



## Radiation Resistant/150°C Pre-Insulated Terminals and Splices

The line of Tyco Electronics radiation resistant/150°C pre-insulated terminals and splices includes terminals and splices of the well-known PIDG and PLASTI-GRIP terminal designs. Radiation resistant terminals are made of fine grade, high conductivity copper with either bright tin-lead or matte tin-plating and feature polyvinylidene fluoride (PVF<sub>2</sub>) insulation for high resistance to radiation and solvents. PIDG terminals meet the performance requirements of SAE-AS7928. They are also tested by Tyco Electronics and an independent test facility and have fulfilled all requirements including radiation testing to 200 megarads and operating temperature range from -40°C to +150°C.

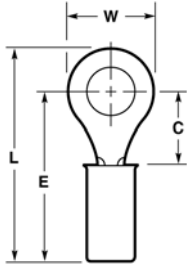
One outstanding quality of the standard Tyco Electronics terminals, such as tapered entry ramps, help eliminate bent wire strands and insulation support for stronger, more reliable connections. Serrated or dimpled wire barrels provide maximum contact and tensile strength after crimping, and color coded insulation with wire size stamped on the terminal tongue identifies the product and assists in proper terminal-wire match.

The radiation resistant/150°C terminals are designed and engineered to successfully withstand extreme vibration, shock and structural stresses, and other conditions which can adversely affect the critical circuit requirements in complex equipment. The matching Tyco Electronics tooling precisely crimps all terminations. This uniformity increases reliability and also serves as a built-in quality control factor.

## Ring Tongue Terminals

### Material and Finish:

- Terminal body :  
copper per ASTM-B152  
with bright tin/lead (93/7)  
{3% MIN lead content}  
plating per ASTM-B545
- Insulation support  
sleeve : copper per  
ASTM-B152 with bright  
tin/lead (93/7) {3% MIN  
lead content} plating  
per ASTM-B545
- Insulation sleeve :  
PVF<sub>2</sub>, natural with  
colored stripe



### Related Product Data

- Application tooling  
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## PIDG Terminals - Whisker Mitigating

(Contains 3% Minimum Lead Content in Plating)

| Wire Range |                            | Tongue<br>Thickness<br>Maximum | Wire Ins.<br>Diameter<br>Maximum | Stripe<br>Color<br>Code | Stud<br>Size | Dimensions    |                        |               |                | Part Numbers |         |
|------------|----------------------------|--------------------------------|----------------------------------|-------------------------|--------------|---------------|------------------------|---------------|----------------|--------------|---------|
| AWG        | CMA<br>[mm <sup>2</sup> ]  |                                |                                  |                         |              | W             | C <sup>1</sup><br>MIN. | E<br>MAX.     | L<br>MAX.      | Tin Plate    |         |
| 26-24      | 202-509<br>[.10-.26]       | .029<br>.74                    | .082<br>2.09                     | Yellow                  | 2<br>M2      | .203<br>5.16  | .211<br>5.35           | .632<br>16.06 | .736<br>18.70  | 53400-1      | —       |
|            |                            |                                |                                  |                         | 4            | .203<br>5.16  | .211<br>5.35           | .632<br>16.06 | .736<br>18.70  | 53401-1      | —       |
|            |                            |                                |                                  |                         | 6<br>M3.5    | .250<br>6.35  | .243<br>6.17           | .664<br>16.87 | .792<br>20.12  | 53402-1      | —       |
|            |                            |                                |                                  |                         | 8<br>M4      | .281<br>7.13  | .250<br>6.35           | .671<br>17.05 | .814<br>20.68  | 53403-1      | —       |
|            |                            |                                |                                  |                         | 10           | .312<br>7.92  | .281<br>7.13           | .702<br>17.84 | .861<br>21.87  | 53404-1      | —       |
| 24-20      | 320-1,290<br>[.16-.65]     | .025<br>.64                    | .100<br>2.54                     | White                   | 6<br>M3.5    | .281<br>7.13  | .250<br>6.35           | .631<br>16.03 | .774<br>19.66  | 53809-2      | —       |
|            |                            |                                |                                  |                         | 4            | .218<br>5.54  | .156<br>3.96           | .560<br>14.23 | .672<br>17.02  | 53405-1      | —       |
|            |                            |                                |                                  |                         | 6<br>M3.5    | .218<br>5.54  | .156<br>3.96           | .560<br>14.23 | .672<br>17.02  | 53406-1      | —       |
|            |                            |                                |                                  |                         | 6<br>M3.5    | .250<br>6.35  | .250<br>6.35           | .654<br>16.62 | .782<br>19.87  | 53407-1      | 53407-2 |
|            |                            |                                |                                  |                         | 8<br>M4      | .312<br>7.91  | .281<br>7.13           | .685<br>17.4  | .844<br>21.44  | 53408-1      | 53408-2 |
| 22-16      | 509-3,250<br>[.26-1.65]    | .033<br>.84                    | .125<br>3.18                     | Red                     | 10           | .312<br>7.92  | .281<br>7.13           | .685<br>17.4  | .844<br>21.44  | 53409-1      | —       |
|            |                            |                                |                                  |                         | 1/4<br>M6    | .469<br>11.91 | .437<br>11.09          | .841<br>21.37 | 1.078<br>27.39 | 53410-1      | 53410-2 |
|            |                            |                                |                                  |                         | 5/16<br>M8   | .469<br>11.91 | .437<br>11.09          | .841<br>21.37 | 1.078<br>27.39 | 53411-1      | —       |
|            |                            |                                |                                  |                         | 3/8          | .531<br>13.49 | .546<br>13.86          | .950<br>24.13 | 1.218<br>30.94 | 53412-1      | —       |
|            |                            |                                |                                  |                         | 1/2<br>M12   | .713<br>18.11 | .530<br>13.46          | .934<br>24.13 | 1.293<br>32.85 | 53413-1      | —       |
| 16-14      | 2,050-5,180<br>[1.04-2.62] | .033<br>.84                    | .150<br>3.81                     | Blue                    | 4            | .250<br>6.35  | .171<br>4.34           | .575<br>14.61 | .703<br>17.86  | 53414-1      | —       |
|            |                            |                                |                                  |                         | 6<br>M3.5    | .250<br>6.35  | .171<br>4.34           | .575<br>14.61 | .703<br>17.86  | 53415-1      | —       |
|            |                            |                                |                                  |                         | 6<br>M3.5    | .312<br>7.92  | .281<br>7.13           | .685<br>17.4  | .844<br>21.44  | 53416-1      | 53416-2 |
|            |                            |                                |                                  |                         | 8<br>M4      | .312<br>7.92  | .281<br>7.13           | .685<br>17.4  | .844<br>21.44  | 53417-1      | 53417-2 |
|            |                            |                                |                                  |                         | 10           | .312<br>7.92  | .281<br>7.13           | .685<br>17.4  | .844<br>21.44  | 53418-1      | 53418-2 |
|            |                            |                                |                                  |                         | 1/4<br>M6    | .469<br>11.91 | .437<br>11.09          | .841<br>21.37 | 1.078<br>27.39 | 53419-1      | —       |
|            |                            |                                |                                  |                         | 5/16<br>M8   | .469<br>11.91 | .437<br>11.09          | .841<br>21.37 | 1.078<br>27.39 | 53420-1      | —       |
|            |                            |                                |                                  |                         | 3/8          | .531<br>13.49 | .546<br>13.86          | .950<br>24.13 | 1.218<br>30.94 | 53421-1      | —       |
|            |                            |                                |                                  |                         | 1/2<br>M12   | .713<br>18.11 | .530<br>13.46          | .934<br>23.73 | 1.293<br>32.85 | 53422-1      | —       |

