In Focus: Basler BIP-D1300

In May this year, Basler extended its range with new IP fixed dome camera models. The models BIP-D1000c-dn with a resolution of 1024 x 769 pixels, and the BIP-D1300c-dn with a resolution of 1280 x 960 pixels are now available. Because of their impact-resistant aluminium casing and possible operating temperatures from -35° C to +50 °C these cameras are suitable for video surveillance outdoors and for inside use under extreme conditions. The dome cameras provide the same functionalities as the corresponding camera modes without a dome housing: Day/night functionality for night use and applications in difficult lighting conditions. The Sony CCD sensors should ensure excellent image quality in all lighting situations. Basler IP fixed dome cameras are equipped with a microSDHC slot to store data locally and can be run with Power over Ethernet (IEEE 802.3af Class 0). The manufacturer specifies multi-streaming with several independent MJPEG streams or several MJPEG streams and an additional H.264 or MPEG-4 stream.

Test the Best!

GIT SECURITY Camera Test in Cooperation with SeeTec

TEST

In cooperation with Seetec, GIT SECURITY tests current and new video cameras under standardised conditions in the test laboratory of the SeeTec Hardware Competence Center. The Hardware Competence Center 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
In the test, the image from the camera was balances, with clear and largely correct colours. The saturation and contrast were also good. Moving and stationary objects were depicted sharply in the test image.

Performance assessment when used with less than 1,000 Lux
Even in poor lighting conditions, the camera produced a good image with clean reproduction of colours. In the test sequence, rapid compensation characteristics on changes in the lighting level were already noticeable. Below 20 Lux, a spearing effect was observed with moving objects, which increased as the illumination level reduced. At 0.5 Lux, the automatic day/night switchover changed to b/w mode.

Performance assessment in backlight situations
In the test, the camera reacted well to glare situations and compensated quickly (< 2 seconds). Even with strong backlight, details in the background of the image were still recognisable. However, due to the CCD sensor used, a smearing effect was observed and a blooming of the light source bay two to three times was observed.

Performance assessment in use: Bandwidth measurement
The measurement was made with MJPEG at maximum resolution and 11 images per second, as at full resolution, H.264 only provides 7 images per second. The bandwidth used was an average of 7.24 MBit/sec and with reducing illumination fell to approx. 4.7 MBit/sec at 0 Lux. With backlight, a maximum of 9,39 MBit/sec was achieved.

*Average value.

Technical data for the camera test

Manufacturer	Basler
Model	BIP-D1300
Firmware version	2.0
Distance from test chart	0.60 m
Lens used	2.8 - 6mm, F1.3, DC
*Focal length set	approx. 6 mm
*Compression method	MJPEG
*Resolution	1280 x 960
*Compression	50 %
Max. stream bandwidth	Unlimited
Measured frame rate	11 fps
Average bandwidth	7.24 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.

Assessment for various lighting conditions

Criteria | Lux values	1,000 Lux	100 Lux	10 Lux	0.5 Lux	0 Lux + *BL1
Colours	2.5	2.5	2.5	s/w	s/w
Contrast	2	2	2.5	3.5	s/w
Sharpness	2	2	2	3	2.5
Motion blur	2	2	2.5	3	2.5
Image noise	2	2	2	4	2
Compensation time with backlight	–	–	–	–	3
Behaviour with backlight	–	–	–	–	4

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.

Conclusion

In the test, the vandal-proof dome camera with outdoor capability and day/night switchover delivered a good image even under poor lighting conditions. It especially shows its strengths in backlight situations. It is therefore particularly suitable use for access areas or in a logistics environment. The camera receives its power supply via PoE. It supports MJPEG, MPEG4 and H.264 and is equipped with an internal SDHC slot.