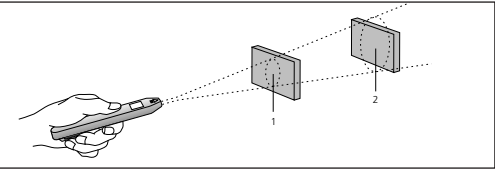
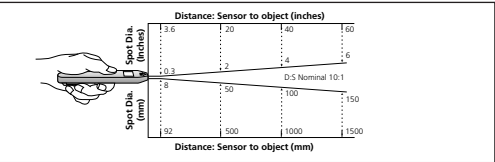


FIELD OF VIEW
CHAMP DE VISEE
ABTASTBEREICH



DISTANCE & SPOT SIZE
DISTANCE ET TAILLE DU POINT
ENTFERNUNG UND
MESSFLECKGRÖSSE



MEASUREMENT TECHNIQUES

Locating a Hot Spot: To find a hot spot, use a scanning technique. Aim the thermometer outside the area of interest, then scan across with an up and down motion until you locate the hot spot.

Field of View: The target area must be at least as large as the spot size. In the diagram above, Object 1 is the correct distance from the unit. Note the target is slightly larger than the spot size being measured. Object 2 is too far away.

Distance & Spot Size: To ensure accurate temperature readings, the distance from the target must be correct. The further the distance from the target, the larger the spot size as above.

Reminders

- ◆ Measure surface temperature only. To measure internal temperatures of liquids or food, stir contents and point unit into open container.
- ◆ Avoid thermal shock. Allow 30 minutes for unit to adjust to large changes in ambient temperature. Do not store unit below freezing.
- ◆ Close in on your target. The smaller the target, the closer you should be to it. Refer to the D:S diagram above.
- ◆ Do not subject unit to excessive heat or cooling by holding it too close to target.
- ◆ Measuring shiny surfaces. Not recommended for use in measuring shiny or polished metal surfaces (stainless steel, aluminium etc).

TECHNIQUES DE MESURES

Localiser un point chaud : Pour trouver un point chaud, utiliser une technique de balayage. Effectuer un balayage vertical jusqu'à ce que le point chaud soit localisé, en commençant en dehors de la zone d'intérêt.

Champ de visée : La zone cible doit être au moins aussi grande que la taille du point. Dans le schéma ci-dessus, l'objet 1 se trouve à la bonne distance de l'unité. Il faut remarquer que la cible est légèrement plus grande que la taille du point mesuré. L'objet 2 est trop éloigné.

Distance & taille du point : Pour s'assurer que les lectures de température sont précises, la distance entre la cible et le thermomètre doit être correcte. Plus la cible est éloignée, plus la taille du point est grande, comme ci-dessus.

Rappels

- ◆ Ne mesure que la température de surface. Pour mesurer la température interne de liquides ou d'aliments, mélanger le contenu et pointer le thermomètre vers un récipient ouvert.
- ◆ Eviter les chocs thermiques. Allouer 30 minutes au thermomètre, pour qu'il s'adapte à d'importantes fluctuations de température ambiante. Ne pas stocker l'unité au-dessous de zéro.
- ◆ Rapprocher le thermomètre de la cible. Plus la cible est petite, plus le thermomètre doit en être près. Se référer au schéma D:S ci-dessus.
- ◆ Ne pas exposer à des températures excessives en le tenant trop près de la cible

- ◆ Mesurer des surfaces brillantes. Il n'est pas recommandé de mesurer des surfaces brillantes ou en métal poli (acier inoxydable, aluminium, etc.).

MESSTECHNIKEN

Aufspüren lokaler Extremtemperaturen: Um eine lokale Extremtemperatur aufzuspüren, verwenden Sie die Abtasttechnik. Richten Sie das Thermometer auf einen Bereich außerhalb des interessierenden Bereiches und tasten Sie dann mit einer Auf- und Abwärtsbewegung langsam den gewünschten Bereich ab, bis die Extremtemperatur gefunden ist.

