

# 3M™ Mini D Ribbon (MDR) Cable Assembly

.050" High Speed Video Data Transmission System, 50 Position

14X50-SZWB-XXX-0NC



- Supports LVDS Channel Link™ signaling
- 20 shielded pairs (100 ohm) +4 drains for high bandwidth applications
- High density 50 position MDR with rugged ribbon type contact
- 3 Unshielded Twisted 28 AWG Pairs
- EMI shielded junction shell in either plastic or over-molded construction
- Rugged thumbscrew retention
- RoHS\* compliant

Date Modified: May 12, 2006

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## Physical

### Connector Contact Plating

Wiping Area: 30μ" [ 0.76μm ] Min. Gold

### Shell

Color: Beige

Material: Acrylonitrile Butadiene Styrene (ABS)

### Cable

Color: Beige

Jacket Material: Polyvinyl Chloride (PVC)

Flammability: AWM VW-1

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## Electrical

**Voltage Rating:** 30 V

**Current Rating:** 1 A

**Insulation Resistance:**  $> 1 \times 10^8 \Omega$  at @100 Vdc

**Withstanding Voltage:** 350 Vrms for 1 minute

### Individually Shielded Twisted Pairs

**Characteristic Impedance:**  $100 \pm 10 \Omega$

**Conductor Size:** 28 AWG Stranded

**Propagation Velocity:** 1.25 ns/ft [4.1 ns/m ]

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## Environmental

**Temperature Rating:** -20°C to +75°C

\*RoHS = Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment  
"RoHS compliant" means that the product or part does not contain any of the following substances in excess of the following maximum concentration values in any homogeneous material, unless the substance is in an application that is exempt under RoHS: (a) 0.1% (by weight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers; or (b) 0.01% (by weight) for cadmium. Unless otherwise stated by 3M in writing, this information represents 3M's knowledge and belief based upon information provided by third party suppliers to 3M.

UL File No.: E86982

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Interconnect Solutions

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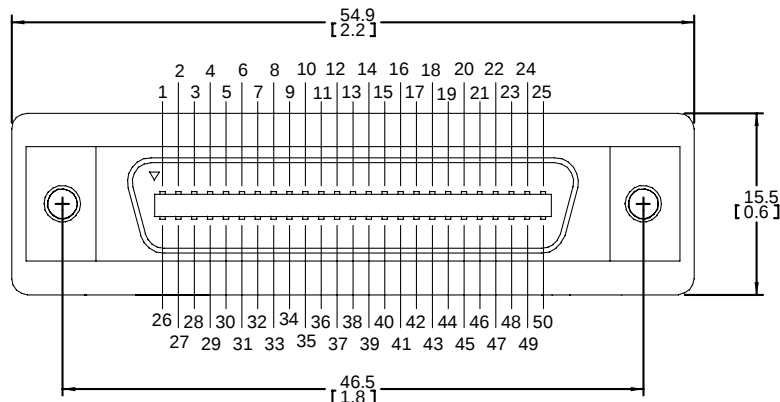
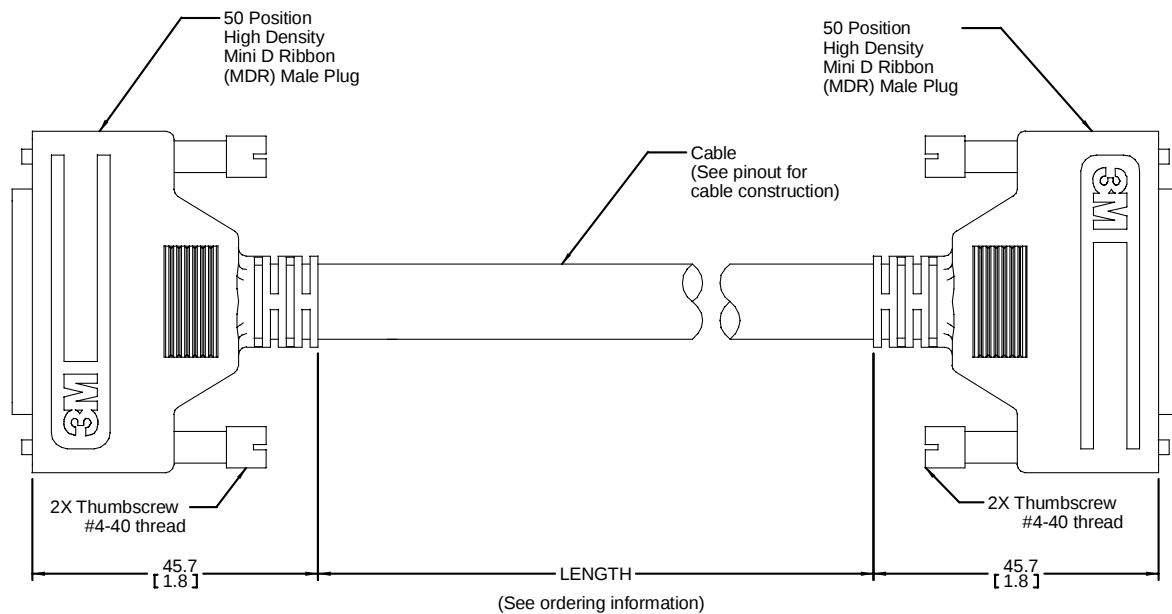
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## Over-Molded #4-40 Thumbscrew



mm  
[Inch]

| Tolerance Unless Noted |     |      |
|------------------------|-----|------|
|                        | 0.0 | 0.00 |
| mm                     | ±.1 | ±.10 |