1-Dimension applies from edge of metal wire barrel to center of stud hole.

### Ring Tongue Terminals (continued)

### PIDG Terminals - Whisker Mitigating (Contains 3% Minimum Lead Content in Plating)

| Wire Range       |                          | Tongue Thickness<br>Maximum | Wire Ins. Diameter<br>Maximum | Stripe Color Code | Stud Size | Dimensions |            |             |             | Part Numbers |      |
|------------------|--------------------------|-----------------------------|-------------------------------|-------------------|-----------|------------|------------|-------------|-------------|--------------|------|
| AWG              | CMA [mm²]                |                             |                               |                   |           | W          | C' MIN.    | E MAX.      | L MAX.      | Tin Plate    |      |
|                  |                          |                             |                               |                   |           |            |            |             |             | Loose        | Tape |
| 16-14 Heavy Duty | 2,050-5,180 [1.04-2.62]  | .050 1.3                    | .230 5.84                     | Black             | 4         | .281 7.14  | .219 5.56  | .810 20.57  | .955 24.26  | 53963-1      | —    |
|                  |                          |                             |                               |                   | 6 M3.5    | .343 8.71  | .281 7.13  | .872 22.15  | 1.046 26.57 | 53964-1      | —    |
|                  |                          |                             |                               |                   | 8 M4      | .343 8.71  | .281 7.13  | .872 22.15  | 1.046 26.57 | 53982-1      | —    |
|                  |                          |                             |                               |                   | 10        | .343 8.71  | .281 7.13  | .872 22.15  | 1.046 26.57 | 53983-1      | —    |
|                  |                          |                             |                               |                   | 1/4 M6    | .531 13.49 | .437 11.09 | 1.028 26.12 | 1.296 32.92 | 53984-1      | —    |
| 12-10            | 5,180-13,100 [2.62-6.64] | .042 1.07                   | .230 5.84                     | Yellow            | 6 M3.5    | .219 5.56  | .250 6.35  | .810 20.57  | .938 23.83  | 54593-1      | —    |
|                  |                          |                             |                               |                   | 6 M3.5    | .375 9.53  | .302 7.67  | .893 22.69  | 1.083 27.51 | 53423-1      | —    |
|                  |                          |                             |                               |                   | 8 M4      | .375 9.53  | .302 7.67  | .893 22.69  | 1.083 27.51 | 53424-1      | —    |
|                  |                          |                             |                               |                   | 10        | .375 9.53  | .302 7.67  | .893 22.69  | 1.083 27.51 | 53425-1      | —    |
|                  |                          |                             |                               |                   | 1/4 M6    | .531 13.48 | .468 11.88 | 1.054 26.78 | 1.322 33.58 | 53426-1      | —    |
|                  |                          |                             |                               |                   | 5/16 M8   | .531 13.48 | .468 11.88 | 1.054 26.78 | 1.322 33.58 | 53427-1      | —    |
|                  |                          |                             |                               |                   | 3/8       | .593 15.06 | .531 13.48 | 1.115 28.33 | 1.414 35.92 | 53428-1      | —    |
|                  |                          |                             |                               |                   | 1/2 M12   | .715 18.16 | .474 12.04 | 1.054 26.77 | 1.414 35.92 | 53429-1      | —    |

1-Dimension applies from edge of metal wire barrel to center of stud hole.

