SCSI Model Flash Drive
--- SCS3-xxxxBA Series ---

OUTLINE

The drive in this series is a SCSI interface flash drive.   The interface that links the drive in this series and the host system conforms to the SCSI-2 standard (X3.131-1986:   Small Computer System Interface) and the ANSI SCSI-3 FAST-20 standard (X3T10/1071D).

FEATURES

SCSI CCS compliant
This series provides the SCSI basic specifications and the following functions.
1.   Command sets that comply with SCSI CCS (Rev 4.B) logic
2.   Data bus parity function
3.   Bus arbitration function
4.   Disconnect/reconnect function

High-speed data transfer
The maximum data transfer rate on the SCSI bus is 5.0 MB/s in the asynchronous transfer mode; the maximum data transfer rate in the synchronous transfer mode is 5, 10, or 20 MB/s that are set at the time.

The drive in this series is equipped with a specific IC for conversion between SCSI and ATA, and enables separate control of SCSI and ATA bus cycles by hardware, and accordingly achieves high-speed transfer by SCSI and ATA buses without inserting useless weight or idle.

Remarks
The maximum data transfer rate in the asynchronous transfer mode may be restrained by the response rate of an initiator and the length of a SCSI bus cable; the maximum obtainable data transfer rate in the synchronous transfer mode on the Single-Ended SCSI bus is limited by the length of a SCSI bus cable, the transmission characteristics of a cable, the number of linked SCSI systems, and other factors.

Product Models

Capacity	Cylinder	Head	Sector	Product No.
16MB	248	4	32	SCS3-016MBA(H00AB)
32MB	496	4	32	SCS3-032MBA(H00AB)
48MB	744	4	32	SCS3-048MBA(H00AB)
64MB	978	4	32	SCS3-064MBA(H00AA)
96MB	733	8	32	SCS3-096MBA(H00AB)
128MB	978	8	32	SCS3-128MBA(H00AA)
160MB	611	16	32	SCS3-160MBA(H00AB)
192MB	733	16	32	SCS3-192MBA(H00AB)
256MB	978	16	32	SCS3-256MBA(H00AA)
320MB	814	16	48	SCS3-320MBA(H00AB)
384MB	977	16	48	SCS3-384MBA(H00AA)
512MB	993	16	63	SCS3-512MBA(H00AA)
640MB	1241	16	63	SCS3-640MBA(H00AB)
1024MB	1985	16	63	SCS3-1G02BA(H00AB)
1536MB	2966	16	63	SCS3-1G53BA(H00AB)
2048MB	3954	16	63	SCS3-2G04BA(H00AB)

System Configuration

The drive in this series performs input and output operations designated from the SCSI host adaptor that behaves as an initiator.　An example of the system configuration will be shown below.

Initiator

| Host System |———| SCSI Host Adaptor |

| SCS3-xxxxBA |

| SCSI Device |

To Other SCSI Devices
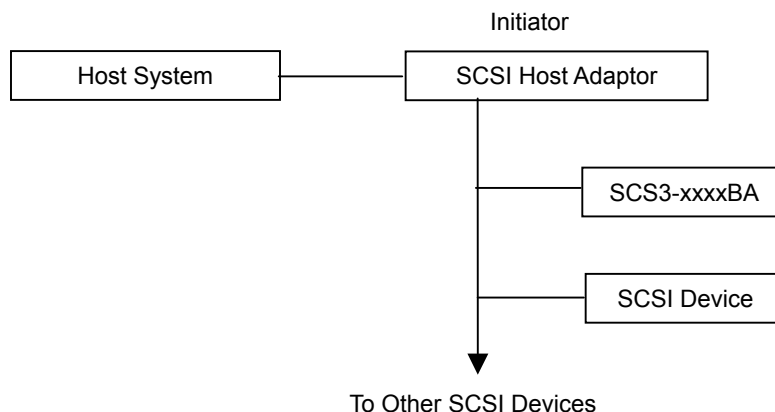
(1) Structure of SCSI bus
　　　A SCSI bus can link up to eight SCSI devices.　A SCSI device behaving as an initiator and a SCSI device behaving as a target device can be combined arbitrarily.

