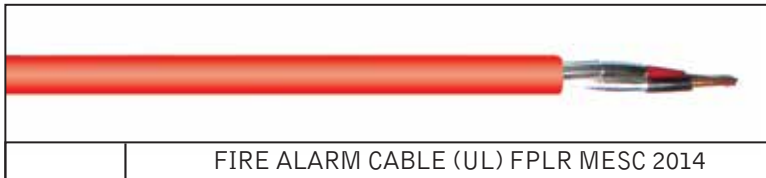


## FIRE ALARM SYSTEMS

### FIRE ALARM CABLES (SHIELDED & UNSHIELDED) 105 °C (UL 1424) POWER LIMITED FIRE PROTECTIVE SIGNALLING CIRCUIT CABLES 300 V



**Application :** Can be used as a fixed wiring within buildings in accordance with NEC Article 760 Power limited circuits. Also suitable as a power limited circuit cable in accordance with NEC Article 725 class 2 or 3 circuits.

#### Construction

- **Conductor** : Solid Annealed Copper Conductor as per ASTM B3.
- **Insulation** : Extruded Solid PVC rated 105°C.
- **Assembly** : Colour coded insulated cores cabled. When the assembly is shielded an Aluminium Mylar Tape is used with a stranded tinned copper drain wire in contact with Aluminium part of the screen.
- **Jacket** : Red Coloured PVC jacketed passes the IEEE-383 Flame Test.

#### COLOUR CODE

| No. of Conductors | Colour | No. of Conductors | Colour |
|-------------------|--------|-------------------|--------|
| 1                 | Black  | 4                 | Blue   |
| 2                 | Red    | 5                 | Brown  |
| 3                 | Yellow | 6                 | Orange |

#### UNSHIELDED CABLES

| Order No. | MESC CODE              | Size AWG | CORES NO. | Strands X diameter No. X mm | Insulation thickness mm | Sheath thickness mm | Approx. O. D. mm | Approx. Weight Kg / Km | Packing |
|-----------|------------------------|----------|-----------|-----------------------------|-------------------------|---------------------|------------------|------------------------|---------|
| 41001     | 4161-02C18AWG-U0RD6-00 | 18       | 2         | 1 x 1.02                    | 0.38                    | 0.89                | 5.7              | 42                     | C,6     |
| 41002     | 4161-02C16AWG-U0RD6-00 | 16       | 2         | 1 x 1.29                    | 0.38                    | 0.89                | 6.2              | 55                     | C,6     |
| 41003     | 4161-02C14AWG-U0RD6-00 | 14       | 2         | 1 x 1.63                    | 0.51                    | 1.01                | 7.7              | 84                     | 8,6     |
| 41004     | 4161-02C12AWG-U0RD6-00 | 12       | 2         | 1 x 2.05                    | 0.51                    | 1.01                | 8.6              | 113                    | 8,6     |

#### SHIELDED CABLES

| Order No. | MESC CODE              | Size AWG | CORES NO. | Strands X diameter No. X mm | Insulation thickness mm | Sheath thickness mm | Approx. O. D. mm | Approx. Weight Kg / Km | Packing |
|-----------|------------------------|----------|-----------|-----------------------------|-------------------------|---------------------|------------------|------------------------|---------|
| 42001     | 4261-02C18AWG-U0RD6-00 | 18       | 2         | 1 x 1.02                    | 0.38                    | 0.89                | 6.1              | 53                     | C,6     |
| 42002     | 4261-02C16AWG-U0RD6-00 | 16       | 2         | 1 x 1.29                    | 0.38                    | 0.89                | 6.6              | 66                     | C,6     |
| 42003     | 4261-02C14AWG-U0RD6-00 | 14       | 2         | 1 x 1.63                    | 0.51                    | 1.01                | 8.1              | 106                    | 8,6     |
| 42004     | 4261-02C12AWG-U0RD6-00 | 12       | 2         | 1 x 2.05                    | 0.51                    | 1.01                | 9.0              | 136                    | 8,6     |
| 42005     | 4261-04C18AWG-U0RD6-00 | 18       | 4         | 1 x 1.02                    | 0.38                    | 0.89                | 6.8              | 78                     | 8,6     |
| 42006     | 4261-04C16AWG-U0RD6-00 | 16       | 4         | 1 x 1.29                    | 0.38                    | 0.89                | 7.7              | 107                    | 8,6     |
| 42007     | 4261-04C14AWG-U0RD6-00 | 14       | 4         | 1 x 1.63                    | 0.51                    | 1.01                | 9.3              | 163                    | 8       |
| 42008     | 4261-04C12AWG-U0RD6-00 | 12       | 4         | 1 x 2.05                    | 0.51                    | 1.01                | 10.8             | 233                    | 8       |

Packing : 6 – 1000 ft Reel.  
C – 1000 mtr Reel.  
8 – 1000 mtr Drum.

## SECURITY SYSTEMS

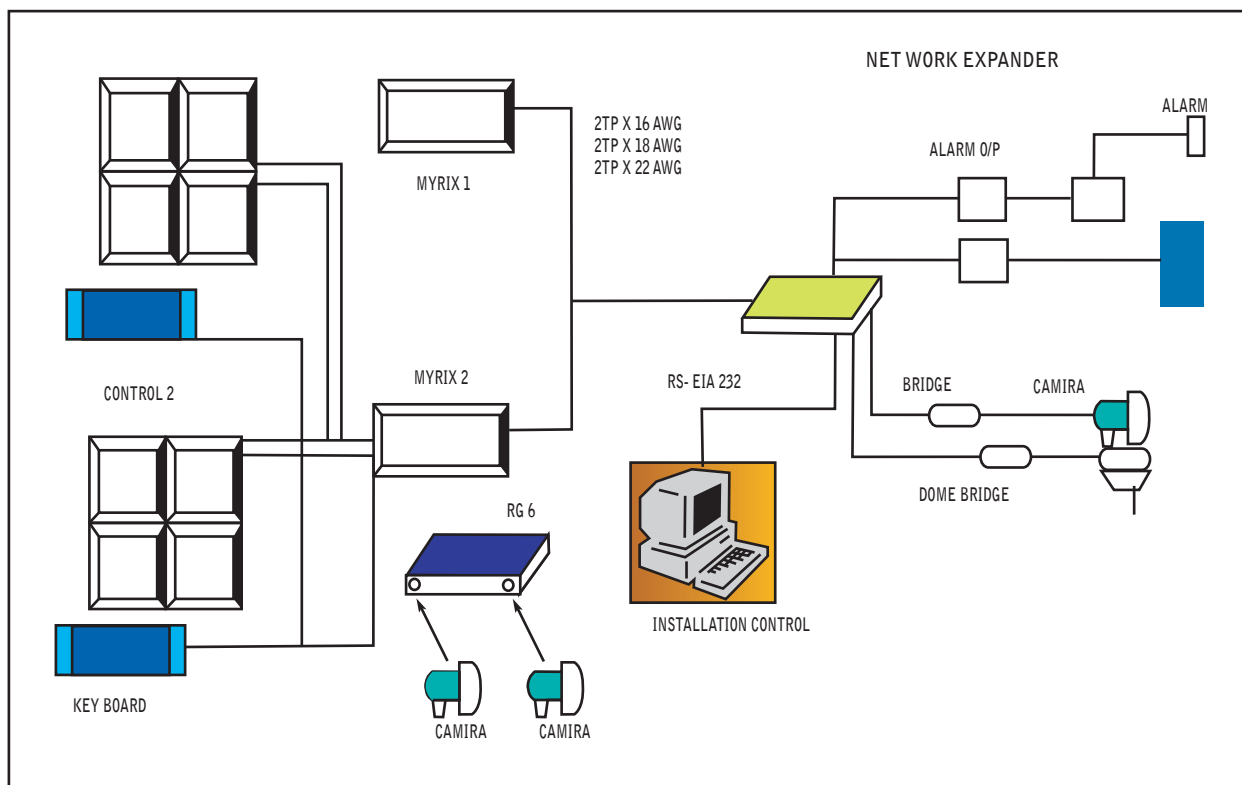
### Access Control & CCTV

This system covers two main activities like Access Control & Closed Circuit Television (CCTV). The Video Surveillance System operates on closed loop basis.

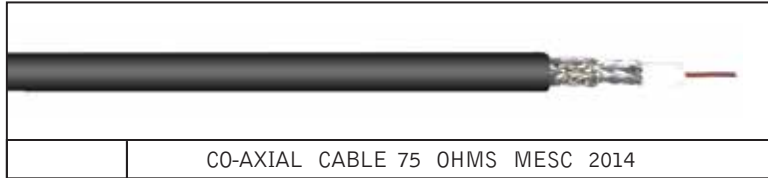
Surveillance System are used in many different applications where reliable Video Surveillance is required such as traffic monitoring centers, large commercial buildings, retail shops, city centers, banks & supermarkets.

(CCTV) Surveillance Systems can observe several patients at once in a hospital recovery room. CCTV permits an individual to watch many areas from one central location.

MESC provides the most widely used paired and coaxial cables used for such systems.



## SECURITY SYSTEMS ANALOG VIDEO CABLES



| LEGEND: |                                     |
|---------|-------------------------------------|
| BC      | ⇔ Bare Copper                       |
| TC      | ⇔ Tinned Copper                     |
| CUWLD   | ⇔ Copper Covered Steel (copperweld) |
| PE      | ⇔ Solid Polyethylene                |
| FPE     | ⇔ Cellular (Foam) Polyethylene      |
| AL      | ⇔ Aluminum                          |
| AMT     | ⇔ Aluminum Mylar Tape               |
| PVC     | ⇔ Polyvinyl Chloride                |

### RG-59/ U NEC TYPE CM

| Order No. | Packing length and MES C CODE             | Approx. Weight | Conductor |     |                    |                         | Insulation |      | Shield                                     | Jacket              |      | Nom. Imp. | Nom. Cap. | Nom. vel of prop. | Nominal Attenuation |      |
|-----------|---|----------------|-----------|-----|--------------------|-------------------------|------------|------|--|---------------------|------|-----------|-----------|-------------------|---------------------|------|
|           |   |                | Material  | AWG | Strands X diameter | Nom. D.C. Res. at 20° C | Matl       | Dia. |  | Material & coverage | Matl |           |           |                   | Dia.                | MHz  |
|           |   | Kg.            | No. x mm  |     | ohm/Km             | mm                      |            | mm   |  | ohm                 | pF/m | %         |           |                   |                     |      |
| 28001     | 1000 ft in Reel<br>2833-01CRG59U-U3BK6-00 | 10.4           | CUWLD     | 20  | 1 X 0.81           | 147.2                   | FPE        | 3.71 | 100% AMT and 40% Al wire braid 55.8 Ω / Km | PVC BLACK           | 6.16 | 75        | 53.1      | 82                | 1                   | 2.0  |
|           | 1000 ft in Reel<br>2833-01CRG59U-U3BK8-00 | 34             |           |     |                    |                         |            |      |  |                     |      |           |           |                   | 10                  | 3.3  |
|           |   |                |           |     |                    |                         |            |      |  |                     |      |           |           |                   | 50                  | 5.9  |
|           |   |                |           |     |                    |                         |            |      |  |                     |      |           |           |                   | 100                 | 8.2  |
|           |   |                |           |     |                    |                         |            |      |  |                     |      |           |           |                   | 200                 | 11.5 |
|           |   |                |           |     |                    |                         |            |      |  |                     |      |           |           |                   | 400                 | 16.1 |
|           |   |                |           |     |                    |                         |            |      |  |                     |      |           |           |                   | 700                 | 21.3 |
|           |   |                |           |     |                    |                         |            |      |  |                     |      |           |           |                   | 900                 | 24.3 |
|           |   |                |           |     |                    |                         |            |      |  |                     |      |           |           |                   | 1000                | 25.9 |

