HYDAC INTERNATIONAL

Mobile Digital Camera

HVT 1000

Ethernet interface
ISO 17215

Features

- Top quality and reliability due to the use of automotive components (image sensor and image processor)
- Large selection of optics, suitable for different applications
- Possibility to integrate customer- and application-specific overlays into the image
- High level of robustness
- Customer-specific adaptations possible, i.e. for connector, mount, etc.

Description

HVT 1000 is a digital camera that has been specially developed for the field-of-view extension and process monitoring in mobile machines.

The camera features a compact, rugged housing and is suited for a wide range of applications thanks to the large variance of available fields of view.

The HVT 1000 is equipped with a 1.3 MP image sensor with HDR function (typical output format: 1280 x 960 pixels). Hence, even under demanding environmental conditions (e.g. twilight or backlight), the camera delivers a high-quality image.

Thanks to the Ethernet interface (100BASE-TX or 100BASE-T1), the camera can be easily integrated into modern machine architectures. The power supply can be provided by a 12 V or 24 V on-board system.

An extensive software library is available for configuration of the camera. The HVT 1000 is compatible with current mobile displays equipped with an Ethernet interface (Industrial Ethernet or BroadR-Reach).

Application fields

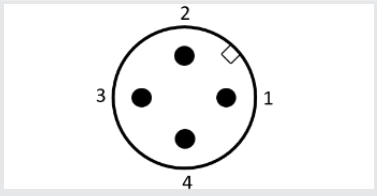
The HVT 1000 camera series is suitable for the below mentioned application fields:

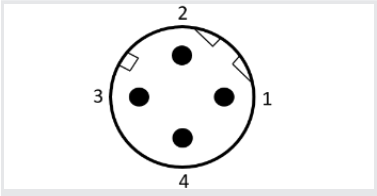
- Agricultural machines
- Construction machinery
- Municipal machines
- Special machinery
- Transport and logistics

Technical Data

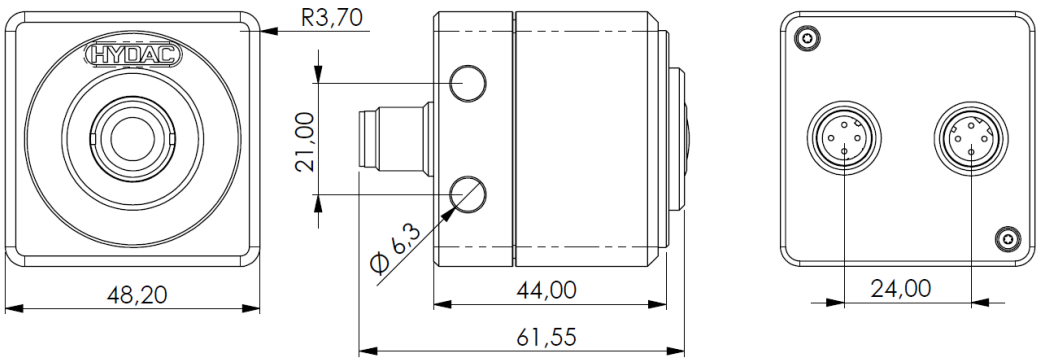
Field of view and image display	
Horizontal field of view	30°, 60°, 90°, 120°, 180°, (further digital adaptations possible)
Image sensor	Automotive CMOS colour sensor AEC-Q100 Grade 2 3.0 µm Back-Side-Illuminated Pixel Rolling-Shutter (RS) Integrated automotive qualified image processor
Resolution	Sensor with 1344 x 968 pixels. Resolution digitally configurable, e. g. 1280 x 960, 1280 x 800, 640 x 480, 640 x 400, etc.
Bandwidth	Bandwidth configurable between 10 – 80 Mbit/s
Dynamic range	HDR (depending on mode up to 120 dB)
Additional functions	Distortion correction (dewarping) inside the camera Mode for LED Flicker suppression Application and customer-specific overlay option Unicast-, Multicast-, Broadcast-Mode Switchable heating inside the camera
Interface	
Transmission standard	Choice between Industrial Ethernet (100BASE-TX) (Fast-Ethernet, 100Mb/s) or BroadR-Reach (100BASE-T1)
Protocol for video transmission	UDP / RTP / if required IEEE1722 (AVB)
Configuration standard	According to ISO 17215 (VCIC / SOME / IP) For example: - IP-Address - Streaming-Ports - Resolution / image rate
Image compression	Choice between MJPEG or h.264
Connection blocks	2 x M12, data and supply are separate from one another (further variants on request)
Environmental Conditions	
Operating temperature range	-40 .. +85 °C
CE mark	EN 61000-6-1 / -2 / -3 / -4
REACH, RoHS, others	provided
Vibration resistance acc. to ISO 16750-3	58.5 m/s^2 r.m.s.
Shock resistance acc. to DIN EN 60068-2-27	30 g / 18 ms
UV resistance according to ISO 4892-2, Method A	provided
Corrosion resistance acc. to IEC 60068-2-52	provided
Protection type acc. to DIN EN 60529	IP 67 und IP 6K9K
Other data	
Supply voltage	7 .. 32 V
Power consumption	During operation (typ.): < 1 W With active heating: ~ 5 W
Dimensions	Basic variant (incl. plug connector): 49 x 49 x 63 mm
Weight	~ 150 g

Pin connections

M12x1, 4 pole for supply	Pin	A coded
	1	+ UB
	2	n.c.
	3	GND -
	4	n.c.

M12x1, 4 pole for data transmission	Pin	D coded
	1	Tx +
	2	Rx +
	3	Tx -
	4	Rx -

Device dimensions



Model code

HVT 1 1 X A - F 5 X - 2 - 6 E 6 A - 000

Resolution
1 = 1.3 MP

Horizontal field of view
C = 30°
F = 60°
I = 90°
L = 120°
R = 180°

Technical characteristics of the lens
A = Standard

Interface
F5 = Ethernet-based

Ethernet Physical Layer
2 = Industrial Ethernet (100BASE-TX)
3 = BroadR-Reach (100BASE-T1)

Band width as exponent
2 = 10^2 = 100 Mbit/s

Connector for data transmission
6 = M12x1, 4 pole
D = D coded

Connector for power supply
6 = M12x1, 4 pole
A = A coded

Modification number
000 = Standard

Accessories:
Appropriate accessories, such as mounting brackets, can be found in the acessories brochure.

Note

The information in this brochure relates to the operating conditions and applications described.
For applications or operating conditions not described, please contact the relevant technical department.
Subject to technical modifications.

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