[ ] Dimensions for Reference only

Generic End Detail  
MDR 50 Position Plug  
( Both Ends )

### Assembly Length Tolerance

Cable Length:  
0.5 to 1.5 meters -0 + .05 meters  
2 to 10 meters -0 +3% of length

## Ordering Information

**14X50-SZWB-XXX-0NC**

Backshell Options:  
T = Over-molded 4-40 thumbscrew  
B = Discrete 4-40 thumbscrew shell kit

Length:  
100 = 1.0 meters  
200 = 2.0 meters  
500 = 5.0 meters



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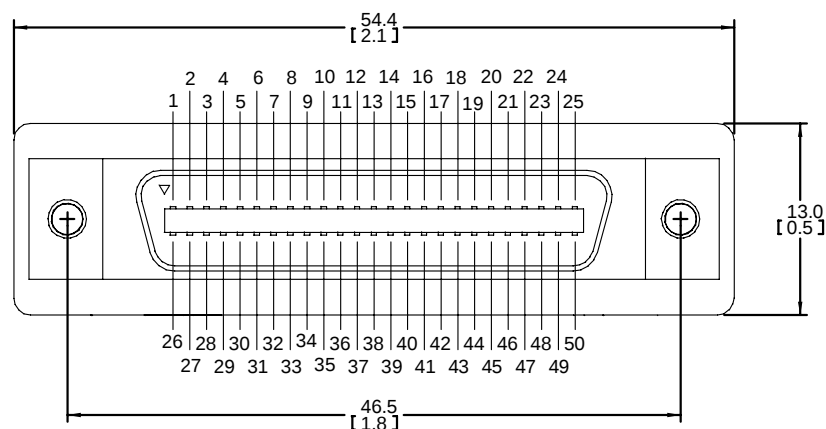
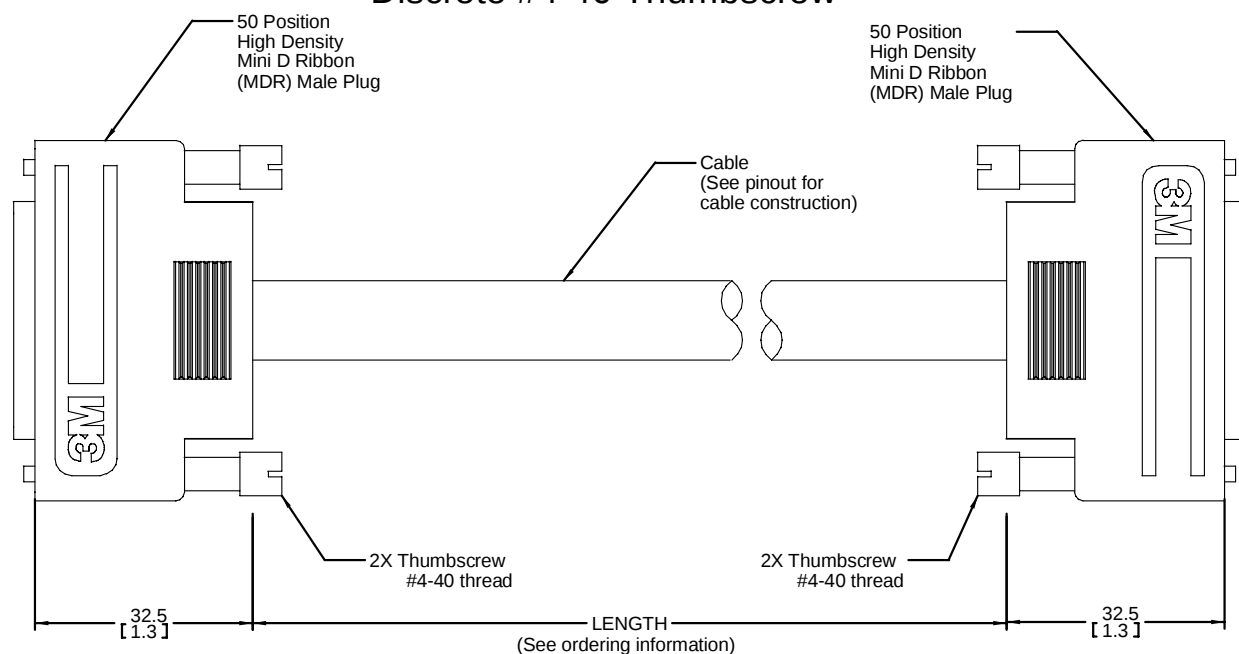
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# 3M™ Mini D Ribbon (MDR) Cable Assembly