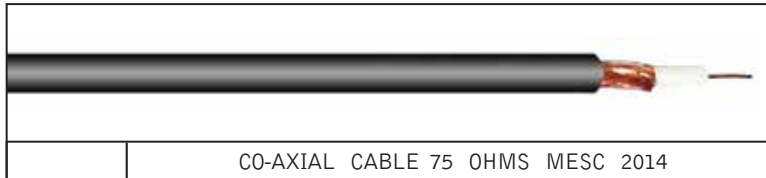
### RG-6 / U NEC TYPE CM

| Order No. | Packing length and MES C CODE             | Approx. Weight | Conductor |     |                    |                         | Insulation |      | Shield   | Jacket              |      | Nom. Imp. | Nom. Cap. | Nom. vel of prop. | Nominal Attenuation |      |
|-----------|---|----------------|-----------|-----|--------------------|-------------------------|------------|------|--|---------------------|------|-----------|-----------|-------------------|---------------------|------|
|           |   |                | Material  | AWG | Strands X diameter | Nom. D.C. Res. at 20° C | Matl       | Dia. |  | Material & coverage | Matl |           |           |                   | Dia.                | MHz  |
|           |   | Kg.            | No. x mm  |     | ohm/Km             | mm                      |            | mm   |  | ohm                 | pF/m | %         |           |                   |                     |      |
| 21004     | 1000 ft in Reel<br>2163-01CRG6/U-U2BK6-00 | 17.2           | BC        | 18  | 1 X 1.02           | 21.4                    | FPE        | 4.57 | 100% AMT and 61% Tinned copper braid 16.4 Ω / Km | PVC BLACK           | 7.0  | 75        | 53.1      | 82                | 1                   | 1.0  |
|           | 1000 ft in Reel<br>2163-01CRG6/U-U2BK8-00 | 56.4           |           |     |                    |                         |            |      |  |                     |      |           |           |                   | 10                  | 2.3  |
|           |   |                |           |     |                    |                         |            |      |  |                     |      |           |           |                   | 50                  | 4.9  |
|           |   |                |           |     |                    |                         |            |      |  |                     |      |           |           |                   | 100                 | 6.6  |
|           |   |                |           |     |                    |                         |            |      |  |                     |      |           |           |                   | 200                 | 9.2  |
|           |   |                |           |     |                    |                         |            |      |  |                     |      |           |           |                   | 400                 | 13.1 |
|           |   |                |           |     |                    |                         |            |      |  |                     |      |           |           |                   | 700                 | 17.4 |
|           |   |                |           |     |                    |                         |            |      |  |                     |      |           |           |                   | 900                 | 20.0 |
|           |   |                |           |     |                    |                         |            |      |  |                     |      |           |           |                   | 1000                | 21.3 |

### RG-11 / U

| Order No. | Packing length and MES C CODE             | Approx. Weight | Conductor |     |                    |                         | Insulation |      | Shield  | Jacket              |       | Nom. Imp. | Nom. Cap. | Nom. vel of prop. | Nominal Attenuation |      |
|-----------|---|----------------|-----------|-----|--------------------|-------------------------|------------|------|---|---------------------|-------|-----------|-----------|-------------------|---------------------|------|
|           |   |                | Material  | AWG | Strands X diameter | Nom. D.C. Res. at 20° C | Matl       | Dia. |   | Material & coverage | Matl  |           |           |                   | Dia.                | MHz  |
|           |   | Kg.            | No. x mm  |     | ohm/Km             | mm                      |            | mm   |   | ohm                 | pF/m  | %         |           |                   |                     |      |
| 21006     | 1000 ft in Reel<br>2163-01CRG11U-U2BK6-00 | 33.2           | BC        | 14  | 1 X 1.63           | 8.5                     | FPE        | 7.24 | 100% AMT and 61% Tinned copper braid 9.8 Ω / Km | PVC BLACK           | 10-29 | 75        | 52.8      | 84                | 1                   | 0.6  |
|           | 1000 ft in Reel<br>2163-01CRG11U-U2BK8-00 | 109            |           |     |                    |                         |            |      |   |                     |       |           |           |                   | 10                  | 1.6  |
|           |   |                |           |     |                    |                         |            |      |   |                     |       |           |           |                   | 50                  | 3.0  |
|           |   |                |           |     |                    |                         |            |      |   |                     |       |           |           |                   | 100                 | 4.3  |
|           |   |                |           |     |                    |                         |            |      |   |                     |       |           |           |                   | 200                 | 5.3  |
|           |   |                |           |     |                    |                         |            |      |   |                     |       |           |           |                   | 400                 | 7.6  |
|           |   |                |           |     |                    |                         |            |      |   |                     |       |           |           |                   | 700                 | 10.8 |
|           |   |                |           |     |                    |                         |            |      |   |                     |       |           |           |                   | 900                 | 13.1 |
|           |   |                |           |     |                    |                         |            |      |   |                     |       |           |           |                   | 1000                | 14.1 |

## SECURITY SYSTEMS CATV CABLES



| LEGEND: |   |                                   |
|---------|---|-----------------------------------|
| BC      | ⇒ | Bare Copper                       |
| TC      | ⇒ | Tinned Copper                     |
| CUWLD   | ⇒ | Copper Covered Steel (copperweld) |
| PE      | ⇒ | Solid Polyethylene                |
| FPE     | ⇒ | Cellular (Foam) Polyethylene      |
| AL      | ⇒ | Aluminum                          |
| AMT     | ⇒ | Aluminum Mylar Tape               |
| PVC     | ⇒ | Polyvinyl Chloride                |

### RG-59/U NEC TYPE CM

| Order No. | Packing length and MESC CODE | Approx Weight | Conductor |     |                                |                                  | Insulation |                 | Shield   | Jacket  |      | Nom. Imp. | Nom. Cap. | Nom. vel of prop. | Nominal Attenuation |      |
|-----------|------------------------------|---------------|-----------|-----|--------------------------------|----------------------------------|------------|-----------------|--|---|------|-----------|-----------|-------------------|---------------------|------|
|           |                              |               | Material  | AWG | Strands X diameter<br>No. x mm | Nom. D.C. Res. at 20°C<br>ohm/Km | Matl       | Core Dia.<br>mm |  | Material & coverage<br>Nom. shield resistance | Matl |           |           |                   | Dia.<br>mm          | MHz  |
| 29001     |                              | 11<br>36      | BC        | 20  | 1 X 0.81                       | 34                               | FPE        | 3.71            | Bare Copper Braid<br>95% Coverage braid<br>8.5 Ω/ Km | PVC BLACK                                     | 6.16 | 75        | 56.8      | 78                | 1                   | 2.0  |
|           |                              |               |           |     |                                |                                  |            |                 |  |   |      |           |           |                   | 10                  | 3.3  |
|           |                              |               |           |     |                                |                                  |            |                 |  |   |      |           |           |                   | 50                  | 6.2  |
|           |                              |               |           |     |                                |                                  |            |                 |  |   |      |           |           |                   | 100                 | 8.9  |
|           |                              |               |           |     |                                |                                  |            |                 |  |   |      |           |           |                   | 200                 | 12.8 |
|           |                              |               |           |     |                                |                                  |            |                 |  |   |      |           |           |                   | 400                 | 18.4 |
|           |                              |               |           |     |                                |                                  |            |                 |  |   |      |           |           |                   | 500                 | 20.7 |
| 1000      | 29.8                         |               |           |     |                                |                                  |            |                 |  |   |      |           |           |                   |                     |      |

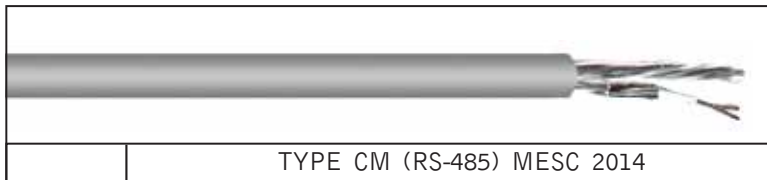
### RG6/U NEC TYPE CM

| Order No. | Packing length and MESC CODE   | Approx Weight | Conductor |     |                                |                                   | Insulation |                 | Shield   | Jacket  |      | Nom. Imp. | Nom. Cap. | Nom. vel of prop. | Nominal Attenuation |      |
|-----------|--|---------------|-----------|-----|--------------------------------|-----------------------------------|------------|-----------------|--|---|------|-----------|-----------|-------------------|---------------------|------|
|           |  |               | Material  | AWG | Strands X diameter<br>No. x mm | Nom. D.C. Res. at 20° C<br>ohm/Km | Matl       | Core Dia.<br>mm |  | Material & coverage<br>Nom. shield resistance | Matl |           |           |                   | Dia.<br>mm          | MHz  |
| 21005     | 1000 ft in Reel<br>2A63-01CRG6/U-U1BK6-00<br>1000 ft in Reel<br>2A63-01CRG6/U-U1BK8-00 | 72.8          | BC        | 18  | 1 X 1.02                       | 24.0                              | FPE        | 4.57            | 2 Bare copper Braid<br>98% Coverage<br>6.6 Ω/ Km | PVC BLACK                                     | 7.35 | 75        | 53.1      | 78                | 1                   | 0.7  |
|           |  |               |           |     |                                |                                   |            |                 |  |   |      |           |           |                   | 10                  | 2.3  |
|           |  |               |           |     |                                |                                   |            |                 |  |   |      |           |           |                   | 50                  | 5.6  |
|           |  |               |           |     |                                |                                   |            |                 |  |   |      |           |           |                   | 100                 | 8.2  |
|           |  |               |           |     |                                |                                   |            |                 |  |   |      |           |           |                   | 200                 | 11.8 |
|           |  |               |           |     |                                |                                   |            |                 |  |   |      |           |           |                   | 400                 | 17.4 |
|           |  |               |           |     |                                |                                   |            |                 |  |   |      |           |           |                   | 700                 | 23.6 |
| 900       | 27.2   |               |           |     |                                |                                   |            |                 |  |   |      |           |           |                   |                     |      |
| 1000      | 28.9   |               |           |     |                                |                                   |            |                 |  |   |      |           |           |                   |                     |      |

### RG11/U NEC TYPE CM

| Order No. | Packing length and MESC CODE   | Approx Weight | Conductor |     |                                |                                   | Insulation |                 | Shield   | Jacket  |       | Nom. Imp. | Nom. Cap. | Nom. vel of prop. | Nominal Attenuation |      |
|-----------|--|---------------|-----------|-----|--------------------------------|-----------------------------------|------------|-----------------|--|---|-------|-----------|-----------|-------------------|---------------------|------|
|           |  |               | Material  | AWG | Strands X diameter<br>No. x mm | Nom. D.C. Res. at 20° C<br>ohm/Km | Matl       | Core Dia.<br>mm |  | Material & coverage<br>Nom. shield resistance | Matl  |           |           |                   | Dia.<br>mm          | MHz  |
| 21002     | 1000 ft in Reel<br>2963-01CRG11/U-U1BK6-00<br>1000 ft in Reel<br>2963-01CRG11/U-U1BK8-00 | 37.8<br>124   | BC        | 14  | 1 X 1.63                       | 8.5                               | FPE        | 7.24            | Bare copper Braid<br>97% Coverage<br>3.6 Ω/ Km | Polyethylene<br>BLACK                         | 10.29 | 75        | 52.8      | 84                | 1                   | 0.6  |
|           |  |               |           |     |                                |                                   |            |                 |  |   |       |           |           |                   | 10                  | 1.1  |
|           |  |               |           |     |                                |                                   |            |                 |  |   |       |           |           |                   | 50                  | 3.0  |
|           |  |               |           |     |                                |                                   |            |                 |  |   |       |           |           |                   | 100                 | 4.3  |
|           |  |               |           |     |                                |                                   |            |                 |  |   |       |           |           |                   | 200                 | 6.2  |
|           |  |               |           |     |                                |                                   |            |                 |  |   |       |           |           |                   | 400                 | 9.5  |
|           |  |               |           |     |                                |                                   |            |                 |  |   |       |           |           |                   | 700                 | 13.5 |
| 900       | 15.7   |               |           |     |                                |                                   |            |                 |  |   |       |           |           |                   |                     |      |
| 1000      | 17.1   |               |           |     |                                |                                   |            |                 |  |   |       |           |           |                   |                     |      |

## SECURITY SYSTEMS EI RS-485 APPLICATIONS



**22 AWG (7 X 30)** Description : Stranded tinned copper, foam polyethylene insulated, twisted pairs overall aluminum polyester shield, 22 AWG stranded tinned copper drain wire, overall tinned copper braid shield (90% coverage).

