

# 3M™ Round, Shielded/Jacketed, Disc. Wire Cable

28 AWG Stranded, Twisted Pair, PVC/PVC

3600X Series



- Meets external wiring requirements of National Electrical Code, Article 725 (CL2)
- 28 AWG stranded wire provides flexibility
- Twisted pairs reduce crosstalk for balanced drive applications
- Dual shielding with aluminum film foil and copper braid provides excellent EMI/ESD protection
- Wires are color coded for easy identification
- 35 db average shielding effectiveness
- RoHS Compliant. See the Regulatory Information Appendix (RIA) in the “RoHS compliance” section of [www.3Mconnectors.com](http://www.3Mconnectors.com) for compliance information (RIA E1 & C1 apply)

Date Modified: June 1, 2012

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## Physical

**Jacket Material:** Polyvinyl Chloride (PVC); **Color:** Beige

Primary Material: PVC

**Marking:**

Standard: (UL) CL2 75C 28 AWG 3M XX  
C  AWM IIA/B 80C 150V FT1 EU <50V  
(where XX may be NU, MR or NW)

**Conductors:** 28 AWG, 7 × 36 AWG [ 7 × Ø 0.127 ] Tinned Stranded Copper

**Shielding:** 0.001 [ 0.03 ] Thick Aluminum/Polyester Film Foil and  
90% Coverage Tinned Copper Braid

## Electrical

**Voltage Rating:** USA: N.E.C. 725, CL2 Canada: 150V EU: <50V

**Insulation Resistance:** (Primary Cable) > 1 × 10<sup>10</sup> Ω/10 ft. [ 3 m ]

| <b>Characteristic Impedance:</b> | <b>Unbalanced</b> | <b>Balanced</b> |
|----------------------------------|-------------------|-----------------|
|                                  | 58 Ω              | 91 Ω            |

|                     |                          |                          |
|---------------------|--------------------------|--------------------------|
| <b>Capacitance:</b> | 29.2 pF/ft [ 95.8 pF/m ] | 18.5 pF/ft [ 60.7 pF/m ] |
|---------------------|--------------------------|--------------------------|

|                    |                          |                          |
|--------------------|--------------------------|--------------------------|
| <b>Inductance:</b> | 0.10 μH/ft [ 0.33 μH/m ] | 0.15 μH/ft [ 0.49 μH/m ] |
|--------------------|--------------------------|--------------------------|

|                           |                          |                          |
|---------------------------|--------------------------|--------------------------|
| <b>Propagation Delay:</b> | 1.69 ns/ft [ 5.54 ns/m ] | 1.69 ns/ft [ 5.54 ns/m ] |
|---------------------------|--------------------------|--------------------------|

|                                 |     |     |
|---------------------------------|-----|-----|
| <b>Velocity of Propagation:</b> | 60% | 60% |
|---------------------------------|-----|-----|

Note: Unbalanced is measured between conductors within a pair with one conductor connected to the shield. Balanced is measured between conductors within a pair with the shield floating.

## Environmental

**Temperature Rating:** USA: CL2; 75°C Max Canada: +80°C

**Flammability Rating:** USA: N.E.C. 725, CL2 Canada: FT1

UL File No.: E118773, Power Limited Circuit Cable; CL2

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| Number of Conductors | 3M Part Number | Dimension A +/- 0.02 [ 0.5 ] |
|----------------------|----------------|------------------------------|
| 14 (7 pair)          | 3600X/14       | .22 [ 5.6 ]                  |
| 20 (10 pair)         | 3600X/20       | .24 [ 6.1 ]                  |
| 24 (12 pair)         | 3600X/24       | .25 [ 6.4 ]                  |
| 26 (13 pair)         | 3600X/26       | .25 [ 6.4 ]                  |
| 36 (18 pair)         | 3600X/36       | .29 [ 7.4 ]                  |
| 40 (20 pair)         | 3600X/40       | .30 [ 7.6 ]                  |
| 50 (25 pair)         | 3600X/50       | .32 [ 8.1 ]                  |
| 68 (34 pair)         | 3600X/68       | .36 [ 9.1 ]                  |
| 80 (40 pair)         | 3600X/80       | .39 [ 9.9 ]                  |
| 100 (50 pair)        | 3600X/100      | .44 [ 11.2 ]                 |



Inch [mm]

| Tolerance Unless Noted |     |      |       |
|------------------------|-----|------|-------|
|                        | .0  | .00  | .000  |
| Inch                   | ±.1 | ±.05 | ±.010 |

