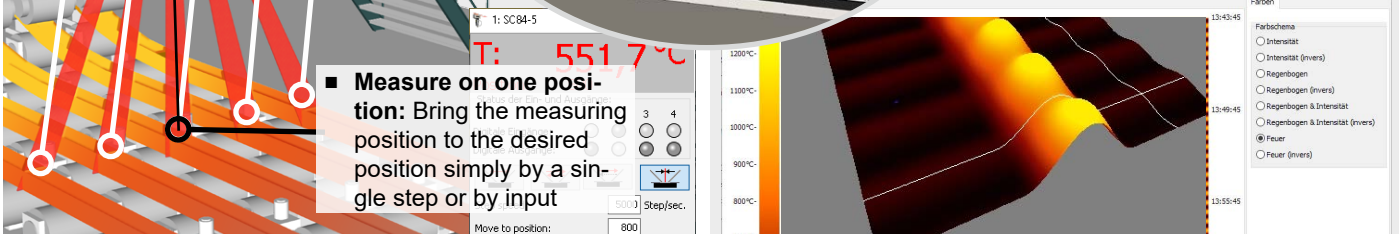
Evaluate

- **Use stand-alone mode** with evaluation via the analog outputs
- **Monitoring mode** for observing temperature profiles and min. / Max. / Avg values

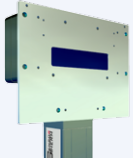
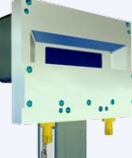


- View the 2D or 3D profile of the temperature measured continuously

- **Measure on one position:** Bring the measuring position to the desired position simply by a single step or by input



Reference Numbers

Scanner types		Reference numbers
SC8x series: Scanner 	SC7x series: Scanner with air purge unit 	SC71 / 72 / 73 / 75 or SC81 / 82 / 83 / 85 additionally with: -protection window and -optics adapter for pyrometers with -21 Borosilicate -24 Sapphire -22 Calcium fluoride -23 Zinc selenide -20 with manually focusable optics -80 with motorized focusable optics -11 45 mm fixed focus optics -12 89 mm fixed focus optics

Protective window: borosilicate used for METIS pyrometers M3/H3: 9/11/16/18/22
 sapphire M3/H3: 09/11/16/18/22, MP23/25, MB35, MY34/39/45/46/47
 calcium fluoride MB35, MP25, MY34/39/45/46/47/51/80
 zinc selenide MY48/78

Additionally connection cables and a METIS series pyrometer is required.

Accessories

Connection cables (available in 5 m increments)

Connection cable for power supply of scanner and pyrometer, RS485-Scanner interface, analog pyrometer actual value output, digital inputs / outputs from the pyrometer **AL43**

Connection cable for output of the measurement region analog outputs 1-4, one position output and 2 digital inputs / outputs: **AK40**

Connection cable for output of the measurement region analog outputs 5-16, one position output and 2 digital outputs: **AK90**

Ethernet cable: **AK94**



Electrical

DIN rail power supply 24 V / 1,6 A: **NG12**

LED digital display for installation: **IF00**

Profinet adapter for connecting up to 5 scanners / pyrometers via RS485 to a higher-level control: **PN10**



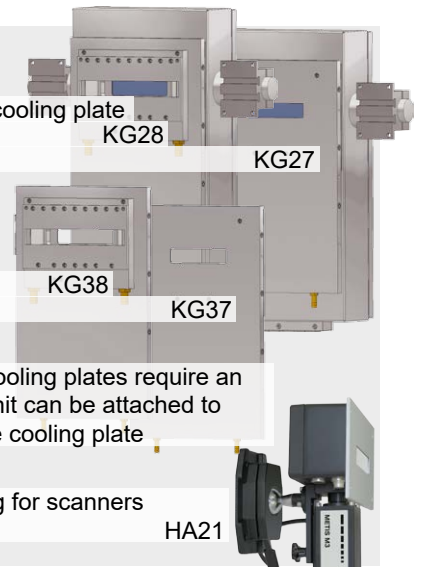
Assembly / protection

Protective housing with cooling plate
 - with air purge unit: **KG28**
 - without air purge unit: **KG27**