**COLOR CODE:** Black PVC jacket.

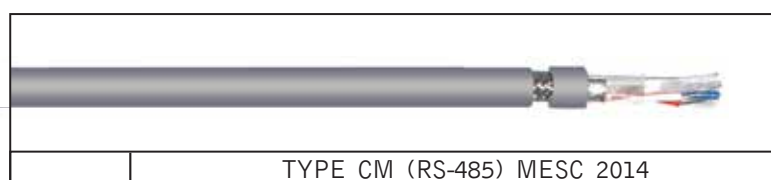
| Pair No. | Color                                       |
|----------|---|
| 1        | White/Blue stripe and Blue/White stripe     |
| 2        | White/Orange stripe and Orange/White stripe |
| 3        | White/Green stripe and Green/White stripe   |
| 4        | White/Brown stripe and Brown/White stripe   |

| Order No. | MESC CODE              | UL NEC Type Voltage grade | No. of pairs | Packing length |      | Approx. weight | Nominal D.C.R |        | Nominal O.D. |      | Nom. Imp. | Nom. Vel of prop. | Nominal Capacitance |     |      |      |
|-----------|------------------------|---------------------------|--------------|----------------|------|----------------|---------------|--------|--------------|------|-----------|-------------------|---------------------|-----|------|------|
|           |                        |                           |              | m              | ft   |                | kg            | Cond.  | Shield       | mm   |           |                   | Inch                | c/c |      | c/s  |
|           |                        |                           |              |                |      |                |               |        |              |      |           |                   |                     |     |      | pF/m |
| 15112     | 1523-01P22AWG-U2BK6-42 | NEC Type CM               | 1            | 304.2          | 1000 | 22.0           | 48.2/km       | 9.5/km | 7.2          | 0.28 | 120       | 78                | 36.1                | 11  | 65.6 | 20   |
| 15113     | 1523-02P22AWG-U2GY8-42 | Type PLIC 300V            | 2            | 304.2          | 1000 | 32.4           | 48.2/km       | 4.6/km | 9.6          | 0.38 | 120       | 78                | 36.1                | 11  | 65.6 | 20   |
| 15114     | 1523-03P22AWG-U2BK6-42 |                           | 3            | 304.2          | 1000 | 39.7           | 48.2/km       | 4.6/km | 10.6         | 0.42 | 120       | 78                | 36.1                | 11  | 65.6 | 20   |
| 15115     | 1523-04P22AWG-U2BK6-42 |                           | 4            | 304.2          | 1000 | 48.8           | 48.2/km       | 3.6/km | 11.7         | 0.46 | 120       | 78                | 36.1                | 11  | 65.6 | 20   |

C/C – Capacitance between conductors.

C/S – Capacitance between one conductor and other conductors connected to shield.

## SECURITY SYSTEMS LOW CAPACITANCE COMPUTER CABLES EIA RS-485 APPLICATIONS



**24 AWG (7 X 32)** Description : Tinned copper conductor, polyethylene insulated, twisted pairs, overall Aluminum polyester shield, with 24 AWG stranded tinned copper drain wire, overall tinned copper braid shield (90% coverage), Grey PVC jacket.

| Order No. | MESC CODE              | UL NEC Type Voltage grade temperature rating | No. of pairs | Packing length |      | Approx. weight kgs | Approx. O.D. |      | Nominal D.C.R |               | Nom. Imp. Ohms | Nom. Volt. of prop. | Nominal Capacitance |       |      |       |
|-----------|------------------------|--|--------------|----------------|------|--------------------|--------------|------|---------------|---------------|----------------|---------------------|---------------------|-------|------|-------|
|           |                        |  |              | m              | ft   |                    | mm           | Inch | Cond. Ohm/km  | Shield Ohm/km |                |                     | c/c                 |       | c/s  |       |
|           |                        |  |              |                |      |                    |              |      |               |               |                |                     | pF/m                | pF/ft | pF/m | pF/ft |
| 15108     | 1522-01P24AWG-U2GY8-00 | NEC CM 300V, 80°C                            | 1            | 1000           | 3280 | 63                 | 6.8          | 0.26 | 78.7          | 11.0          | 120            | 66                  | 42                  | 12.8  | 75.5 | 23.0  |
| 15111     | 1522-02P24AWG-U2GY8-00 | NEC CM 300V, 80°C                            | 2            | 1000           | 3280 | 106                | 10.3         | 0.40 | 78.7          | 7.2           | 120            | 66                  | 42                  | 12.8  | 75.5 | 23.0  |

## AUDIO & COMPUTER CABLES

**22 AWG (7 X 30)** Description : Tinned copper conductor, polyethylene insulated Black & Red under Aluminum polyester shield, Green & White under Aluminum polyester shield, common drain wire of 24 AWG stranded tinned copper with Grey PVC jacket.

| Order No. | MESC CODE              | UL NEC Type Voltage grade temperature rating | No. of pairs | Packing length |      | Approx. weight kgs | Approx. O.D. |      | Nominal D.C.R |               | Nom. Imp. Ohms | Nom. Volt. of prop. | Nominal Capacitance |       |      |       |
|-----------|------------------------|--|--------------|----------------|------|--------------------|--------------|------|---------------|---------------|----------------|---------------------|---------------------|-------|------|-------|
|           |                        |  |              | m              | ft   |                    | mm           | Inch | Cond. Ohm/km  | Shield Ohm/km |                |                     | c/c                 |       | c/s  |       |
|           |                        |  |              |                |      |                    |              |      |               |               |                |                     | pF/m                | pF/ft | pF/m | pF/ft |
| 13001     | 1322-02P22AWG-U0GY8-00 | NEC CM 300V, 60°C                            | 2            | 1000           | 3280 | 35                 | 6.1          | 0.24 | 49.2          | 54.5          | 45             | 66                  | 115                 | 35    | 203  | 62    |

**20 AWG (7 X 22)** Description : Tinned copper, polyethylene insulated Twisted pairs. Each pair individually Shielded with Aluminum polyester shield, and 22 AWG stranded tinned copper drain wire. Grey PVC jacket.

Color code : Black / Red, Black / White, Black/Green.

|       |                         |                   |   |       |      |      |      |      |      |      |    |    |    |    |     |    |
|-------|-------------------------|-------------------|---|-------|------|------|------|------|------|------|----|----|----|----|-----|----|
| 13002 | 1322-03P20 AWG-U0GY6-00 | NEC CM 300V, 80°C | 3 | 304.8 | 1000 | 26.6 | 0.34 | 0.34 | 34.4 | 45.9 | 50 | 66 | 98 | 30 | 180 | 55 |
|-------|-------------------------|-------------------|---|-------|------|------|------|------|------|------|----|----|----|----|-----|----|

**18 AWG (19 X 30)** Description : Tinned copper, polyethylene insulated twisted pairs. Each pair individually Shielded with Aluminum polyester shield, and 20 AWG stranded tinned copper drain with Grey PVC jacket.

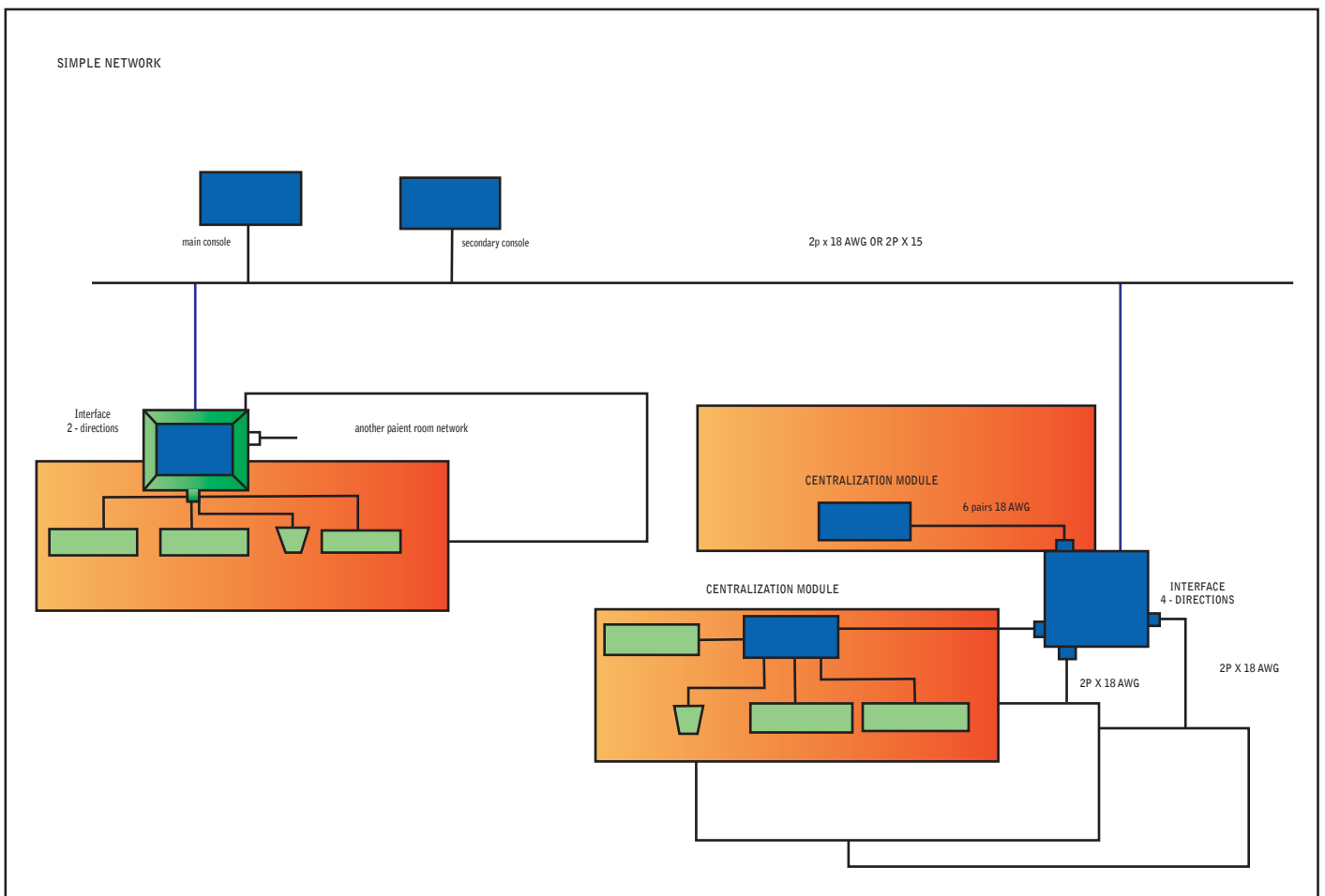
Color code : Black / Red, Black / White, Black/Green.

|       |                        |                   |   |       |      |      |       |      |    |      |    |    |    |    |     |    |
|-------|------------------------|-------------------|---|-------|------|------|-------|------|----|------|----|----|----|----|-----|----|
| 13003 | 13C2-03P18AWG-U0GY6-00 | NEC CM 300V, 80°C | 3 | 304.8 | 1000 | 38.5 | 10.37 | 0.41 | 21 | 27.2 | 50 | 66 | 98 | 30 | 180 | 55 |
|-------|------------------------|-------------------|---|-------|------|------|-------|------|----|------|----|----|----|----|-----|----|

## NURSE CALL SYSTEMS

- Developed to help hospital staff for easier and faster communication (System's schématique cabling circuit is enclosed)

SCHEMATIC DIAGRAM  
NURSE CALL SYSTEM



## NURSE CALL SYSTEMS

### JE-Y(St)Y INDUSTRIAL ELECTRONIC CABLES VDE - 0815



**Application** : Suitable for measurement and control in the fields of electronics. This cable is also used for data transmission in computers. Suitable for fixed installation in dry and humid premises.

