3M™ Mini Serial Attached SCSI (miniSAS) External Cable Assemblies

MiniSAS External Cable Assemblies. High Performance Solution with Rugged Appearance.

Serial Attached SCSI (SAS) is a computer bus technology primarily designed for transfer of data to and from computer data storage devices. The SAS protocol is developed and maintained by the T10 committee and is promoted by SCSI Trade Association. Currently, SAS is specified as both an internal (36-position inside the box) and external (26-position input/output).

Mini Serial Attached SCSI (miniSAS) is the second generation of the SAS interconnect specification and is designed to reduce the overall size of the connector interface and increase data transmission speeds. The reduction of size is significant because it allows increased input/output ports on the PCI card interface. By reducing the pitch to .8 mm, the width of the second generation 4-lane external (4x) connector now allows four (4-lane) external connectors where only three of the first generation 4x connectors resided. This combined with a 2x increase in transmission speed from 3 Gbps to 6 Gbps has increased the aggregate bandwidth density of the same PCI card interact significantly. The miniSAS 4x connectors and cable assemblies are targeted towards high speed, high bandwidth applications like servers and data storage. MiniSAS is an improved compact design for four lane (four independent SAS data streams in one connector) solutions. It is being widely adopted by the many customers using multiple disk drives for high density storage.

The 3M MiniSAS External Cable Assemblies provide cabinet-to-cabinet links and feature a jacketed cable, terminated with die cast housings, compliant to SAS 2.0. These assemblies will perform at 6 Gbps, providing customers with the performance they need to meet the increasing communication speeds for their data storage applications. MiniSAS was developed to meet industry requirements for higher speed, greater bandwidths and longer data transmission distance. The 6Gbps data rate is achieved via the use of high speed differential signals carried over a precision designed cable assembly. The 26-position, 0.8 mm pitch connector provides increased I/O density with greater channel capabilities and requires less space on the PCB boards when compared to the previous generation. One assembly can support up to four channels of transmit (Tx) and receive (Rx) data. Two levels of EMLB contacts support the hot plugging capability which allow the system administrator to add and remove the HDD control cards without having to shut down the system.

Technical Information

- Meets SFF8086/8087/8088 Standards
- Meets SAS 2.0 Specifications
- 6 Gbps Data Transmission
- .8 mm Pitch Card Edge Style Contacts
- 100 ohm Controlled Impedance
- 26p External Interface and Assemblies
- Custom External Assemblies Transition to SATA and SAS Break-out
- EMLB Contacts for Hot Swap

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3M™ Mini Serial Attached SCSI (miniSAS) External Cable Assembly

3M™ MiniSAS External Cable Assemblies mate to 3M™ MiniSAS External Boardmount Connectors. These products conform to SFF 8088. The SFF standards covering miniSAS were developed to support the aggregation and cabling of SAS signals into a dense high speed 4-lane architecture, providing both internal and external configurations. External cable assemblies utilize an internal PCB termination board. The cable is attached to the PCB, while the other end has gold plated traces that mate to the boardmount connector. The PCB and termination is then overmolded and placed inside a die cast shell.

MiniSAS Cable Assemblies are part of your complete storage connector solution from 3M. You may also want to take a look at the 3M™ Serial Advanced Technology Attachment (SATA) Boardmount Connectors and Cable Assemblies, and the 3M™ Serial Attached SCSI (SAS) Connectors. We can provide customized solutions for any of these products upon request. Please contact your local 3M Sales Representative.

External Products

3M Part Number	Configuration	Tech Sheet
8A26-2XXX series	26 Position, Right Angle SMT Connector	TS-2211
8C26-XXXXX series	External shield cage, single, double or quad	TS-2211
8M26 series	26 position, External Cable Assembly	TS-2212

External miniSAS Cable Length

Up to 0.5 meters	30 AWG
Longer than 0.5 meters up to 4 meters	28 AWG
Longer than 4 meters up to 5 meters	26 AWG (not currently released)
Longer than 5 meters (standard covers to 6 meters)	24 AWG (not currently released)

Ordering Information

The part ordering scheme on the right is used to build standard miniSAS external cable assemblies. Since the part number is based on cable length, not all possible part numbers will be loaded. A few basic lengths were selected for initial pricing and sampling.

8m26 - AA04XX - X.XX (RIA E1 & C1 Apply)

[1]Keying options:
01 = Both ends: keys 2, 4, 6
02 = P1: keys 2, 4; P2: keys 4, 6

[2]Length in meters:
0.25 m 0.50 m
1.00 m 2.00 m
3.00 m 4.00 m

[1]Custom keying available (standard keying options shown)
[2]Custom lengths available (standard lengths shown)

Refer to 3M Interconnect Website for access to Tech Sheets and additional product details. **www.3m.com/interconnects**

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3M Electronics Solutions Division
Interconnect Products
6801 River Place Blvd.
Austin, TX 78726-9000
800/225 5373
www.3M.com/interconnects

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