### Butt Splices

#### Material and Finish:

- Splice body :  
copper per ASTM-B152  
with bright tin/lead (93/7)  
{3% MIN lead content}  
plating per ASTM-B545
- Insulation support  
sleeve : copper per  
ASTM-B152 with bright  
tin/lead (93/7) {3% MIN  
lead content} plating  
per ASTM-B545
- Insulation sleeve :  
PVF<sub>2</sub>, natural with  
colored stripe



### PIDG Splices - Whisker Mitigating (Contains 3% Minimum Lead Content in Plating)

| Wire Range |                             | Barrel I.D.<br>Minimum | Stripe<br>Color<br>Code | Wire Ins.<br>Diameter<br>Maximum | Dimension<br>Length<br>Maximum | Part Numbers |         |
|------------|-----------------------------|------------------------|-------------------------|----------------------------------|--------------------------------|--------------|---------|
| AWG        | CMA<br>[mm²]                |                        |                         |                                  |                                | Tin Plate    |         |
|            |                             |                        |                         |                                  |                                | Loose        | Tape    |
| 26-22      | 202-810<br>[.10-.41]        | .029<br>.73            | Yellow                  | .082<br>2.09                     | .890<br>22.61                  | 53546-1      | -       |
| 24-20      | 320-1,290<br>[.16-.65]      | .043<br>1.09           | White                   | .100<br>2.54                     | 1.035<br>26.29                 | 53547-1      | -       |
| 22-16      | 509-3,250<br>[.26-1.65]     | .061<br>1.54           | Red                     | .125<br>3.18                     | 1.265<br>32.14                 | 53548-1      | 53548-2 |
| 16-14      | 2,050-5,180<br>[1.04-2.62]  | .085<br>2.15           | Blue                    | .150<br>3.81                     | 1.265<br>32.14                 | 53549-1      | -       |
| 12-10      | 5,180-13,000<br>[2.62-6.64] | .129<br>3.27           | Yellow                  | .220<br>5.59                     | .220<br>42.07                  | 53550-1      | -       |

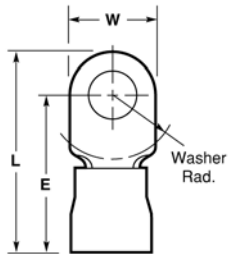
#### Related Product Data

- Application tooling  
pages 8-11
- Technical documents  
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## Ring Tongue Terminals

### Material and Finish:

- Terminal body :  
copper per ASTM-B152  
with bright tin/lead (93/7)  
{3% MIN lead content}  
plating per ASTM-B545
- Insulation sleeve :  
PVF<sub>2</sub>, natural with  
colored stripe



### Related Product Data

- Application tooling  
pages 8-11
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## PLASTI-GRIP Terminals - Whisker Mitigating

(Contains 3% Minimum Lead Content in Plating)

| Wire Range |                              | Tongue Thickness Maximum | Wire Ins. Diameter Maximum | Stripe Color Code | Stud Size | Max. Washer Rad. | Dimensions    |                |                | Part Numbers |
|------------|------------------------------|--------------------------|----------------------------|-------------------|-----------|------------------|---------------|----------------|----------------|--------------|
| AWG        | CMA [mm <sup>2</sup> ]       |                          |                            |                   |           |                  | W             | E MAX.         | L MAX.         | Loose        |
| 8          | 13,100-20,800<br>[6.64-10.5] | .043<br>1.1              | .380<br>9.66               | Red               | 10        | .437<br>11.1     | .431<br>10.95 | 1.344<br>34.13 | 1.562<br>39.68 | 53978-1      |
|            |                              |                          |                            |                   | 1/4 M6    | .437<br>11.1     | .478<br>12.14 | 1.344<br>34.14 | 1.586<br>40.29 | 53943-1      |
|            |                              |                          |                            |                   | 5/16 M8   | .500<br>12.7     | .587<br>14.91 | 1.402<br>35.62 | 1.702<br>43.24 | 54947-1      |
|            |                              |                          |                            |                   | 3/8       | .500<br>12.7     | .587<br>14.91 | 1.406<br>35.72 | 1.702<br>43.24 | 53944-1      |
|            |                              |                          |                            |                   | 1/2 M12   | .500<br>12.70    | .875<br>22.23 | 1.406<br>35.72 | 1.846<br>46.89 | 53945-1      |
| 6          | 20,800-33,100<br>[10.5-16.8] | .048<br>1.22             | .436<br>11.08              | Blue              | 10        | .421<br>10.7     | .468<br>11.89 | 1.482<br>37.65 | 1.719<br>43.67 | 53975-1      |
|            |                              |                          |                            |                   | 1/4 M6    | .421<br>10.7     | .500<br>12.7  | 1.622<br>41.2  | 1.898<br>46.42 | 53946-1      |
|            |                              |                          |                            |                   | 3/8       | .515<br>13.09    | .625<br>15.88 | 1.591<br>40.42 | 1.905<br>48.42 | 53947-1      |
| 4          | 33,100-52,600<br>[16.8-26.7] | .051<br>1.3              | .515<br>13.09              | Yellow            | 10        | .531<br>13.49    | .546<br>13.87 | 1.672<br>42.47 | 1.948<br>49.48 | 53949-1      |
|            |                              |                          |                            |                   | 1/4 M6    | .531<br>13.49    | .546<br>13.87 | 1.672<br>42.47 | 1.948<br>49.48 | 53980-1      |
|            |                              |                          |                            |                   | 3/8       | .531<br>13.49    | .546<br>13.87 | 1.672<br>42.47 | 2.014<br>51.16 | 53950-1      |
|            |                              |                          |                            |                   | 1/2 M12   | .531<br>13.49    | .679<br>17.25 | 1.672<br>42.47 | 2.014<br>51.16 | 53951-1      |
| 2          | 52,600-83,700<br>[26.7-42.4] | .060<br>1.53             | .560<br>14.23              | Red               | 1/4 M6    | .578<br>14.69    | .675<br>17.15 | 1.731<br>43.97 | 2.071<br>52.60 | 53977-1      |
|            |                              |                          |                            |                   | 3/8       | .578<br>14.69    | .711<br>18.06 | 1.731<br>43.97 | 2.089<br>53.07 | 53953-1      |
|            |                              |                          |                            |                   | 1/2 M12   | .578<br>14.69    | .855<br>21.72 | 1.731<br>43.97 | 2.161<br>54.9  | 53954-1      |

