

MIGS



2-ways Roundabout Articulation Endoscope Specification

Ø 5.5 MM



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Safety recommendations

Warning

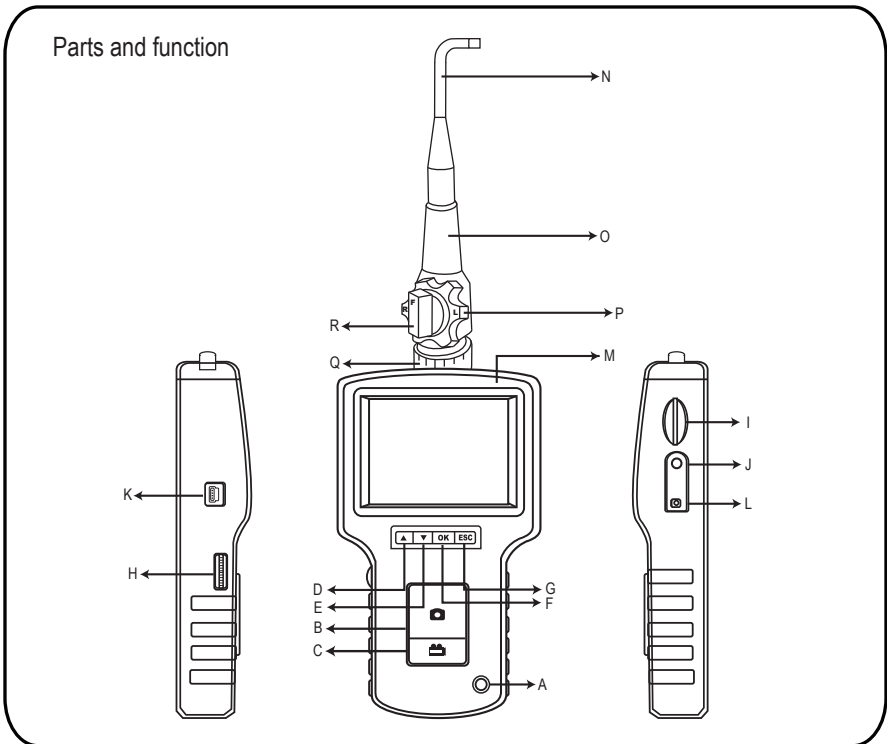
- This device must not be used for medical or veterinary purposes.
- Do not modify or disassemble the unit.
- Do not use this item in explosive atmospheres.

Caution

- Keep the device out of the reach of children.
- Do not look directly into the objective lens at the end of the insertion tube, your eyesight may be seriously damaged.
- Do not forcibly bend, twist or elongate the insertion tube.
- Strong impact on the device may result in the breakage of the objective lens (made of glass) at the tip of the insertion tube.
- Do not use or store the device at a temperature higher than 60 °C or lower than -20 °C.
- Don't use the device in the direct sunshine.
- Store the device in a dry and adequately ventilated environment.
- Keep the device away from acid or alkaline solutions, oil or petrol, and do not use it in an atmosphere containing their vapours.
- Do not remove the SD Memory Card while data is being saved to the card. This may cause the data to be lost or the card to be damaged.

1. Description

The 2-ways Roundabout Articulation Endoscope is a compact handheld instrument that allows the user to view applications in restricted spaces that could not normally be seen with the naked eye. The 2-ways Roundabout Articulation Endoscope is supplied in a sturdy carrying case and consists of a display unit, joystick, insertion tube, main adapter and side view adapter. The display unit, with a 3,5" wide angle TFT LCD screen, has the capacity of viewing, storing and reviewing photos and video images. Images can also be displayed directly on a TV screen or stored and transferred to a PC for viewing later. The display unit is powered by rechargeable Li-polymer batteries and a multi-voltage charger is included. The 1 meter (3,3 ft) insertion tube has a tip of just 5,5 mm (0,22 in) and is equipped with powerful variable LED lighting. Other lengths are available, see section 8. Spares & accessories



