

## DSA E-Series E2800 12-bay



- ▶ Scale-up network storage solution: controller unit with 12 internal HDDs expandable via state-of-the-art SAS interface-connected expansion units
- ▶ Configurable hardware-based RAID/DDP protection (RAID-5, RAID-6 or DDP) for highest system performance
- ▶ Redundant hot-swappable power supplies and cooling fans
- ▶ Two 10 Gigabit Ethernet ports for highest speed iSCSI connectivity
- ▶ Fully modular design for ease of service and protected by NetApp services, including a 3 years next business day on-site support

DSA E2800 represents the next generation of DSA E-Series, the iSCSI-based digital video disk arrays by Bosch. They are state-of-the-art platforms designed for the security industries most demanding digital video storage applications to manage relentlessly growing digital video data.

### System overview

DSA E2800 is based on one 2U controller unit with 12 internal 3.5", 7.2 K, NL-SAS (Serial Attached SCSI), enterprise HDDs (Nearline SAS). The controller unit is available as a standard single controller configuration and as a dual controller configuration for high availability requirements. This storage system is a high-performance solution designed with robust flexibility that makes it a great fit for wide-ranging video surveillance requirements. Its balanced performance is designed for supporting high bandwidth and I/O intensive workloads. The DSA E2800 fully redundant I/O paths, advanced protection features, and extensive diagnostic capabilities deliver high levels of availability, integrity, and security.

### Functions

DSA E2800 is the co-branded E2800 series from NetApp. It is a scale-up network storage solution that provides security, highest "in-the-box" scalability, peace-of-mind data protection, and simplified management of all your video data.

DSA E2800 in single or dual controller configuration allows connecting up to seven 12-bay expansion units (12 x HDDs per expansion shelf) to one single or dual controller base unit.

It is a fully featured hardware RAID/DDP protected disk array which provides RAID-5 protection for capacity-oriented environments and RAID-6/DDP protection for availability-oriented environments.

### High reliability and availability

DSA E2800 keeps your data safe and available with redundant hot-swappable power supplies and fans, and protects from double-disk failure and single bit errors during rebuilds with high performance RAID-6 or DDP.

Its redundant components, automated path failover, and online administration keep organizations productive 24 x 7 x 365.

Further high-availability features include:

- Automatic drive failover and detection and rebuild if using global hot spare drives
- Data cache with battery backup and de-stage to flash
- **SANtricity** proactive drive health monitoring identifies problem drives before they create issues

### Monitoring

Full SNMP support with MIB-II and NetApp custom MIBs is provided. In case of component failures SNMP, e-mail alert notifications will be generated. Additionally, an event monitor for sending alert notifications to a central major event log is available. If the device is connected to the Internet/Intranet automatically generated **AutoSupport** messages can be sent, which helps to prevent issues before they occur.

### Management

NetApp SANtricity storage management software combines robustness and ease of use. With its dynamic capabilities, SANtricity software supports on-the-fly expansion, reconfiguration, and maintenance without interrupting storage system I/O.

### Transceiver modules

|                          |                                                                                                                                 |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Single controller system | 2x 10GBASE-SR SFP (mini-GBIC, 850NM) transceiver module - IEEE 802.3ae -10Gb iSCSI - OM3 and OM4 support - LC-Duplex connection |
| Dual controller system   | 4x 10GBASE-SR SFP (mini-GBIC, 850NM) transceiver module - IEEE 802.3ae -10Gb iSCSI - OM3 and OM4 support - LC-Duplex connection |

### Regulatory information

| Region | Regulatory compliance/quality marks |                                 |
|--------|-------------------------------------|---------------------------------|
| Europe | CE                                  | DoC DSA E-Series (E2800 12-bay) |

### Installation/configuration notes

Bosch provides the necessary software tools for an initial setup of the storage in a video surveillance environment. In addition, the system provides web based configuration and a powerful Command Line Interface (CLI) which is fully remote accessible by SSH (Secure Shell).

In dual controller systems the iSCSI ports with the same number are tied together for redundancy purpose, while one of the ports is a fall-back path for an iSCSI port on the other controller.

