

SiemensIndustrialServices

Contact free Temperature Measurement – Flexible, Precise, and Reliable

Your Success is Our Goal

SIEMENS

Industrial Solutions and Services



When temperature measurement is a top priority, you can count on Siemens Industrial Services

Siemens Industrial Services – the Siemens technical services provider for industry and infrastructure – keeps your technical facilities fit over their entire life-cycle.

We have developed SIMAIN – Maintenance Services as a portfolio of service modules and packages to support you in the operation and maintenance of your technical equipment and systems. If temperature is an important parameter for your processes, then our Measurement-Related Services can provide you with vital support in the area of contact free measurement:

- Comprehensive range of pyrometers and related components for a wide variety of applications
- Professional factory and DKD calibration of your pyrometers
- Pyrometer repair
- Indepth measurement consultation in the modernization of your facilities.

The following outlines our services dealing with measurement components and calibration, which can be combined in a variety of ways to meet your specific needs.



ARDOCELL PZ Pyrometer, Type 7MC3060

With our Ardocell PZ series of pyrometers, we have developed a series of contactless field temperature measurement units that can communicate over our PROFIBUS® industrial bus system in harsh operating environments. Using the PROFIBUS DP interface, the pyrometers can be integrated directly into decentralized automation solutions, without the need for a transponder. This reduces cabling and commissioning effort while simplifying parameterization. Individual customized customer specific solutions are also easier and less-expensive to implement.

- Measuring ranges from 0 to 3000°C (switchable in partial ranges)
- Very short response time of ≤ 2 ms
- Analog output: 0/4-20 mA linear
- Digital output: RS232-interface; optional bus interface RS 422/RS485 or PROFIBUS DP
- Parameter adjustment by coding switches or interface
- Viewer with marking scale
- Modular design, enabling any combination of basic unit and optics
- Adjustable emissivity coefficient and time constants
- integrated mean/peak value function



ARDOMETER MPZ - Radiation pyrometer - 7MC3001
ARDOCOL MPZ - Two-color pyrometer - 7MC3021

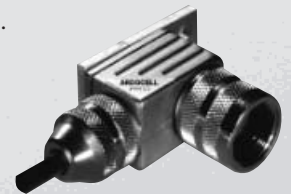
ARDOMETER and ARDOCOL pyrometers, with their light-weight, yet robust metal housings, are designed for use under harsh environmental conditions without additional external protection. The pyrometer is linked to the system with a fast connector plug from the Siemens connector spectrum. Technical data sheets can be provided on request.

For technical specifications, see ARDOCELL PZ (exception: no PROFIBUS capability).

Contactless Temperature Measurement Systems – from -30°C to +3000°C

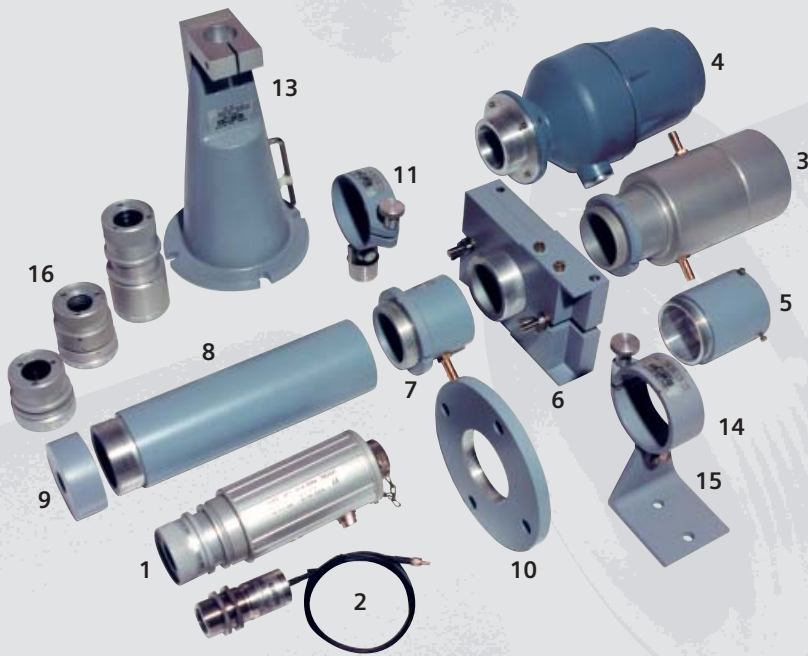
ARDOCELL PM - mini-pyrometer - PM11/ PM21

- Temperature measuring ranges: 0-200°C; 0-400°C (PM11) and 300-800°C; 700-1200°C (PM21)
- Integration of the optics and complete electronics in a compact housing
- Large distance ratio
- External emissivity adjustment
- Microprocessor-controlled linearization
- Simplest assembly using assembly sheet metal
- Ambient temperature compensation.



ARDOCELL PS - radiation pyrometer - 7MC3050

- Temperature measurement in ranges between -30°C and 2500°C
- Analog output: 0/4-20 mA, linear
- Very short response time
- Externally adjustable emission level
- Robust stainless steel housing, diameter 30 mm
- Operating voltage 24V
- Protection type IP 65.



