

SeMSy® Recording Server for the recording of up to 24 video streams,
MK3 revision, 2RU stand-alone, 2x 3.5" HDD



The DMS 2400 (MK3) appliance combines the recording software SeMSy® Recording Server with reliable and compact server hardware. Well-matched components ensure high storage speed and allow recording of up to 24 high-resolution video streams at a frame rate of 30 fps. This makes the appliance ideally suited for video security systems in stores, gas stations or private homes that require the highest recording quality in a small footprint.

Storage System

The DMS 2400 (MK3) has two lockable bays for 3.5" hard disk drives on the rear side, which are used for recording the video streams and storing the EdgeAnalytics data. The compartmentalized Linux operating system and the SeMSy® Recording Server application are installed on a separate flash module. Equipped with two of the optionally offered 20TB server hard disks, a storage capacity of 40TB is available.

SeMSy® Compact

SeMSy® Compact allows independent and convenient evaluation of the recordings over the network. The software can be installed on workstations with Windows operating system and adjusted individually. Two licenses for access with clients are already included in the scope of delivery of the appliance.

DMVC Server

The optional DMVC Server function provides access with the mobile Dallmeier Mobile Video Center app, available for iOS or Android operating systems. The display of live images and playback of recordings follow a special procedure which is independent of the recording settings of the appliance.

PRemote-HD

The optional PRemote-HD function transcodes high-definition video streams (live and playback) for transmission in low-bandwidth networks. This allows the resource-conserving access with SeMSy® Compact or a SeMSy® Workstation which is independent of the recording settings. This license also includes the DMVC Server function for access with the mobile application Dallmeier Mobile Video Center.

EdgeAnalytics Database

The appliance is equipped with a database for the analysis results of Dallmeier network cameras and Panomera® systems with EdgeAnalytics technology. The received events, objects and classes are stored with the relevant metadata almost in real time. For targeted search and evaluation, SeMSy® Compact is available with the Smart-Finder function.

SmartBackfill

Dallmeier network cameras are equipped with RAM memory that is used by the EdgeStorage function to store the video stream in case of a network failure (e.g. Spanning Tree, Bursts). When the network is restored, the SmartBackfill feature ensures fast transfer to the Dallmeier recording system. This stores the video stream at high speed and then seamlessly continues recording the live stream.

Open Platform

The pre-installed SeMSy® Recording Server software is designed as an open platform. Together with the according licenses, third-party network cameras can be recorded with motion detection and configured over the ONVIF protocol.




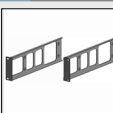
Features Hardware

- Compact server hardware
- Flash module for operating system and application
- Two lockable 3.5" HDD bays on the rear side
- Efficient system with low power consumption

Features SMAVIA Recording Server

- Recording of up to 24 high-resolution video streams
- Licenses for the recording of 8 video streams included
- Licenses for access with two SeMSy® Compact clients included
- Licenses for the update of the software for 12 months included
- Recording of 3rd party network cameras optional
- ONVIF Profile S and Profile T supported
- Evaluation with DMVC App over WAN/LAN optional
- Evaluation with SMAVIA or SeMSy® over WAN/LAN
- GDPR-compliant functions for data protection and data security