Abtastbereich: Das Zielobjekt muß mindestens so groß wie der Meßfleck sein. Im obigen Diagramm hat Objekt 1 den richtigen Abstand vom Gerät. Beachten Sie, daß das Zielobjekt etwas größer ist als der Meßfleck. Objekt 2 ist zu weit entfernt.

Abstand und Meßfleckgröße: Um genaue Temperaturmessungen zu erhalten, muß der Abstand vom Zielobjekt korrekt sein. Je größer der Abstand vom Zielobjekt, um so größer ist der Meßfleck, siehe oben.

Hinweise

- ◆ Das Gerät mißt nur die Oberflächentemperatur. Zur Messung der inneren Temperatur von Flüssigkeiten oder Lebensmitteln rühren Sie den Inhalt um und richten Sie das Gerät in den offenen Behälter.
- ◆ Vermeiden Sie einen Temperaturschock. Das Thermometer benötigt eine Zeitdauer von 30 Minuten, um sich an größere Schwankungen der Umgebungstemperatur anzupassen. Das Gerät nicht bei Temperaturen unter dem Gefrierpunkt aufbewahren.
- ◆ Das Thermometer muß sich möglichst nahe am Meßobjekt befinden. Je kleiner das Zielobjekt ist, desto näher sollte das Thermometer sein. Siehe Skizze Distanz:Meßfleck oben.
- ◆ Das Gerät keiner übermäßigen Erwärmung oder Abkühlung aussetzen, indem es zu dicht an das Zielobjekt gehalten wird.
- ◆ Messung reflektierender Oberflächen. Messungen an glänzenden oder polierten Metalloberflächen (Edelstahl, Aluminium etc.) werden nicht empfohlen.

TÉCNICAS DE MEDICIÓN

Localización de un punto caliente: Para localizar un punto caliente, utilizar una técnica de barrido. Apuntar el termómetro hacia fuera del área de interés, entonces hacer un barrido de arriba hacia abajo hasta que localice el punto caliente.

Campo visual: La diana debe ser al menos del mismo tamaño que la zona de medición. En el diagrama de arriba, el objeto 1 está a la distancia correcta de la unidad. Fijarse en que la diana es ligeramente mayor que la zona de medición. El objeto 2 está demasiado lejos.

Distancia y tamaño de la zona de medición: Para asegurar una lectura exacta de la temperatura, la distancia de la diana debe ser correcta. Cuanto más larga sea la distancia de la diana, mayor es la zona de medición, como se muestra arriba.

Recordar

- ◆ La unidad mide solamente la temperatura superficial. Para medir temperaturas internas en líquidos o alimentos, remover el contenido y apuntar a unidad hacia el recipiente abierto.
- ◆ Evitar un cambio brusco de temperatura. Conceder 30 minutos para que la unidad se ajuste a cambios grandes en la temperatura ambiental. No almacenar la unidad en lugares a temperatura bajo el punto de congelación.
- ◆ Acercarse a la diana. Cuanto más pequeña sea la diana, más cerca de ella debe estar usted. Ver diagrama D:S arriba.
- ◆ No aproximar el aparato demasiado a la diana, ya que esto lo someterá a un calor o frío excesivos.
- ◆ Medición de superficies brillantes: No se recomienda su utilización para medir superficies de metal brillantes o pulidas (acero inoxidable, aluminio, etc.).

TECNICHE DI MISURAZIONE

Localizzare un Punto Caldo: per trovare un punto caldo, usate una tecnica di scansione. Mirate col termometro fuori dell'area di interesse, scrutate la zona con un movimento in alto e in basso fino alla localizzazione del punto caldo.

Campo di Veduta: la zona dell'obiettivo deve essere almeno grande quanto la dimensione del punto. Nel diagramma di cui sopra, l'Oggetto 1 è alla distanza giusta dallo strumento. Notare che l'obiettivo è leggermente più largo della dimensione del punto da misurare. L'Oggetto 2 è troppo distante.

Distanza e Dimensione del Punto: per assicurarsi letture accurate della temperatura, deve essere corretta la distanza dall'obiettivo. Maggiore è la distanza dall'obiettivo, maggiore la dimensione del punto come sopra.

