

# DLS 1600

SMAVIA Appliance for up to 16 Analogue Channels, 2x 3.5" HDD, 3HU



**Server Hardware    Stand-alone    Up to 16 Channels    SmartFinder Integrated**

The **DLS 1600** is an appliance with up to 16 analogue channels. In conjunction with the dedicated software **SMAVIA Recording Server**, it is the ideal security solution, e.g., for retail stores, gas stations or company premises with an analogue video network.

The optional license **Freely Configurable Recording for All Channels** allows for the hybrid use (analogue cameras and IP cameras) of all channels. In combination with the optional license **BANK Package**, up to 4 channels can be used for recording Dallmeier IP cameras. The remaining channels can be used for recording analogue cameras.

The **DLS 1600** is a stand-alone device and can be installed in a 19" rack using the optionally available 19" bracket.

## Features Hardware

- Server hardware for up to 16 analogue channels
- Flash memory for operating system
- Suitable for operation with SD-IP and HD-IP cameras (optional)
- Supports **one local playback** of one analogue camera
- Supports **local live display** of analogue cameras in multi-split mode
- Supports **playback and live display** of analogue cameras and IP cameras with **SMAVIA Viewing Client** or **SeMSy®** via Ethernet
- Easy-Change functionality for hard disk drives
- DIN EN 50130-4 compliant

## Features SMAVIA Recording Server

- Licenses for **4 channels** integrated, expandable to up to 16 channels
- **Basic license** for the access of a **SMAVIA Viewing Client** included
- **Free conversion** of the **basic license** to a **floating license** on acquisition of additional access licenses
- License for **updating the SMAVIA software** for 12 months included
- Frame rate up to 12.5fps at 4CIF (up to 25fps optional)
- License for **SEDOR® Camera Sabotage Protection** optional
- License for the connection to **SNMP systems** included
- License for the **hybrid use** with IP cameras optional<sup>1)</sup>
- **BANK Package** in compliance with **DGUV Test** (UVV-Kassen) optional<sup>2)</sup>
- **PRemote-HD** in real-time optional
- Connection to **Active Directory** via LDAP

Hardware	
003792	<b>DLS 1600</b> SMAVIA appliance for up to 16 analogue channels, incl. SMAVIA Recording Server (preinstalled) with licenses for 4 channels, without HDDs

1) In combination with the **BANK Package** license (license 004421), up to 4 channels can be used for recording Dallmeier IP cameras. The remaining channels can be used for recording analogue cameras.  
 2) In combination with the **Freely Configurable Recording for All Channels** license (license 003807), up to 4 channels can be used for recording Dallmeier IP cameras. The remaining channels can be used for recording analogue cameras.

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## Included SMAVIA Recording Server Licenses

### DLC - 4 Recording Channel

License for the use of 4 channels for recording with SMAVIA Recording Server

### DLC - 1 Basic Client Access

License for the access of a SMAVIA Viewing Client to a SMAVIA Recording Server (basic license)

### DLC - Software Maintenance 12 Months

License for the update of the SMAVIA software for 12 months

### DLC - SNMP

License for the integration into a central SNMP device management system

### DLC - DCCP

License for the connection and control of Dallmeier PTZ dome cameras via the serial interface

## Optional SMAVIA Recording Server Licenses (Access)

**003782** **DLC - 1 Additional Client Access**  
License for the simultaneous access of a further SMAVIA Viewing Client on SMAVIA Recording Server (floating license)

**004068** **DLC - 5 Additional Client Access**  
License for the simultaneous access of five further SMAVIA Viewing Clients on SMAVIA Recording Server (floating license)

**004069** **DLC - 10+ Additional Client Access (Unlimited)**  
License for the simultaneous access of an unlimited number of SMAVIA Viewing Clients on SMAVIA Recording Server, depending on system load and bandwidth (floating license)

## Optional SMAVIA Recording Server Licenses (Channels)

**003783** **DLC - 1 Additional Recording Channel**  
License for the use of 1 additional channel for recording with SMAVIA Recording Server