Fitting accessories for ARDOCELL PZ pyrometer

A wide range of mountings for the pyrometers of the series PZ is available to accommodate most difficult environments. Fixing components complete the offer. A video camera module supports the permanent monitoring of the measurement site from the control station.

1. Pyrometer; 2. Fiber optic cable; 3. Cooling jacket; 4. Housing; 5. Retaining ring; 6. Quartz pane hinge; 7. Axial air nozzle; 8. Distance tube; 9. Shield; 10. Flange; 11. Pipe bracket; 12. Fixing carbine; 13. Assembly foot; 14. Pipe bracket; 15. Assembly angles; 16. Alternation optics



ARDOPTIX - portable two- and/or one-color pyrometer

The ARDOPTIX range of products comprises three powerful, microprocessor-controlled pyrometers. The construction and functionality of the devices are identical. Only their measuring ranges, measuring fields, and measuring method are different.

The ARDOPTIX differs in measuring method between Spectral-pyrometer 7MC3080-... and the Two-Color/Spectral pyrometer (switchable) 7MC3090-...

- Temperature measurement in ranges between +250 °C and +2500 °C
- Focusable and exchangeable changing optic
- through-the-lens sighting with dioptic compensation, target marking, and internal 4-digit LCD display
- Adjustable emissivity coefficient
- Min./max. value storage
- Storage space for 200 values
- Digital output via RS232 interface
- Automatic switch-off and battery control
- Includes plug power supply, PC connection cable, and software for Windows 95/ 98/ NT



ARDOPORT - portable pyrometer

- Temperature measurement in ranges between -30 °C and +2000 °C
- Smallest target diameter 5 mm
- Spotlight to indicate the target diameter
- Robust aluminum housing for use in even the toughest industrial environments
- High-accuracy and high-resolution
- Large multifunctional display for easy reading and operation
- Adjustable emissivity coefficient
- Automatic switch-off and battery control
- Compact, convenient design
- Min. and max. value storage
- Storage for 64 readings.

Calibration

Measurement alone is not enough!

Because measurement values must be correct and within tolerance, we at Siemens Industrial Services don't confine ourselves to providing only products and components for contactless measurement.

Your measurement equipment must be calibrated at regular intervals, so that you can rely on your measurement values in controlling your processes and not have to suffer production wastage due to unnoticed measurement inaccuracies.

Our specialists, working in laboratories certified by the German Physikalisch-Technischen Bundesanstalt, perform professional calibration of your pyrometers:

We calibrate pyrometers of different wavelengths at temperatures ranging from -20°C to $+1600^{\circ}\text{C}$!

Sometimes, it makes sense to calibrate complex equipment onsite, instead of in the laboratory. In these cases, specialists from Siemens Industrial Services come to your location to calibrate your equipment and systems.



Our laboratories are able (and certified) to calibrate equipment according to virtually every measurement value relevant to industry. The photo (bottom) shows the calibration of a pyrometer using a black beam source in a comparison procedure. (with a precision of $\epsilon \approx 1$).

The right tool for the job, examples:

Glass industry / Glass design

For temperature measurement in the glass feeder, at glass drops, at the glass molds or in the cooling stretch, Ardocell PZ pyrometer with PROFIBUS supports continuous monitoring and central control of the process in each production sequence.

Crystal growth system

The pyrometer from Siemens are extremely precise and provide the kind of stable long-term temperature measurement capability required in the production of semiconductor and glass crystals.

Steel industry

Temperature has a significant influence on the manufacturing and processing of products throughout the metals industry.

Rolling mill, galvanizing plant

Fast and accurate detection of the temperature is the precondition for maintaining uniform quality during the rolling of billets and ingots and for the coating of metal strips.

Annealing kiln

A contactless, wear-free measurement system for the direct and rapid detection of the object temperature guarantees optimum kiln control.

Measuring at the pouring stream

The system, based on a two-color pyrometer with a pouring stream display, enters the temperature per casting automatically.

Induction hardening, automatic laser welder

Quick and safe detection of the temperature even of very small targets in places with limited space.

Cement plant, rotary kiln

Measurement of the temperature at the sintering zone and the clinker temperature at the kiln inlet and outlet, checking of the shell temperature in case of damage to the refractories.





Noticably better measurement with Siemens Industrial Services:

Contactless temperature measurement is just one way in which we can support you. Take advantage of our entire range of measurement-related services, including:

- Rental, leasing, or purchase of measurement and testing equipment
- DKD (Deutscher Kalibrierdienst) and factory calibration
- Repair of measurement and testing equipment
- Professional management of measurement media
- Performance of special measurements

... and it's green light for your measurements!

Fax Reply to: +49 (0)9131 7-33320

Please send us...

- The SIRENT catalog on CD ROM (info. on purchase/rental of tools, measurement and testing equipment)
- The current calibration pricelist
- The "SIMAIN – Maintenance Services" brochure (services in support of your maintenance)
- Further information on the following products/services:.....
.....
- A no-obligation quotation for the following products/services:.....
.....
- Please call me to schedule a personal meeting

Name

Company

Street

Postal Code/City

Country

Tel.

Fax

E-Mail

Your regional point of contact

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