Cose da ricordare

- ◆ Misurare la temperatura superficiale soltanto. Per misurare temperatura interne di liquidi o cibi, mescolare i contenuti e puntare lo strumento nel contenitore aperto.
- ◆ Evitare lo shock termico. Lasciare 30 minuti perché lo strumento si adegui alla temperatura ambiente per i grossi cambiamenti. Non riporre lo strumento in luoghi sotto lo zero.
- ◆ Avvicinatevi al vostro obiettivo. Più piccolo è l'obiettivo, più vicini gli dovreste stare. Riferitevi al diagramma D:S di cui sopra.
- ◆ Non esporre ad eccessivo caldo o freddo tenendolo troppo vicino all'obiettivo.
- ◆ Misurazione di superfici lucide. Non se ne raccomanda per misurazioni in superfici risplendenti o di metallo lucido. (acciaio inossidabile, alluminio ecc.)

MAINTENANCE

Lens cleaning: Blow off loose particles using clean compressed air. Gently brush remaining debris away with a camel hair brush. Carefully wipe the surface with a moist cotton swab. The swab may be moistened with water or a water-based glass cleaner. **NOTE: DO NOT use solvents to clean the plastic lens.**

Case Cleaning: To clean the exterior housing, use soap and water or a mild commercial cleaner. Wipe with a damp sponge or soft rag.

ENTRETIEN

Nettoyage de la lentille : Eliminer toutes les particules libres avec de l'air comprimé propre. A l'aide d'un pinceau en petit gris, brosser doucement tous les débris restant. Nettoyer délicatement la surface avec un Coton-Tige humide. Le Coton-Tige doit être humidifié avec de l'eau ou un nettoyant à base d'eau. **NOTE : NE PAS utiliser de solvant pour nettoyer la lentille en plastique.**

Nettoyage de l'étui : Pour nettoyer l'extérieur de l'étui, utiliser du savon et de l'eau ou un nettoyant doux. Essuyer avec une éponge humide ou un chiffon doux.

WARTUNG

Linsenreinigung: Lose Partikeln mit sauberer Druckluft wegblasen. Verbleibende Ablagerungen mit weichem Pinsel entfernen. Die Oberfläche vorsichtig mit einem feuchten Wattestäbchen abreiben. Das Wattestäbchen kann mit Wasser oder einem auf Wasser basierenden Glasreiniger angefeuchtet werden.

HINWEIS: KEINE Lösungsmittel zum Reinigen der Kunststofflinse verwenden.

Gehäusereinigung: Zum Reinigen des Außengehäuses Seifenwasser oder ein mildes Reinigungsmittel verwenden. Mit angefeuchtetem Schwamm oder weichem Tuch abreiben.

MANTENIMIENTO

Limpeza del lente: Eliminar las partículas sueltas con aire comprimido limpio. Cepillar cuidadosamente las partículas restantes con un cepillo de pelo de camello. Limpiar la superficie cuidadosamente con un bastoncillo de algodón húmedo. El bastoncillo puede humedecerse con agua o con un limpiador de cristales con una base de agua.

AVISO: NO utilizar disolventes para limpiar la lente de plástico.

Limpeza del cuerpo de la unidad: Para limpiar la caja exterior, utilizar jabón y agua o un limpiador comercial suave. Limpiar con una esponja húmeda o un trapo suave.

MANUTENZIONE

Pulizia lenti: soffiare via particelle sparse usando aria compressa pulita. Spazzolare delicatamente i restanti detriti con una spazzola di pelo di cammello. Tergere con attenzione la superficie con uno straccio di cotone inumidito. Lo straccio può essere inumidito con acqua o con un detergente per vetro a base d'acqua.

NOTA: NON fare uso di solventi per pulire le lenti plastiche.

Pulizia dell'Involucro: per pulire il contenitore esterno, usare sapone e acqua o un leggero detergente commerciale. Pulire con una spugna umida o uno straccio morbido.

