

Quick Installation Guide

1/4" Network Day/Night-Colour Camera

Model: NTC-4101



Overview

Package contents

- 1/4-in network day/night colour camera with 22x zoom, IR swivel filter, 12VDC,480TVL
- 12-way control connecting cable with open ends
- CD with viewer software (NT-Manager), setup and client software
- Quick start guide, complete Installation and Operating Instructions on CD

Note: The installation hardware is not supplied.

Basis functions

- SONY CCD technology
- Suitable for industrial television (CCTV)
- Suitable for security monitoring

Features

- 1/4" super HAD colour/black-and-white CCD sensor
- Integrated 22x AF lens / 11x digital zoom
- Sensitivity: 0.45 Lux at F1.2 (colour)
- Digital noise reduction (DNR)
- High-speed and low-speed shutter control (MES/ESC/DSS)
- On-screen menu guidance / camera title display
- Wide dynamic range (WDR/EDR)
- Transmission rate: Up to 25 ips (720 x 576 pixel)
- Viewer for live / recording and setup
- Pre -alarm and post-alarm recording (in the client PC)
- Integrated web server: 10Base-T/100Base-TX
- Event image transfer via E-mail

Requirements for operation

This camera must be installed by qualified personnel in agreement with the regulations for electrical and mechanical systems that are valid at the place of installation.

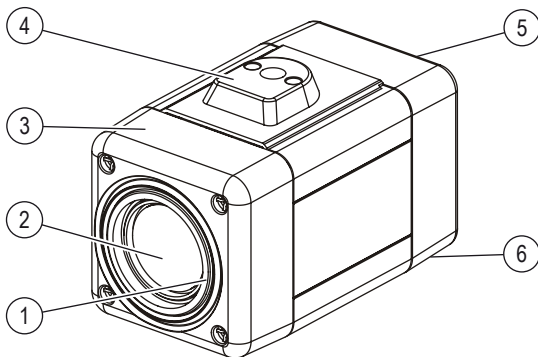
Note: Please refer to www.videor.com for further information.

Control options

- Analog camera menu
- Viewer software (NT-Manager)
- Web browser

Structure of the Camera

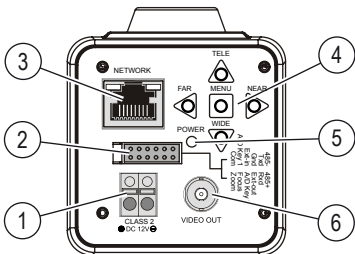
The following figure and the table describe the camera structure:



No.	Functions/connections
1	Iris
2	Lens
3	Housing
4	Mounting plate with UNC thread Note: Can be installed at the top and the bottom of the camera.
5	Connectors and controls
6	Rating plate and MAC address of the camera

Connectors and Controls

The following figure and the table describe the connectors and controls of the camera:



No.	Designation	Function	Connection of
1	CLASS 2 DC 12V	Power supply	Power supply unit 12 VDC, protection class 2, 6.0 W
2	12-way interface	External interface	<ul style="list-style-type: none"> Remote control External lens control External day/night control
3	NETWORK	Network connection	Network cable RJ-45
4		Function keys	-
5	POWER	Ready indicator	-
6	VIDEO OUT	Video output	<ul style="list-style-type: none"> Monitor Video recorder Network video server

Meaning of the function keys

Button	Camera function	Camera menu function
	Access to the camera menu	<ul style="list-style-type: none"> Access/exit submenu Confirm made selections Activate/deactivate settings
	Zoom ON	Next higher menu function
	Zoom OFF	Next lower menu function
	Close-up	Next value or mode
	Wide-angle	Previous value or mode

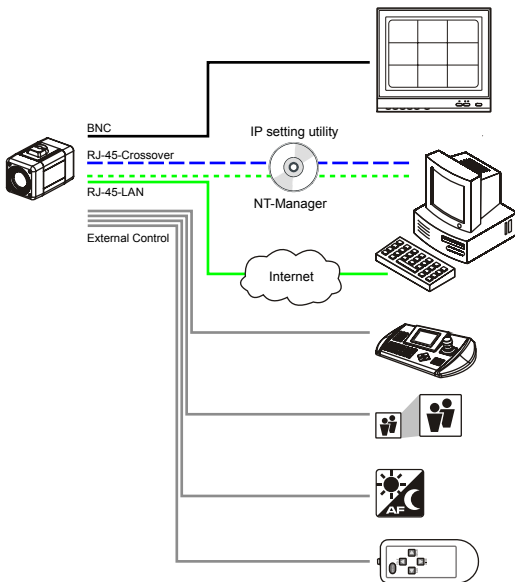
Getting Started

Checklist for first camera operation

Step	Action
1	Plan the network connection setup
2	Note down the MAC address of the camera
3	Make camera selections in the analog camera menu
4	Install the camera at the monitoring point
5	Connecting the camera
6	Install the network software
7	Log on the camera in the network
8	Operate the camera via the network

Network Connection Setup

The following figure shows an example of a network connection setup.