.050" High Speed Video Data Transmission System, 50 Position

14X50-SZWB-XXX-0NC

## Discrete #4-40 Thumbscrew



Generic End Detail  
MDR 50 Position Plug  
( Both Ends )

### Assembly Length Tolerance

Cable Length:  
0.5 to 1.5 meters -0 + .05 meters  
2 to 10 meters -0 +3% of length

mm  
[Inch]

| Tolerance Unless Noted |      |       |
|------------------------|------|-------|
|                        | 0.0  | 0.00  |
| mm                     | ± .1 | ± .10 |

[ ] Dimensions for  
Reference only

Note:

1. Use 3341-31 jacksocket for mounting receptacle to panel.



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# 3M™ Mini D Ribbon (MDR) Cable Assembly

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| MDR 50 Position Pinout (F50-13) |          |          |          |          |      |      |          |          |          |          |      |
|---------------------------------|----------|----------|----------|----------|------|------|----------|----------|----------|----------|------|
| P1                              |          |          |          |          |      | P2   |          |          |          |          |      |
| Pair                            | Signal   | Position | Position | Signal   | Pair | Pair | Signal   | Position | Position | Signal   | Pair |
| 1                               | A0M      | 1        | 38       | DDC Gnd  | TP2  | 1    | A0M      | 1        | 38       | DDC Gnd  | TP2  |
| 1                               | A0P      | 26       | 14       | DDC SCL  | TP2  | 1    | A0P      | 26       | 14       | DDC SCL  | TP2  |
| 2                               | A1M      | 2        | 39       | DDC SDA  | TP3  | 2    | A1M      | 2        | 39       | DDC SDA  | TP3  |
| 2                               | A1P      | 27       | 15       | A8M      | 11   | 2    | A1P      | 27       | 15       | A8M      | 11   |
| 3                               | A2M      | 3        | 40       | A8P      | 11   | 3    | A2M      | 3        | 40       | A8P      | 11   |
| 3                               | A2P      | 28       | 16       | A9M      | 12   | 3    | A2P      | 28       | 16       | A9M      | 12   |
| 4                               | CLK1M    | 4        | 41       | A9P      | 12   | 4    | CLK1M    | 4        | 41       | A9P      | 12   |
| 4                               | CLK1P    | 29       | 17       | A10M     | 13   | 4    | CLK1P    | 29       | 17       | A10M     | 13   |
| 5                               | A3M      | 5        | 42       | A10P     | 13   | 5    | A3M      | 5        | 42       | A10P     | 13   |
| 5                               | A3P      | 30       | 18       | CLK3M    | 14   | 5    | A3P      | 30       | 18       | CLK3M    | 14   |
| N/A                             | Shield 1 | 6        | 43       | CLK3P    | 14   | N/A  | Shield 1 | 6        | 43       | CLK3P    | 14   |
| N/A                             | Shield 1 | 31       | 19       | A11M     | 15   | N/A  | Shield 1 | 31       | 19       | A11M     | 15   |
| 6                               | A4M      | 7        | 44       | A11P     | 15   | 6    | A4M      | 7        | 44       | A11P     | 15   |
| 6                               | A4P      | 32       | 20       | Shield 4 | N/A  | 6    | A4P      | 32       | 20       | Shield 4 | N/A  |
| 7                               | A5M      | 8        | 45       | Shield 3 | N/A  | 7    | A5M      | 8        | 45       | Shield 3 | N/A  |
| 7                               | A5P      | 33       | 21       | A12M     | 16   | 7    | A5P      | 33       | 21       | A12M     | 16   |
| 8                               | A6M      | 9        | 46       | A12P     | 16   | 8    | A6M      | 9        | 46       | A12P     | 16   |
| 8                               | A6P      | 34       | 22       | A13M     | 17   | 8    | A6P      | 34       | 22       | A13M     | 17   |
| 9                               | A7M      | 10       | 47       | A13P     | 17   | 9    | A7M      | 10       | 47       | A13P     | 17   |
| 9                               | A7P      | 35       | 23       | A14M     | 18   | 9    | A7P      | 35       | 23       | A14M     | 18   |
| 10                              | CLK2M    | 11       | 48       | A14P     | 18   | 10   | CLK2M    | 11       | 48       | A14P     | 18   |
| 10                              | CLK2P    | 36       | 24       | A15M     | 19   | 10   | CLK2P    | 36       | 24       | A15M     | 19   |
| TP1                             | twpr-    | 12       | 49       | A15P     | 19   | TP1  | twpr-    | 12       | 49       | A15P     | 19   |
| TP1                             | twpr+    | 37       | 25       | CLK4M    | 20   | TP1  | twpr+    | 37       | 25       | CLK4M    | 20   |
| TP3                             | DDC+5V   | 13       | 50       | CLK4P    | 20   | TP3  | DDC+5V   | 13       | 50       | CLK4P    | 20   |

**Notes:**

1. All pairs are individually shielded with aluminum foil.
2. Pair shields are wrapped Aluminum out and in contact with six internal drains (logic ground).
3. Outer braid and foil (chassis ground) is isolated from inner drains (logic ground).

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