

NR110 Precision Colorimeter

Since 1998, from import to domestic, 3nh NR110 precision colorimeter is an iconic milestone in color test industry.



New Functions

Double Locating: Illuminating locating and cross locating

Double Measurement End Face: Large area measurement and small area measurement

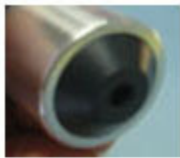
New Integrating Sphere Design: More stable measurement

Equipped with Rechargeable High-Capacity Li-ion Battery

Product Advantages

- a. Built-in white plate parameters. No need to calibrate each time which realize rapid measurement.
- b. Double Locating: Illuminating locating and precise cross locating.
- c. Switchable Double Measurement End Face: Large stable end face and small concave-convex end face.
- d. New Integrating Sphere Optical Path Design: Eliminating the stray light of main optical path and auxiliary optical path. Possessing the highest measurement stability

- and precision.
- 4mm Measuring Aperture. The repeatability dE is 0.05~0.1. (Different model with different precision)
 - Equipped with rechargeable high-capacity Li-ion battery. No need to purchase battery repeatedly.
 - Configure CQCS3 software. Connect PC computer to realize more functions.
 - Having got SCM Metrological Certification, CE Certification, and ISO9001 Quality Management System Certification.
 - Hand-head structure: small and convenient; make the measurement easier.
 - Exquisite appearance: adopts traditional and fashionable aesthetic designs.
 - Spending huge sums on high-end mold. Product consistency approaches 100%.
 - High cost performance: large output, good quality, cheap products.



Illuminating Locating, Cross Locating, Large Stable End Face, Small Concave-Convex End Face.
(for NR110)

NR110 Technical Specifications

Illuminating/Viewing Geometry	8/d
Measuring Aperture	Φ4mm
Detector	Silicon photoelectric diode
Locating	Illuminating Locating/Cross Locating
Measurement End Face	Large stable end-face and small concave-convex end-face
Color Space	CIEL*a*b*C*h* CIEL*a*b* CIEXYZ
Color Difference Formula	ΔE^*ab $\Delta L^*a^*b^*$ $\Delta E^*C^*h^*$
Light Source	D65
Light Source Device	LED blue light excitation
Errors Between Each Equipment	$\leq 0.80 \Delta E^*ab$
Storage	100pcs standards 20000pcs samples

Repeatability	Standard deviation within ΔE^*_{ab} 0.08 Average of 30 measurements of standard white plate
Language	English/Chinese
Weight	450g
Dimension	205×67×80 mm
Power source	Rechargeable lithium-ion battery 3.7V@3200mAh
Lamp Life	3 years, more than 1.6 million measurements
Charging Time	8 hours--100% electricity
PC Software	CQCS3 Software
Printer (optional)	Miniature thermal printer

Company Information

Shenzhen 3nh Technology Co., Ltd. is a high-tech enterprise. We research, develop, produce and market photoelectric detection products in photoelectric detection technology field and color management field. After years of intensive research, 3nh launched NH series colorimeter with high precision and high stability, high definition ISO12233 resolution test chart, optical image test solution and specific standard illuminant which are widely used in plastic, electronic, paint, ink, textile, garment, printing and dyeing, food, medical, cosmetic, optical image test industries and the field of scientific research, school and laboratory. Our products are exported around the world. We can provide customization service which has been well received by customers.

After-Sale Service

3nh provides high-quality comprehensive pre-sale and after-sale service for customers. No matter what requirements the users need, no matter what problems about our products and service the users ask, 3nh customer service center will provide thoughtful and meticulous service. Meanwhile, customer service center will classify user feedbacks. For example, if the problem can be dealt with by 3nh, 3nh will be responsible for it; if the problem belongs to 3nh authorized service center, 3nh customer service center will contact with the authorized service center to solve customer problems or give the appropriate answer as soon as possible.

1.Warranty

1> Warranty will be provided in case of the following circumstances. 3nh offers one year free maintenance service.

- a. This product is under warranty for 12 months from the purchase date. Customers must provide warranty card and valid proof of purchase.
- b. Warranty is only for the failures caused by the quality problem itself.

2> Warranty will not be provided in case of the following circumstances. 3nh can offer paid repair service.

- a. Product failure or damage caused by installation, usage, maintenance and safekeeping which haven't followed the request of operation manual.
- b. Product model and serial number are inconsistent with the products.
- c. No warranty card and valid proof of purchase.
- d. Out of warranty, but can continue to be used after being repaired.
- e. Damages caused by disassembly which made by non 3nh technical staff or 3nh authorized service providers.
- f. Damages caused by unexpected factors or human factors.
- g. Damages caused by force majeure (such as flood, fire, earthquake, etc.).

* Note: 3nh reserves the final interpretation right to the warranty terms.