Installing the Camera

Installation at the monitoring point

This camera is suitable for ceiling installation or wall installation.
Suitable installation hardware see Accessories.

Danger from electric shock

DANGER! Danger from electric shock



The electric equipment of the camera bears the risk of a direct/indirect electric contact.

Only skilled electricians are allowed to work on the camera.

Danger from dropping objects

DANGER! Danger from dropping objects



Improper installation can cause cameras or camera holders to drop down.

- Ensure that the carrying capacity of the surface is adequate.
- Use only suitable installation hardware.
- Observe the Operating Instructions of the installation hardware.

Connecting the power supply

The power supply connection of this camera is suitable for a 12 VDC power supply.

Requirements:

- Use only certified/listed power supply units of protection class 2.
- The power supply unit must be able to supply 12 VDC and at least 500 mA (6 W).

Danger from electric shock

DANGER! Danger from electric shock



The electric equipment of the camera bears the risk of a direct/indirect electric contact.

Only skilled electricians are allowed to work on the camera.

Video connection

The video output of this camera supplies a video signal of 1.0 Vp-p / 75 ohms. The video signal is transferred via a twisted-pair (UTP)

Network connection

The network connection of this camera is suitable for transmitting signals and for controlling the camera via a network.

Requirements:

- Use a standard RJ-45 crossover LAN cable for setup (IP assignment).
- Use a standard RJ-45 LAN cable for video operation.

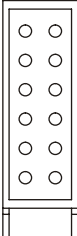
External camera control

In addition, the camera can externally be controlled via the 12-way control interface. This requires the control cable, which is included in the delivery, to be connected.

Pin assignments of the control interface on the camera

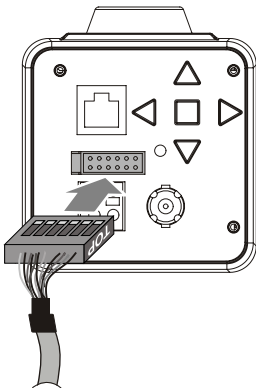
The 12-way control interface of the camera has the following connector pin assignments:

Meaning	Pin	Pin	Meaning
RS-485(-)	485-	485+	RS-485(+)
RS-232 TXD input	Txd	Rxd	RS-232 RXD input
Earth	Gnd	Ext-out	External out
External in	Ext-in	A/D Key 2	A/D KEY 2
A/D KEY 1	A/D Key 1	Focus	Infinite (-), close-up (+)
Common	Com	Zoom	Tele (-), wide angle (+)



Connecting the control cable

The following figure and the table describe the connection of the control cable:

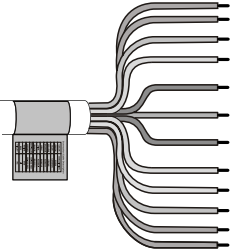


Step	Action
1	Insert the connector of the control cable into the control interface of the camera. Note: The connector imprint „TOP“ must point towards the „POWER“ indicator.
2	Connect the cable ends to the connections of the external control units; see <i>Wire colours and connector pin assignments of the control cable</i>

External camera control, continued


Wire Colours and Connector Pin Assignments of the Control Cable

The cable ends of the control cable have the following assignments:

Control cable	Wire colour	Assignment	Connection of
	Green	ZOOM	External lens control
	Blue	COMMON	External lens control
	Yellow	FOCUS	External lens control
	Purple	A/D KEY 1	Remote control
	Orange	A/D KEY 2	Remote control
	Pink	RS-485(-)	Keyboard
	Black	RS-485(+)	Keyboard
	Light blue	RS-232 TXD	Keyboard, TX
	Brown	RS-232 RXD	Keyboard, RX
	Red	EXT-OUT	External day/night control
	Grey	EXT-IN	External day/night control
	White	GND	External day/night control

