

Industrial endoscope R

Large display,
easy probe
change

also
available
with Stereo
3D Measure-
ment



ND-TEC

www.ndtec.net

R

For demanding inspections

The new R video borescope is built for the toughest industrial inspection tasks. With its 7" Full HD IPS touchscreen, powerful lithium-ion battery, intuitive controls, and easily interchangeable probes, it's perfectly suited for industrial applications like aerospace, power generation, and manufacturing quality assurance.

The R is also available with a stereo 3D measurement function. Cutting-edge camera technology with stereoscopic CMOS sensors and innovative software enable more accurate and precise measurements with a rotatable 3D point cloud for efficient and reliable inspections.



FEATURES

System / Hardware Components

- 8 GB RAM, expandable
- Built-in 128 GB storage
- Audio jack for microphone connection to add voice-over to video recordings
- WiFi / Bluetooth functionality
- Two USB-A and one USB-C port
- Mini-HDMI output for external HD displays
- Real-Time Clock (RTC) for measuring defined time intervals

Probes and Camera Heads

- Quick and easy probe exchange
- Probes featuring the latest CMOS technology, multi-camera heads, various depth-of-field ranges, and viewing angles
- Camera heads with various lighting technologies (white light fiber/LED/UV)
- Multiple probe diameters ranging from 0.85 mm to 8.4 mm
- "Steering Map" and „Explore-and-Stay“ functions

Operating System / User Interface

- Easy-to-use Android platform
- New intuitive control concept with icon-based interface and touchscreen
- L- / R and trigger buttons customizable with individual functions

R model with stereo 3D measurement

Advantages of our new stereo 3D measurement

- **Accurate stereo 3D measurements**
Stereo 3D measurement enables precise detection of cracks, wear, corrosion, joint widths, or edge offsets.
- **Reliable diagnostics**
By providing objective, numerical measurement data, stereo 3D technology helps reduce subjective misinterpretations.
- **Time savings and increased efficiency**
The need for additional or manual measurements is eliminated, making inspections faster and more efficient with reliable data.
- **Simplified documentation and better comparability**
With the stereo 3D measurement function, exact numerical values can be recorded and comparison measurements can be carried out more easily.

Precise and intuitive control for successful inspections

BRILLIANT 7 INCH HD IPS TOUCH-DISPLAY

The large, high-contrast IPS display offers a resolution of up to 1920x1080 px and outstanding color accuracy. The icon-based user interface is intuitive and easy to operate.

CONNECTION

- Mini-HDMI
e.g. for joint viewing of live images on a monitor
- USB Typ-C
e.g. for storage devices or keyboards

INTUITIVELY SIMPLE: JOYSTICK CONTROL

The precise electromechanical 4-way* control enables easy navigation and smooth, responsive probe operation.

JOYSTICK

For precise adjustment in optional 3D measurement.

ERGONOMIC DESIGN

Ergonomically shaped handle for comfortable working.

HIGH-PERFORMANCE BATTERY

Four 18650B lithium-ion batteries can be easily replaced or charged directly via the USB-C port. The battery status is clearly displayed.



TRIGGER BUTTON

The convenient rear button is freely programmable to suit your individual needs.

ACCESSORIES SUPPLIED

- Transport case
- Battery charger (with 4 charging stations)
- Li-Ion battery 18650-protected, 4 pieces
- USB Power supply, USB-C Cable
- HDMI Cable

OPTIONAL ACCESSORIES

- Device stand with or without magnetic base
- Rigid guide tube with handle
- Dekabon tube (semi-flexible guide tube)
- Centering aid (for centering video probes in pipes)

EASY PROBE EXCHANGE

Quick exchange of probes with different lengths (1 m – 15 m), various depth-of-field ranges, and optical properties.



CONNECTION

- Audio jack
e.g. for microphone / headset
- Two USB-A ports

SHOCK-RESISTANT HOUSING FOR TOUGH INDUSTRIAL USE

Made of robust plastic with shock-absorbing buffers.

VARIOUS LIGHTING TECHNOLOGIES

White light fibre, white light LED, UV LED and UV/white light LED

VARIOUS PROBE DIAMETERS

0.85 mm - 8.4 mm Diameter

ROBUST PROBE WITH 4-WAY ANGULATION*

Tough construction – for difficult inspection areas. Robust probe head and probe surface layer made of tungsten material.

*from 2.2 mm Probe Diameter (1.7mm: 2-way angulation)



Technical data

Camera sensor	CMOS Camera technology
Light source	LED or fiber optic (available as white light, ultraviolet)
Display	IPS-HD-Touchscreen 7"
Electrical supply	4 rechargeable batteries, type: 18650-protected; power supply unit with USB-C
White balance	Automatic / manual
Image Storage Photo / Video Storage	JPG, PNG / MP4, AVI Internal 128 GB memory, Extension: USB-Flash-drive
Angulation Control	Motorized joystick, 4 way angulation, „Explore-and-Stay“-Function, „Steering Map“
Connection	2x USB-A, USB-C, Mini-HDMI, audio/microphone connection
Wireless	WiFi, Bluetooth
Device Protection class Ambient temperature Size Weight	Handunit IP54, Probe IP67 Handunit -10°C to +50°C, Probe -20°C to +70°C 36.4 cm (L) x 19.85 cm (B) x 13.25 cm (H) From 2 kg, depending on probe

PROBE VERSIONS (without stereo 3D measurement) ¹

Individual solutions on request.