### Net capacity

The available net capacity is shown in the following tables:

| Configuration Information (RAID-5) | Net Capacity (GB) |
|------------------------------------|-------------------|
| 12-bay unit (12 x 4 TB)            | 40964             |

| Configuration Information (RAID-5) | Net Capacity (GB) |
|------------------------------------|-------------------|
| 12-bay unit (12 x 8 TB)            | 81928             |
| 12-bay unit (12 x 12 TB)           | 122892            |

| Configuration Information (RAID-6) | Net Capacity (GB) |
|------------------------------------|-------------------|
| 12-bay unit (12 x 4 TB)            | 37240             |
| 12-bay unit (12 x 8 TB)            | 74480             |
| 12-bay unit (12 x 12 TB)           | 111720            |

| Configuration Information (DDP) | Net Capacity (GB) |
|---------------------------------|-------------------|
| 12-bay unit (12 x 4 TB)         | 31282             |
| 12-bay unit (12 x 8 TB)         | 62563             |
| 12-bay unit (12 x 12 TB)        | 93845             |

### Performance data

Performance data per controller unit in a 10 Gbit/s network (in a 1 Gbit/s network the available network bandwidth is the limiting factor):

| Network Uplink 10 GbE |                    |                                         |                                   |
|-----------------------|--------------------|-----------------------------------------|-----------------------------------|
|                       | IP cameras         | RAID-5/-6 Bandwidth Mbps (write / read) | DDP Bandwidth Mbps (write / read) |
| Single port           | 400                | 1250 / 250                              | 1150 / 250                        |
| Dual port             | 800 (400 per port) | 1250 / 250                              | 1150 / 250                        |

#### **i** Notice

Number of IP cameras refers to default software configuration (no direct replay mode).

#### **i** Notice

DSA E2800 single controller systems are only supported by Bosch camera firmware version 5.75 and later, VRM Video Recording Manager version 3.70 and later, and Configuration Manager version 5.51 and later.

DSA E2800 dual controller systems require Bosch camera firmware version 6.43 and later, VRM Video Recording Manager version 3.71 and later, and Configuration Manager version 5.53 and later.

**Notice****Hardware warranty**

The next business day on-site service level can only be provided if the respective system has been registered immediately after receipt and installation. Otherwise, service will be provided based on best effort basis. Information about registration details is available in every shipment (registration form) or from the Bosch online product catalog. Next business day services cannot be provided in every country everywhere. For limitations and exceptions see the registration details in the registration form.

**Notice**

If the diagnostic cable supplied with the product is no longer available, please order a new one via the Bosch After-Sales organization (order number: F.01U.323.853).

**Notice**

Do not use any other accessories than specified in the data sheet!

**Technical specifications****Electrical requirements 12-bay controller units**

| Parameter                 | Low range   | High range  |
|---------------------------|-------------|-------------|
| Nominal voltage           | 100 VAC     | 240 VAC     |
| Frequency                 | 50 to 60 Hz | 50 to 60 Hz |
| Typical operating current | 4.51 A      | 1.92 A      |
| Maximum operating current | 7.2 A       | 2.9 A       |
| System rating plate label | 12.0 A      | 6.3 A       |

**Electrical requirements 12-bay expansion units**

| Parameter                 | Low range   | High range  |
|---------------------------|-------------|-------------|
| Nominal voltage           | 100 VAC     | 240 VAC     |
| Frequency                 | 50 to 60 Hz | 50 to 60 Hz |
| Typical operating current | 2.49 A      | 1.16 A      |
| Maximum operating current | 5.3 A       | 2.1 A       |

**Electrical requirements 12-bay expansion units**

|                           |        |       |
|---------------------------|--------|-------|
| System rating plate label | 12.0 A | 6.3 A |
|---------------------------|--------|-------|

**Power ratings 12-bay controller units (typical operating power)**

|       |        |
|-------|--------|
| KVA   | 0.451  |
| Watts | 451.3  |
| BTU/h | 1543.4 |

**Note:** For detailed information, see the latest NetApp E-Series Site Preparation Guide.

**Power ratings 12-bay expansion units (typical operating power)**

|       |        |
|-------|--------|
| KVA   | 0.25   |
| Watts | 248.7  |
| BTU/h | 850.55 |

**Note:** For detailed information, see the latest NetApp E-Series Site Preparation Guide.

**Mechanical****Dimensions (H x W x D)**

|                   |                                                     |
|-------------------|-----------------------------------------------------|
| • 12-bay unit     | 8.68 x 44.7 x 53.6 cm<br>(3.41 x 17.6 x 21.1 in)    |
| • Shipping carton | 49.53 x 80.01 x 71.12 cm<br>(19.5 x 31.5 x 28.0 in) |

**Weight**

|                                  |                     |
|----------------------------------|---------------------|
| • Maximum weight controller unit | 29.0 kg (63.9 lb)   |
| • Maximum weight expansion unit  | 27.12 kg (59.78 lb) |
| • Maximum shipping weight        | 36.2 kg (80.0 lb)   |