**Special Applications** : Suitable for MAXI-TERMI point connections.

| Construction |   | Technical Data                |  |
|--------------|---|-------------------------------|--|
| Conductor    | : Solid plain copper.   | Temperature range             |  |
| Insulation   | : PVC insulation type YI-3 to VDE 0207.   | Stationary                    | : -30 °C to +70 °C.  |
| <b>Pair</b>  | : Cores twisted into pairs. Two (2) pairs shall be a quad. Pairs colour coded as per VDE - 0815.<br>First Pair : Blue + Red.<br>Second Pair : Grey + Yellow.<br>Third Pair : Green + Brown.<br>Fourth Pair : White + Black. | Flexing                       | : -5 °C to +50 °C.   |
|              |   | Peak working voltage          | : 225 Volts.   |
|              |   | Minimum bending radius        | : 7.5 X cable diameter.  |
|              |   | Conductor resistance at 20°C  | : 36.6 ohm/Km.   |
|              |   | Insulation resistance         | : 100 MOhm - Km.   |
| Units        | : Four pairs bundled into a unit and wrapped with an open helix of numbered polyester tape.   | Mutual Capacitance            | : 100 nF/Km (cables up to 4 pairs the value can exceed by 20%. |
| Assembly     | : Units cabled with non-hygroscopic fillers if necessary, shielded with aluminum polyester tape and stranded tinned copper drain wire for electrostatic noise rejection.  | Capacitance unbalance maximum | : 200pF/100m.  |
| Outer Sheath | : PVC type YM - 1 as per VDE - 0207 coloured grey ( blue for Intrinsically safe circuits). Outer sheath passes flame retardant test as per IEC-332-1.   | R.M.S. test voltage           | : 500 V core/core.<br>2000 V core/screen.                      |
|              |   | Attenuation                   | : 1.1dB/Km at 800Hz.<br>3.0dB/Km at10KHz.                      |

| Size<br>sq. mm | Order<br>No. | MESC<br>Code           | Pairs | Strands X<br>diameter<br>No. X mm | Insulation<br>thickness<br>mm | Sheath<br>thickness<br>mm | Approx.<br>O. D.<br>mm | Approx.<br>Weight<br>Kg / Km |
|----------------|--------------|------------------------|-------|-----------------------------------|-------------------------------|---------------------------|------------------------|------------------------------|
| 0.5            | N2001        | N261-01P00050-U0GY8-00 | 1     | 1 X 0.8                           | 0.3                           | 1.0                       | 5.1                    | 45                           |
|                | N2002        | N261-02P00050-U0GY8-00 | 2     | 1 X 0.8                           | 0.3                           | 1.0                       | 5.9                    | 60                           |
|                | N2003        | N261-04P00050-U0GY8-00 | 4     | 1 X 0.8                           | 0.3                           | 1.0                       | 9.1                    | 105                          |
|                | N2004        | N261-08P00050-U0GY8-00 | 8     | 1 X 0.8                           | 0.3                           | 1.0                       | 11.4                   | 170                          |
|                | N2005        | N261-12P00050-U0GY8-00 | 12    | 1 X 0.8                           | 0.3                           | 1.2                       | 13.7                   | 250                          |
|                | N2006        | N261-16P00050-U0GY8-00 | 16    | 1 X 0.8                           | 0.3                           | 1.2                       | 15.3                   | 315                          |
|                | N2007        | N261-20P00050-U0GY8-00 | 20    | 1 X 0.8                           | 0.3                           | 1.2                       | 16.8                   | 375                          |

Packing: Wooden Drums of 500/1000meters



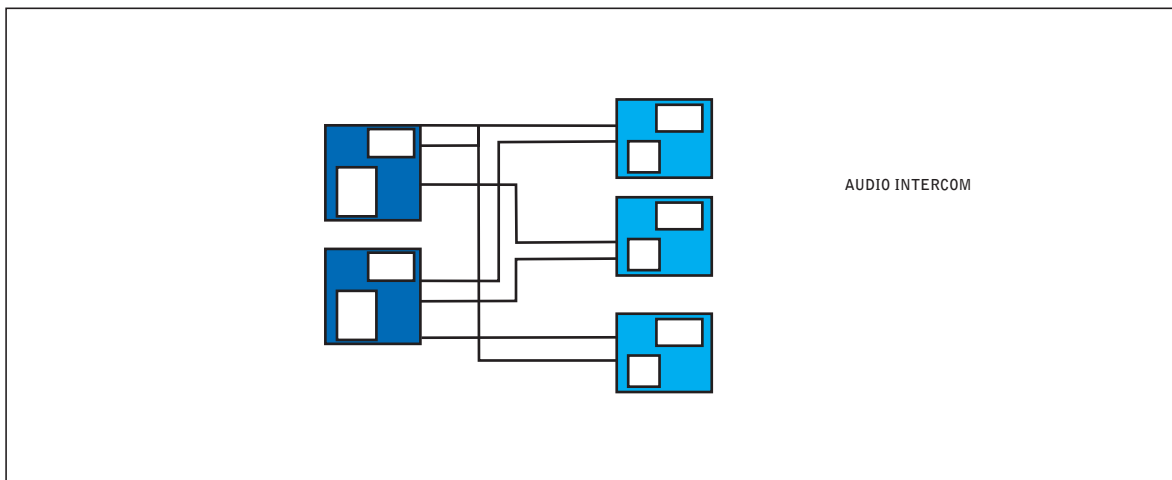
## INTERCOM SYSTEMS

- Residential - Single - Audio & Video - Multi - Audio & Video
- Business - Multi - Audio & Video
- Industrial - Multi - Audio & Video

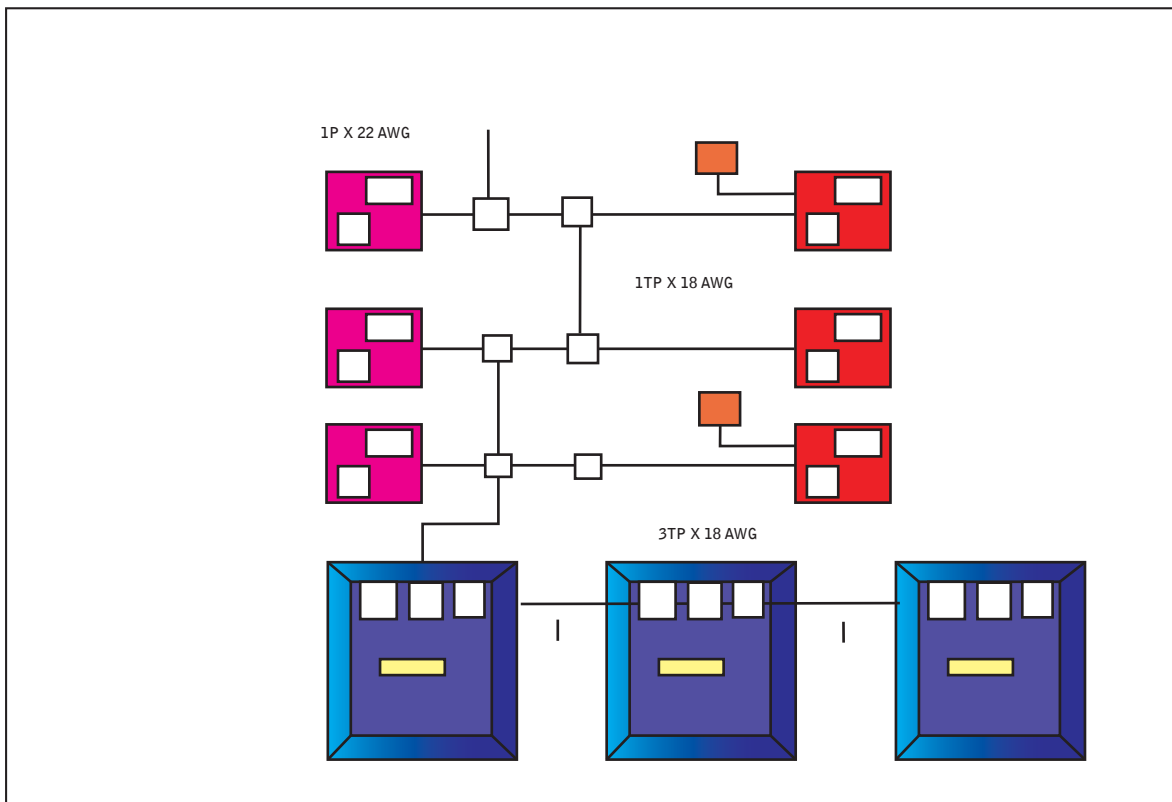
(System's schematic cabling circuit for both types are enclosed)

SINGLE LINE

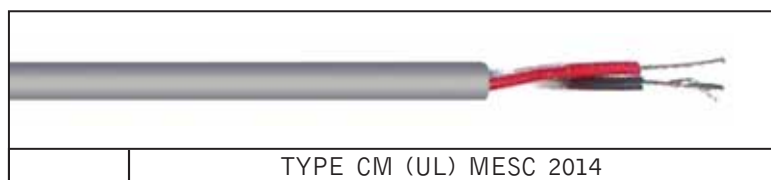
SCHEMATIC DIAGRAM  
INTERCOM SYSTEM



AUDIO & VIDEO DAIGRAM



## INTERCOM SYSTEMS AUDIO CABLES



**22AWG (7 X 30)**      Description : Stranded tinned copper, PVC insulated, twisted pair, Grey PVC jacket.  
 Color code : Red, Black.

| Order No. | MESC Code              | Nec Type Voltage grade | No. of Cond. | Packing length |      | Approx. weight | Insulation thickness |       | Jacket thickness |       | Nominal O.D. |       |
|-----------|------------------------|------------------------|--------------|----------------|------|----------------|----------------------|-------|------------------|-------|--------------|-------|
|           |                        |                        |              | m              | ft   |                | kg                   | mm    | inch             | mm    | Inch         | mm    |
| 11003     | 1121-01P22AWG-U0GY8-00 | NEC Type CM 300V       | 2            | 1000           | 3280 | 23             | 0.38                 | 0.015 | 0.64             | 0.025 | 4.5          | 0.177 |

**22 AWG (7 X 30)**      Description : Stranded tinned copper, PVC insulated, twisted pairs, Grey PVC jacket.

### COLOR CODE

| Pair No. | Color         |
|----------|---------------|
| 1        | Black & Red   |
| 2        | Black & White |
| 3        | Black & green |

| Order No. | MESC Code              | Nec Type Voltage grade | No. of Pairs | Packing length |      | Approx. weight | Insulation thickness |       | Jacket thickness |       | Nominal O.D. |      |
|-----------|------------------------|------------------------|--------------|----------------|------|----------------|----------------------|-------|------------------|-------|--------------|------|
|           |                        |                        |              | m              | ft   |                | kg                   | mm    | inch             | mm    | Inch         | mm   |
| 11004     | 1121-02P22AWG-U0GY8-00 | NEC Type CM 300V       | 2            | 1000           | 3280 | 41             | 0.25                 | 0.010 | 0.81             | 0.032 | 6.4          | 0.25 |
| 11005     | 1121-03P22AWG-U0GY8-00 | NEC Type CM 300V       | 3            | 1000           | 3280 | 53             | 0.25                 | 0.010 | 0.81             | 0.032 | 6.8          | 0.27 |

**18 AWG (16 X 30)**      Description : Stranded tinned copper, PVC insulated, twisted pairs, Grey PVC jacket.

|       |                        |                  |   |      |      |    |      |       |      |       |     |      |
|-------|------------------------|------------------|---|------|------|----|------|-------|------|-------|-----|------|
| 11001 | 1191-01P18AWG-U0GY8-00 | NEC Type CM 300V | 1 | 1000 | 3280 | 40 | 0.36 | 0.014 | 0.81 | 0.032 | 5.6 | 0.22 |
| 11006 | 1191-02P18AWG-U0GY8-00 | NEC Type CM 300V | 2 | 1000 | 3280 | 73 | 0.36 | 0.014 | 0.81 | 0.032 | 8.7 | 0.34 |
| 11007 | 1191-03P18AWG-U0GY8-00 | NEC Type CM 300V | 3 | 1000 | 3280 | 96 | 0.36 | 0.014 | 0.81 | 0.032 | 9.3 | 0.36 |

## INTERCOM SYSTEMS AUDIO AND INSTRUMENTATION CABLES

**22 AWG (7 X 30)** Description : Stranded tinned copper, PVC insulated, twisted pair, aluminum polyester shield, 24 AWG stranded tinned copper drain wire, Grey PVC jacket.  
Color code : Black, Red.

| Order No. | MESC Code              | Nec Type Voltage grade | No. of pairs | Packing length |      | Approx. weight | Insulation thickness |       | Jacket thickness |       | Nominal O.D. |       | Nominal Capacitance |     |     |      |
|-----------|------------------------|------------------------|--------------|----------------|------|----------------|----------------------|-------|------------------|-------|--------------|-------|---------------------|-----|-----|------|
|           |                        |                        |              | m              | ft   |                | kg                   | mm    | Inch             | mm    | Inch         | mm    | Inch                | c/c |     | c/s  |
|           |                        |                        |              |                |      |                |                      |       |                  |       |              |       |                     |     |     | pF/m |
| 12053     | 1221-01P22AWG-U0GY6-00 | NEC Type CM 300V 80 °C | 1            | 304.8          | 1000 | 6.4            | 0.25                 | 0.010 | 0.51             | 0.020 | 3.88         | 0.153 | 174                 | 53  | 318 | 97   |

**20 AWG (7 X 30)** Description : Stranded tinned copper, PVC insulated, twisted pair, aluminum polyester shield, 22 AWG stranded tinned copper drain wire, Grey PVC jacket.  
Color code : Black, Red.

| Order No. | MESC Code              | Nec Type Voltage grade | No. of pairs | Packing length |      | Approx. weight | Insulation thickness |       | Jacket thickness |       | Nominal O.D. |       | Nominal Capacitance |     |     |      |
|-----------|------------------------|------------------------|--------------|----------------|------|----------------|----------------------|-------|------------------|-------|--------------|-------|---------------------|-----|-----|------|
|           |                        |                        |              | m              | ft   |                | kg                   | mm    | inch             | mm    | Inch         | mm    | Inch                | c/c |     | c/s  |
|           |                        |                        |              |                |      |                |                      |       |                  |       |              |       |                     |     |     | pF/m |
| 12054     | 1221-01P20AWG-U0GY6-00 | NEC Type CM 300V 80 °C | 1            | 304.8          | 1000 | 11.2           | 0.36                 | 0.014 | 0.79             | 0.031 | 5.24         | 0.206 | 89                  | 27  | 161 | 49   |