Diameter	Working length							
	1 m	1,5 m	2 m	3 m	5 m	8 m	10 m	15 m
0.85 mm	•							
1.1 mm	•							
1.7 mm	•	•	•					
2.2 mm	•	•	•	•				
2.8 mm*	•	•	•	•				
4.0 mm**	•	•	•	•	• ²			
6.0 mm	•	•	•	•	• ²	• ²	• ²	
8.4 mm				•	•	•	•	•

Diameter	FN		FM		FF		DN		DM	
	DOF [mm]	FOV [°]	DOF [mm]	FOV [°]	DOF [mm]	FOV [°]	DOF [mm]	FOV [°]	DOF [mm]	FOV [°]
0.85 mm	3 - 20	120								
1.1 mm	3 - 20	120								
1.7 mm	3 - 50	120								
2.2 mm	3 - 50	120								
2.8 mm*	3 - 50	120					F: 3-50 S: 3-50	F: 120 S: 120		
4.0 mm**	3 - 80	110	5 - 150	110					F: 8-150 S: 3-50	F: 100 S: 120
6.0 mm	3 - 80	110	5 - 150	110	50 - ∞	80			F: 8-100 S: 5-50	F: 100 S: 100
8.4 mm									F: 8-100 S: 8-100	F: 120 ± 10 S: 120 ± 10

FN Forward Near
FM Forward Mid
FF Forward Far

DN Dual-Cam Near
DM Dual-Cam Mid

¹Technical specifications for probes with stereo 3D measurement function are available in a separate brochure.

²Only Dual-Cam

*Tolerance max. 0.1 mm
**Tolerance max. 0.2 mm

Wide range of applications in industrial use

The areas of application for industrial endoscopy are highly diverse: Endoscopes are used to look inside engines, gearboxes or turbines, to detect smuggled goods in vehicles, to inspect weld seams in pipes or even to investigate the structure of a termite mound. The R Videoen- doscope is your reliable companion in the most diverse fields of work, environmental condi- tions and applications, with a focus on easy and fast handling and documentation.



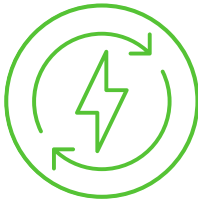
Aviation

When servicing engines and airframes, hard-to-reach areas can be inspected without the need for disassembly. With the R Videoendoscope, you can carry out inspections quickly and efficiently and obtain safe and conclusive results.



Process Industry

In process plants, downtime means loss of productivity and high costs. Industries such as food, beverage or pharmaceutical, which use a variety of automation systems, often have complex, very thin or very long piping systems for which the R Videoendoscope is ideally suited for maintenance.



Power Generation

When it comes to supplying energy products, maximum availability without unplanned interruptions is crucial. For preventive or spontaneous functional testing of power plants or wind turbines, the R provides fast, reliable, and meaningful visualization of hard-to-access cavities and components.



Automotive & Transportation

Thanks to its outstanding features, the R Videoendoscope is perfect for inspections in the automotive and rail transportation sectors. This includes the inspection of components in ongoing production and in the final inspection, as well as for the continuous quality assurance of engine blocks, injection nozzles, brake systems or cast parts.



Security

The new video endoscope R, with its easy probe exchange, proves its worth in daily use for the fast and reliable assessment of unknown hazardous situations, for vehicle and container inspections by customs, as well as for rescue operations in collapsed buildings.



Infrastructure

The R is equally suitable for the inspection of above-ground and underground structures, bridges, sewer systems, ventilation shafts, and for checking building materials for defects in concrete, steel, or other construction materials. The simple documentation process facilitates the creation of expert reports.



NDTec – Specialist with excellent service

Know-how and quality, for safe inspections

We have been involved in non-destructive visual material testing for over 25 years. With this experience, we have created a wide range of industrial endoscopes, that are now used in almost all industries worldwide. The mechanic in the aircraft hangar trusts in the quality of NDTec endoscopes just as much as the technician who maintains a wind turbine or inspects a technical component.

Service you can rely on

Customer support is our top priority. We build a strong partnership through personal exchange and advice - as your reliable solution provider. NDTec also supports you after the purchase with its own repair service. If required, we can provide you with rental devices to bridge downtimes or for testing before purchase.



**NDTec
Repair
Service**



Subject to technical changes.



WEBSITE



SHOP

NDTec AG
Sales Office: Rheinstr. 3
96052 Bamberg/Germany

Tel.: +49 951 9681 39-0
E-Mail: info@ndtec.net
www.ndtec.net

Outstanding Insights