**Space requirements**

|                                           |                   |
|-------------------------------------------|-------------------|
| Front clearance (cooling and maintenance) | 81.2 cm (32.0 in) |
| Rear clearance (cooling and maintenance)  | 60.9 cm (24.0 in) |

**Environmental****Temperature**

|                                                |                                      |
|------------------------------------------------|--------------------------------------|
| • Operating range (both cabinet and subsystem) | +10 °C to +40 °C (+50 °F to +104 °F) |
| • Storage range                                | 0 °C to +70 °C (+32 °F to +158 °F)   |

**Environmental****Relative humidity (non-condensing)**

|                                                |           |
|------------------------------------------------|-----------|
| • Operating range (both cabinet and subsystem) | 20 to 80% |
| • Storage range                                | 5 to 95%  |

**Altitude**

|                   |                                                                           |
|-------------------|---------------------------------------------------------------------------|
| • Operating range | Sea level to 3048 m (10,000 ft) above sea level                           |
| • Storage range   | 304.8 m (1000 ft) below sea level to 12,192 m (40,000 ft) above sea level |

**Acoustic noise**

|                                                   |            |
|---------------------------------------------------|------------|
| • Sound power controller unit (standby operation) | 66 dB max  |
| • Sound power expansion unit (standby operation)  | 68 dB max  |
| • Sound pressure (normal operation)               | 56 dBA max |

**Trademarks:**

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**Notes:**

General technical information for the RAID systems are provided in the NetApp E-Series Site Preparation Guide, available under: [https://library.netapp.com/ecm/ecm\\_download\\_file/ECMLP2773645](https://library.netapp.com/ecm/ecm_download_file/ECMLP2773645)

**Ordering information****DSA-N2E8X4-12AT Base unit 12x4TB**

High-performance and high-capacity storage system base unit with iSCSI disk arrays, single controller.  
DSA E2800, 12 x 4 TB HDD  
NDAA compliant  
Order number **DSA-N2E8X4-12AT | F.01U.346.434**

**DSA-N2C8X4-12AT Dual controller unit 12x4TB**

High-performance and high-capacity storage system base unit with iSCSI disk arrays, dual controller.  
DSA E2800, 12 x 4 TB HDD  
NDAA compliant  
Order number **DSA-N2C8X4-12AT | F.01U.346.474**

**DSA-N2E8X8-12AT Base unit 12x8TB**

High-performance and high-capacity storage system base unit with iSCSI disk arrays, single controller.  
DSA E2800, 12 x 8 TB HDD  
NDAA compliant  
Order number **DSA-N2E8X8-12AT | F.01U.346.477**

**DSA-N2C8X8-12AT Dual controller unit 12x8TB**

High-performance and high-capacity storage system base unit with iSCSI disk arrays, dual controller.  
DSA E2800, 12 x 8 TB HDD  
NDAA compliant  
Order number **DSA-N2C8X8-12AT | F.01U.346.479**

**DSA-N2E8XC-12AT Base Unit 12x12TB**

High-performance and high-capacity storage system base unit with iSCSI disk arrays, single controller.  
DSA E2800, 12 x 12 TB HDD  
NDAA compliant  
Order number **DSA-N2E8XC-12AT | F.01U.361.550**

**DSA-N2C8XC-12AT Dual Controller Unit 12x12TB**

High-performance and high-capacity storage system base unit with iSCSI disk arrays, dual controller.  
DSA E2800, 12 x 12 TB HDD  
NDAA compliant  
Order number **DSA-N2C8XC-12AT | F.01U.361.549**

**DSX-N1D8X4-12AT Expansion unit 12x4TB**

High-performance and high-capacity storage expansion unit with iSCSI disk arrays for DSA E2800.  
12 x 4 TB HDD  
NDAA compliant  
Order number **DSX-N1D8X4-12AT | F.01U.346.435**

**DSX-N1D8X8-12AT Expansion unit 12x8TB**

High-performance and high-capacity storage expansion unit with iSCSI disk arrays for DSA E2800.  
12 x 8 TB HDD  
NDAA compliant  
Order number **DSX-N1D8X8-12AT | F.01U.346.478**

**DSX-N1D8XC-12AT Expansion Unit 12x12TB**

High-performance and high-capacity storage expansion unit with iSCSI disk arrays for DSA E2800.  
12 x 12 TB HDD  
NDAA compliant  
Order number **DSX-N1D8XC-12AT | F.01U.361.547**

