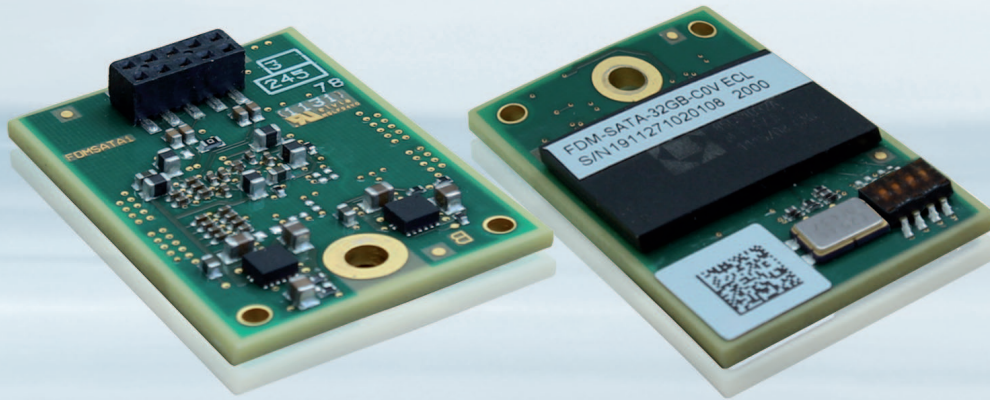# FDM-SATA

▼


NAND FLASH MODULE

▶ 4 to 32 GBytes NAND Flash Capacity
▶ Single Level Cell and Multi Level Cell Design
▶ High Speed SATA Link
▶ Commercial and Industrial Temperature

POSSIBILITIES START HERE ◆ kontron

▶ PRODUCT OVERVIEW

These NAND Flash modules are using Greenliant SATA NAND drive flash devices, allowing to store up to 32 Gbytes of data on a small onboard mezzanine form factor, compatible with Kontron Single Board Computer Cards. Single level Cells and Multi Level Cells are proposed in various capacities and operating temperature range. Please refer to ordering information. The power dissipation is limited to 1.5 Watts.

PIN	DESCRIPTION
1	+5V
2	SATA_TX+
3	Not Connected
4	SATA_TX-
5	Not Connected
6	GND
7	GND
8	SATA_RX+
9	Not Connected
10	SATA_RX-
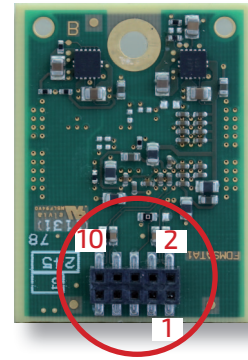
MICROSWITCHES DESCRIPTION

	FUNCTION	DESCRIPTION
1	Reserved	Shall be off
2	Write protect	off: no write protect (default) on: write protect
3	Power down notification (not available on all models)	off: no early powerdown notification (default) on: enable early power down notification
4	Power down notification (not available on all models)	Shall be set identically to switch 3.

In addition, switch 2 and 3/4 shall not be all on. The same pin is used on the NAND Flash device for both functions, write protect and early power down notification. The function of this pin can be selected by software and is kept as a non-volatile setting by the NAND Flash device (only need to program it once). The hardware default function (prior any selection by software) is write protect management. The early power down notification increases the robustness against loss of data when the power is removed during write operations to the NAND Flash.

1- The host shall enforce a link speed of 1.5 Gbit/s maximum (Sata I). The device shall not be operated at higher speed although it might accept to negociate at higher speed.

2- When operating under Linux, it is strongly recommended to disable the file system journaling in order to avoid unnecessary wear of the device due to write cycles issued by the journaling of the filesystem. This will also help to limit unwanted erase/write cycle throughput which might lead a significative performance limitation. For example, to disable the journal on a ext4 filesystem, issue the following command:

```
tune2fs -O '^has_journal' /dev/mapper/vg_lnx9-lv_root
```

Alternativly, to avoid any write access after deployment, an installation of a read-only root file system is recommended (like, for example, Fedora LiveUSB).

▶ ORDERING INFORMATION

ARTICLE	PART.-NO.	DESCRIPTION
FDM-SATA	FDM-SATA-32GB-C0V	32 Gbytes NAND Flash, MLC technology, 0° to +55°C operation, coated
FDM-SATA	FDM-SATA-8GB-I0V	8 Gbytes NAND Flash, SLC technology, -40° to +85°C operation, coated

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