**22 AWG (7 X 30)** Description : Stranded tinned copper, polyethylene insulated, conductors cabled, aluminum polyester shield, 22 AWG stranded tinned copper drain wire, Grey PVC jacket.  
Color code : Black, Red, Clear.

| Order No. | MESC Code              | Nec Type Voltage grade | No. of Cond. | Packing length |      | Approx. weight | Insulation thickness |       | Jacket thickness |       | Nominal O.D. |       | Nominal Capacitance |     |     |      |
|-----------|------------------------|------------------------|--------------|----------------|------|----------------|----------------------|-------|------------------|-------|--------------|-------|---------------------|-----|-----|------|
|           |                        |                        |              | m              | ft   |                | kg                   | mm    | inch             | mm    | Inch         | mm    | Inch                | c/c |     | c/s  |
|           |                        |                        |              |                |      |                |                      |       |                  |       |              |       |                     |     |     | pF/m |
| 12055     | 1222-03C22AWG-U0GY6-00 | NEC CM 300V 80 °C      | 3            | 304.8          | 1000 | 11.2           | 0.41                 | 0.016 | 0.84             | 0.033 | 5.30         | 0.209 | 75                  | 23  | 134 | 41   |

**20 AWG (7 X 22)** Description : Stranded tinned copper, Polyethylene insulated, conductors cabled, aluminum polyester shield, 20 AWG stranded tinned copper drain wire, Grey PVC jacket.  
Color code : Black, Red, Clear.

|       |                        |                        |   |       |      |      |      |       |      |       |      |       |    |    |     |    |
|-------|------------------------|------------------------|---|-------|------|------|------|-------|------|-------|------|-------|----|----|-----|----|
| 12056 | 1222-03C20AWG-U0GY6-00 | NEC Type CM 300V 80 °C | 3 | 304.8 | 1000 | 13.8 | 0.41 | 0.016 | 0.84 | 0.033 | 5.66 | 0.223 | 89 | 27 | 167 | 51 |
|-------|------------------------|------------------------|---|-------|------|------|------|-------|------|-------|------|-------|----|----|-----|----|

**16 AWG (19 X 29)** Description : Stranded tinned copper, Polyethylene insulated, conductors cabled, aluminum polyester shield, 18 AWG stranded tinned copper drain wire, Grey PVC jacket.  
Color code : Black, Red, Clear.

|       |                        |                        |   |       |      |      |      |       |      |       |      |       |    |    |     |    |
|-------|------------------------|------------------------|---|-------|------|------|------|-------|------|-------|------|-------|----|----|-----|----|
| 12057 | 12C2-03C16AWG-U0GY6-00 | NEC Type CM 300V 80 °C | 3 | 304.8 | 1000 | 27.4 | 0.73 | 0.029 | 0.79 | 0.031 | 8.27 | 0.326 | 85 | 26 | 164 | 50 |
|-------|------------------------|------------------------|---|-------|------|------|------|-------|------|-------|------|-------|----|----|-----|----|

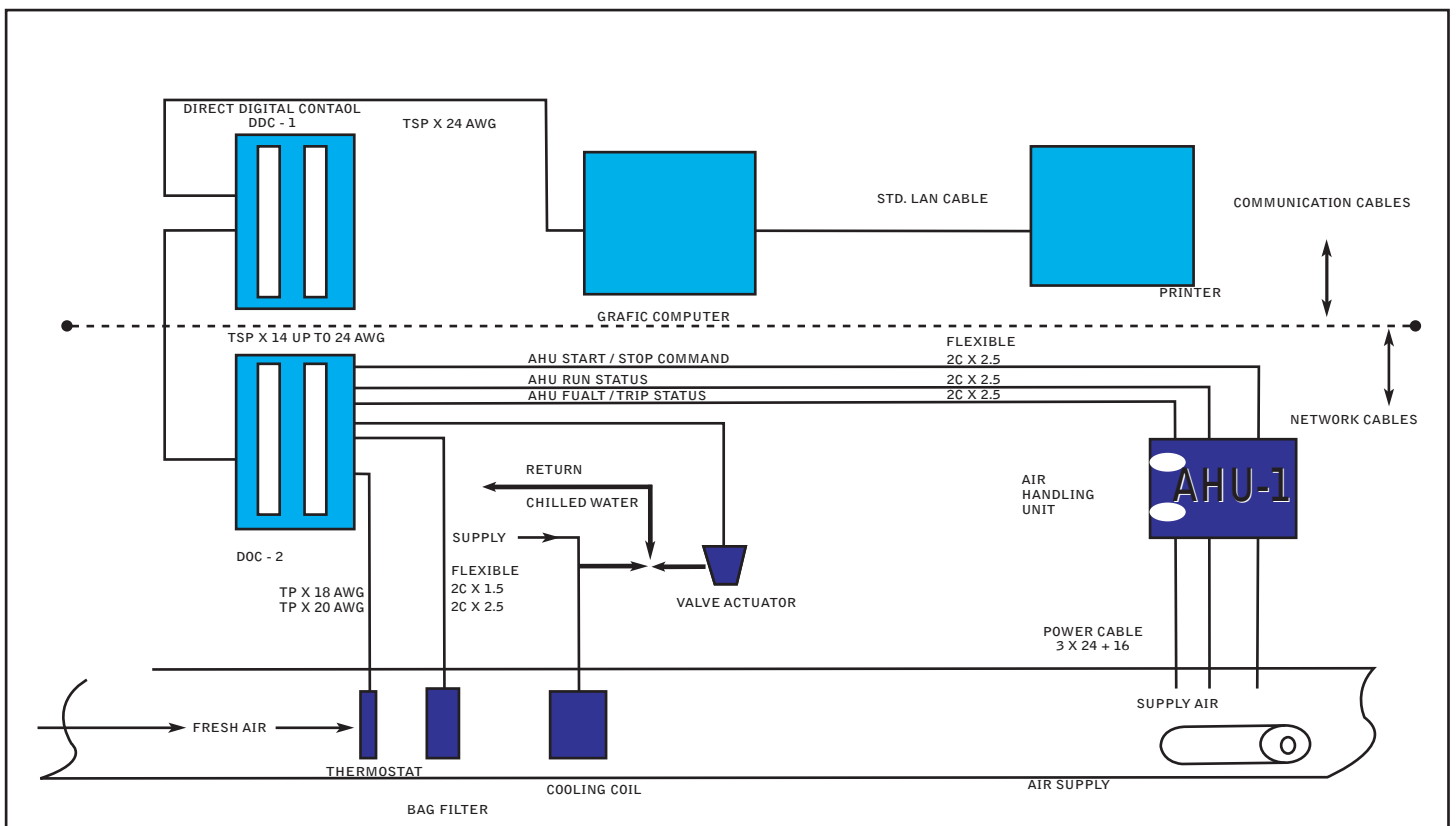
# BUILDING MANAGEMENT SYSTEMS

What is a (BMS) Building Management System ?

Building Management Systems consist of intelligent controllers which are networked together to provide comprehensive control for Heating, Ventilation and Air Conditioning (HVAC) and other building services. Information is taken from sensors or other input devices which is processed through the intelligent controllers. These then issue appropriate commands to devices such as valves and actuators. The system is viewed through a "supervisor" which is usually a PC running building management software. This software allows you to change control parameters as well as perform a wide range of energy analysis and maintenance functions.

(System's schematic building cabling circuit is shown below)

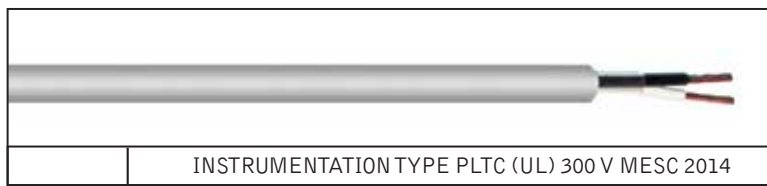
CABLING DIAGRAM



## BUILDING MANAGEMENT SYSTEMS INSTRUMENTATION / PROCESS CONTROL CABLES (TYPE PLTC 300 VOLTS) PVC INSULATED SINGLE PAIR / TRIAD UNSHIELDED

Temperature range: - 40 °C to +90 °C

Specifications: UL13



Application : Can be used in cable tray, conduit or direct burial application for instrumentation / process control, in dry or wet location.

- Conductor : Plain copper to ASTM B3, stranded to Class B / Class C of ASTM B8.
- Insulation : Flame retardant PVC rated 90 °C as per UL13.
- Pair Colour Code : White and Black.
- Triple Colour Code : White, Black and Red.
- Assembly : Twisted pair / triple is covered with a polyester tape if required.
- Jacket : Extruded black PVC as per UL13, oil and sunlight resistant passes flame test as per IEEE - 383 (70000 BTU). The jacket is impervious to vapour and moisture penetration.

### SINGLE PAIR

| Size (AWG) | Order No. | MESC Code               | Pairs | Strands X diameter No. X mm | Insulation thickness mm | Nominal jacket thickness mm | Approx. O.D. mm | Approx. weight Kg/Km |
|------------|-----------|-------------------------|-------|-----------------------------|-------------------------|-----------------------------|-----------------|----------------------|
| 16         | B1001     | B111-01P 16AWG-U0BK8-03 | 1     | 7 X 0.488                   | 0.38                    | 0.89                        | 6.8             | 60                   |

### SINGLE TRIAD

| size (AWG) | Order No. | MESC Code               | Triples | Strands X diameter No. X mm | Insulation thickness mm | Nominal jacket thickness mm | Approx. O.D. mm | Approx. weight Kg/Km |
|------------|-----------|-------------------------|---------|-----------------------------|-------------------------|-----------------------------|-----------------|----------------------|
| 16         | B1002     | B111-01T 16AWG-U0BK8-03 | 1       | 7 X 0.488                   | 0.38                    | 1.01                        | 7.4             | 85                   |

## BUILDING MANAGEMENT SYSTEMS INSTRUMENTATION/PROCESS CONTROL CABLES (TYPE PLTC 300 VOLTS) PVC INSULATED SINGLE PAIR / TRIAD OVERALL SHIELDED

Temperature range : - 40 °C to +90 °C  
Specifications : UL13



Application : Can be used in cable tray, conduit or direct burial application for instrumentation / process control, in dry or wet location.

- **Conductor** : Plain copper to ASTM B3 , stranded to class B of ASTM B8.
- **Insulation** : Flame retardant PVC insulation rated 90° C as per UL13.
- **Pair Colour Code** : White and Black.
- **Triple Colour Code** : White, Black and Red.
- **Overall Shielding** : Twisted pair / triple is shielded with aluminum polyester tape and a tinned copper drain wire.
- **Jacket** : Extruded black PVC as per UL13, oil and sunlight resistant, passes flame test as per IEEE - 383 (70000 BTU). The jacket is impervious to vapour and moisture penetration.

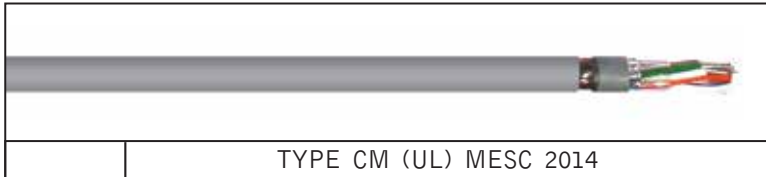
### SINGLE PAIR

| Size (AWG) | Order No. | MESC Code              | Pairs | Strands X diameter No. X mm | Insulation thickness mm | Nominal jacket thickness mm | Approx. O.D. mm | Approx. weight Kg/Km |
|------------|-----------|------------------------|-------|-----------------------------|-------------------------|-----------------------------|-----------------|----------------------|
| 20         | B2001     | B211-01P20AWG-U0BK8-03 | 1     | 7 X 0.307                   | 0.38                    | 0.89                        | 5.8             | 45                   |
| 18         | B2002     | B211-01P18AWG-U0BK8-03 | 1     | 7 X 0.386                   | 0.38                    | 0.89                        | 6.3             | 55                   |
| 16         | B2003     | B211-01P16AWG-U0BK8-03 | 1     | 7 X 0.488                   | 0.38                    | 0.89                        | 6.9             | 70                   |

### SINGLE TRIAD

| Size (AWG) | Order No. | MESC Code              | Triples | Strands X diameter No. X mm | Insulation thickness mm | Nominal jacket thickness mm | Approx. O.D. mm | Approx. weight Kg/Km |
|------------|-----------|------------------------|---------|-----------------------------|-------------------------|-----------------------------|-----------------|----------------------|
| 18         | B2004     | B211-01T18AWG-U0BK8-03 | 1       | 7 X 0.386                   | 0.38                    | 0.89                        | 6.6             | 65                   |
| 16         | B2005     | B211-01T16AWG-U0BK8-03 | 1       | 7 X 0.488                   | 0.38                    | 1.01                        | 7.5             | 85                   |

## BUILDING MANAGEMENT SYSTEMS LOW CAPACITANCE COMPUTER CABLES FOR EIA RS-232 AND EIA RS-422 APPLICATIONS



**24 AWG (7 X 32)** Description : Stranded tinned copper, foam polyethylene insulated, twisted pairs. Overall aluminum polyester shield, 24 AWG stranded tinned copper drain wire & overall tinned copper braid shield (65% coverage), Grey PVC jacket.