[ ] Dimensions for Reference Only

| Pair Identification |      |               |        |      |               |       |      |      |               |        |      |               |        |
|---------------------|------|---------------|--------|------|---------------|-------|------|------|---------------|--------|------|---------------|--------|
| Pair                | Cond | 1st Conductor |        | Cond | 2nd Conductor |       | Pair | Cond | 1st Conductor |        | Cond | 2nd Conductor |        |
|                     |      | Solid         | Band   |      | Solid         | Band  |      |      | Solid         | Band   |      | Solid         | Band   |
| 1                   | 1    | Black         | Red    | 2    | Red           | Black | 26   | 51   | Brown         | Yellow | 52   | Yellow        | Brown  |
| 2                   | 3    | Black         | White  | 4    | White         | Black | 27   | 53   | Brown         | Orange | 54   | Orange        | Brown  |
| 3                   | 5    | Black         | Green  | 6    | Green         | Black | 28   | 55   | Orange        | Yellow | 56   | Yellow        | Orange |
| 4                   | 7    | Black         | Blue   | 8    | Blue          | Black | 29   | 57   | Violet        | Orange | 58   | Orange        | Violet |
| 5                   | 9    | Black         | Yellow | 10   | Yellow        | Black | 30   | 59   | Violet        | Red    | 60   | Red           | Violet |
| 6                   | 11   | Black         | Brown  | 12   | Brown         | Black | 31   | 61   | Violet        | White  | 62   | White         | Violet |
| 7                   | 13   | Black         | Orange | 14   | Orange        | Black | 32   | 63   | Violet        | Green  | 64   | Green         | Violet |
| 8                   | 15   | Red           | White  | 16   | White         | Red   | 33   | 65   | Violet        | Blue   | 66   | Blue          | Violet |
| 9                   | 17   | Red           | Green  | 18   | Green         | Red   | 34   | 67   | Violet        | Yellow | 68   | Yellow        | Violet |
| 10                  | 19   | Red           | Blue   | 20   | Blue          | Red   | 35   | 69   | Violet        | Brown  | 70   | Brown         | Violet |
| 11                  | 21   | Red           | Yellow | 22   | Yellow        | Red   | 36   | 71   | Violet        | Black  | 72   | Black         | Violet |
| 12                  | 23   | Red           | Brown  | 24   | Brown         | Red   | 37   | 73   | Gray          | White  | 74   | White         | Gray   |
| 13                  | 25   | Red           | Orange | 26   | Orange        | Red   | 38   | 75   | Gray          | Brown  | 76   | Brown         | Gray   |
| 14                  | 27   | Green         | White  | 28   | White         | Green | 39   | 77   | Gray          | Red    | 78   | Red           | Gray   |
| 15                  | 29   | Green         | Blue   | 30   | Blue          | Green | 40   | 79   | Gray          | Orange | 80   | Orange        | Gray   |
| 16                  | 31   | Green         | Yellow | 32   | Yellow        | Green | 41   | 81   | Gray          | Yellow | 82   | Yellow        | Gray   |
| 17                  | 33   | Green         | Brown  | 34   | Brown         | Green | 42   | 83   | Gray          | Green  | 84   | Green         | Gray   |
| 18                  | 35   | Green         | Orange | 36   | Orange        | Green | 43   | 85   | Gray          | Blue   | 86   | Blue          | Gray   |
| 19                  | 37   | White         | Blue   | 38   | Blue          | White | 44   | 87   | Tan           | Orange | 88   | Orange        | Tan    |
| 20                  | 39   | White         | Yellow | 40   | Yellow        | White | 45   | 89   | Tan           | Green  | 90   | Green         | Tan    |
| 21                  | 41   | White         | Brown  | 42   | Brown         | White | 46   | 91   | Tan           | Black  | 92   | Black         | Tan    |
| 22                  | 43   | White         | Orange | 44   | Orange        | White | 47   | 93   | Tan           | Blue   | 94   | Blue          | Tan    |
| 23                  | 45   | Blue          | Yellow | 46   | Yellow        | Blue  | 48   | 95   | Tan           | White  | 96   | White         | Tan    |
| 24                  | 47   | Blue          | Brown  | 48   | Brown         | Blue  | 49   | 97   | Tan           | Yellow | 98   | Yellow        | Tan    |
| 25                  | 49   | Blue          | Orange | 50   | Orange        | Blue  | 50   | 99   | Tan           | Brown  | 100  | Brown         | Tan    |

## Ordering Information

**3600X / XX XX**

Jacket Color Options:  
 A = Black Jacket (Special)  
 B = Beige Jacket (Standard)  
 G = Gray Jacket (Special)

Blank = Standard  
 SF = Splice Free

Number of Conductors  
 (See Table)

Note: Available in standard 100 ft, 200 ft and 300 ft rolls, please specify when ordering. Contact 3M for availability of additional conductor counts and/or custom roll lengths.

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