



## Product Information

### SDC-SATA

#### 16HP Eight Drive SATA SSD Plug-In Cart

Document No. 8590 • 15 June 2018



## General

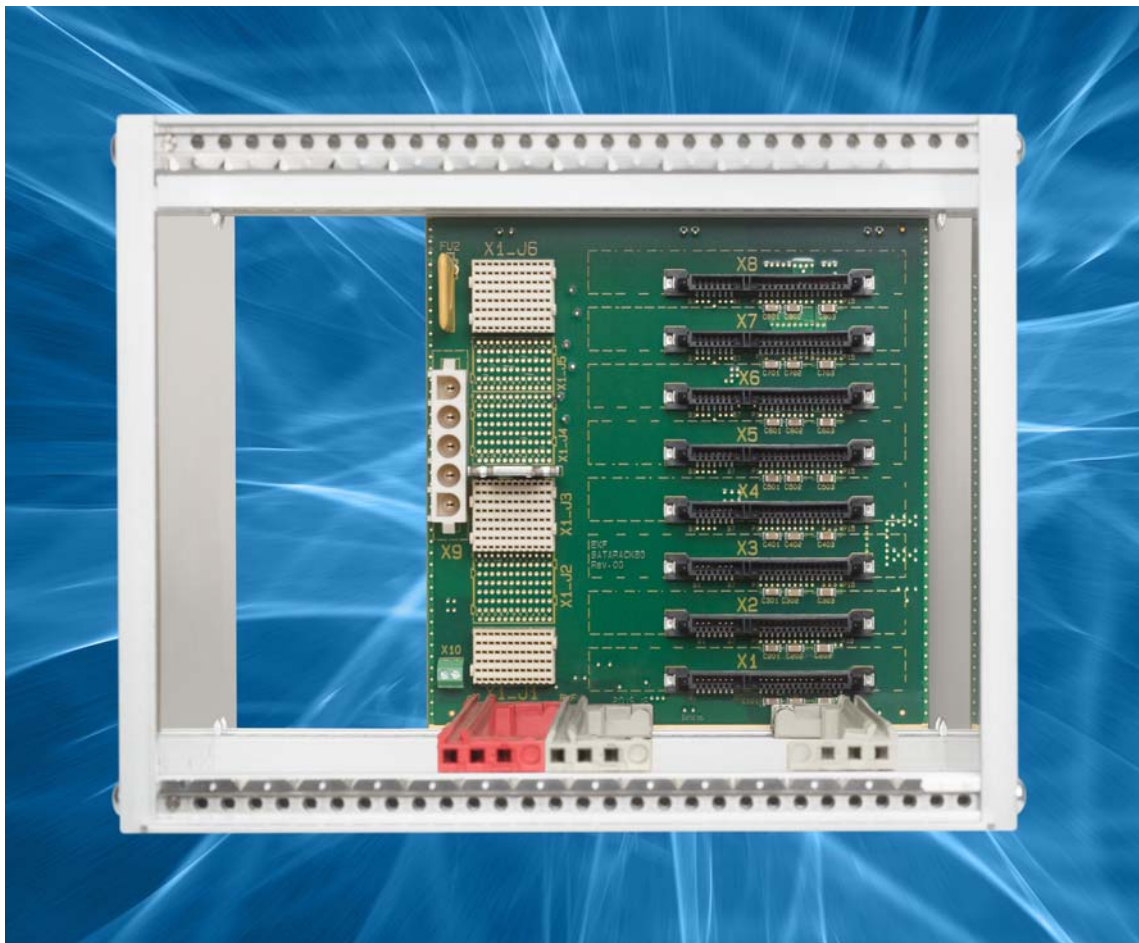
*Industrial storage systems can be easily assembled by employing CompactPCI® Serial boards and racks. The system slot controller (CPU card) can provide up to eight SATA channels, distributed via the backplane to peripheral card slots, for usage with suitable SATA drive carrier cards. Since standard backplanes are based on a 4HP grid (20.32mm pitch between slots), a bunch of eight drives mounted on individual carrier cards takes up 160mm (32HP) mounting space and spends all available backplane slot resources.*

*In contrast, the SDC-SATA is an only 80mm (16HP) width cassette, which can accommodate up to eight horizontal mount 2.5-inch SATA drives, for use with a custom backplane.*

A suitable backplane is provided with the CompactPCI Serial® system slot, and in addition eight SATA connectors, for direct plug-in of the SDC-SATA drive array cassette. Further more, the backplane can be equipped with CompactPCI Serial® peripheral slots if required, e.g. for PCI Express® based cards (ordering on a custom specific base).

The SDC-SATA can be combined with any CompactPCI® Serial CPU card as a tightly arranged mass storage solution in a common enclosure. If remote storage via PCI Express® external cabling is considered (20Gbps, up to 300m distance), the SDC-SATA cart can be used with the SXS-STRING target system adapter (eight port SATA RAID controller).