### COLOR CODE

| Pair No. | Color                                       |
|----------|---|
| 1        | White/Blue stripe and Blue/White stripe     |
| 2        | White/Orange stripe and Orange/White stripe |
| 3        | White/Green stripe and Green/White stripe   |
| 4        | White/Brown stripe and Brown/White stripe   |
| 5        | White/Gray stripe and Gray/White stripe     |
| 6        | Red/Blue stripe and Blue/Red stripe         |

| Order No. | MESC Code              | NEC Type Voltage grade | No. of pairs | Packing length |      | Approx. weight kg | Nominal D.C.R |         | Nominal O.D. |      | Nom. Imp. Ohms | Nom. vel of prop. % | Nominal Capacitance |       |      |       |
|-----------|------------------------|------------------------|--------------|----------------|------|-------------------|---------------|---------|--------------|------|----------------|---------------------|---------------------|-------|------|-------|
|           |                        |                        |              | m              | ft   |                   | Cond.         | Shield  | mm           | Inch |                |                     | c/c                 |       | c/s  |       |
|           |                        |                        |              |                |      |                   |               |         |              |      |                |                     | pF/m                | pF/ft | pF/m | pF/ft |
| 15109     | 1523-02P24AWG-U2GY8-42 | Type CM 30V            | 2            | 1000           | 3280 | 55                | 78.7/km       | 15.1/km | 7.0          | 0.28 | 100            | 78                  | 41.0                | 12.5  | 72.2 | 22    |
| 15110     | 1523-06P24AWG-U2GY8-42 | Type CM 30V            | 6            | 1000           | 3280 | 90                | 78.7/km       | 11.6/km | 8.9          | 0.35 | 100            | 78                  | 41.0                | 12.5  | 72.2 | 22    |

## LOW CAPACITANCE COMPUTER CABLES FOR EIA RS-485 APPLICATIONS

**24 AWG (7 X 32)** Description : Stranded tinned copper, polyethylene insulated, twisted pairs, overall aluminum polyester shield, 24 AWG stranded tinned copper drain wire, & overall tinned copper braid shield (90% coverage), Grey PVC jacket.

| Order No. | MESC Code              | NEC Type Voltage grade | No. of pairs | Packing length |      | Approx. weight kg | Approx. O.D. |      | Nominal D.C.R |        | Nom. Imp. Ohms | Nom. vel of prop. % | Nominal Capacitance |        |      |       |
|-----------|------------------------|------------------------|--------------|----------------|------|-------------------|--------------|------|---------------|--------|----------------|---------------------|---------------------|--------|------|-------|
|           |                        |                        |              | m              | ft   |                   | mm           | Inch | Cond.         | Shield |                |                     | c/c                 |        | c/s  |       |
|           |                        |                        |              |                |      |                   |              |      |               |        |                |                     | Ohm/km              | Ohm/km | pF/m | pF/ft |
| 15108     | 1522-01P24AWG-U2GY8-42 | NEC CM 300V 80°C       | 1            | 1000           | 3280 | 63                | 6.8          | 0.26 | 78.7          | 11.0   | 120            | 66                  | 42                  | 12.8   | 75.5 | 23.0  |
| 15111     | 1522-02P24AWG-U2GY8-42 | NEC CM 300V 80°C       | 2            | 1000           | 3280 | 106               | 10.3         | 0.40 | 78.7          | 7.2    | 120            | 66                  | 42                  | 12.8   | 75.5 | 23.0  |

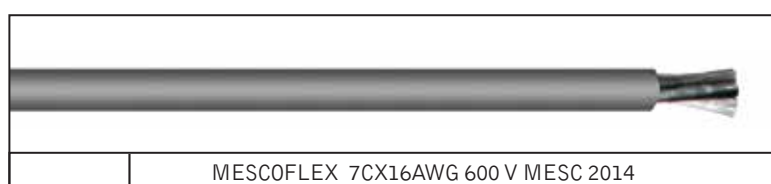
C/C – Capacitance between conductors

C/S – Capacitance between one conductor and other conductors connected to shield

## BUILDING MANAGEMENT SYSTEMS (CONTROL , MEASUREMENT & DATA TRANSMISSION)

Temperature range: -40 °C to +90 °C

Specifications: UL Style 1015, CSA AWM, Voltage 600V



**Application :** These cables are recommended for all Indoor electrical installations and wiring of electrical equipment, within buildings.

**Conductor :** Flexible tinned copper to ASTM B33, stranded to class K of ASTM B174.

**Insulation :** Flame retardant PVC rated 90°C.

**Colour Code:** Colour Coded insulation up to 5\* conductors and Black with number print for more than 5 conductors.

**Assembly :** Insulated conductors cabled with suitable non hygroscopic fillers if necessary and wrapped with a binder tape.

**Outer Jacket:** Extruded flame retardant PVC coloured Grey.

### 16 AWG ( 26X30 AWG)

| Order No. | MESC Code              | No. of cores | Strands X diameter No. X mm | Insulation thickness mm | Nominal jacket thickness mm | Approx. O.D. mm | Approx. weight Kg/Km |
|-----------|------------------------|--------------|-----------------------------|-------------------------|-----------------------------|-----------------|----------------------|
| B 1003    | B191-02C16AWG-U0GY8-00 | 2            | 26X0.254                    | 0.81                    | 1.6                         | 9.7             | 130                  |
| B 1004    | B191-03C16AWG-U0GY8-00 | 3            | 26X0.254                    | 0.81                    | 1.6                         | 10.2            | 150                  |
| B 1005    | B191-04C16AWG-U0GY8-00 | 4            | 26X0.254                    | 0.81                    | 1.6                         | 11.2            | 180                  |
| B 1006    | B191-05C16AWG-U0GY8-00 | 5            | 26X0.254                    | 0.81                    | 1.6                         | 12.2            | 205                  |
| B 1007    | B191-07C16AWG-U0GY8-00 | 7            | 26X0.254                    | 0.81                    | 1.6                         | 12.9            | 260                  |
| B 1008    | B191-09C16AWG-U0GY8-00 | 9            | 26X0.254                    | 0.81                    | 1.6                         | 14.9            | 325                  |
| B 1009    | B191-12C16AWG-U0GY8-00 | 12           | 26X0.254                    | 0.81                    | 1.6                         | 16.6            | 405                  |

### 14 AWG ( 41X30 AWG)

|        |                        |    |          |      |     |      |     |
|--------|------------------------|----|----------|------|-----|------|-----|
| B 1010 | B191-02C16AWG-U0GY8-00 | 2  | 41X0.254 | 0.81 | 1.6 | 10.5 | 160 |
| B 1011 | B191-03C16AWG-U0GY8-00 | 3  | 41X0.254 | 0.81 | 1.6 | 11.2 | 190 |
| B 1012 | B191-04C16AWG-U0GY8-00 | 4  | 41X0.254 | 0.81 | 1.6 | 12.2 | 225 |
| B 1013 | B191-05C16AWG-U0GY8-00 | 5  | 41X0.254 | 0.81 | 1.6 | 13.2 | 265 |
| B 1014 | B191-07C16AWG-U0GY8-00 | 7  | 41X0.254 | 0.81 | 1.6 | 14.1 | 335 |
| B 1015 | B191-09C16AWG-U0GY8-00 | 9  | 41X0.254 | 0.81 | 1.6 | 16.3 | 420 |
| B 1016 | B191-12C16AWG-U0GY8-00 | 12 | 41X0.254 | 0.81 | 1.6 | 18.3 | 530 |

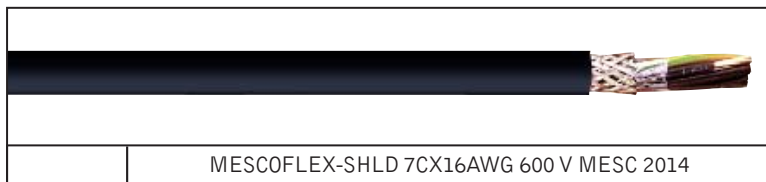
\* COLOR CODE : 1- Black      4-Orange  
 2- Brown      5- Yellow  
 3- Red



## BUILDING MANAGEMENT SYSTEMS (CONTROL, MEASUREMENT & DATA TRANSMISSION)

Temperature range: -40 °C to +90 °C

Specifications: UL Style 1015, CSA AWM, Voltage 600V



**Application :** These cables are recommended for all Indoor electrical /electronic systems, Copper wire screen provides interference free signal transmission.

**Conductor :** Flexible tinned copper to ASTM B33, standed to class K of ASTM B174.

**Insulation :** Flame retardant PVC rated 90 °C.

**Colour Code :** Colour Coded insulation up to 5\* conductors and Black with number print for more than 5 conductors.

**Assembly :** Insulated conductors assembled in concentric layers, shielded with Aluminum polyester tape with a stranded tinned copper drain wire and braided (90% coverage) with tinned copper wire.

**Outer Jacket :** Extruded flame retardant PVC coloured Grey.

### 16 AWG ( 26X30 AWG)

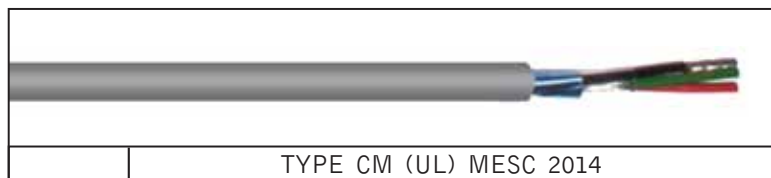
| Order No. | MESC Code              | No. of cores | Strands X diameter No. X mm | Insulation thickness mm | Nominal jacket thickness mm | Approx. O.D. mm | Approx. weight Kg/Km |
|-----------|------------------------|--------------|-----------------------------|-------------------------|-----------------------------|-----------------|----------------------|
| B 5001    | B591-02C16AWG-U2GY8-00 | 2            | 26X0.254                    | 0.81                    | 1.6                         | 10.5            | 160                  |
| B 5002    | B591-03C16AWG-U2GY8-00 | 3            | 26X0.254                    | 0.81                    | 1.6                         | 11.1            | 175                  |
| B 5003    | B591-04C16AWG-U2GY8-00 | 4            | 26X0.254                    | 0.81                    | 1.6                         | 11.8            | 205                  |
| B 5004    | B591-05C16AWG-U2GY8-00 | 5            | 26X0.254                    | 0.81                    | 1.6                         | 12.8            | 245                  |
| B 5005    | B591-07C16AWG-U2GY8-00 | 7            | 26X0.254                    | 0.81                    | 1.6                         | 13.7            | 295                  |
| B 5006    | B591-09C16AWG-U2GY8-00 | 9            | 26X0.254                    | 0.81                    | 1.6                         | 15.7            | 360                  |
| B 5007    | B591-12C16AWG-U2GY8-00 | 12           | 26X0.254                    | 0.81                    | 1.6                         | 17.4            | 445                  |

### 14 AWG ( 41X30 AWG)

|        |                        |    |          |      |      |      |     |
|--------|------------------------|----|----------|------|------|------|-----|
| B 5008 | B591-02C14AWG-U2GY8-00 | 2  | 41X0.254 | 0.81 | 1.6  | 11.3 | 190 |
| B 5009 | B591-03C14AWG-U2GY8-00 | 3  | 41X0.254 | 0.81 | 1.6  | 11.9 | 210 |
| B 5010 | B591-04C14AWG-U2GY8-00 | 4  | 41X0.254 | 0.81 | 1.6  | 12.8 | 250 |
| B 5011 | B591-05C14AWG-U2GY8-00 | 5  | 41X0.254 | 0.81 | 1.6  | 13.8 | 300 |
| B 5012 | B591-07C14AWG-U2GY8-00 | 7  | 41X0.254 | 0.81 | 1.6  | 14.9 | 365 |
| B 5013 | B591-09C14AWG-U2GY8-00 | 9  | 41X0.254 | 0.81 | 1.6  | 17.1 | 455 |
| B 5014 | B591-12C14AWG-U2GY8-00 | 12 | 41X0.254 | 0.81 | 2.11 | 20.2 | 610 |