(2) Addressing of input/output devices
　　　A specific device number (SCSI-ID) is assigned to each of SCSI devices.　A device for input and output operations, which is on a SCSI device operating as a target or linked to the device, is accessed in units referred to as logical units, and each has its specific device number (LUN: logical unit number) assigned.
　　　An initiator designates SCSI-ID to select a single SCSI device operating as a target device, then designates LUN to select a device on the target device or linked thereto for an input and output operation.
　　　SCSI-ID and LUN are selectable within the following ranges.

　　　　　・SCSI-ID: selectable within the range of #0 to #7 (select by the DIP switch on the conversion adaptor)
　　　　　・LUN: #0 fixed

Mechanical Specification

146.5

25.9

95.25

101.6

Switch(S1)

41.28

44.45

28.5

41.6

60

6.35

10-6-32UNC-28
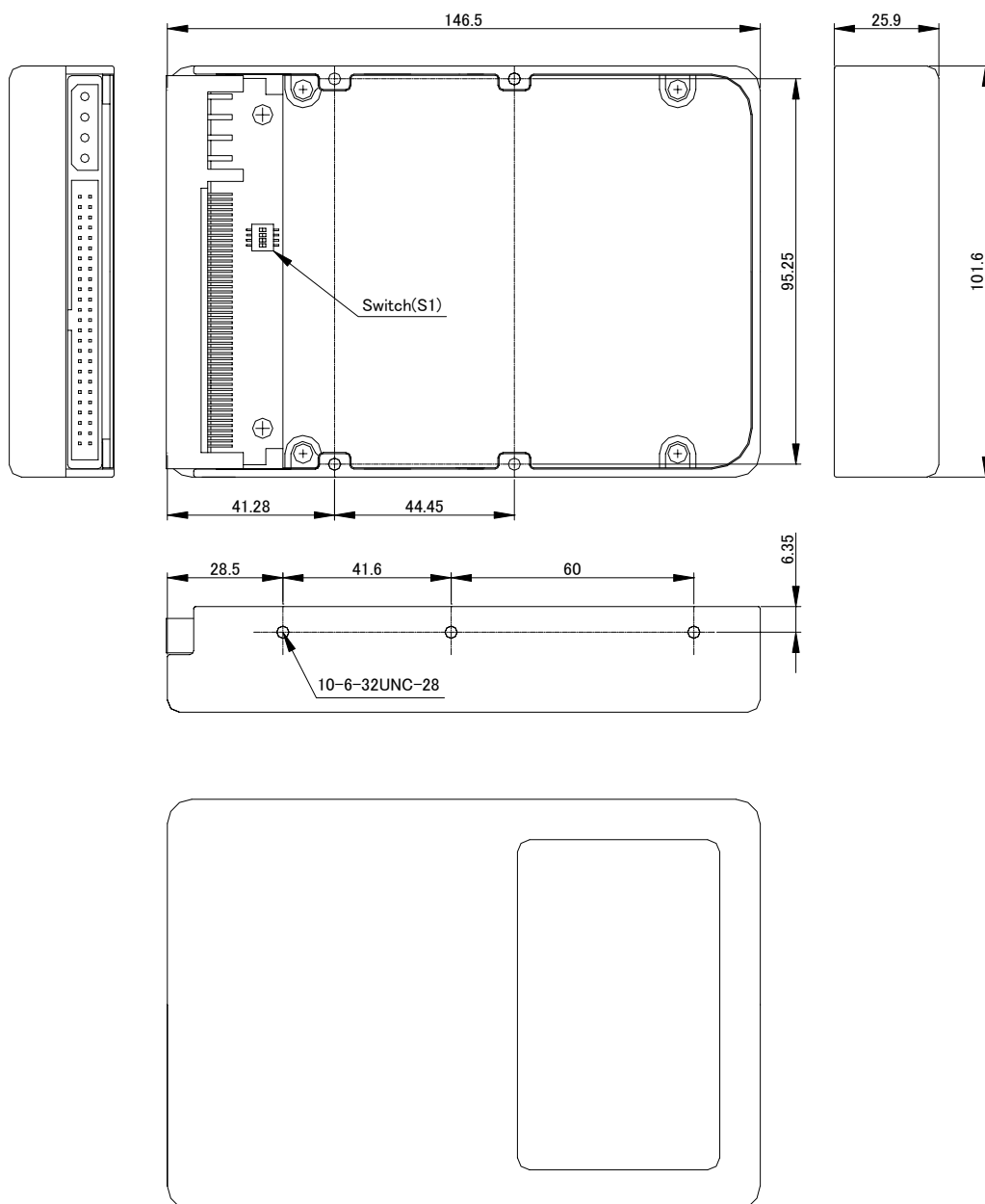
Dimensions (mm)

