Test the Best!

Compact Fixed Dome Cameras

In cooperation with Seetec, GIT SECURITY tests current and new video cameras under standardised conditions in the test laboratory of the SeeTec Hardware Competence Centre. The Hardware Competence Centre was set up because the data and performance specifications of network cameras as stated by manufacturers are often measured under different conditions and are not always reliable in practice. The results provided a sound basis for planning IP video projects and help to avoid unpleasant surprises. For the testing procedure, video sequences are produced under defined lighting scenarios and are then evaluated. Here, movements in the picture as well as night and backlight situations are taken into consideration.

Performance

Performance assessment when used with 1,000 Lux
Overall, with good illumination the camera delivers an good, high-contrast image. The colours are depicted clearly and naturally with slightly reduced saturation. Details in the image are very sharp and there are hardly any smearing effects with moving objects. Image noise is also hardly perceivable.

Performance assessment when used with less than 1,000 Lux
With changing lighting conditions, the camera requires some time in order to compensate the contrast ratio. While the colour reproduction remains good, even with poor ambient illumination, the contrast range reduces and the image becomes somewhat darker. Although the overall sharpness of the sharpness of the image hardly changes, sharpness with movement reduces as the level of illumination falls and smearing effects are perceivable. It should also be noted that there is also a definite increase in image noise, which remains even after switch-over to b/w when the IR cut-off filter is swivelled away.

Performance assessment in backlight situations
With the sudden occurrence of backlight, the camera delivers a completely white image for several seconds before the image is compensated in several stages. After approx. 7 seconds it provides a stable b/w image in which background details are clearly visible. Image details are depicted comparatively sharply. Smearing effects are hardly perceivable with moving objects. The backlight source only blooms slightly.

Performance assessment in use: Bandwidth measurement
The camera's utilisation of bandwidth is quite linear with approx. 8 MBit/second. A definite deviation in the low-level lighting range below approx 2 Lux is perceivable, even in b/w mode. Here the network load briefly increases to up to 46.7 MBit/second.

Conclusion
The PSIA and OnVIF-compatible fixed camera with day/night switch-over delivers up to 7 images/second with a resolution of 5 megapixels. Especially with good ambient illumination, it impresses with a clear, sharp and high-contrast image. The camera supports dual-streaming and the definition of private areas in the camera image and is equipped with motion detection.

In Focus: UTC-TrueVision TVC-M5220-1-P

The range of TruVision IP and IP megapixel cameras includes cameras with VGA resolution up to 5 megapixels. All cameras support the latest H.264 compression technology. Due to the combination with Progressive Scan the TVC-M5220-1-P 5 megapixel camera provides flexible advanced technology and signal processing in order to provide effective video images even under difficult conditions. The dual-streaming function facilitates the management of bandwidth utilisation. Video streams can be set for high and low bandwidths and images can be separately streamed, e.g. for live display or at a particular recording location. The TruVision megapixel IP camera is ONVIF and PSIA-compatible and can therefore be easily integrated into existing IP systems.

CAMERA TEST

Technical data for the camera test

Manufacturer	UTC-TrueVision
Model	TVC-M5220-1-P
Firmware version	V3.0e 1.1.2
Distance to test chart	0.5 m
Lens used	Fujinon MP 2.8-8mm F1.3
* Focal length set	6 mm
*Compression method	H.264
*Resolution	2560x1920
*Compression	50%
I-Frame-interval	1 second
Max. stream bandwidth	unlimited
Measured frame rate	7 fps
Average bandwidth	11.6 Mbit/s

*The camera was integrated into the test system with the "default" settings. The settings were modified according to the test criteria listed above.

Assesment with differing illumination conditions

Criteria | Lux values	1000 Lux	100 Lux	10 Lux	0,5 Lux	0 Lux + *BL1
Colours	2	2	2	b/w	b/w
Contrast	2	2.5	2.5	3	2.5
Focus	1.5	1.5	2	2	2.5
Motion sharpness	2	2.5	2.5	3	2
Image noise	2	2	2.5	3.5	2
Recovery from backlight	–	–	–	–	4.5
Performance against backlight	–	–	–	–	2.5

Assessment was performed according to the rating system of 1 (very good) to 6 (unsatisfactory). By setting various parameters on the camera interface itself, it is possible to obtain an improved image quality. *BL= Backlight