## Feature Summary

### Cassette SDC-0100-SATA

- ▶ Mounting frame 3U 16HP
- ▶ Suitable for up to eight SATA drives (2.5-inch form factor)
- ▶ Drive height up to 12.5mm
- ▶ Two front handles for easy insertion and removal of the cassette
- ▶ Easy access to individual drive for potential exchange (4 mounting screws)

### System Requirements

- ▶ Enclosure or rack 3U height, based on 19-inch standard mechanics
- ▶ Minimum mounting width 22HP (111.8mm) in total (system slot controller card plus cassette, power supply not included)
- ▶ Guide rails (bottom only) for cassette recommended, 12HP (61mm) distance
- ▶ Custom backplane with CompactPCI® Serial system slot, and eight SATA drive docking connectors
- ▶ CompactPCI® Serial system slot controller card (CPU) with backplane SATA support
- ▶ Option SXS-STRING SATA RAID system slot controller card, for distributed computing via PCI Express® external cabling
- ▶ Option custom backplane with additional CompactPCI® Serial peripheral slots (no SATA available on these slots - entirely in use for SDC-SATA cassette)
- ▶ Consider suitable airflow for demanding applications

### SATA Local Storage

- ▶ CompactPCI® Serial system slot controller (CPU card e.g. EKF SC\*-Series) as SATA host (consider number of backplane SATA ports supported by CPU card, and also RAID options)

### SATA Remote Storage

- ▶ Option SXS-STRING system slot controller (PCI Express® external cabling target side adapter, up to 20Gbps, up to 300m) as SATA host
- ▶ Equipped with 2 x Marvell 88SE9230 4-port SATA RAID controllers for backplane support
- ▶ Hardware RAID 0/1/10 or JBOD configuration

## Feature Summary

### Backplane SDC-9100-SATA

- ▶ CompactPCI® Serial system slot (CPU card, or SXS-STRING RAID controller)
- ▶ Eight SATA host connectors, 6G SATA, 2.5-inch form factor
- ▶ Power supply connector +12V (Universal MATE-N-LOK header 6.35mm pitch 5-pos.)
- ▶ On-board voltage regulators +5V 12A, +3.3V 12A (to SATA docking connectors)
- ▶ Mounting space backplane 3U 22HP (128.5mm x 111.8mm)
- ▶ Suitable for SDC-0100-SATA cassette and CompactPCI® Serial system slot controller (SATA host controller)
- ▶ Enclosure solutions available

### Applications

- ▶ Suitable for demanding and/or redundant industrial data storage systems, IIOT edge computing
- ▶ Low mounting space
- ▶ Local SATA storage or remote SATA storage
- ▶ SDC-9100-SATA backplane available to be combined with the SATA cassette (suitable for local or remote SATA storage)
- ▶ Application specific backplane design
- ▶ SX2-SLIDE dual port host side adapter recommended for remote storage systems (can control two SXS-STRING target side adapters simultaneously)

### Regulatory

- ▶ Long term availability
- ▶ Designed & manufactured in Germany
- ▶ ISO 9001 certified quality management
- ▶ Rugged solution
- ▶ RoHS compliant
- ▶ Commercial and industrial temperature range (depends on SSDs in use)
- ▶ Humidity 5% ... 95% RH non condensing
- ▶ Altitude -300m ... +3000m
- ▶ Shock 15g 0.33ms, 6g 6ms
- ▶ Vibration 1g 5-2000Hz
- ▶ EC Regulations EN55022, EN55024, EN60950-1 (UL60950-1/IEC60950-1)



Remote Storage System w. SXS-STRING PCI Express® Cabling Target Adapter



Edge Computing & Storage System w. SC5-FESTIVAL CPU Card

## Sample Rack



## Local Storage



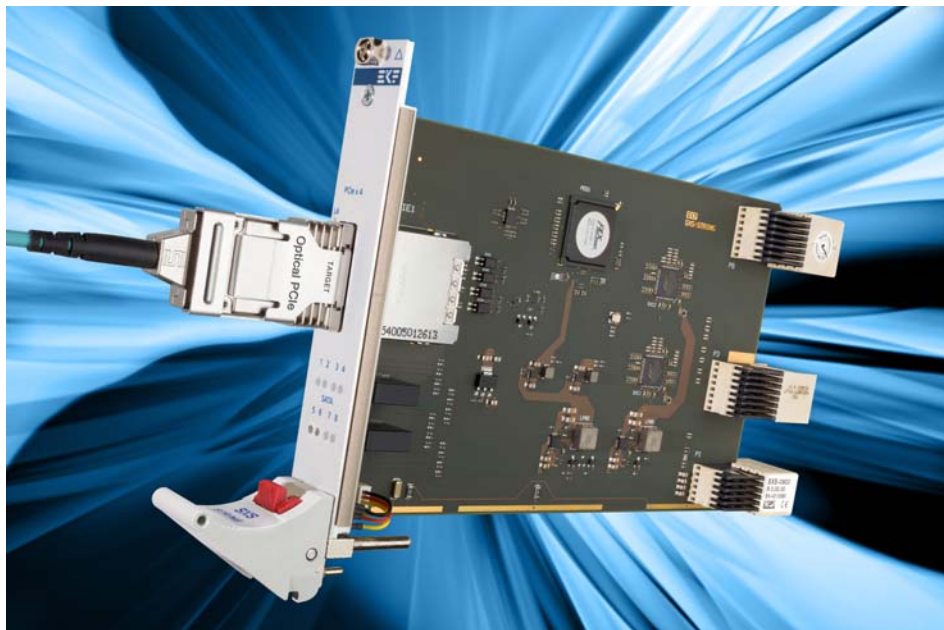
SC\*-Series CPU Card for Edge Computing & Intelligent Storage