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Appliance		
	008465	DMS 2400 SeMSy® Recording Server for the recording of up to 24 video streams, licenses for the recording of 8 video streams included, licenses for the access with 2 SeMSy® Compact Clients included, without hard disk drives
Hard Disk Drive		
	000178	Mounting of a HDD Mounting of a HDD, including functional, long-term and final test, acceptance and approval
	007521	HDD 2000 GB, SATA, 3.5"
	007305	HDD 4000 GB, SATA, 3.5"
	008445	HDD 6000 GB, SATA, 3.5"
	007914	HDD 8000 GB, SATA, 3.5"
	007988	HDD 10000 GB, SATA, 3.5"
	008204	HDD 12000 GB, SATA, 3.5"
	007800	HDD 14000 GB, SATA, 3.5"
	007801	HDD 16000 GB, SATA, 3.5"
	008055	HDD 18000 GB, SATA, 3.5"
	008055	HDD 20000 GB, SATA, 3.5"
Network Contacts		
	005142	DLC - Ethernet I/O Interface License for the use of the software interface for the connection of the Ethernet I/O interfaces MOXA ioLogik E1210 (16 contacts), E1212 (8 contacts, 8 DI/Os) or E1214 (6 contacts, 6 relays)
	001739	Remote Ethernet I/O Interface Ethernet I/O Interface, 2× Ethernet, 6× contacts, 6× relays (MOXA ioLogik E1214)
DNI Interface		
	007522	USB to Serial Adapter Programmed and certified adapter cable for the connection of a Dallmeier DNI interface to a VideoNetBox III or to a DMS 2400, USB 2.0 type A, RS232 D-Sub 9 pins, length 1 m
Bracket		
	000005	Bracket 19 Inch Rack (2 RU) Bracket for mounting the device in a 19" rack

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Included Licenses	
DLC - 8 Recording Channels	License for the recording of eight high-definition video streams
DLC - 2 Client Access	License for simultaneous access of two SeMSy® Compact Clients with basic functions to SeMSy® Recording Server (floating license)
DLC - SEDOR® Camera Sabotage Protection	License for detection and reporting of covering, defocusing and twisting of cameras
DLC - SmartBackfill	License for the storage of video streams that have been buffered by Dallmeier network cameras with EdgeStorage (not available in combination with DLC - Bank Package and for cameras with recording mode Contact)
DLC - SNMP	License for the integration into a central SNMP device management system
DLC - SeMSy® III and 5 Flat	License for integration into a SeMSy® III or HEMISPHERE® SeMSy® 5 Video Management System
DLC - Multicast Streaming	License for the transmission of video streams via multicast in a SeMSy® Video Management System
DLC - Multicast Recording	License for the recording of video streams of Dallmeier network cameras using multicast transmission
DLC - Real-Time Recording	License for real-time recording for all video streams (depending on the camera)
DLC - LocalViewing	License for the use of the integrated video player for the local playback of one camera and the local live display of several cameras in a multi-split
DLC - Data Protection and Data Security	Basic license for use of the integrated data protection and data security module (GDPR-compliant)
Included Support and License Interval	
DMS 2400 Support and License Interval Basic	License for the use of the support services and functions of the Support Level Basic for 60 months. License for the use of the comfort functions Timeline, Interval Jumps and SmartFinder with SeMSy® Compact Clients for 12 months. License for the use of the extensions AutoTracking, Pixelation and Dashboard (separate license required) with SeMSy® Compact Clients for 12 months. License for the update of operating system and SeMSy® Recording Server with updates, upgrades and security updates ¹⁾ for 12 months. Bring-in warranty (without hard disk drives) for 24 months.
Optional Support and License Interval	
008482 DMS 2400 Support and License Interval Premium (Plus 12 Months)	License for the use of the support services and functions of the Support Level Premium for 12 months. License for the use of the comfort functions Timeline, Interval Jumps and SmartFinder with SeMSy® Compact Clients for 12 months. ²⁾ License for the use of the extensions AutoTracking, Pixelation and Dashboard (separate license required) with SeMSy® Compact Clients for 12 months. ²⁾ License for the update of operating system and SeMSy® Recording Server with updates, upgrades and security updates ¹⁾ for 12 months.
008483 DMS 2400 Support and License Interval Premium and Warranty (Total of 60 Months)	License for the use of the support services and functions of the Support Level Premium for 60 months. Unlimited license for the use of the comfort functions Timeline, Interval Jumps and SmartFinder with SeMSy® Compact Clients. Unlimited license for the use of the extensions AutoTracking, Pixelation and Dashboard (separate license required) with SeMSy® Compact Clients. License for the update of operating system and SeMSy® Recording Server with updates, upgrades and security updates ¹⁾ for 60 months. Extension of the bring-in warranty (without hard disk drives) from 24 months to a total of 60 months.