SPECIFICATIONS
SPECIFICATIONS
TECHNISCHE DATEN

Temperature range Echelle de températures Temperaturbereich Gama de temperaturas Raggio della Temperatura	-20 to 500°C -20 à 500°C -20 bis 500°C -20 a 500°C -20 a 500°C
Accuracy	±1% or ± 1°C (±2°F), whichever is greater ±1% ou ±1°C (±2°F), en prenant le plus élevé ±1% oder ±1°C (±2°F), es gilt der jeweils größere Wert ±1% o ±1°C (±2°F), la cifra que sea mayor ±1% o ±1°C (±2°F), quella più grande
Précision	
Genauigkeit	
Precisión	
Accuratezza	
Repeatability	±0.5% of reading, or ±0.5°C (±1°F), whichever is greater ±0.5% de la lecture ou ±0,5°C (±1°F), en prenant le plus élevé ±0,5% vom Meßwert, oder ±0,5°C (±1°F), es gilt der jeweils größere Wert ±0.5% de lectura, o ±0.5°C (±1°F), la cifra que sea mayor ±0.5% della lettura, o ±0,5°C (±1°F), quella più grande
Fidélité	
Reproduzierbarkeit	
Repetibilidad	
Ripetibilità	
Response time Temps de réponse Ansprechzeit Tiempo de respuesta Tempo di risposta	500 m Sec, 95% response 500m Sec, 95% réponse 500 ms (95%) 500 m segundo, 95% respuesta 500 m Sec, 95% risposta
Spectral response Réponse spectrale Spektrale Empfindlichkeit Respuesta espectral Risposta spettrale	8 - 14µm
Emissivity Emissivité Emissionsgrad Emissividad Potere irraggiante	adjustable 0.3 to 1.0 réglable de 0,3 à 1,0 regulierbar von 0,3 bis 1,0 ajustable de 0,3 a 1,0 regolabile da 0,3 a 1,0
Temperature display Affichage des températures Temperaturanzeige Muestra de temperatura Display della Temperatura	0.1°C
Ambient operating range Echelle de fonctionnement ambient Betriebstemperaturbereich Gama de funcionamiento ambiental Raggio operativo a temp. ambiente	0 to 50°C (32 to 120°F) 0 à 50°C (32 à 120°F) 0 bis 50°C (32 bis 120°F) 0 a 50°C (32 a 120°F) 0 a 50°C (32 a 120°F)
Relative humidity Humidité relative Relative Luftfeuchtigkeit Humedad relativa Umidità relativa	10-95% RH non condensing 10-95% HR sans condensation 10-95% r.L., ohne Kondensation 10-95% RH sin condensación 10-95% RH senza condensazione
Weight / Dimensions Poids/Dimensions Gewicht / Abmessungen Peso / Dimensiones Peso / Dimensioni	50g, 163 x 27 x 16 mm
Power Alimentation Spannungsversorgung Alimentación eléctrica Alimentazione	2 x AAA batteries 2 piles AAA 2 x AAA Batterien 2 pilas AAA batterie 2 x AAA
Laser Laser Laser Láser Laser	Class 2 Classe 2 Klasse 2 clase 2 Classe 2

ESPECIFICACIONES
SPECIFICHE

CE CERTIFICATON

This instrument conforms to the folowing standards:

EN50081-1:1992, Electromagnetic Emmisions

EN50082-1:1992, Electomagnetic Susceptibility

CERTIFICATION CE

Cet instrument est conforme aux normes suivantes :

EN50081-1:1992, Emissions électromagnétiques

EN50082-1:1992, Sensibilité électromagnétique

CE-ZERTIFIZIERUNG

Dieses Gerät entspricht den folgenden Normen:

EN50081-1:1992, Elektromagnetische Emissionen

EN50082-1:1992, Elektromagnetische Empfindlichkeit

CERTIFICATON CE

Este aparato cumple con las normas siguientes:

EN50081-1:1992, Emisiones electromagnéticas

EN50082-1:1992, Susceptibilidad electromagnética

CERTIFICAZIONE CE

Questo strumento è conforme ai seguenti standard:

EN50081-1:1992, Emissioni Elettromagnetiche

EN50082-1:1992, Suscettività Elettromagnetica

WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product. If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components which wear are not warranted, including but not limited to contact points, fuses, and triacs.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by it will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESS OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

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M-3511/1099

RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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