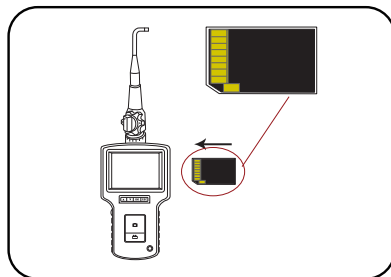
- | | | |
|-----------------|-----------------------------|---|
| A. POWER button | H. LED intensity adjustment | O. Joystick |
| B. PHOTO button | I. SD slot | P. Articulation control knob |
| C. REC button | J. TV OUT jack | Q. Neck |
| D. UP button | K. USB jack | R. Articulation tightness adjustment knob |
| E. DOWN button | L. DC IN jack | |
| F. OK button | M. Display unit | |
| G. Escape | N. Insertion tube | |

The 2-ways Roundabout Articulation Endoscope is supplied with the following accessories:

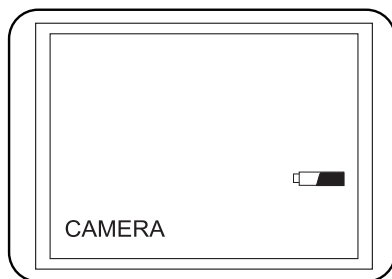
- USB Cable: enables connection to PC for convenient file transfer and maintenance.
- Video Cable: connects display unit to TV.
- Power Adapter: enables the display unit internal batteries to be recharged.
- 1GB SD card: For storage of photos and videos. Refer to Preparation for use (section 2) for direction of card insertion.
- MIGS-M1: 90° side view adapter.

2. Preparation for use

On first use it is important that the SD card is inserted as shown as follows:



Press the POWER button for 3-5 seconds to turn the display unit on. The Start-up screen is shown briefly followed by the status screen for five seconds:



The status screen shows the capacity of the SD card and the internal battery. If the MIGS has been stored for a long time then the display might not turn on. The most likely cause is that the internal batteries have been fully discharged. Use the power adapter to recharge the batteries.

Alarm:

- Do not turn the Articulation control knob until the insertion tube stretch out , or it will cause everlasting damage to the insertion tube.
- Do not turn the Articulation control knob when the imager head of insertion tube get stuck or blocked by something, or it will cause ever lasting damage to the insertion tube.
- Do not turn the Articulation control knob forcibly when the Articulation tightness adjustment knob turn to right.

Directly on the screen, a “live” picture can be seen. This is the preview mode.

It is strongly advised to properly set-up the 2-ways Roundabout Articulation Endoscope before first use. The indexing of saved photos and video is based on date and time only. Other parameters, if set before first use, can make the operation of the 2-ways Roundabout Articulation Endoscope easier in the future.

The side view adapter included, is ideal for viewing pipe walls.

To fit the side view adapter, unscrew the chrome tip of the insertion tube and replace with the side view adapter.

Press POWER button for 3-5 seconds to turn the display unit off.

3. Menu setup

- Switch the unit on. Ensure that preview mode is active (i.e. a “live” picture can be seen)
- Press the OK button to access the menus. Use the UP or DOWN button to select the menu item. Press OK to confirm.

The options displayed are as follows;

- Delete all
- Video output
- Date / time setup
- Language
- Video format
- Auto power off

Delete All

Take care in selecting this option, as everything will be deleted from the SD card!

Navigate to DELETE ALL in the menu, press the OK button. Select YES or NO using the UP or DOWN buttons. Confirm with the OK button.

Video Output

This function allows live pictures or recorded photos and videos to be displayed on a TV screen or beamer. First make sure that the Video format is set correctly to the used TV system (PAL or NTSC). (See the Menu set up section.)

Connect the scope video cable to the display unit TV out jack. Ensure that the other end of the video cable is well connected to the TV or beamer.

Press the OK button to select menu options, select Video Output and press the OK button.

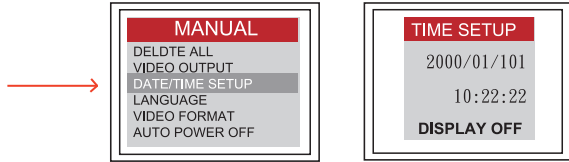
The display unit screen will turn black and the display will be shown on the TV. You can transfer the screen back to the display unit by selecting the same function.

Note: The function will detect automatically if the video cable is already inserted in the TV OUT jack. If the video cable is not inserted, then the screen image will revert to the display unit.