## Wire Pins

### Material and Finish:

- Terminal body :  
copper per ASTM-B152  
with bright tin {99.5%  
MIN tin content} plating  
per ASTM-B545
- Insulation support  
sleeve : copper per  
ASTM-B152 with bright tin  
{99.5% MIN tin content}  
plating per ASTM-B545
- Insulation sleeve :  
PVF<sub>2</sub>, natural with colored  
stripe

## PIDG PVF<sub>2</sub> Wire Pins - RoHS Compliant

### Bright Tin Plated

| Wire Range |                           | Tongue<br>Thickness<br>Maximum | Wire Ins.<br>Diameter<br>Maximum | Stripe Color<br>Code | Dimensions   |              |                | Part Numbers |      |
|------------|---------------------------|--------------------------------|----------------------------------|----------------------|--------------|--------------|----------------|--------------|------|
| AWG        | CMA<br>[mm <sup>2</sup> ] |                                |                                  |                      | W            | X<br>MIN.    | L<br>MAX.      | Tin Plate    |      |
|            |                           |                                |                                  |                      |              |              |                | Loose        | Tape |
| 22-16      | 493-3,158<br>[.25-1.6]    | .033<br>.84                    | .013<br>3.30                     | Red                  | .071<br>1.80 | .390<br>9.90 | .903<br>22.93  | 737049-1     | —    |
| 16-14      | 1,973-5,131<br>[1.0-2.60] | .033<br>.84                    | .154<br>3.90                     | Blue                 | .071<br>1.80 | .390<br>9.90 | .903<br>22.93  | 737051-1     | —    |
| 12-10      | 5,131-13,025<br>[2.6-6.6] | .042<br>1.07                   | .236<br>6.00                     | Yellow               | .102<br>1.80 | .390<br>9.90 | 1.128<br>28.65 | 737053-1     | —    |

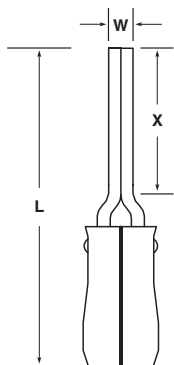
## Wire Pins

### Material and Finish:

- Terminal body :  
copper per ASTM-B152  
with matte tin {99.5%  
MIN tin content} plating  
per ASTM-B545
- Insulation support  
sleeve : copper per  
ASTM-B152 with matte tin  
{99.5% MIN tin content}  
plating per ASTM-B545
- Insulation sleeve :  
PVF<sub>2</sub>, natural with  
colored stripe

### Matte Tin Plated

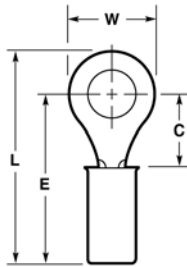
| Wire Range |                             | Tongue<br>Thickness<br>Maximum | Wire Ins.<br>Diameter<br>Maximum | Stripe Color<br>Code | Dimensions   |              |                | Part Numbers |      |
|------------|-----------------------------|--------------------------------|----------------------------------|----------------------|--------------|--------------|----------------|--------------|------|
| AWG        | CMA<br>[mm <sup>2</sup> ]   |                                |                                  |                      | W            | X<br>MIN.    | L<br>MAX.      | Tin Plate    |      |
|            |                             |                                |                                  |                      |              |              |                | Loose        | Tape |
| 22-16      | 509-3,250<br>[.26-1.65]     | .033<br>.84                    | .014<br>3.56                     | Red                  | .070<br>1.78 | .390<br>9.91 | .918<br>23.32  | 1958191-1    | —    |
| 16-14      | 3,260-5,180<br>[1.04-2.62]  | .033<br>.84                    | .170<br>4.32                     | Blue                 | .070<br>1.78 | .390<br>9.91 | .933<br>23.70  | 1958192-1    | —    |
| 12-10      | 5,180-13,100<br>[2.62-6.64] | .041<br>1.04                   | .250<br>6.35                     | Yellow               | .102<br>2.59 | .390<br>9.91 | 1.148<br>29.16 | 1958193-1    | —    |



## Ring Tongue Terminals

### Material and Finish:

- Terminal body:  
copper per ASTM-B152  
with matte tin {99.5%  
MIN tin content} plating  
per ASTM-B545
- Insulation  
support sleeve : copper  
per ASTM-B152 with  
matte tin {99.5% MIN  
tin content} plating  
per ASTM-B545
- Insulation sleeve :  
PVF<sub>2</sub>, natural with  
colored stripe