1) Security updates for relevant CVE vulnerabilities that become known will be provided (subject to technical feasibility) for the entire term of the software maintenance.
2) After a gap-free Premium licensing period of 60 months, the comfort functions and extensions can be used with SeMSy® Compact Clients for an unlimited period of time.

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Optional Licenses (Access)	
003782	DLC - 1 Additional Client Access License for the use of simultaneous access with basic functions by an additional SeMSy® Compact client to SeMSy® Recording Server (floating license)
004068	DLC - 5 Additional Client Access License for the use of simultaneous access with basic functions by five additional SeMSy® Compact clients to SeMSy® Recording Server (floating license)
004069	DLC - 10+ Additional Client Access (unlimited) License for the use of simultaneous access with basic functions by an unlimited number of SeMSy® Compact clients to SeMSy® Recording Server, depending on system load and bandwidth (floating license)
Optional Licenses (Channels)	
007640	DLC - 1 Additional Recording Channel (IPS/DMS 2400 II) License for the recording of a further high-definition video stream, maximum 24 video streams in total
007679	DLC - 3rd Party Package for 1 Recording Channel (IPS/DMS 2400 II) License for the use of one existing channel for the recording (permanent, contact triggered or with motion detection) of third-party network cameras
Optional Licenses (Functions)	
007923	DLC - RAID 1 Recording (DMS 2400 II) License for recording with RAID 1 in connection with two identical hard disks (HDDs)
003801	DLC - PRemote-HD License for the transmission of SD and HD video with low bandwidth, including a dedicated access license as well as the function for access with a mobile app (DMVC Server)
004685	DLC - LAN Interface for Data Reception License for the reception of data from third-party systems (AWEK POS systems and NPC II protocol converters) over the network interface, including linking, storage and display of the data with the video recordings
006293	DLC - High-Speed Recording >30 fps License for the recording of Dallmeier network cameras with a frame rate of more than 30 fps
007642	DLC - ViProxy Plus (IPS/DMS 2400 II) License for the use of the second network interface in conjunction with one of the functions ViProxy (physically separated network for cameras, WebConfig Routing included), Link Redundancy (redundant connection of the appliance to two switches) or Data Throughput (bundling of both network interfaces to a channel with double data throughput)
007652	DLC - Bank Package (DMS 2400 II) License for the use of the module for recording according to DGUV Test, including ATM activity monitoring (USB to Serial Adapter (007522) required) and reference image delivery via e-mail

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Optional Licenses (Extensions SeMSy® Compact)	
007238	DLC - SC AutoTracking for Single Sensor Camera License for the use of the SeMSy® Compact AutoTracking function (multiple object tracking without loss of the overall image) in conjunction with a Dallmeier network camera with VCA support, only in connection with recording systems with a valid license for the use of comfort functions and maintenance
007239	DLC - SC AutoTracking for Panomera® S/W 4 License for the use of the SeMSy® Compact AutoTracking function (multiple object tracking without loss of the overall image) in conjunction with a Panomera® S/W 4 system with VCA support, only in connection with recording systems with a valid license for the use of comfort functions and maintenance
007237	DLC - SC AutoTracking for Panomera® S/W 8 License for the use of the SeMSy® Compact AutoTracking function (multiple object tracking without loss of the overall image) in conjunction with a Panomera® S/W 8 system with VCA support, only in connection with recording systems with a valid license for the use of comfort functions and maintenance
008021	DLC - Client AI Pixelation License for the use of Pixelation AI Server Software in combination with Dallmeier Client Software for pixelation of persons during the display of a video stream, valid license for the use of comfort functions and maintenance required
007092	DLC - SC Dashboard Support License for the use of the SeMSy® Compact Dashboard function (graphical display of the analysis data Line Crossing, Intrusion Detection and Object Counting including object types), only in connection with Dallmeier network cameras and Panomera® systems with VCA support, only in connection with recording systems with a valid license for the use of comfort functions and maintenance