**003784** **DLC - 2 Additional Recording Channel**

**003785** **DLC - 4 Additional Recording Channel**

**003786** **DLC - 8 Additional Recording Channel**

**004079** **DLC - 12 Additional Recording Channel**

**003806** **DLC - Audio Recording for All Analogue Channels**  
License for the use of audio recording for all analogue channels

**003807** **DLC - Freely Configurable Recording for All Channels<sup>3)</sup>**  
License for the hybrid use (analogue cameras and IP cameras) of all channels with up to 25 fps. Dallmeier IP cameras can be recorded constantly and with Motion Detection. Third party IP cameras can be recorded constantly (no Motion Detection, no ONVIF) via RTSP

**003808** **DLC - Performance Enhancement HSR<sup>4)</sup>**  
License for the recording with 25 fps at 4CIF for all analogue channels

## Optional SMAVIA Recording Server Licenses (General)

**003800** **DLC - RAID 1<sup>5)</sup>**  
License for the recording with RAID 1, 2x HDDs of the same capacity required (ex factory only)

**003801** **DLC - PRemote-HD**  
License for the transmission of SD and HD video with low bandwidth, including a dedicated access license<sup>6)</sup> and the function for bidirectional audio transmission (intercom) via LAN/WAN

**003803** **DLC - ViProxy**  
License for the connection of a physically separate network for IP cameras, including authorisation management. In conjunction with SeMSy<sup>®</sup> III multicast streaming can be used as well.

**003810** **DLC - SEDOR<sup>®</sup> Camera Sabotage Protection**  
License for the detection and reporting of covering, defocusing and twisting of cameras

**003910** **DLC - SATA OUT Interface**  
License for the use of the SATA interface in connection with a DAS-4 Eco storage expansion (ex factory only, hardware 003911 required)

**004421** **DLC - BANK Package<sup>7)</sup>**  
License for the use of the DGUV Test-compliant recording module, ATM activity monitoring and reference image transmission via e-mail included

3) In combination with the **BANK Package** license (license 004421), up to 4 channels can be used for recording Dallmeier IP cameras. The remaining channels can be used for recording analogue cameras. Please note tables "Recording" and "Functions" on page 5.  
 4) LocalPlayback, PRemote-HD and iPhone are no longer supported when using more than 15 analogue channels with 25 fps. 16 analogue channels with 25 fps are in preparation.  
 5) When using the RAID configuration, a connection to a UPS is necessary.  
 6) The first PRemote client (master) is assigned active control over the PRemote stream; further PRemote clients (slaves) receive the stream passively.  
 7) In combination with **Freely Configurable Recording for All Channels** license (license 004421), up to 4 channels can be used for recording Dallmeier IP cameras. The remaining channels can be used for recording analogue cameras. Please note tables "Recording" and "Functions" on page 5.

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Options Hardware	
000077	<b>HDD 1000 GB, SATA, 3.5"<sup>8)</sup></b>
000084	<b>HDD 2000 GB, SATA, 3.5"<sup>8)</sup></b>
004551	<b>HDD 4000 GB, SATA, 3.5" (Western Digital)<sup>8)</sup></b>
000178	<b>Mounting of a HDD</b> Mounting of a HDD, incl. function, long-term-, and final test, acceptance and approval
003814	<b>RS485-Kit Full Duplex</b> Serial interface RS485 for the connection and control of analogue Dallmeier PTZ cameras, incl. DCCP license (ex factory only)
004429	<b>DVD-RW Drive SATA (Teac)<sup>9)</sup></b> Writer DVD-RW, SATA, slimline, tray load (ex factory)
003877	<b>DVD-RW Drive SATA (Teac) Retrofit Kit<sup>9)</sup></b> Writer DVD-RW, SATA, slimline, tray load (retrofit kit)
003911	<b>SATA OUT for DLS 1600<sup>9)</sup></b> SATA interface for the connection of a DAS-4 Eco storage expansion (ex factory only, license 003910 required)
000231	<b>DAS-4 Eco</b> External storage expansion, up to 4 HDDs, incl. ODU cable, without HDDs
Maintenance and Warranty	
003793	<b>DCP - Software Maintenance 12 Months</b> License for the update of the SMAVIA software for further 12 months
003794	<b>DCP - 36 Months „Bring-in“ Warranty</b> Extension of the „Bring-in“ warranty period (without HDDs) to 36 months in total
003795	<b>DCP - 48 Months „Bring-in“ Warranty</b> Extension of the „Bring-in“ warranty period (without HDDs) to 48 months in total
003796	<b>DCP - 60 Months „Bring-in“ Warranty</b> Extension of the „Bring-in“ warranty period (without HDDs) to 60 months in total
003797	<b>DCP - 36 Months „Bring-in“ Warranty and Software Maintenance</b> Extension of the „Bring-in“ warranty period (without HDDs) to 36 months in total, incl. license for the update of the SMAVIA software
003798	<b>DCP - 48 Months „Bring-in“ Warranty and Software Maintenance</b> Extension of the „Bring-in“ warranty period (without HDDs) to 48 months in total, incl. license for the update of the SMAVIA software
003799	<b>DCP - 60 Months „Bring-in“ Warranty and Software Maintenance</b> Extension of the „Bring-in“ warranty period (without HDDs) to 60 months in total, incl. license for the update of the SMAVIA software