### Related Product Data

- Application tooling  
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## PIDG PVF<sub>2</sub> Rings - RoHS Compliant

| Wire Range |                            | Tongue<br>Thickness<br>Maximun | Wire<br>Insulation<br>OD MAX | Stripe<br>Color<br>Code | Stud<br>Size | Dimensions    |               |               |                | Part Numbers |          |
|------------|----------------------------|--------------------------------|------------------------------|-------------------------|--------------|---------------|---------------|---------------|----------------|--------------|----------|
| AWG        | CMA<br>[mm²]               |                                |                              |                         |              | W             | C'<br>MIN     | E<br>MAX      | L<br>MAX       | Tin Plate    |          |
|            |                            |                                |                              |                         |              |               |               |               |                | Loose        | Tape     |
| 26-24      | 202-509<br>[.10-.26]       | .029<br>.74                    | .082<br>2.09                 | Yellow                  | 2<br>M2      | .203<br>5.16  | .211<br>5.36  | .632<br>16.05 | .741<br>18.82  | 696420-1     | —        |
|            |                            |                                |                              |                         | 4            | .203<br>5.16  | .211<br>5.36  | .632<br>16.05 | .741<br>18.82  | 696420-2     | —        |
|            |                            |                                |                              |                         | 6<br>M3.5    | .250<br>6.35  | .243<br>6.17  | .644<br>16.87 | .797<br>20.24  | 696420-3     | —        |
|            |                            |                                |                              |                         | 8<br>M4      | .281<br>7.14  | .250<br>6.35  | .671<br>17.04 | .819<br>20.80  | 696420-5     | —        |
|            |                            |                                |                              |                         | 10           | .312<br>7.92  | .281<br>7.14  | .702<br>17.83 | .866<br>22.00  | 696420-6     | —        |
| 24-20      | 320-1,290<br>[.16-.65]     | .025<br>.64                    | .100<br>2.54                 | White                   | 4            | .281<br>7.14  | .250<br>6.35  | .631<br>16.03 | .779<br>19.79  | 696421-1     | 696421-3 |
|            |                            |                                |                              |                         | 6<br>M3.5    | .281<br>7.14  | .250<br>6.35  | .631<br>16.03 | .779<br>19.79  | 696421-2     | 696421-4 |
|            |                            |                                |                              |                         | 8<br>M4      | .312<br>7.92  | .281<br>7.14  | .662<br>16.81 | .826<br>20.98  | 696421-5     | 696421-7 |
|            |                            |                                |                              |                         | 10           | .312<br>7.92  | .281<br>7.14  | .662<br>16.81 | .826<br>20.98  | 696421-6     | 696421-8 |
| 22-16      | 509-3,250<br>[.26-1.65]    | .033<br>.84                    | .125<br>3.18                 | Red                     | 4            | .218<br>5.54  | .156<br>.396  | .560<br>14.22 | .677<br>17.20  | 696422-2     | —        |
|            |                            |                                |                              |                         | 6<br>M3.5    | .218<br>5.54  | .156<br>3.96  | .560<br>14.22 | .677<br>17.20  | 696422-3     | —        |
|            |                            |                                |                              |                         | 6<br>M3.5    | .250<br>6.35  | .250<br>6.35  | .654<br>16.61 | .787<br>19.99  | 696422-4     | —        |
|            |                            |                                |                              |                         | 8<br>M4      | .312<br>7.92  | .281<br>7.14  | .685<br>17.40 | .849<br>21.56  | 696422-5     | —        |
|            |                            |                                |                              |                         | 10           | .312<br>7.92  | .281<br>7.14  | .685<br>17.40 | .849<br>21.56  | 696422-6     | —        |
|            |                            |                                |                              |                         | 1/4"<br>M6   | .469<br>11.91 | .437<br>11.10 | .841<br>21.36 | 1.083<br>27.51 | 696422-7     | —        |
|            |                            |                                |                              |                         | 5/16"<br>M8  | .469<br>11.91 | .437<br>11.10 | .841<br>21.36 | 1.083<br>27.51 | 696422-8     | —        |
|            |                            |                                |                              |                         | 3/8"         | .531<br>13.49 | .546<br>13.87 | .950<br>24.13 | 1.223<br>27.51 | 696422-9     | —        |
|            |                            |                                |                              |                         | 1/2"<br>M12  | .713<br>18.11 | .530<br>13.46 | .934<br>23.72 | 1.298<br>32.97 | 1-696422-0   | —        |
| 16-14      | 2,050-5,180<br>[1.04-2.62] | .033<br>.84                    | .150<br>3.81                 | Blue                    | 4            | .250<br>6.35  | .171<br>4.34  | .575<br>14.61 | .708<br>17.98  | 696423-2     | —        |
|            |                            |                                |                              |                         | 6<br>M3.5    | .250<br>6.35  | .171<br>4.34  | .575<br>14.61 | .708<br>17.98  | 696423-3     | —        |
|            |                            |                                |                              |                         | 6<br>M3.5    | .312<br>7.92  | .281<br>7.14  | .685<br>17.40 | .849<br>21.56  | 696423-4     | —        |
|            |                            |                                |                              |                         | 8<br>M4      | .312<br>7.92  | .281<br>7.14  | .685<br>17.40 | .849<br>21.56  | 696423-5     | —        |
|            |                            |                                |                              |                         | 10           | .312<br>7.92  | .281<br>7.14  | .685<br>14.40 | .849<br>21.56  | 696423-6     | —        |
|            |                            |                                |                              |                         | 1/4"<br>M6   | .469<br>11.91 | .437<br>11.10 | .841<br>21.36 | 1.083<br>27.51 | 696423-7     | —        |
|            |                            |                                |                              |                         | 5/16"<br>M8  | .469<br>11.91 | .437<br>11.10 | .841<br>21.36 | 1.083<br>27.51 | 696423-8     | —        |
|            |                            |                                |                              |                         | 3/8"         | .531<br>13.49 | .546<br>13.87 | .950<br>24.13 | 1.223<br>31.06 | 696423-9     | —        |
|            |                            |                                |                              |                         | 1/2"<br>M12  | .713<br>18.11 | .530<br>13.46 | .934<br>23.72 | 1.298<br>32.97 | 1-696423-0   | —        |

1-Dimension applies from edge of metal wire barrel to center of stud hole.