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Components	
CPU	Quad-Core
RAM	4 GB
Flash module	32 GB (for operating system and application)
Hard disks	Up to 2× 3.5" HDD (optional, see HDD whitelist, min. 7200 rpm and 128 MB cache)
Max. storage capacity	Currently up to 40 TB (90% video stream storage, 10% EdgeAnalytics database)
Fan	1x with automatic speed adjustment
Power supply unit	Integrated PSU, 115/230 V AC -> 12 V DC
Interfaces	
Video OUT	1x DisplayPort eDP 1.3
USB	1x USB 3.0, type A 1x USB 2.0, type A
Ethernet 1	RJ45, 10/100/1000 Mbps
Ethernet 2	RJ45, 10/100/1000 Mbps (optional, license DLC - ViProxy Plus (007642) required)
Contact IN	4x, with galvanic isolation, only for switch / push button (dry contact), with 4 functions each
Relay OUT	4x, with galvanic isolation, max. 12 V DC / 24 V AC / 0.5 A, 150 mOhm, as NC or NO
Protocols	
Ethernet protocols	IPv4 (ARP, ICMP, IGMPv2/IGMPv3), UDP, TCP
Ethernet protocols in preparation	IPv6 (NDP, ICMPv6, MLDv1/MLDv2, SLAAC, RDNSS), UDPv6, TCPv6, SNMPv3v
Communication protocols	DaVid, DaVidS, HTTP, HTTPS ³⁾ , DNS, DHCP, LDAP, NTP, RTSP, RTP, RTCP, SNMP (v1, v2c)
Security	HTTPS ³⁾ encryption, SSL/TLS ³⁾ 1.2 (AES), network access control according to IEEE 802.1X ³⁾
Electrical Data	
Voltage supply	115-230 V AC ±5%, 50/60 Hz
Power consumption	Max. 50 W
Thermal output	Max. 171 BTU/h
Mechanical Data	
Dimensions (W × H × D)	Approx. 425 × 88 × 384 mm
Weight	Approx. 9 kg with two hard disks
Color	Black (anodized)
Ambient Data	
Temperature	+ 5°C up to +30°C (41°F – 86°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	
Type	CE, FCC, RCM, UL

3) This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<http://www.openssl.org>) and cryptographic software written by Eric Young (ey@cryptsoft.com).

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Software	
Operating system	Linux (proprietary, hardened)
Application	SeMSy® Recording Server (Version 10.x.x)
Application language	English, German, French, Spanish, Italian (others on request)
External management software	HEMISPHERE® SeMSy® Compact/Workstation Software, SeMSy® III Workstation Software, DMVC App (optional, license DLC - PRemote-HD (003801) required)
External configuration software	Dallmeier Device Manager
ONVIF compliance	Cameras with Profile S and Profile T supported
GDPR compliance	Supported

Performance in connection with DMS 2400	
Channels	Up to 24x high definition video streams
Supported cameras	Dallmeier Panomera® multifocal sensor systems Dallmeier network cameras over TCP/DaVid (Dallmeier video protocol) Third-party network cameras with RTSP streaming over UDP/RTP or TCP (optional, license DLC - 3rd Party Package (007679) required)
Track mode	Automatic
Video compression	H.264, H.265, MJPEG, depending on the camera
Audio compression	G.711, G.722.1, depending on the camera
Resolutions	Up to 12 MP, depending on the camera
Frame rate per channel	Up to 25/30 fps, depending on the camera
Bit rate per channel	Up to 50 Mbps, depending on the camera
Max. total bit rate	Up to 144 Mbps
Output over network	Up to 8x high definition video streams for playback simultaneous