Date/Time Set up

Press UP button & DOWN button to select year/month/day or hour/minute/second. Press REC button to increase the value and the PHOTO button to decrease the value.

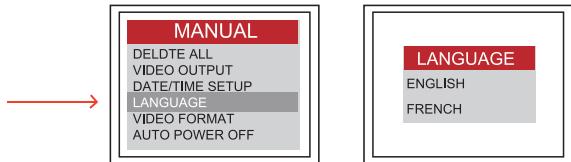
The date and time can be displayed in the preview image mode. Use either the PHOTO or REC button to toggle between display “ON” and “OFF”:



Confirm selection and exit menu by pressing OK.

Language

Navigate to LANGUAGE in the menu, press the OK button. Select the required language using the UP or DOWN buttons and confirm with the OK button.

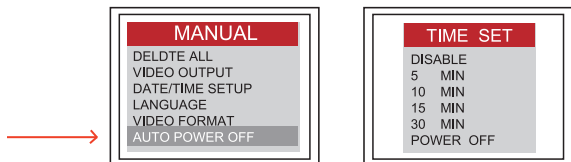


Video Format

Navigate to VIDEO FORMAT in the menu, press the OK button. Select the required video format (NTSC or PAL) using the UP or DOWN buttons. Confirm with the OK button.

Auto Power Off

Navigate to AUTO POWER OFF in the menu, press the OK button. Select the required auto power off time (5, 10, 15, 30 minutes or Disable) using the UP or DOWN buttons. Confirm with the OK button.



4. Snapshot and Recording Functions

Snapshot

In preview mode, press the PHOTO button to take a photo.

The photo is stored to the SD card in jpg format with a file name of running number. For example IMG00001.JPG

Recording

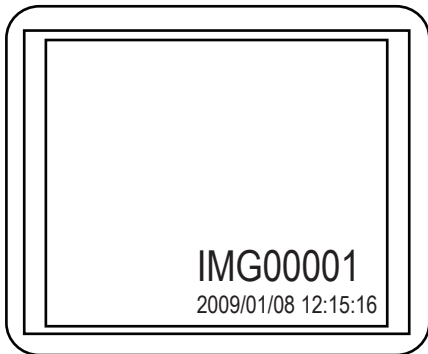
In preview mode, press the REC button to take a video. The REC icon is shown in the top right corner.

To stop recording, press the REC button again. The REC icon disappears. The display reverts to preview mode.

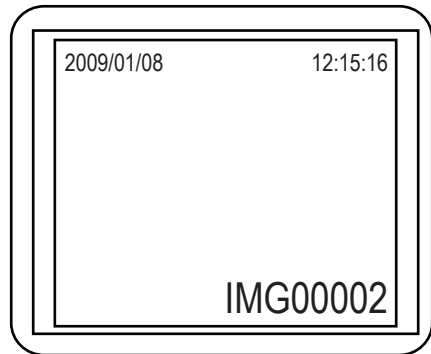
The video is automatically stored to the SD card in asf format with a file name of running number. For example IMG00002.ASF.

5. Surfing mode

In preview mode, press the UP or DOWN key, the last photo or video will be displayed. Press the UP or DOWN key to navigate to the photo or video to be viewed.



Display for saved photo



Display for saved photo

To play the video, press the PHOTO button. Press the PHOTO button again to pause.

To revert to preview mode, press the ESC button

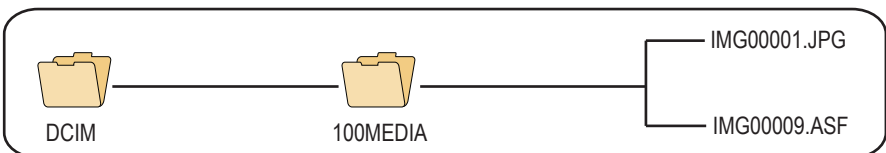
To delete a saved photo, press the OK button whilst it is displayed. To delete a saved video, make sure the video is not in play mode, press the OK button. A delete menu will show. Toggle between the Yes and No options using the UP and DOWN buttons. Press the OK button to confirm.

6. Transferring Photos and Videos to a PC

The computer must be running MS Windows™ 2000 or later.