## Ring Tongue Terminals (continued)

## PIDG PVF<sub>2</sub> Rings - RoHS Compliant

| Wire Range             |                                 | Tongue<br>Thickness<br>Maximun | Wire<br>Insulation<br>OD MAX | Stripe<br>Color<br>Code | Stud<br>Size | Dimensions    |               |                |                | Part Numbers |      |
|------------------------|---------------------------------|--------------------------------|------------------------------|-------------------------|--------------|---------------|---------------|----------------|----------------|--------------|------|
| AWG                    | CMA<br>[mm²]                    |                                |                              |                         |              | W             | C'<br>MIN     | E<br>MAX       | L<br>MAX       | Tin Plate    |      |
|                        |                                 |                                |                              |                         |              |               |               |                |                | Loose        | Tape |
| 16-14<br>Heavy<br>Duty | 2,050-<br>5,180<br>[1.04-2.62]  | .050<br>1.27                   | .230<br>5.84                 | Yellow                  | 4            | .281<br>7.14  | .219<br>5.59  | .815<br>20.70  | .960<br>24.38  | 696430-2     | —    |
|                        |                                 |                                |                              |                         | 6<br>M3.5    | .343<br>8.71  | .281<br>7.14  | .877<br>22.28  | 1.051<br>26.70 | 696430-4     | —    |
|                        |                                 |                                |                              |                         | 8<br>M4      | .343<br>8.71  | .281<br>7.14  | .877<br>22.28  | 1.051<br>26.70 | 696430-5     | —    |
|                        |                                 |                                |                              |                         | 10           | .343<br>8.71  | .281<br>7.14  | .877<br>22.28  | 1.051<br>26.70 | 696430-6     | —    |
|                        |                                 |                                |                              |                         | 1/4"<br>M6   | .531<br>13.49 | .437<br>11.10 | 1.033<br>26.24 | 1.301<br>33.05 | 696430-7     | —    |
|                        |                                 |                                |                              |                         | 5/16"<br>M8  | .531<br>13.49 | .437<br>11.10 | 1.033<br>26.24 | 1.301<br>33.05 | 696430-8     | —    |
|                        |                                 |                                |                              |                         | 3/8"         | .531<br>13.49 | .437<br>11.10 | 1.033<br>26.24 | 1.301<br>33.05 | 696430-9     | —    |
|                        |                                 |                                |                              |                         | 1/2"<br>M12  | .750<br>19.05 | .625<br>15.88 | 1.221<br>31.01 | 1.599<br>40.61 | 1-696430-0   | —    |
| 12-10                  | 5,180-<br>13,000<br>[2.62-6.64] | .041<br>1.04                   | .230<br>5.84                 | Yellow                  | 6<br>M3.5    | .375<br>9.53  | .302<br>7.67  | .893<br>22.68  | 1.088<br>27.64 | 696424-4     | —    |
|                        |                                 |                                |                              |                         | 8<br>M4      | .375<br>9.53  | .302<br>7.67  | .893<br>22.68  | 1.088<br>27.64 | 696424-5     | —    |
|                        |                                 |                                |                              |                         | 10           | .375<br>9.53  | .302<br>7.67  | .893<br>22.68  | 1.088<br>27.64 | 696424-6     | —    |
|                        |                                 |                                |                              |                         | 1/4"<br>M6   | .531<br>13.49 | .468<br>11.89 | 1.054<br>26.77 | 1.327<br>33.71 | 696424-7     | —    |
|                        |                                 |                                |                              |                         | 5/16"<br>M8  | .531<br>13.49 | .468<br>11.89 | 1.054<br>26.77 | 1.327<br>33.71 | 696424-8     | —    |
|                        |                                 |                                |                              |                         | 3/8"         | .593<br>15.06 | .531<br>13.49 | 1.115<br>26.77 | 1.419<br>36.04 | 363424-9     | —    |
|                        |                                 |                                |                              |                         | 1/2"<br>M12  | .715<br>18.16 | .474<br>12.04 | 1.054<br>26.77 | 1.419<br>36.04 | 1-696424-0   | —    |

1-Dimension applies from edge of metal wire barrel to center of stud hole.

## Butt Splices

### Material and Finish:

- Splice body: copper per ASTM-B152 with matte tin {99.5% MIN Tin content} plating per ASTM-B545
- Insulation support sleeve : copper per ASTM-B152 with matte tin {99.5% MIN tin content} plating per ASTM-B545
- Insulation sleeve : PVF<sub>2</sub>, natural with colored stripe



## PIDG PVF<sub>2</sub> Splices - RoHS Compliant

| Wire Range |                             | Wire Insulation<br>OD MAX | Stripe Color<br>Code | L<br>MAX       | Part Numbers |      |
|------------|-----------------------------|---------------------------|----------------------|----------------|--------------|------|
| AWG        | CMA<br>[mm²]                |                           |                      |                | Tin Plate    |      |
|            |                             |                           |                      |                | Loose        | Tape |
| 26-22      | 202-810<br>[.10-.26]        | .082<br>2.08              | Yellow               | .082<br>22.61  | 696425-1     | —    |
| 24-20      | 320-1,290<br>[.16-.65]      | .100<br>2.54              | White                | 1.035<br>26.29 | 696426-1     | —    |
| 22-16      | 509-3,250<br>[.26-1.65]     | .125<br>3.18              | Red                  | 1.265<br>32.13 | 696427-1     | —    |
| 16-14      | 2,050-5,180<br>[1.04-2.62]  | .150<br>3.81              | Blue                 | 1.265<br>32.13 | 696428-1     | —    |
| 12-10      | 5,180-13,000<br>[2.62-6.64] | .220<br>5.59              | Yellow               | 1.656<br>42.06 | 696429-1     | —    |