Recording ⁴⁾	3rd Party IP Camera	Dallmeier IP Camera
Transport protocol	RTP over UDP	TCP
Communications protocol	RTSP	DaVid
Mode Timer	integrated	integrated
Mode Permanent	integrated	integrated
Mode Contact	integrated	integrated
Mode Motion	integrated	integrated
Mode Motion/Contact	integrated	integrated
Switching mode by timer	--	integrated

Functions ⁴⁾	3rd Party IP Camera	Dallmeier IP Camera
Motion detection	integrated	integrated
SmartFinder	integrated	integrated
Video proxy	integrated	integrated
SeMSy® multicast streamer	integrated	integrated
PRemote-HD	integrated	integrated
DMVC Server	integrated	integrated
PTZ control with SVC	integrated	integrated
Audio recording	integrated ⁵⁾	integrated
Camera configuration	integrated	integrated
Locking the camera configuration	--	integrated
Recording multicast video streams	--	integrated
EdgeStorage&SmartBackfill	--	integrated
Network scan (IP Finder)	--	integrated
VCA data base	--	integrated

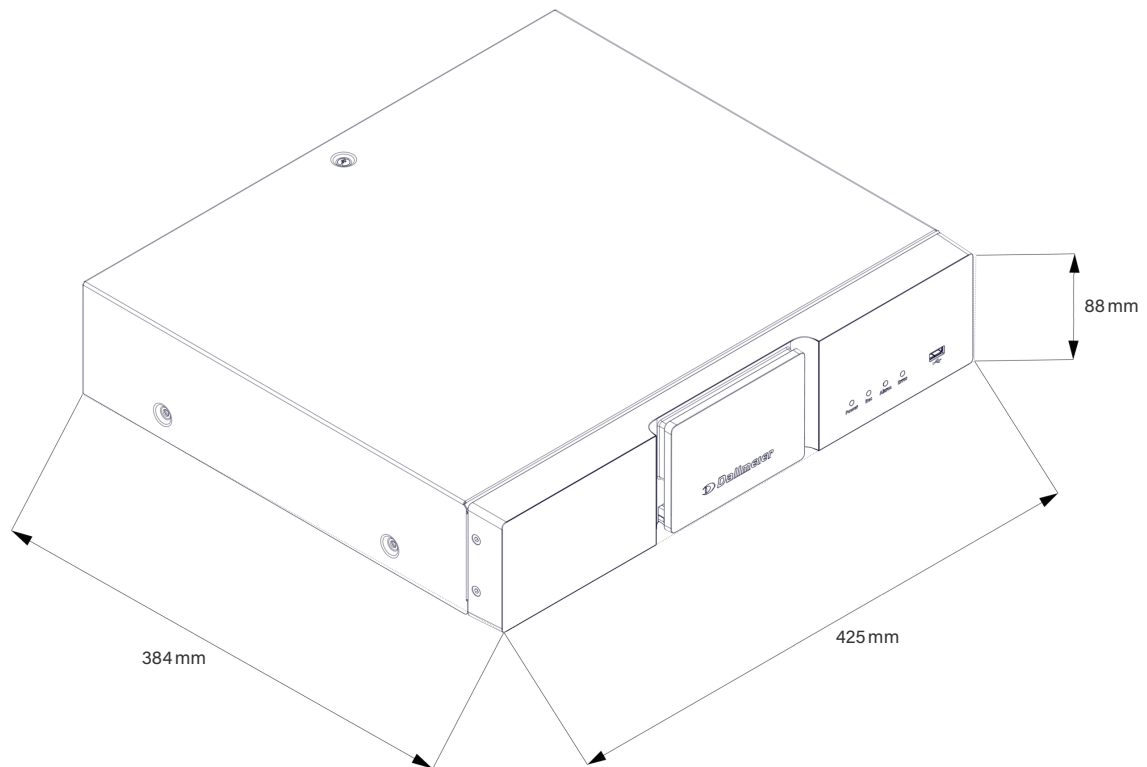
4) Data refer to a fully equipped appliance. Optional licenses are required.

5) Depending on the camera. The audio stream has to be supplied in the format G.711.

DMS 2400

MK3

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