External day/night control

External day/night control requires an external sensor to be connected:

Connection	Wire colour	Assignment	Function
	Red	EXT-OUT	Colour mode: 0 V output B/W mode: 5 V output
	Grey	EXT-IN	Day: Open Night: Closed
	White	GND	Earth

Note: To activate the sensor inputs, you must make the following selections in the camera menu:

<MAIN MENU> > EFFECT > B/W > EXT

External camera control, continued

External RS-232 connection

The following table describes the RS-232 connection of a keyboard:

Wire colour	Assignment	Function
Light blue	RS-232 TXD	Bidirectional interface, TX
Brown	RS-232 RXD	Bidirectional interface, RX

External RS-485 connection

The following table describes the RS-485 connection of a keyboard:

Wire colour	Assignment	Function
Pink	RS-485(-)	Unidirectional interface
		Inverted connection
Black	RS-485(+)	Unidirectional interface
		Non-inverted connection

External lens control

The following table describes the connection of an external lens control:

Wire colour	Assignment	Function	
Green	ZOOM	TELE (+)	External voltage DC +3 ... +12 V
		WIDE (-)	External voltage DC -12 ... -3 V
Blue	COMMON	GND	(Common connection)
Yellow	FOCUS	NEAR (+)	External voltage DC +3 ... +12 V
		FAR (-)	External voltage DC -12 ... -3 V

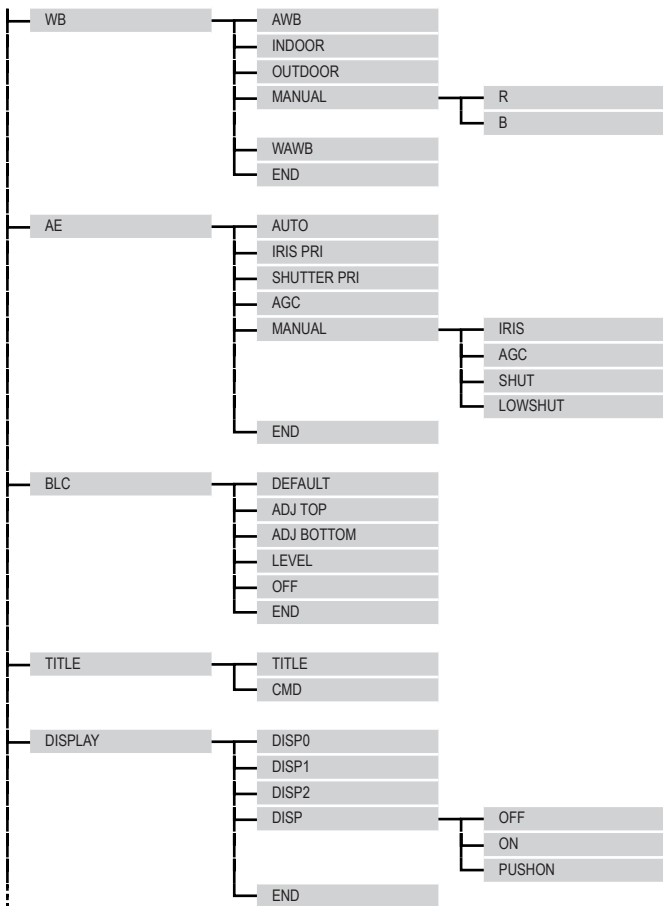
External A/D KEY Control

The following table describes the connection of a remote control:

Wire colour	Assignment	Function
Purple	A/D KEY 1	External control 1: Selected menu functions
Orange	A/D KEY 2	External control 2: Function keys of the camera