### Related Product Data

- Application tooling pages 8-11
- Technical documents page 8

## PIDG PVF<sub>2</sub> Wire Pins

### Material and Finish:

Loose form terminal and splice tooling for wire range 26-10 AWG [0.12-6.0 mm<sup>2</sup>]

### Technical Documents

#### Instruction Sheets :

- 408-1559 CERTI-CRIMP hand crimp tools
- 408-1724 crimping dies for 8-2/0 AWG connectors

## Application Tooling

| Wire Range    |                 | Hand Tools  |             |
|---------------|-----------------|-------------|-------------|
| AWG           | mm <sup>2</sup> | Style       | Part Number |
| 24-20         | .16-.65         | DAHT        | 47907-1     |
|               |                 | T-HEAD Tool | 59275       |
|               |                 | T-HEAD Tool | 59300       |
| 26-22         | .1-4            | DAHT        | 46121       |
|               |                 | T-HEAD Tool | 59275       |
| 26-24 & 22-16 | .1-2 & .26-1.65 | DAHT        | 47386       |
|               |                 | T-HEAD Tool | 59250       |
|               |                 | T-HEAD Tool | 59300       |
| 22-16         | .26-1.65        | DAHT        | 69151-1     |
| 16-14         | 1.04-2.62       | DAHT        | 47387       |
|               |                 | T-HEAD Tool | 59250       |
| 16-14 HD      | 1.04-2.62       | Heavy Head  | 59239-4     |
| 12-10         | 2.62-6.64       | Heavy Head  | 59239-4     |

## CERTI-CRIMP Hand Tools

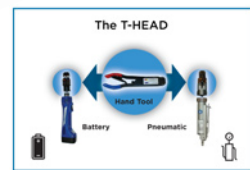
DAHT



Heavy Head Hand Tool



T-HEAD Tool



### Battery Crimp Tool Kit

Take automatic crimping away from the bench to the product, with this convenient, portable, battery operated tool. It's at home in the factory or in the field. It performs approximately 100 crimps per charge. Request catalog 1773381 for more information.

### 626 Pneumatic Tool System

This versatile system provides the ultimate in wire range flexibility for higher volume operation. It's available with hand-or-foot operated configurations. Request catalog 124208 for more information.

## Tooling for loose form terminals, wire range 8-2 AWG [6.64-42.4 mm2]

### Ordering Information:

To insure that all applicable Tyco Electronics part numbers are specified in your order we recommend that you make note of the following information:

1. Select either Electric Hydraulic Tool 1804700-1, -2, Foot Operated Tool 1583659-1 or Hand Pump 1583661-1.
2. Powered systems require a pump, hand or foot control, hose, crimp head and die.
3. The portable battery pump, 1804111-1, includes a hand control
4. Manual systems require hand tools and the battery hand tool requires only dies.
5. Refer to matrix for die, head and hand tool options.

## Application Tooling (continued)

Tyco Electronics continues the quality tradition of AMP crimping tools with a new line of industry-standard 10,000 psi (68,950 kPa) hydraulic compression crimp heads, pumps and interchangeable U-dies. A new battery-powered pump and tool options provide unprecedented portability for any crimping application.

### Electric/Hydraulic Power Unit :

AWG [6.64-42.4 mm2]. Heads and dies are listed in the table below.

### Part Numbers :

Power Unit Only (Includes pressure release on unit)

- 115 Volts 60 Hz—1804700-1 (10,000 psi)
- 230 Volts 60 Hz—1804700-2 (10,000 psi)

Portable, Battery/Hydraulic Power Unit

(Kit includes Hand Controller, 10,000 psi)—1804111-1

Hydraulic Hand Tool 1490749-1 is also available



## Crimping Heads, Hand Tools or Dies

Hydraulic Crimping Tooling 10,000 psi Operating Pressure

|                                     | Hand-Tool | Hydraulic Head       | Hydraulic Heads |           |
|-------------------------------------|-----------|----------------------|-----------------|-----------|
|                                     | 1490749-1 | 1490746-1, 1976230-1 | 1752877-1       | 1752787-1 |
| Wire Size in AWG (mm <sup>2</sup> ) | U-Dies    | U-Dies               | Shank Dies      |           |
| 8 [7-8.5]                           | 1490749-1 | 1490746-1, 1976230-1 | 1752877-1       | 1752787-1 |
| 6 [13-15]                           | 1490534-1 | 1490534-1            | 48858-1         | 48858-1   |
| 4 [21]                              | 1490535-1 | 1490536-1            | 48860-1         | 48860-1   |
| 2 [34-35]                           | 1490410-1 | 1490410-1            | 48861-1         | 48861-1   |

## Accessory Power Controls and Hoses

- Control and hose accessories must be ordered separately.
- If electric hydraulic tool is to be used in portable applications, a handle control and hose assembly should be used.
- For stationary applications, a foot switch assembly and hose assembly will be necessary.
- Multidirectional valves are used when more than one crimping head is permanently attached to the tool.

## Accessories

| For use with Power Unit No. | Accessory Description                                   | Accessory Part Number | Remarks             |
|-----------------------------|---------------------------------------------------------|-----------------------|---------------------|
| 1804700-1<br>1804700-2      | 7 ft. [2.13 m] handle control assembly - hose and cord  | 1901775-1             | —                   |
|                             | 15 ft. [4.57 m] handle control assembly - hose and cord | 1901776-1             |                     |
|                             | 21 ft. [6.4 m] handle control assembly - hose and cord  | 1901777-1             |                     |
|                             | 15 ft. [4.57] foot switch assembly                      | 68284-1               | need hose assembly  |
|                             | 6 ft. [0.91 m] hose assembly                            | 1583662-1             | 68284-1 foot switch |
|                             | 10 ft. [2.13 m] hose assembly                           | 1583662-2             | assembly needed     |
| 1804700-1<br>1804700-2      | 20 ft. [4.57 m] hose assembly                           | 1583662-3             | with hose           |
|                             | 3-way multi-directional valve (manual)                  | 1901782-1             | —                   |

## DYNA-CRIMP Tooling for loose form terminals. Wire range 8-2/0 AWG [7-70 mm<sup>2</sup>]

### Ordering Information:

To insure that all applicable AMP part numbers are specified in your order, we recommend that you make your selection in four (4) steps:

1. Select either Electric **Hydraulic Tool 69120**, **Foot Operated Tool 69325-3** or **Hand Tool 59974-1**.
2. Select a head if using either the Electric Hydraulic or Foot Operated Tools.
3. Select dies from the table on this page.
4. Select control and hose mechanism from accessories list below when using **69120**.