**Accessories****DSA-EDTK8-4TB HDD 4TB for 12bay**

Hard disk storage expansion with a capacity of 4 TB.  
For DSA E2800 12-bay expansion units.  
Order number **DSA-EDTK8-4TB | F.01U.346.487**

**DSA-EDTK8-8TB HDD 8TB for 12bay**

Hard disk storage expansion with a capacity of 8 TB.  
For DSA E2800 12-bay expansion units.  
Order number **DSA-EDTK8-8TB | F.01U.346.489**

**DSA-EDTK8-12TB HDD 12TB for 12bay**

Hard disk storage expansion with a capacity of 12 TB.  
For DSA E2800 12-bay expansion units.  
Order number **DSA-EDTK8-12TB | F.01U.361.545**

**Services****EWE-S2E8X48-SLP DSA E2812 4-8TB SES Ext 1yr IW**

Next business day on-site service extension for one additional (4<sup>th</sup> or 5<sup>th</sup>) year, applicable to DSA E2800 12-bay with 4-8TB HDDs, if purchased during warranty period  
Order number **EWE-S2E8X48-SLP | F.01U.349.795**

Order number **EWE-S2E8X48-4PR | F.01U.349.796**

Order number **EWE-S2E8X48-NRD | F.01U.349.797**

Order number **EWE-S2E8X48-SLP | F.01U.349.795**

Order number **EWE-S2E8X48-4PR | F.01U.349.796**

Order number **EWE-S2E8X48-NRD | F.01U.349.797**

Order number **EWE-S2E8X48-SLP | F.01U.349.795**

Order number **EWE-S2E8X48-4PR | F.01U.349.796**

Order number **EWE-S2E8X48-NRD** | F.01U.349.797

Order number **EWE-S2E8X48-SLP | F.01U.349.795**

Order number **EWE-S2E8X48-4PR | F.01U.349.796**

Order number **EWE-S2E8X48-NRD | F.01U.349.797**

Order number **EWE-S2E8XAC-SLP | F.01U.349.798**

Order number **EWE-S2E8XAC-4PR | F.01U.349.799**

Order number **EWE-S2E8XAC-NRD | F.01U.349.800**

Order number **EWE-S2E8XAC-SLP | F.01U.349.798**

Order number **EWE-S2E8XAC-4PR | F.01U.349.799**

Order number **EWE-S2E8XAC-NRD | F.01U.349.800**

Order number **EWE-S2E8X48-SLP | F.01U.349.795**

Order number **EWE-S2E8X48-4PR | F.01U.349.796**

Order number **EWE-S2E8X48-NRD | F.01U.349.797**

**EWE-S2E8X48-SLP DSA E2812 4-8TB SES Ext 1yr IW**

Next business day on-site service extension for one additional (4<sup>th</sup> or 5<sup>th</sup>) year, applicable to DSA E2800 12-bay with 4-8TB HDDs, if purchased during warranty period

Order number **EWE-S2E8X48-SLP | F.01U.349.795**

**EWE-S2E8X48-4PR DSA E2812 4-8TB 4h Prt Rpl 1yr IW**

4 hour part replacement service extension for one year, applicable to DSA E2800 12-bay with 4-8TB HDDs, if purchased during warranty period.

Order number **EWE-S2E8X48-4PR | F.01U.349.796**

**EWE-S2E8X48-NRD DSA E2812 4-8TB Non Ret DO 1yr IW**

Non-returnable disk service extension for one year, applicable to DSA E2800 12-bay with 4-8TB HDDs, if purchased during warranty period.

Order number **EWE-S2E8X48-NRD | F.01U.349.797**

**EWE-S2E8XAC-SLP DSA E2812 10-12TB SES Ext 1yr IW**

Next business day on-site service extension for one additional (4<sup>th</sup> or 5<sup>th</sup>) year, applicable to DSA E2800 12-bay with 10-12TB HDDs, if purchased during warranty period

Order number **EWE-S2E8XAC-SLP | F.01U.349.798**

**EWE-S2E8XAC-4PR DSA E2812 10-12TB 4h Prt Repl 1yr IW**

4 hour part replacement service extension for one year, applicable to DSA E2800 12-bay with 10-12TB HDDs, if purchased during warranty period.

Order number **EWE-S2E8XAC-4PR | F.01U.349.799**

**EWE-S2E8XAC-NRD DSA E2812 10-12TB Non Ret DO 1yr IW**

Non-returnable disk service extension for one year, applicable to DSA E2800 12-bay with 10-12TB HDDs, if purchased during warranty period.

Order number **EWE-S2E8XAC-NRD | F.01U.349.800**

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