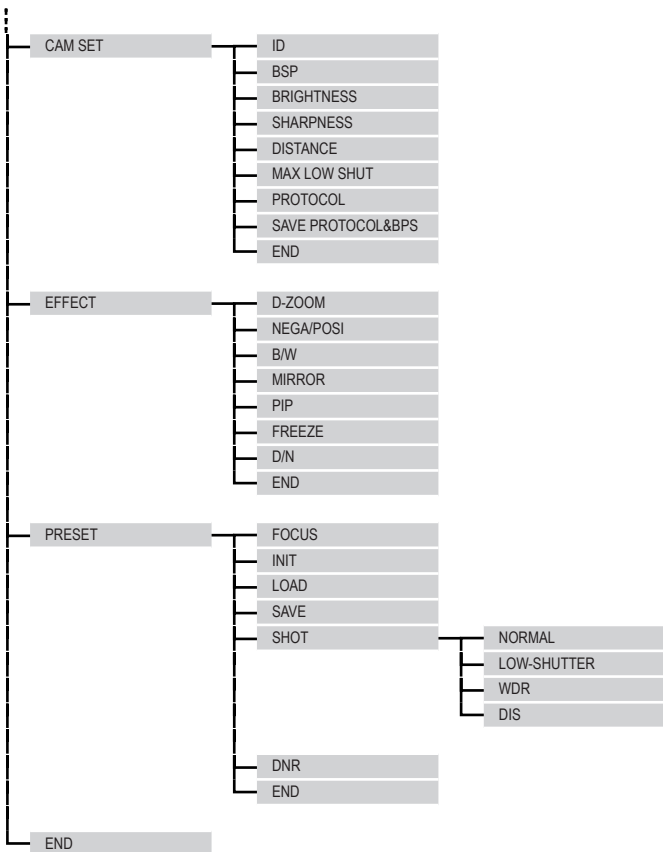
Camera Menu Overview

The following figure shows the structure of the menu tree, accessible via the menu navigation of the camera:



Camera Menu Overview, continued

The following figure shows the structure of the menu tree, accessible via the menu navigation of the camera:



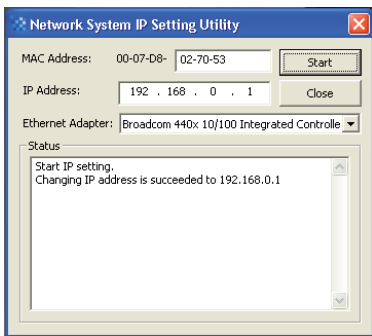
Setting up Network Connectivity

Allocating or changing the camera IP address

Requirements:

- PC with fixed IP address available.
- In WINDOWS XP, the firewall is disabled during IP allocation.
- CD with viewer software (NT-Manager), setup software and client software available.
- Camera and PC are connected via a standard RJ-45 crossover cable in a network-compatible way.
- MAC address of the camera is known.
- Free IP address for camera is known.
- Name of the employed Ethernet adapter is known.

Step	Action
1	Execute and/or save setup software and client software from the CD. Result: The „Network System IP Setting Utility“ window is opened.
2	Complete the MAC address of the camera.
3	Enter the IP address of the camera.
4	Select the Ethernet adapter of the PC.
5	Log on the camera in the network. Result: The IP address is allocated to the camera.



Camera control via network

Logging on the camera in the network via NT-Manager

Requirements:

- PC with fixed IP address available.
- CD with viewer software (NT-Manager), setup software and client software available.
- Camera and PC are connected via a standard RJ-45 LAN cable in a network-compatible way.
- IP address of the camera is known.

Step	Action
1	Install Viewer software from the CD.
2	Open the Viewer software. User name: admin and password: admin
3	Add new group.
4	Add the new camera to the group.
5	Enter the IP address of the camera.
6	Register the camera.
7	Select the camera from the camera list, and drag it to a channel on the screen (Drag&Drop).

Result: The camera image appears on the screen.

Connecting camera with web browser

Requirements:

- Camera and PC are connected via a standard RJ-45 LAN cable in a network-compatible way.
- Web browser (e.g. Internet Explorer) installed in the PC.
- Current version of ActiveX/HVC installed in the PC.
- IP address of the camera is known.

Step	Action
1	Open the web browser.
2	Enter the IP address of the camera into the address line of the web browser. Example: http://192.168.0.2
3	Enter user name (admin) and password (no entry).
4	Select login. Result: The camera is connected with the web browser.

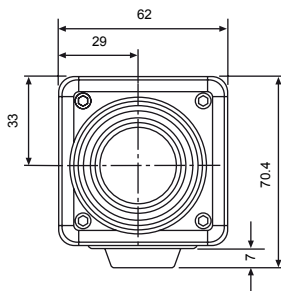
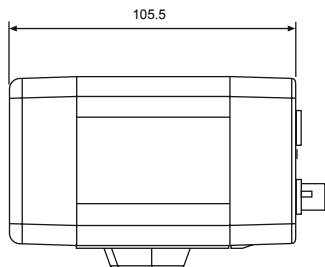
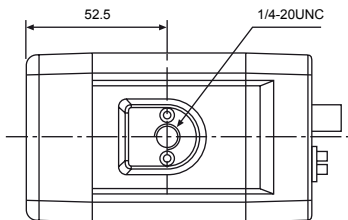
Specifications NTC-4101