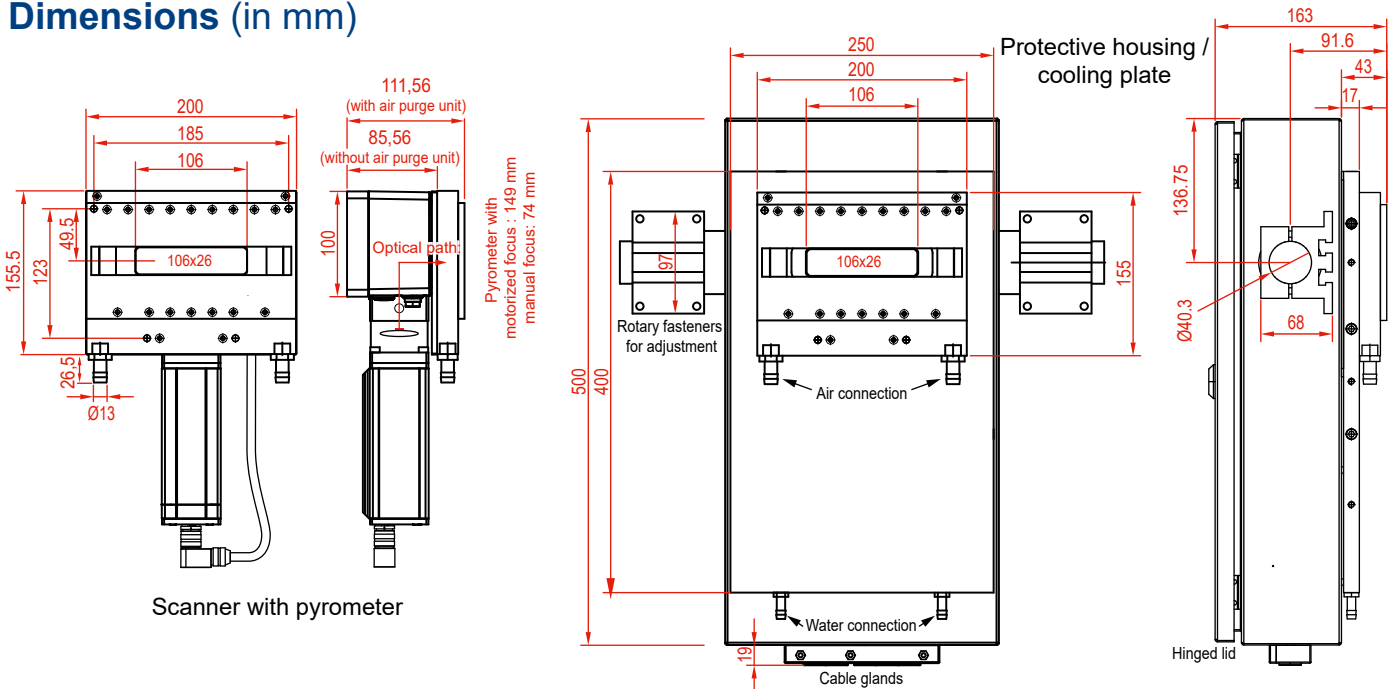
Cooling plate
 - with air purge unit: **KG38**
 - without air purge unit: **KG37**

Protective housings or cooling plates require an SC8, but the air purge unit can be attached to both the scanner and the cooling plate

Ball and socket mounting for scanners with pyrometer: **HA21**



Dimensions (in mm)



Sensortherm reserves the right to make changes in scope of technical progress or further developments.

Sensortherm-Datasheet_Galaxy_SC7x_SC8x (Mar. 06, 2020)

Sensortherm GmbH

Infrared Temperature Measurement and Control
 Hauptstr. 123 • D-65843 Sulzbach/Ts.
 Phone.: +49 6196 64065-80 • Fax: -89
 www.sensortherm.com • info@sensortherm.com

