

N-series(Digital)

Portable Industrial Endoscope



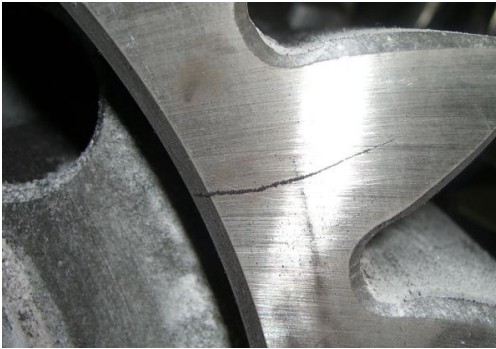
Industrial
Endoscope

Introduction:

N-series portable industrial endoscope is based on normal N series, adopting the latest digital platform and camera modules, which makes it available for color settings, white balance and picture annotations. As a portable instrument, it's flexible and diverse with the upgraded 5-inch high fidelity screen and digital camera. Visual field can be detected completely. Six patents are adopted to the body and different camera options such as forward and dual cameras for the customers to meet different working applications.

Features:

1. Intelligent image processing system to show very clean image.



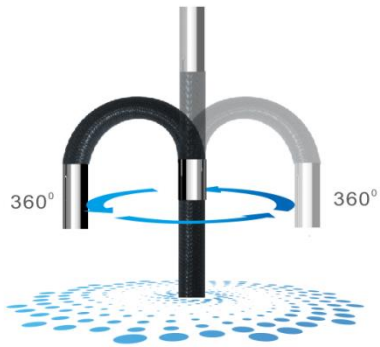
2. Color settings to meet different applications.



3. Step by step rocker controlling system makes precise camera location.



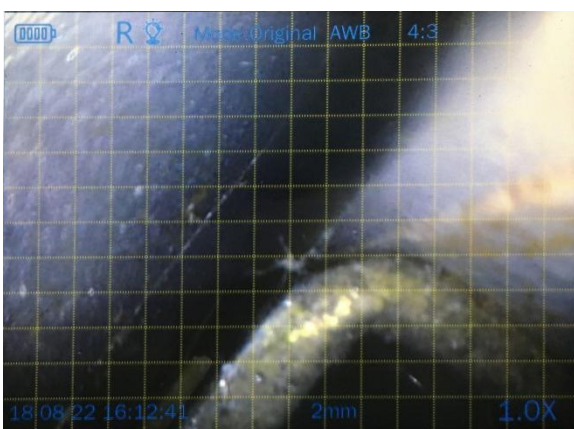
4. Probe bend for 180° with flexible 360° articulation



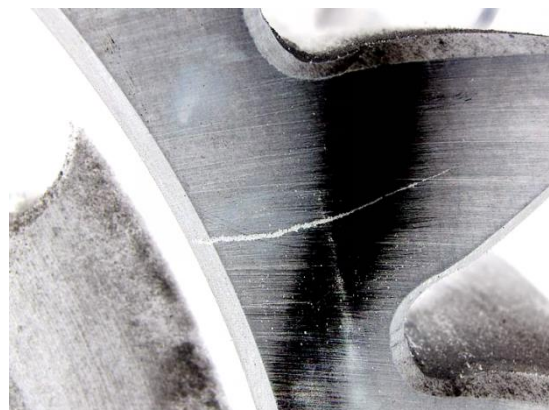
5. Customized settings, more user friendly.



6. Three types of reference rulers of 1mm, 2mm and 4mm to do basic comparison measurement.



7. Crack detection (the left is conventional effect, the right is the reverse color display effect).



Application field:

1. Aviation & Space Industry

It can be used to inspect regularly turbine, blades, engine, surface of welding and conductor pipes, combustion chamber in plane, and in development and manufacture of rocket.

2. Electrical Production and Construction Unit

It can be used to detect and monitor defects of important apparatus such as turbine, pipes.

3. Petro-Chemical and Pressure Container Industries

It can be used to inspect reserve tanks, heat exchangers and tank trucks in oil refinery, pipes in chemical plant and containers, steel cylinders and pipes in special inspection unit and pressure container plant.

4. Railway, Ship, Construction Engineering and Research Unit

Railway/Ship: It can be used to inspect electrical locomotive, air-conditioner, turbine, heater, gas-engine and flames of boiler.

Construction Engineering: It can be used to inspect erosion and fouling of pipes, rust of concrete iron, break of support shaft and bridge connection part; to observe caves inside

tunnel and construction model; to diagnose erosion and blockage of running water pipe.

Research Unit: It can be used in observation, research, trial, archaeological work and etc.



Specifications:

| | Category | Description |
|---------------------------|------------------------------------|--|
| System | Dimension/Weight | 156 x 356 x 80mm/1.5KG |
| | Display screen | 5" IPS LCD (640 x 480) |
| | Control lever /oriented control | Electric rocker with probe able to articulate in 360°, software navigation key/step-drive, automatic set |
| | Functions | Photography, video, brightness control, locking and fine tuning |
| | Storage | 32G high speed Micro SD card (TF card) |
| | I/O port | TF card port, HDMI video port, DC charging port, Micro USB port, earphone port, update and expand port. |
| | Battery/Standby time | Li-on Battery 18650x2 / 2.5 hours N-D |
| | Brightness control | 5 degrees each for high and low brightness adjustment, 10 degrees in total |
| | Software | Operation system |
| File management | | File & Folder creation, naming, deleting, save to SD card or USB Drive |
| Image control | | Zoom in/out(1.0X-1.5X,5 steps), playback, image freeze, image reversal, mirror image |
| Image format/Video format | | JPEG,JPG/AVI(record date and time) |
| Language | | English/Chinese/Korean/German/Russian/Japanese |
| Color settings | | 6 modes for different applications |