Model	NTC-4101
EDP No.	93153
System	Day/night
Video standard	CCIR/PAL
Imager	1/4" Sony Super HAD Interline Transfer CCD, CCD
Synchronization	Internal
Signal-to-noise ratio	52 dB (AGC OFF)
Light sensitivity (at 50% video signal)	0.45 Lux, (colour); 0.24 Lux (BW). With 8 x low-speed shutter, colour: 0.05 Lux, BW: 0.03 Lux. Each related to F1.2
Horizontal resolution	480 TVL
Active picture elements	Approx. 440,000, 752 (H) x 582 (V)
Automatic gain control (AGC)	30 dB max., on/off switchable
Linear electronic shutter (ESC)	1/50 ~ 1/10,000 s, automatic (F22 and higher) and manual
Low Speed Shutter (DSS)	1/30 s ~ 1 s (adjustable: 2, 4, 8, 16, 32 and 60 fields)
Aperture correction (APC)	Horizontal and vertical
White balance	Automatic (AWB), separately adjustable for indoor and outdoor operation, or manual. Wide-range adjustment (WAWB)
Back light compensation	BLC, on/off switchable with adjustable field size
IR cut filter	Yes, with motor, automatic
Motion detector	Yes
Menu driven set-up	On/off switchable
Image setup	Colour, brightness and contrast (via network)
Menu settings	Day/night function, AGC, BLC, AWB, iris, MOD, BIB, freeze-frame, digital zoom, digital noise reduction (DNR) ON/OFF, mirror (hor.), wide dynamic range (WDR/EDR), and shutter mode
External adjustments	Zoom: Tele/wide angle, focus: Close/remote, menu: ON/OFF
External connections	Video (BNC), 12 VDC power input, 12-way remote control input
Video outputs	1Vp-p, (F)BAS, 75 ohms, BNC
Alarm handling	Via built-in motion detection, sensitivity and changeover setting, E-mail transmission
Internal buffer	Yes
System requirements	Windows 2000/XP, Intel Pentium IV 2 GHz or higher, 512 MB RAM or higher, hard disk min. 80 GB (depending on recording requirements)
Compression method	MPEG4, part 2 (ISO/IEC 14496-2), profiles SP and ASP
Image resolution max.	720 x 576 pixels
Resolution	Network: 720 x 576 (D1), 640 x 480, 320 x 240, 160 x 120 pixels
Image transfer rate max.	50 fields/s
Frame rate	Max. 25 ips at 720 x 576 pixels (PAL)
Playback	Via browser to PC or Viewer software

Specifications NTC-4101, continued

Model	NTC-4101
Ethernet port	10Base-T, 100Base-TX, RJ-45
Web browser	MS Internet Explorer min. vers. 6.0
Network protocols	TCP/IP, DHCP, HTTP, DNS, UDP, RTP, RTSP, SMTP
Lens type	Zoom
Lens	F1.6 ~ F32/3.9 ~ 85.8 mm
Focal length	3.9 - 85.8 mm
Digital zoom	11-fold
Horizontal angle of view	50-2.46°
Exposure modes	Automatic or manual operation: Iris, high and low speed shutter, MOD and AGC. automatic operation: Iris priority, shutter priority
Iris control	Auto iris, automatic/manual override
Minimum object distance (MOD)	Wide angle: 10 cm; Tele: Preselectable to 0,1 - 6,0 m
Filter mount	M37 x 0.7 mm
Pre-alarm recording	180 s max.
Post-alarm recording	180 s max.
Ports	RS-232, RS-485, control protocols: eneo Fastrax and Pelco D&P
Setup	Via web browser and internal web server
Software upgrade	Via network interface, incl. Viewer setup
Password protection	Yes
PTZ support	Yes
Camera mount	Pedestal with 1/4-in - 20 UNC thread
Operating voltage	12 VDC
Power-over-Ethernet	No
Power consumption	8 W max.
Temperature range (operation)	0 ... +45°C
Humidity range (operation)	0 ~ 96%, non condensing
Colour	RAL9016 (centre part), RAL7035 (front and rear)
Dimensions (HxWxD)	See dimensional drawings
Weight	335 g

Dimensions in mm



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