8) Daily prices for hard disks can be found in the Dallmeier Partner Forum.

9) DVD-RW drive and SATA-OUT Kit / DAS-4 Eco can not be used in combination.

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## Specifications Hardware

### Components

Flash module	2 GB (for operating system only)
Hard disk drives	Max. 2× 3.5" HDD (optional)
Max. storage capacity	Currently up to 8 TB (without RAID) Currently up to 24 TB with DAS-4 Eco (without RAID)
Fan	3× with automatic speed adaptation
Power supply module	Integrated

### Interfaces

Video IN	16× CVBS/BNC, 75 Ohm, with loop-through
Video OUT	2× CVBS/BNC
	1× Mini-D-Sub (1280 × 1024)
Audio IN (cameras)	16× Cinch (via D-SUB/Cinch adapter)
AUX/Line IN	1× 3.5 mm phone jack
Microphone	1× 3.5 mm phone jack (for intercom, license 003801 required)
Audio OUT	1× 3.5 mm phone jack (for intercom, license 003801 required)
USB	3× USB 2.0
Ethernet 1	RJ45, 10/100/1000 Mbps
Ethernet 2	RJ45, 10/100/1000 Mbps (optional)
Ethernet protocols	IPv4, TCP, UDP, ARP, ICMP, DHCP, NTP, HTTP
Contact IN camera	16×, with 4 functions each (for analogue cameras and IP cameras)
Contact IN global	6×, with 4 functions each
Relay OUT	5×, as NC or NO
SATA	1× SATA OUT (optional, for DAS-4 Eco, not in connection with DVD-RW)
12V DC OUT	1× ODU socket
Serial	2× RS232 1× RS485 (optional)
PS/2	–

### Electrical Data

Voltage supply	115/230 V AC ±10%, 50/60 Hz
Power consumption	Max. 80 W
Thermal output	Max. 273 BTU/h

### Mechanical Data

Dimensions (W × H × D)	Approx. 425 × 130 × 446 mm (16.6" × 5.1" × 17.5") with feet Approx. 425 × 122 × 446 mm (16.6" × 4.8" × 17.5") without feet
Weight	Approx. 12 kg (26 lb) with 2 HDDs

### Ambient Data

Temperature	+ 5°C up to +40°C (41°F – 104°F)
Recommended temperature	+20°C up to +25°C (68°F – 77°F)
Humidity	5 – 70% RH, non-condensing
Atmospheric load	Dust-free

### Approvals and Certifications

CE, UL<sup>10)</sup>, FCC, ACA, LGC Forensics, DGUV Test, DIN EN 50130-4

10) Scheduled approval / certification

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## Specifications Software

### Software

Operating system	Linux (proprietary, hardened)
Application	SMAVIA Recording Server
Application language	English, German, French, Spanish, Italian (others on request)
External management software	SMAVIA Viewing Client, SeMSy® III DMVC iPhone App (optional, license for PRemote-HD 003801 required)
External configuration software	PService, NetConfig3