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|-----------------------|---------------------------------|--|
| | White balance | Automatic/manual white balance |
| | Exposure mode | Automatic/manual/shutter/aperture exposure |
| | Reference measure | Grid reference |
| | Upgrade | upgrade by Micro SD card service pack |
| Operating environment | Monitor working temperature | -10~50° |
| | video probe working temperature | -20~70° |
| | Relative humidity | Highest 90%, no condensation |
| | Waterproof | Monitor IP54/video probe IP67 |

Models for N-series

| Model | Part No | Description | | | | | | | | | | | | | | | | | | | |
|--------|----------|---------------|---------------------------|---------------------------|------------|-------------|-------------|-----------------|-----------------|---------------|----------------|-----------------|-----------------|--------|--|--|--|-------|--|-------|--|
| | | Diameter [mm] | Insertion Tube Length [m] | System Platform | Camera | | | | Optic | | Light | | Probe Bending | | | | | | | | |
| | | | | | Location | Head Type | CMOS Sensor | Resolution | Depth of Field | Angle of View | Type | [Lux] | | | | | | | | | |
| N410FM | 12141010 | 3.9 | 1 | Non-digital | Front | PG | A | 720*576 | 7-80mm | 110° | LED | 6000 | 170±10° | | | | | | | | |
| | 12241010 | | 1 | Digital | | | | | | | | | 170±10° | | | | | | | | |
| N415FM | 12141015 | | 1.5 | Non-digital | | | | | | | | | 170±10° | | | | | | | | |
| | 12241015 | | 1.5 | Digital | | | | | | | | | 170±10° | | | | | | | | |
| N420FM | 12141020 | | 2 | Non-digital | | | | | | | | | 150±10° | | | | | | | | |
| | 12241020 | | 2 | Digital | | | | | | | | | 150±10° | | | | | | | | |
| N430FM | 12141030 | | 3 | Non-digital | | | | | | | | | 120±10° | | | | | | | | |
| | 12241030 | | 3 | Digital | | | | | | | | | 120±10° | | | | | | | | |
| N450FM | 12141050 | | 5 | Non-digital | | | | | | | | | 100±10° | | | | | | | | |
| | 12241050 | | 5 | Digital | | | | | | | | | 100±10° | | | | | | | | |
| Model | Part No | Description | | | | | | | | | | | | | | | | | | | |
| | | Diameter [mm] | Insertion Tube Length [m] | System Platform | Camera | | | | Optic | | Light | | Probe Bending | | | | | | | | |
| | | | | | Location | Head Type | CMOS Sensor | Resolution | Depth of Field | Angle of View | Type | [Lux] | | | | | | | | | |
| N610FM | 12161010 | 6 | 1 | Non-digital | Front | QB | A | 720*576 | 7-80mm | 80° | LED | 20,000 | 170±10° | | | | | | | | |
| | 12261010 | | 1 | Digital | | | | | | | | | 170±10° | | | | | | | | |
| N615FM | 12161015 | | 1.5 | Non-digital | | | | | | | | | 170±10° | | | | | | | | |
| | 12261015 | | 1.5 | Digital | | | | | | | | | 170±10° | | | | | | | | |
| N620FM | 12161020 | | 2 | Non-digital | | | | | | | | | 150±10° | | | | | | | | |
| | 12261020 | | 2 | Digital | | | | | | | | | 150±10° | | | | | | | | |
| N630FM | 12161030 | | 3 | Non-digital | | | | | | | | | 120±10° | | | | | | | | |
| | 12261030 | | 3 | Digital | | | | | | | | | 130±10° | | | | | | | | |
| N650FM | 12161050 | | 5 | Non-digital | | | | | | | | | 110±10° | | | | | | | | |
| | 12261050 | | 5 | Digital | | | | | | | | | 120±10° | | | | | | | | |
| N680FM | 12161080 | | 8 | Non-digital | | | | | | | | | 100±10° | | | | | | | | |
| | 12261080 | | 8 | Digital | | | | | | | | | 100±10° | | | | | | | | |
| Model | Part No | | Description | | | | | | | | | | | | | | | | | | |
| | | | Diameter [mm] | Insertion Tube Length [m] | | | | | | | | | System Platform | Camera | | | | Optic | | Light | |
| | | Location | | | Head Type | CMOS Sensor | Resolution | Depth of Field | Angle of View | Type | [Lux] | | | | | | | | | | |
| N610DM | 12263010 | 6 | 1 | Digital | Front&Side | PD | A/A | 720*576/720*576 | F7-80mm/S3-30mm | F100°/S90° | Front&Side LED | F15,000/S10,000 | 170±10° | | | | | | | | |
| N615DM | 1263015 | | 1.5 | | | | | | | | | | 170±10° | | | | | | | | |
| N620DM | 12263020 | | 2 | | | | | | | | | | 150±10° | | | | | | | | |
| N630DM | 12263030 | | 3 | | | | | | | | | | 130±10° | | | | | | | | |
| N650DM | 12263050 | | 5 | | | | | | | | | | 120±10° | | | | | | | | |
| N680DM | 12263080 | | 8 | | | | | | | | | | 100±10° | | | | | | | | |