2. Delivery of Products

a. About product warranty, the freight of delivery from customer to 3nh is to be charged to customer's account. The freight of delivery from 3nh to customer is at our own expense.

b. About the delivery, products may be delivered to designated place by 3nh authorized service agency or directly delivered to customers by express by 3nh. No matter which delivery method is adopted, if the packaging of the received product is incomplete, or the accessories are incomplete or the damages caused by delivery which affect the product quality, please contact with 3nh authorized service agency or 3nh service center. Meanwhile, please inspect the goods or make photo evidence in the presence of the transportation personnel. After confirming the responsibility, we will provide maintenance or replacement service according to customer requirements.

NR 200 High-Quality Colorimeter



High-end brands of domestic colorimeter

NR200 is another mainstream brand colorimeter introduced by 3nh which has synthesized the advantages of ten more traditional imported colorimeters and has experienced ten thousands tests and applied many innovative technologies. Accurate, Stable, Exquisite and Affordable!

1. Leading Humanity Design and Convenient Operation

One-touch access to measurement interface

Structure design in line with ergonomics

East-to-use operating interface

2. Stable Measurement Performance

The repeatability ΔE is 0.08.

Portable structure design which is more conducive to keeping the instrument stable when using.

3. Convenient and Fast Locating

Illumination locating is a fast, simple and convenient locating which created by 3nh.

4. PC Software—Realize More Function Expansion

3nh has the intellectual property of PC software. The corresponding software serial number and password protection are configured in 3nh colorimeter.

Be able to perform color difference analysis, color difference cumulative analysis, chromaticity index, color sample database management, simulating object color, etc.

5. Advanced Power Management Design

3nh is the first enterprise using high capacity Li-ion battery in colorimeter.

3nh Li-ion battery can be repeatedly charged which will save cost. Meanwhile, it can measure more than 3000 times on one charge to ensure the stability of long time measurement.

NR200 Specifications

Illuminating/Viewing Geometry	8/d
Measuring Aperture	Φ8mm
Detector	Silicon photoelectric diode
Color Space	CIEL*a*b*C*h* CIEL*a*b*
Color Difference Formula	ΔE^*_{ab} $\Delta L^*_{a^*b}$ $\Delta E^*_{C^*h}$
Light Source	D65
Light Source Device	LED blue light excitation
Errors Between Each Equipment	$\leq 0.50 \Delta E^*_{ab}$
Storage	100pcs standards 20000pcs samples
Repeatability	Standard deviation within ΔE^*_{ab} 0.08 Average of 30 measurements of standard white plate
Weight	500g
Dimension	205×70×100 mm

Power source	Rechargeable lithium-ion battery 3.7V@3200mAh
Lamp Life	3 years, more than 1 million measurements
Charging Time	2 hours (First time 8 hours--100% electricity)
Measurement Times Before Recharging	More than 3000 times
Operating Temperature/Humidity Range	-10~40℃, relative humidity 0~85% with no condensation
Data Interface	USB
Optional Accessory	Miniature thermal printer, Powder Test Box

NR20XE Large Aperture Precision Colorimeter

NR20XE with $\phi 20\text{mm}$ extended aperture and stable end face can test surface stripe and wet products, special for textile, food and fruit color test.



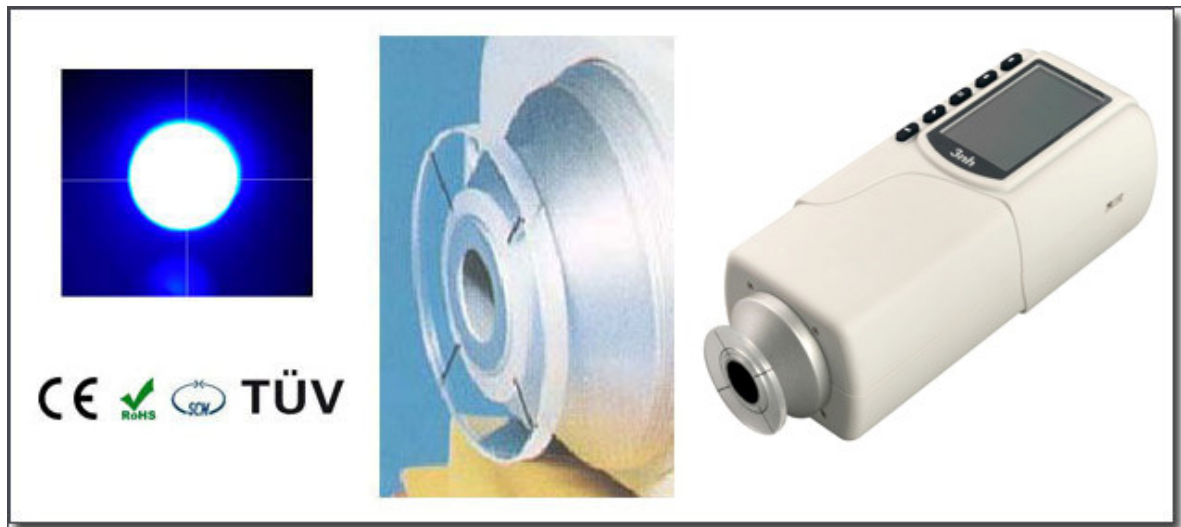
3nh NR20XE colorimeter is a handheld colorimeter based on $45^\circ/0^\circ$ optical geometry. Its measuring aperture is 20mm diameter, which is the biggest one in domestic. Meanwhile, it also has high measuring precision. As a member of 3nh $45^\circ/0^\circ$ colorimeter, NR20XE is a colorimeter with unique performance.