### Performance in Connection with DLS 1600

Channels	Licenses for 4 channels included, expandable to up to 16 channels	
Supported cameras	Analogue cameras Dallmeier IP cameras via TCP/DaVid (Dallmeier Video Protocol) <sup>11)</sup> Third-party IP cameras with RTSP streaming over UDP/RTP <sup>12)</sup>	
Track mode	Automatic	
Video/Audio compression	H.264 / G.722.1	
Resolutions analogue	QCIF (176 × 144), CIF (352 × 288), DCIF (528 × 384), 2CIF (704 × 288), 4CIF (704 × 576)	
Resolutions SD IP	QCIF (176 × 144), CIF (352 × 288), Half D1 (352 × 576), 2CIF (704 × 288), 4CIF (704 × 576), D1 (720 × 576)	
Resolutions HD IP	720p (1280 × 720), SXGA (1280 × 960), 2MP (1600 × 1200) 1080i (1920 × 1080), 1080p (1920 × 1080)	
Resolutions megapixel	3MP (2048 × 1536), 4MP (2336 × 1744), 5MP (2592 × 1944), up to 8MP	
Frame rate per analogue channel	<b>DLS 1600</b> 25fps at QCIF/CIF 12.5fps at 2CIF/DCIF 12.5fps at 4CIF	<b>DLS 1600 with Performance Enhancement HSR</b> 25fps at QCIF/CIF 25fps at 2CIF/DCIF 25fps at 4CIF
Frame rate per SD IP channel	--	<b>DLS 1600 with Freely Configurable Recording for All Channels</b> 25fps for all resolutions
Frame rate per HD IP channel	--	25fps for all resolutions
Frame rate per RTSP IP channel	--	Up to 25fps for all resolutions, depending on camera
Max. total bit rate	Up to 64Mbps (up to 48Mbps with RAID)	
Bit rate per analogue channel	Up to 2Mbps	
Bit rate per SD IP channel	Up to 4Mbps	
Bit rate per HD IP channel	Up to 6Mbps	
Bit rate per RTSP IP channel	Up to 6Mbps	

### Features

UTC control	Integrated (for analogue cameras by Dallmeier)
Privacy Zones	Integrated (for analogue cameras, directly in Dallmeier IP cameras)
iPhone Server	Integrated (PRemote-HD license 003801 required)

	Analogue Camera	Third-Party IP Camera	Dallmeier IP Camera
<b>Recording</b> <sup>13)</sup>			
Transport protocol	CVBS	RTP over UDP	TCP
Communications protocol	--	RTSP	DaVid
Recording control with timer	integrated	integrated	integrated
Recording mode Constant	integrated	integrated	integrated
Recording mode Contact	integrated	--	integrated
Recording mode Motion	integrated	--	integrated
Recording mode Motion/Contact	integrated	--	integrated
Switching recording mode by timer	integrated	--	integrated
<b>Functions</b> <sup>13)</sup>			
Motion detection	integrated	--	integrated
SmartFinder	integrated	--	integrated
Appliance as video proxy	integrated	integrated	integrated
Appliance as multicast streamer	integrated	integrated	integrated
PRemote-HD	integrated	integrated	integrated
iPhone Server	integrated	integrated	integrated
PTZ control local	integrated	in preparation	integrated
PTZ control with SMAVIA Viewing Client	integrated	in preparation	integrated
Camera configuration	integrated	--	integrated
Locking the camera configuration	integrated	--	integrated
Audio recording	integrated	--	integrated

11) Optional license **Freely Configurable Recording for All Channels** (003807) required.

12) Optional license **Freely Configurable Recording for All Channels** (003807) required. Not in combination with **BANK Package** (004421). Please note the white paper **SMAVIA & 3rd Party IP Cameras**.