Turn the 2-ways Roundabout Articulation Endoscope on. Connect the USB cable to the display unit and the computer.

Look for the drive with the SD card files, this should look similar to the following figure:



The files can then transferred and viewed on the PC. In general, on a PC running Ms Windows TM 2000 or later with Windows TM Media player, no special software is required to display JPG and ASF files.

7. Troubleshooting

No image on the display after turning the power on:

Battery is exhausted. Connect the scope unit to the power adapter supplied and recharge batteries. The 2-ways Roundabout Articulation Endoscope can be used when connected to ac power.

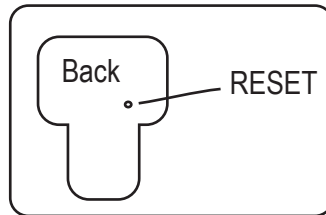
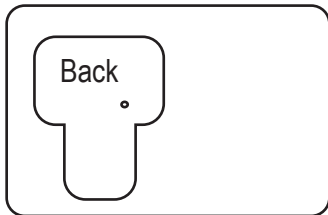
No image, only words on the LCD monitor after turning the power on:
Check that the insertion tube is correctly connected to the display unit.

Unable to take photos or record video:

SD card not present, wrongly inserted, full or faulty. Check SD card is present, check SD card insertion, check SD capacity, check if SD card is faulty (check if SD card works in other devices).

Shut down:

When all functions freeze or fail, insert an insulated needle into the hole on the back of the main unit. The system will restart automatically.



8. Technical data



3F, NO.34 Guanghua Rd.
SAN-CHUNG CITY, TAIPEI TAIWAN
TEL:886-2-29990096 REP.

THREE-IN-ONE ENT. CO., LTD.

FAX:886-2-29956882/2-29951329

<http://www.auto-parts.com.tw>

2-ways Roundabout Articulation Endoscope Specification :

Item No : MIGS-A6100

Description :

Main Unit : Monitor-type Image Guide Scope

Housing Color : Gray/ Language: English Only

Cable Part : OD:5.8mm/ Length: 100cm Semi Rigid Cable with bending neck , PVC Coating

Main Unit

Display Unit	
Power	DC5V
Display	3.5" TFT LCD Monitor 320 X 240 Pixels
Interface	Mini USB 1.1/ AV out
Battery (not user serviceable)	Rechargeable Li-Polymer Battery (3.7V)
Power adapter	100 - 240V AC in / 5.5V DC out.
Video Out Format	NTSC & PAL
Recording medium	SD card(1GB supplied / up to 2GB can be used)
Compression Format	MPEG4
Still Image Storage Format	JPEG (640 X 480)
Video Recording Format	ASF (320 X 240)
Working & Storage/Battery charging temperature range	-20 °C to 60 °C /0 to 40 °C
Functions	Snapshot, Video recording, Picture & video review on LCD screen, TV Out, transfer of picture & video from SD card to PC

Camera

5.5 mm diameter Video Probes

Pixel Count(Dynamic/Static)	320(H) X 240(V) (76800 Pixels)
Auto Exposure	ON
Auto White Balance	OFF
Video Format	Composite Video / NTSC
Interface	Stainless Steel
Field of View(FOV)	54°
Depth of Field(DOF)	1.5cm~5cm

Light Source

Number of lamps	4
Brightness Control	Manual

Lamp Type	LED
Lamp Output	1360 Lux at 20.6mm
Lamp Life	1000 hrs., median

Insertion Tube

Total Length	102cm
Cable Length	82cm
Articulation	300° ±20° manual tip articulation
Neck	330° manual rotatable neck
User Controls	Joystick and complete button function set

Operating Environment

Tip Operating Temperature	-20° to 60° C (-4° to 140° F)
Storage Temperature	-20° to 70° C (-4° to 158° F)
Relative Humidity	95% max
Waterproof	IP57(Insertion tube and tip)
Hazardous Environments	Not rated for use in hazardous environments

9. Spares & accessories

Designation	Description
MIGS-A6100	1 meter insertion tube
MIGS-A6200	2 meter insertion tube
MIGS-A6300	3 meter insertion tube
70 ° mirror adopter	
90 ° mirror adapter	
110 ° mirror adopter	
Magnet	
Guide ball	