\* COLOR CODE : 1- Black      4-Orange  
2- Brown      5- Yellow  
3- Red

## BUILDING MANAGEMENT SYSTEMS AUDIO AND INSTRUMENTATION CABLES



**18 AWG (19 X 30)** Description : Stranded tinned copper, S-R PVC insulated, conductors cabled, aluminum polyester shield, 20 AWG stranded tinned copper drain wire, Grey PVC jacket.  
Color code : Black, Red, White, Green.

| Order No. | MESC Code              | NEC Type Voltage grade | No. of cores | Packing length |      | Approx. weight | Insulation thickness |       | Jacket thickness |       | Nominal O.D. |       | Nominal Capacitance |      |       |      |
|-----------|------------------------|------------------------|--------------|----------------|------|----------------|----------------------|-------|------------------|-------|--------------|-------|---------------------|------|-------|------|
|           |                        |                        |              | m              | ft   |                | kg                   | mm    | inch             | mm    | Inch         | mm    | Inch                | pF/m | pF/ft | pF/m |
| 12050     | 12C1-04C18AWG-U0GY8-00 | Type CM 300V           | 4            | 1000           | 3280 | 80             | 0.25                 | 0.010 | 0.89             | 0.035 | 6.3          | 0.248 | 230                 | 70   | 394   | 120  |

**18 AWG (16 X 30)** Description : Stranded tinned copper, PVC insulated, twisted pairs, Grey PVC jacket.  
Color code : Red, Black.

| Order No. | MESC Code              | NEC Type Voltage grade | No. of pairs | Packing length |      | Approx. weight | Insulation thickness |       | Jacket thickness |       | Nominal O.D. |       |
|-----------|------------------------|------------------------|--------------|----------------|------|----------------|----------------------|-------|------------------|-------|--------------|-------|
|           |                        |                        |              | m              | ft   |                | kg                   | mm    | inch             | mm    | Inch         | mm    |
| 11008     | 1191-01P18AWG-U0GY8-00 | Type CM 300V           | 1            | 1000           | 3280 | 39             | 0.36                 | 0.014 | 0.81             | 0.032 | 5.4          | 0.212 |

**14 AWG (19 X 27)** Description : Stranded tinned copper, polyethylene insulated, twisted pairs, aluminum polyester shield, 16 AWG stranded tinned copper drain wire, Grey PVC jacket.  
Color code : Black, clear

| Order No. | MESC Code              | NEC Type Voltage grade | No. of pairs | Packing length |      | Approx. weight | Insulation thickness |       | Jacket thickness |       | Nominal O.D. |       | Nominal Capacitance |      |       |      |
|-----------|------------------------|------------------------|--------------|----------------|------|----------------|----------------------|-------|------------------|-------|--------------|-------|---------------------|------|-------|------|
|           |                        |                        |              | m              | ft   |                | kg                   | mm    | inch             | mm    | Inch         | mm    | Inch                | pF/m | pF/ft | pF/m |
| 12049     | 12C2-01P14AWG-U0GY8-80 | Type CL2 600V          | 1            | 1000           | 3280 | 102            | 0.81                 | 0.032 | 0.89             | 0.035 | 9.1          | 0.358 | 79                  | 24   | 154   | 47   |

**18 AWG (16 X 30)** Description : Stranded tinned copper, polyethylene insulated, twisted pairs, aluminum polyester shield. 20 AWG stranded tinned copper drain wire, Grey PVC jacket.  
Color code : Black, clear

|       |                        |              |   |      |      |    |      |       |      |       |     |       |    |    |     |    |
|-------|------------------------|--------------|---|------|------|----|------|-------|------|-------|-----|-------|----|----|-----|----|
| 12047 | 1292-01P18AWG-U0GY8-80 | Type CM 300V | 1 | 1000 | 3280 | 40 | 0.46 | 0.018 | 0.71 | 0.028 | 5.8 | 0.228 | 79 | 24 | 144 | 44 |
|-------|------------------------|--------------|---|------|------|----|------|-------|------|-------|-----|-------|----|----|-----|----|

**18 AWG (16 X 30)** Description : Stranded tinned copper, polyethylene insulated, conductors cabled, aluminum polyester shield, 20 AWG stranded tinned copper drain wire, Grey PVC jacket.  
Color code : Black, Red, clear.

| Order No. | MESC Code              | NEC Type Voltage grade | No. of cores | Packing length |      | Approx. weight | Insulation thickness |       | Jacket thickness |       | Nominal O.D. |       | Nominal Capacitance |      |       |      |
|-----------|------------------------|------------------------|--------------|----------------|------|----------------|----------------------|-------|------------------|-------|--------------|-------|---------------------|------|-------|------|
|           |                        |                        |              | m              | ft   |                | kg                   | mm    | inch             | mm    | Inch         | mm    | Inch                | pF/m | pF/ft | pF/m |
| 12018     | 1292-03C18AWG-U0GY8-80 | NEC Type CM 300V       | 3            | 1000           | 3280 | 58             | 0.46                 | 0.018 | 0.84             | 0.033 | 6.4          | 0.252 | 79                  | 24   | 157   | 48   |

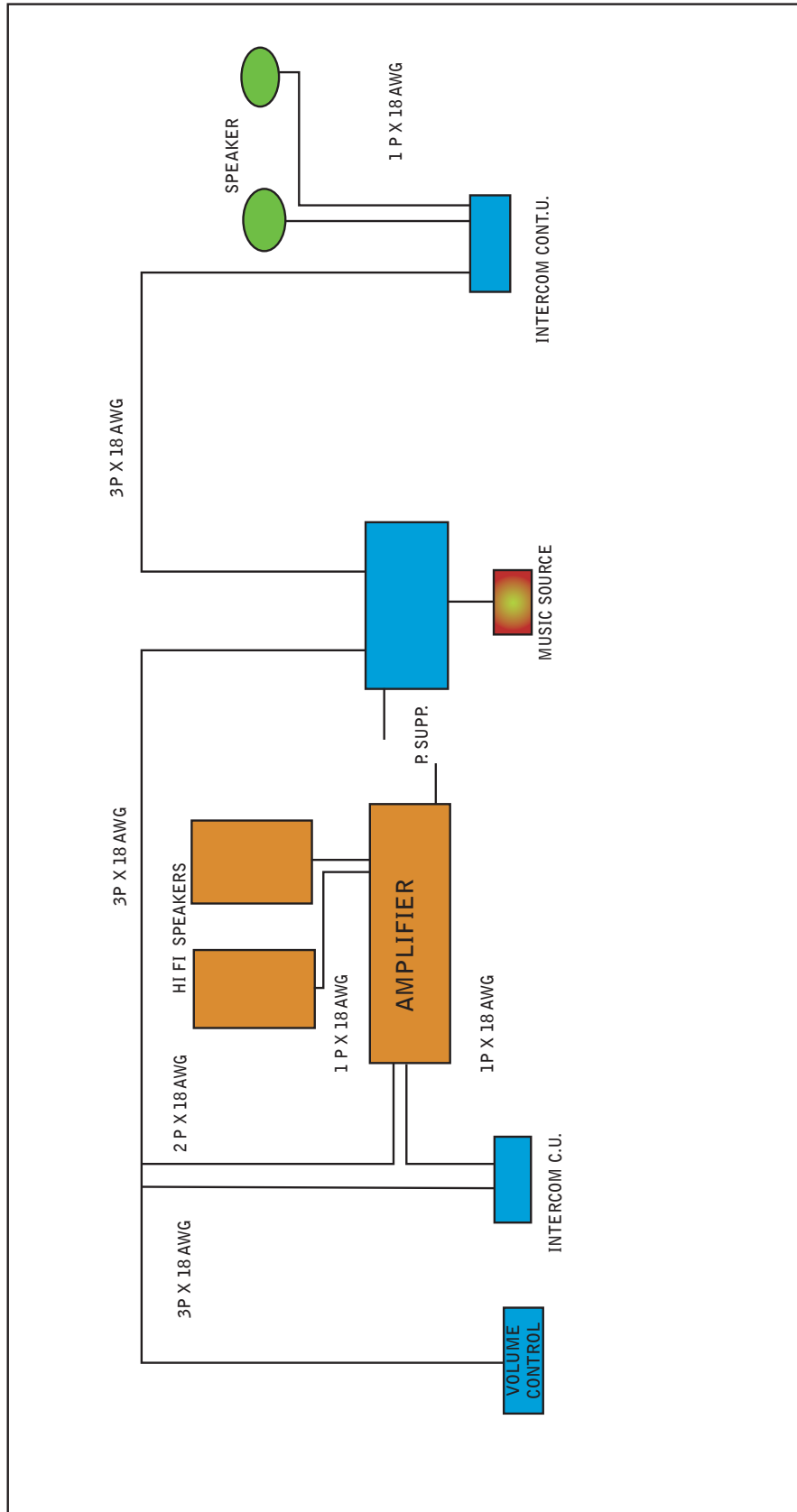
C/C - Capacitance between conductors.

C/S - Capacitance between conductors and other conductors connected to shield.

## PUBLIC ADDRESS SYSTEMS SOUND (Speaker + Microphone) CLOCK & PAGING

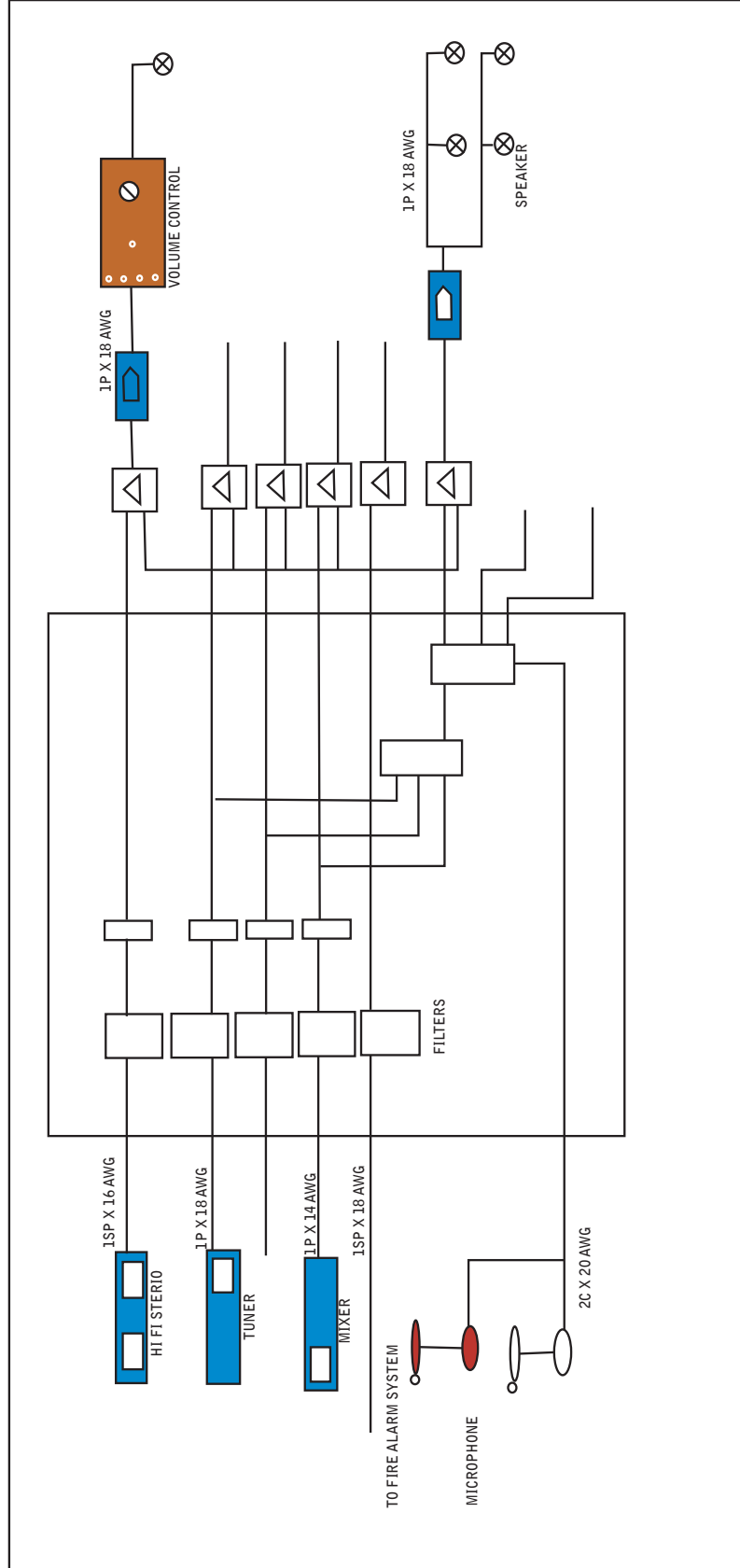
- Common applications are as follows :
  - Residential
  - Business
  - Amusement centers
  