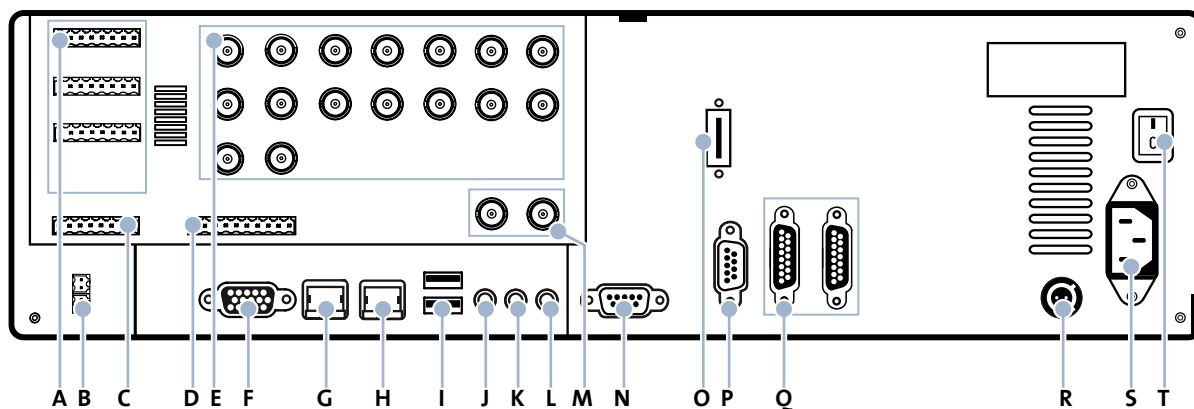
13) Data refer to a fully equipped appliance. Optional licenses are required.

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## Connections

The number of the connections can differ depending on the ordered equipment or device variant. The following description refers to a device with full equipment and optional connectors.



- |   |  |
|---|--|
| <p><b>A Contact IN Cameras (1–6/7–12/13–16)</b><br/>3× Weidmüller, 8 pins</p> <p><b>B Serial Interface COM 1</b><br/>2× Weidmüller, 2 pins, 1× RS485 Full Duplex (optional)</p> <p><b>C Contact IN Global (1–6)</b><br/>Weidmüller, 8 pins</p> <p><b>D Relais OUT (1–5)</b><br/>Weidmüller, 10 pins</p> <p><b>E Video IN (1–16)</b><br/>BNC, 75 Ohm, 1V<sub>pp</sub>, with loop-through, CVBS</p> <p><b>F Video OUT</b><br/>Mini-D-SUB, 15-pole, 1280 × 1024 (video and configuration)</p> <p><b>G Ethernet Interface 1</b><br/>RJ45, 10/100/1000 Mbps</p> <p><b>H Ethernet Interface 2</b><br/>RJ45, 10/100/1000 Mbps (optional)</p> <p><b>I USB Interface</b><br/>2× USB 2.0, type A</p> <p><b>J AUX / Line IN</b><br/>3.5 mm phone jack, blue, 16 kOhm, 2.828 V<sub>pp</sub></p> | <p><b>K Audio OUT</b><br/>3.5 mm phone jack, green, 1 kOhm, 2.828 V<sub>pp</sub></p> <p><b>L Microphone IN</b><br/>3.5 mm phone jack, red, 4.3 kOhm, 2.828 V<sub>pp</sub></p> <p><b>M Video OUT (1–2)</b><br/>BNC, 75 Ohm, 1V<sub>pp</sub>, CVBS (video only, no configuration)</p> <p><b>N Serial Interface COM 2</b><br/>D-SUB, 9 Pins, 1× RS232</p> <p><b>O SATA Interface</b><br/>SATA OUT (optional, for DAS-4 Eco, not in connection with DVD-RW)</p> <p><b>P Serial Interface COM 3</b><br/>D-SUB, 9 Pins, 1× RS232</p> <p><b>Q Audio IN (1–8/9–16)</b><br/>D-SUB, 15-pole, 1 kOhm, 2.828 V<sub>pp</sub> (for D-SUB/Cinch adapter cable)</p> <p><b>R 12V DC OUT</b><br/>ODU socket, 2-pole, 12V DC (for DAS-4 Eco)</p> <p><b>S Mains Connection</b><br/>IEC C14 socket, 115/230V AC ±10%, 50/60 Hz</p> <p><b>T Mains Switch</b></p> |
|---|--|

## Dimensions