Product Specifications

Performance:
Asynchronous mode   5.0MB/sec (max)
5MB/S Synchronous mode   5.0MB/sec (max)
10MB/S Synchronous mode(FAST)   10.0MB/sec (max)
20MB/S Synchronous mode(FAST-20)   20.0MB/sec (max)

Operating Voltage:
5V   +/-   5%

Power Consumption:
Ready   100 mA (max)
Read/Write   200 mA (max)

Environmental Specification:
Operating temperature   0°C to 60°C
Storage temperature   -20°C to 80°C
Humidity   85% (Max) [non-condensing]
Shock resistance   9800m/s^2 (max) (three axis directions) [non-operating mode]
Vibration resistance   147m/s^2 peak (25Hz - 2000Hz) [operating mode]
* The interface connector should be mechanically secured if it will be subject to vibrations and physical shock.

Functional Specification

|		
Electrical Requirement	Single-Ended type	○
	Internal Terminator (Active Terminator)	○
	TERMPWR Signal Supply	○
Connector	Non-sealed type (2.54mm pitch)	○
Data Bus Parity		○
Bus Arbitration		○
Disconnect / Re-connect		○
Addressing	SCSI-ID	# 0 - #7
	LUN	# 0 fixed
Data Transfer	SCSI (FAST-20)	20.0 MB/sec. MAX.
Data Buffer		512 Byte FIFO
Data Block		512 Byte

Installation Requirements

1. Environmental conditions
   Installation environmental conditions have to meet the requirements of environmental specifications.

2. Connection conditions

(1) Connector pin configuration

SCSI interface + power supply connector (CN1)

(Front View)
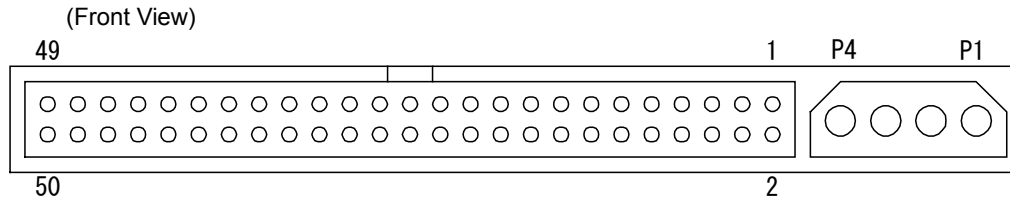
Power supply part

Pin No.	Signal name
P1	OPEN
P2	GND
P3	GND
P4	+5V

SCSI interface part

Pin No.	Signal name	Pin No.	Signal name
1	GND	2	-DB0
3	GND	4	-DB1
5	GND	6	-DB2
7	GND	8	-DB3
9	GND	10	-DB4
11	GND	12	-DB5
13	GND	14	-DB6
15	GND	16	-DB7
17	GND	18	-DBP
19	GND	20	GND
21	GND	22	GND
23	(OPEN)	24	(OPEN)
25	(OPEN)	26	TERMPWR
27	(OPEN)	28	(OPEN)
29	GND	30	GND
31	GND	32	-ATN
33	GND	34	GND
35	GND	36	-BSY
37	GND	38	-ACK
39	GND	40	-RST
41	GND	42	-MSG
43	GND	44	-SEL
45	GND	46	-C/D
47	GND	48	-REQ
49	GND	50	-I/O

(2) Setting switch (S1)

Use the DIP switch to designate the SCSI-ID and terminator of a connected drive.
In each designation, a value '0' indicates OFF and '1' indicates ON.

[grey box] in the following table shows settings at the time of shipping.

1	2	3	4	Designation	
0	0	0			SCSI-ID 0
1	0	0			SCSI-ID 1
0	1	0			SCSI-ID 2
1	1	0		SCSI-ID	SCSI-ID 3
0	0	1			SCSI-ID 4
1	0	1			SCSI-ID 5
0	1	1			SCSI-ID 6
1	1	1			SCSI-ID 7
			0	Terminator	Terminator ON
			1		Terminator OFF