The color measurement results from NR20XE simulate human eyes but its accuracy is several times higher than human eyes. NR20XE $45^\circ/0^\circ$ optical geometry structures can reflect interactive effect between surface stripe and sample color more effectively than $8^\circ/d$ colorimeter. NR20XE will eliminate the errors between human eyes and color tester caused by surface stripe when judging tolerance critical value of sample colors. Therefore, NR20XE is widely used in color field.

NR20XE can meet quality control requirements in plastic (PET, PE, PP, PTA, ABS, EVA particles and powder), color steel plate, coating, textile, fluorescent material, denim, medicine and food industries, etc. It can help to control product color difference, improve product competitiveness, reduce enterprises' loss and control production cost.

Product Advantages

1. 20mm measuring aperture can test objects with surface stripe accurately.
2. Vertical structure can test wet surface object or can be soaked into the liquid for testing.
3. Double Locating: Illuminating locating and cross locating.
4. Adopting new optical path and dynamic integration time can test more stable and accurate.
5. 45°/0° optical geometry structure, considering the effects of surface features.
6. Annular illumination design, suitable for polarizing material.
7. Equipped with rechargeable high-capacity Li-ion battery. No need to purchase battery repeatedly.
8. Configuring CQCS3 software -- connect PC computer to realize more functions.



Illumination Locating; Cross Locating; Large Stable End Face

Technical Specifications

3nh	NR20XE Precision Colorimeter
Illuminating/Viewing Geometry	45°/0°
Measuring Aperture	Φ20mm
Special Function	Especially suitable for testing surface stripe and wet products
Locating	Illumination Locating/Cross Locating
Detector	Silicon photoelectric diode
Locating	Illuminating Locating/Cross Locating
Color Space	CIEL*a*b*C*h*; CIEL*a*b*; CIEXYZ
Color Difference Formula	ΔE^*ab ; $\Delta L^*a^*b^*$; $\Delta E^*C^*h^*$
Light Source	D65
Light Source Device	LED blue light excitation
Errors Between Each Equipment	$\leq 0.50\Delta E^*ab$
Storage	100pcs standards 20000pcs samples
Repeatability	Standard deviation within ΔE^*ab 0.08 Average of 30 measurements of standard white plate
Weight	500g
Dimension	205×67×80 mm
Power source	Rechargeable lithium-ion battery 3.7V@3200mAh
Lamp Life	5 years, more than 1.6 million measurements
Charging Time	First charging time is 8 hours--100% electricity
PC Software	CQCS3 Software
Printer (optional)	Miniature thermal printer

NR145 Precision Colorimeter

3nh R&D team concentrates on customer needs and develops series of high-cost and high-quality products. NR145 is a precision colorimeter with 45°/0° viewing angle after NH310, NH300, NR200, NR110 and NR100 colorimeter. NR145 colorimeter has strong functions which applied a number of differential innovative technologies. It can measure accurately in 45° illumination /0° receiving under the SCE mode.



Product Advantages

1. Built-in white plate parameters. No need to calibrate each time which can perform measurement quickly.
2. Double Locating: Illuminating locating and precise cross locating.
3. Using super light path, dynamical-integral and timing measurement three key technology to improve the stability and accuracy.
4. New 45°/0° Optical Path Design: Significantly improve the measurement stability and precision.
5. 8mm Measuring Aperture.
6. Equipped with rechargeable high-capacity Li-ion battery. No need to purchase battery repeatedly.
7. Configure CQCS3 software. Connect PC computer to realize more functions.
8. Having got SCM Metrological Certification, CE Certification, and ISO9001 Quality Management System Certification.
9. Hand-head structure: small and convenient; make the measurement easier.
10. Exquisite appearance: adopts traditional and fashionable aesthetic designs.

Technical Specifications

3nh	NR145
Illuminating/Viewing Geometry	45°/0°
Measuring Aperture	Φ8mm
Measurement End-face	Large stable end face and small concave-convex end face
Detector	Silicon photoelectric diode
Locating	Illuminating Locating/Cross Locating
Color Space	CIEL*a*b*C*h* CIEL*a*b* CIEXYZ
Color Difference Formula	ΔE^*ab $\Delta L^*a^*b^*$ $\Delta E^*C^*h^*$
Light Source	D65
Light Source Device	LED blue light excitation
Errors Between Each Equipment	$\leq 0.80\Delta E^*ab$
Storage	100pcs standards 20000pcs samples
Repeatability	Standard deviation within ΔE^*ab 0.08 Average of 30 measurements of standard white plate
Weight	500g
Dimension	205×67×80 mm
Power source	Rechargeable lithium-ion battery 3.7V@3200mAh
Lamp Life	5 years, more than 1.6 million measurements
Charging Time	The first charging time is 8 hours--100% electricity
PC Software	CQCS3 Software
Printer (optional)	Miniature thermal printer