## Remote Storage

### SX2-SLIDE Host Side Cabling Adapter



### SXS-STRING Target Side Cabling Adapter & SATA RAID Controller





## Related Information

Remote Storage via PCIe Gen2 External Cabling	
SX2-SLIDE	CompactPCI® Serial • PCIe External Cabling • Host Side • Adapter 2 x PCIe x4 <a href="http://www.ekf.com/s/sx2/sx2.html">www.ekf.com/s/sx2/sx2.html</a>
SXS-STRING	CompactPCI® Serial • PCIe External Cabling • Target Side • 8 x SATA HW RAID <a href="http://www.ekf.com/s/sxs/sxs.html">www.ekf.com/s/sxs/sxs.html</a>

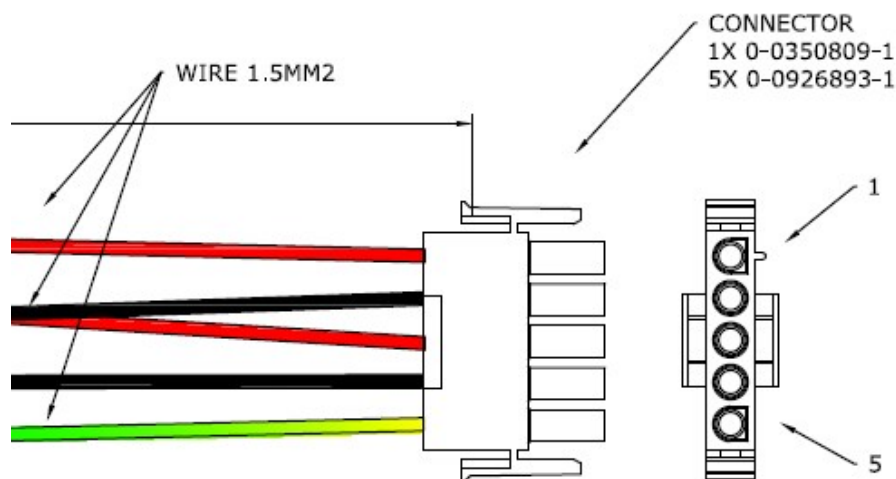
Reference Documents		
Term	Document	Origin
CompactPCI® Serial	CPCI-S.0	<a href="http://www.picmg.org">www.picmg.org</a>
PCI Express®	PCI Express® External Cabling Specification 2.0	<a href="http://www.pcisig.com">www.pcisig.com</a>
SATA	Serial ATA Rev. 3.0 Specification, June 2, 2009	<a href="http://www.sata-io.org">www.sata-io.org</a>

## Ordering Information

Ordering Information
For popular SDC-SATA SKUs please refer to <a href="http://www.ekf.com/liste/liste_21.html#SDC">www.ekf.com/liste/liste_21.html#SDC</a>

## Typical Backplane Cable Assembly

Backplane Power Connector Universal MATE-N-LOK 6.35mm pitch 5-pos. Tyco 640900-1 Header, mates with Tyco 350809-1 Plug and 926893-1 Crimp Contacts	
Pin #	Power Line
1	+12V
2	GND
3	+12V
4	GND
5	+5V STANDBY



The power cable pigtail assembly shown above is not part of the SDC-SATA cassette. Custom backplanes may be equipped with alternate custom defined power connectors, or the custom backplane may provide an additional integrated power supply slot.



Industrial Computers Made in Germany  
boards. systems. solutions.

EKF Elektronik GmbH  
Philipp-Reis-Str. 4 (Haus 1)  
Lilienthalstr. 2 (Haus 2)  
59065 HAMM  
Germany



Phone +49 (0)2381/6890-0  
Fax +49 (0)2381/6890-90  
Internet [www.ekf.com](http://www.ekf.com)  
E-Mail [sales@ekf.com](mailto:sales@ekf.com)