- Common fields are :
  - Intercom / Paging
  - Audio / Security
  - Sound & Background Music
  
- For clock network same cables can be used  
(System's schematic building cabling circuits is enclosed)

PUBLIC ADDRESS SYSTEM

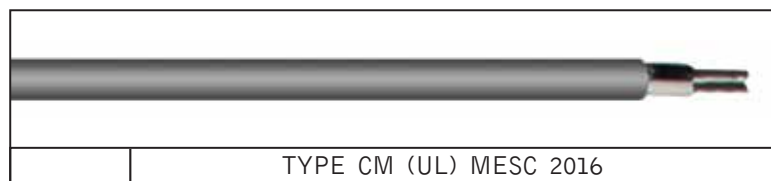


PUBLIC ADDRESS SYSTEM

SINGLE LINE DIAGRAM



## PUBLIC ADDRESS SYSTEMS SPEAKER CABLES



**14 AWG (19 X 27)** Description : Stranded tinned copper, PVC insulated, twisted pair, overall aluminum polyester shield, 16 AWG stranded tinned copper drain wire, Grey PVC jacket.  
Color code : Black & White.

| Order No. | MESC Code              | NEC Type Voltage grade | No. of Cond. | Packing lengths |      | Approx. weight | Insulation thickness |       | Jacket thickness |       | Nominal O.D. |       | Nominal Capacitance |      |       |      |
|-----------|------------------------|------------------------|--------------|-----------------|------|----------------|----------------------|-------|------------------|-------|--------------|-------|---------------------|------|-------|------|
|           |                        |                        |              | m               | ft   |                | kg                   | mm    | inch             | mm    | Inch         | mm    | Inch                | pF/m | pF/ft | pF/m |
| 12060     | 12C1-01P14AWG-U0GY8-00 | NEC Type CL3 300V      | 2            | 1000            | 3280 | 75             | 0.36                 | 0.014 | 0.64             | 0.025 | 6.9          | 0.271 | 249                 | 76   | 449   | 137  |

C/C – Capacitance between conductors.

C/S – Capacitance between one conductor and other conductors connected to shield.

## COMMUNICATION & CONTROL CABLES



**20 AWG (7 X 28)** Description : Stranded tinned copper, PVC insulated, twisted pair, Grey PVC jacket.  
Color code : Black & Red.

| Order No. | MESC Code              | NEC Type Voltage grade Temp | No. of Cond. | Packing length |      | Approx. weight | Insulation thickness |       | Jacket thickness |       | Nominal O.D. |       |
|-----------|------------------------|-----------------------------|--------------|----------------|------|----------------|----------------------|-------|------------------|-------|--------------|-------|
|           |                        |                             |              | m              | ft   |                | kg                   | mm    | inch             | mm    | Inch         | mm    |
| 11002     | 1121-01P20AWG-U0GY6-00 | NEC Type CM 300V,90C        | 2            | 304.8          | 1000 | 9              | 0.38                 | 0.015 | 0.64             | 0.025 | 4.5          | 0.180 |

**16 AWG (19 X 29)** Description : Stranded tinned copper, PVC insulated, twisted pair, Grey PVC jacket.  
Color code : Black & White.

|       |                        |                      |   |       |      |    |      |       |      |       |     |       |
|-------|------------------------|----------------------|---|-------|------|----|------|-------|------|-------|-----|-------|
| 11009 | 11C1-01P16AWG-U0GY6-00 | NEC Type CM 300V,90C | 2 | 304.8 | 1000 | 18 | 0.58 | 0.023 | 0.81 | 0.032 | 6.9 | 0.274 |
|-------|------------------------|----------------------|---|-------|------|----|------|-------|------|-------|-----|-------|

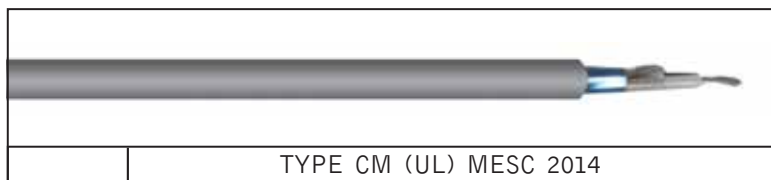
**14 AWG (42 X 30)** Description : Stranded tinned copper, PVC insulated, twisted pair Gray PVC jacket.  
Color code : Black, White.

|       |                        |          |   |       |      |    |      |       |      |       |     |       |
|-------|------------------------|----------|---|-------|------|----|------|-------|------|-------|-----|-------|
| 11010 | 1191-01P14AWG-U0GY6-00 | CL3,600V | 2 | 304.8 | 1000 | 28 | 0.81 | 0.032 | 0.81 | 0.032 | 8.7 | 0.340 |
|-------|------------------------|----------|---|-------|------|----|------|-------|------|-------|-----|-------|

**12 AWG (65 X 30)** Description : Stranded tinned copper, PVC insulated, twisted pair Gray PVC jacket.  
Color code : White & Black.

|       |                        |          |   |       |      |    |      |       |      |       |     |       |
|-------|------------------------|----------|---|-------|------|----|------|-------|------|-------|-----|-------|
| 11011 | 1191-01P12AWG-U0GY6-00 | CL3,600V | 2 | 304.8 | 1000 | 38 | 0.81 | 0.032 | 0.89 | 0.035 | 8.6 | 0.386 |
|-------|------------------------|----------|---|-------|------|----|------|-------|------|-------|-----|-------|

## PUBLIC ADDRESS SYSTEMS ANALOG VIDEO & AUDIO CABLES



**12 AWG (19 X 25)** Description : Stranded tinned copper, polyethylene insulated, twisted pair, aluminum polyester shield, 14 AWG stranded tinned copper drain wire, Grey PVC jacket.  
Color code : Black, clear.

| Order No. | MESC Code              | NEC Type Voltage grade   | No. of Pairs | Packing lengths |      | Approx. weight | Insulation thickness |       | Jacket thickness |       | Nominal O.D. |      | Nominal Capacitance |      |       |      |       |
|-----------|------------------------|--------------------------|--------------|-----------------|------|----------------|----------------------|-------|------------------|-------|--------------|------|---------------------|------|-------|------|-------|
|           |                        |                          |              | m               | ft   |                | kg                   | mm    | inch             | mm    | Inch         | mm   | Inch                | c/c  |       | c/s  |       |
|           |                        |                          |              |                 |      |                |                      |       |                  |       |              |      |                     | pF/m | pF/ft | pF/m | pF/ft |
| 12058     | 12C2-01P12AWG-U0GY8-80 | NEC Type CL2<br>600V 80C | 1            | 1000            | 3280 | 150            | 0.94                 | 0.037 | 1.02             | 0.040 | 10.8         | 0.42 | 82                  | 25   | 161   | 49   |       |

**16 AWG (19 X 29)** Description : Stranded tinned copper, polyethylene insulated, twisted pair, aluminum polyester shield, 18 AWG stranded tinned copper drain wire, Grey PVC jacket.  
Color code : Black & clear.

|       |                        |                          |   |      |      |    |      |       |      |       |      |      |    |    |     |    |
|-------|------------------------|--------------------------|---|------|------|----|------|-------|------|-------|------|------|----|----|-----|----|
| 12052 | 12C2-01P16AWG-U0GY8-75 | NEC Type CL2<br>600V 80C | 1 | 1000 | 3280 | 81 | 0.81 | 0.032 | 0.81 | 0.032 | 7.87 | 0.31 | 75 | 23 | 144 | 44 |
|-------|------------------------|--------------------------|---|------|------|----|------|-------|------|-------|------|------|----|----|-----|----|

**20 AWG (7 X 28)** Description : Stranded tinned copper, polyethylene insulated, twisted pair, aluminum polyester shield, 20 AWG stranded tinned copper drain wire, Grey PVC jacket.  
Color code : Black & clear.

|       |                        |                         |   |      |      |    |      |       |      |       |     |       |    |    |     |    |
|-------|------------------------|-------------------------|---|------|------|----|------|-------|------|-------|-----|-------|----|----|-----|----|
| 12051 | 1222-01P20AWG-U0GY8-90 | NEC Type CM<br>300V 80C | 1 | 1000 | 3280 | 35 | 0.41 | 0.016 | 0.71 | 0.028 | 5.5 | 0.216 | 88 | 27 | 160 | 48 |
|-------|------------------------|-------------------------|---|------|------|----|------|-------|------|-------|-----|-------|----|----|-----|----|

C/C – Capacitance between conductors.

C/S – Capacitance between one conductor and other conductors connected to shield.

**22 AWG (7 X 28)** Description : Stranded tinned copper, polyethylene insulated, twisted pair, aluminum polyester shield, 22 AWG stranded tinned copper drain wire, Grey PVC jacket.  
Color code : Black & clear.

|       |                        |                         |   |       |      |     |      |       |      |       |      |       |    |    |     |    |
|-------|------------------------|-------------------------|---|-------|------|-----|------|-------|------|-------|------|-------|----|----|-----|----|
| 12059 | 1222-01P22AWG-U0GY6-80 | NEC Type CM<br>300V 80C | 1 | 304.8 | 1000 | 8.1 | 0.41 | 0.016 | 0.64 | 0.025 | 4.74 | 0.186 | 79 | 24 | 154 | 47 |
|-------|------------------------|-------------------------|---|-------|------|-----|------|-------|------|-------|------|-------|----|----|-----|----|

C/C – Capacitance between conductors.

C/S – Capacitance between one conductor and other conductors connected to shield.

## MICROPHONE CABLES

Specifications : UL444



### Construction

- Conductor : Tinned copper to ASTM B33, stranded to class M of ASTM.
- Insulation : PVC
- Color code : 2 CORE - BLACK, RED.  
3 CORE - BLACK, WHITE RED.  
4 CORE - BLACK, WHITE, RED, GREEN
- Braiding : Insulated cores cabled and wrapped with a polyester tape. The entire assembly is shielded with a tinned copper braid of size 34 AWG with a 85% coverage.
- Jacket : Extruded grey PVC

### Technical Data

| Order No. | Size (AWG) | MESC Code              | Cores | Strands X diameter No, Xmm | Nom. Insulation thickness Mm | Nom. jacket thickness Mm | Approx. O.D. Mm | Nominal capacitance cond/shld | Approx. weight Kg/Km |
|-----------|------------|------------------------|-------|----------------------------|------------------------------|--------------------------|-----------------|-------------------------------|----------------------|
| 15116     | 18AWG      | 15M1-02C18AWG-U2GY6-00 | 2     | 0.38                       | 0.69                         | 6.6                      | 250             | 450                           | 65                   |
| 15117     | 16AWG      | 15M1-02C16AWG-U2GY6-00 | 2     | 0.38                       | 0.69                         | 7.7                      | 295             | 550                           | 90                   |
| 15118     | 16AWG      | 15M1-04C16AWG-U2GY6-00 | 4     | 0.38                       | 0.69                         | 8.1                      | 550             | 550                           | 125                  |



## COMPUTER CABLES EIA RS 422

Specifications: UL444



### Construction

- Conductor : Tinned copper to ASTM B33, stranded to class B of ASTM B8.
- Insulation : Foamed polyethylene.
- Pair Colour Code : Black/red & black/white.
- Pair Twisting : All pairs twisted to counter electromagnetic noise.
- Individual Shielding : tinned copper drain wire of size 24 AWG, for maximum electrostatic noise and crosstalk rejection. All pair shields are cables with non-hygroscopic fillers if necessary and the entire assembly is wrapped with a polyester tape.
- Jacket : Extruded grey PVC.

### Technical Data

| Order No. | Size (AWG) | MESC Code              | Pairs | Strands X diameter No, Xmm | Nom. jacket thickness mm | Approx. O.D. mm | Nominal cond resistance | Nominal Imped-ance | Nominal Vel. of propagation | Nominal capacitance cond/cond | Nominal capacitance cond/shid | Approx. weight Kg/Km |
|-----------|------------|------------------------|-------|----------------------------|--------------------------|-----------------|-------------------------|--------------------|-----------------------------|-------------------------------|-------------------------------|----------------------|
| 13003     | 24         | 1323-02P24AWG-U0GY6-00 | 2     | 7X0.244                    | 0.58                     | 9.2             | 6.0                     | 100                | 78%                         | 41                            | 76                            | 45                   |