## Application Tooling (continued)

### Electric/Hydraulic Power Unit :

This unit provides crimping for terminals in the wire range of 8-2/0 AWG [7-70 mm<sup>2</sup>]. Heads and dies are listed in the table below.

### Part Numbers :

Power Unit Only (Includes pressure release on unit)

**115 Volts 60 Hz : 69120**

**230 Volts 60 Hz : 69120-2**



## Crimping Heads and Dies for Tools 69120-1, 69325-3 and 59974-1

| Wire Range |                 | PLASTI-GRIP Style Terminals |                                 |
|------------|-----------------|-----------------------------|---------------------------------|
| AWG        | mm <sup>2</sup> | Dies for Head 69066         | Dies for Head 69051 and 59974-1 |
| 8          | 7-8             | 48858-1                     | 48752-1<br>47820*               |
| 6          | 18-15           | 48859-1                     | 48753-1*<br>47821*              |
| 4          | 21              | 48860-1                     | 48754-1<br>47822*               |
| 2          | 34-35           | 48861-1<br>47239-1**        | 48755-1<br>47823*               |

\*No insulation crimp.

\*\*Large expansion.

## Accessory Power Controls and Hoses

- Control and hose accessories must be ordered separately.
- If electric hydraulic tool is to be used in portable applications, a handle control and hose assembly should be used.
- For stationary applications, a foot switch assembly and hose assembly will be necessary.
- Multidirectional valves are used when more than one crimping head is permanently attached to the tool.

## Accessories

| For use with Power Unit No. | Accessory Description                                      | Accessory Part Number | Remarks             |
|-----------------------------|------------------------------------------------------------|-----------------------|---------------------|
| 69120-1<br>69120-2          | 7 ft. [2.13 m] handle control assembly - hose and cord     | 59907-7               | —                   |
|                             | 15 ft. [4.57 m] handle control assembly - hose and cord    | 1-59907-5             | —                   |
|                             | 15 ft. [4.57 m] handle control assembly - cord (less hose) | 1-59908-5             | —                   |
|                             | 21 ft. [6.4 m] handle control assembly - hose and cord     | 2-59907-1             | —                   |
|                             | 21 ft. [6.4 m] handle control assembly - cord (less hose)  | 2-59908-1             | —                   |
|                             | 28 ft. [8.53 m] handle control assembly - hose and cord    | 2-59907-8             | —                   |
|                             | 15 ft. [4.57 m] foot switch assembly                       | 68284-1               | need hose assembly  |
|                             | 3 ft. [0.91 m] hose assembly                               | 59909-3               | 68284-1 foot switch |
|                             | 7 ft. [2.13 m] hose assembly                               | 59909-7               | assembly needed     |
|                             | 15 ft. [4.57 m] hose assembly                              | 1-59909-5             | with these hose     |
| 69120-1<br>69120-2          | 21 ft. [6.4 m] hose assembly                               | 2-59909-1             | assemblies          |
|                             | 3-way multi-directional valve                              | 59220                 | —                   |
|                             | 6-way multi-directional valve                              | 59221                 | foot switch only    |

**Hydraulic Hand Tool for  
Wire Range 8-2 AWG  
[7-35 mm<sup>2</sup>]**
**Application Tooling** (continued)

**Hydraulic Hand Tool**
**Part No. 1490749-1**

Dies for this tool are listed in the  
table on page 9.

**Hydraulic Hand Tool**
**Part No. 59974-1**

Dies for this tool are listed in the  
table on page 10 under head No. **69051**.

**Tape Form Terminal  
and Splice Tooling for  
Wire Range 24-10 AWG  
[0.2-6 mm<sup>2</sup>]**

Tyco Electronics application tools are designed to produce a carefully controlled, uniform pressure crimp, whether manually or pneumatically powered. All tools feature matching dies that fully "bottom" at the completion of the crimp, resulting in a proper crimp height. These dies are color coded to aid in matching tool to wire size.

**Model G Terminating Machine**
**Part No. 354500-1**
**Applicator : 567200-3**

**TAPETRONIC Machine**
**Part No. 69875**

Requires dies. No applicator required.


**Dies for Tape Mounted Terminals**

| Wire Range |                 | Dies  |
|------------|-----------------|-------|
| AWG        | mm <sup>2</sup> |       |
| 22-16      | 0.3 - 1.4       | 69872 |
| 16-14      | 1.25 - 2.0      | 69873 |
| 12-10      | 3.0 - 6.0       | 69874 |

For AMP-O-ELECTRIC Machine 565435-5, use applicator 567200-2

## Part Number Index

| Part No. | Page | RoHS Code |
|----------|------|-----------|
| 53400-1  | 2    | L         |
| 53401-1  | 2    | L         |
| 53402-1  | 2    | L         |
| 53403-1  | 2    | L         |
| 53404-1  | 2    | L         |
| 53405-1  | 2    | L         |
| 53406-1  | 2    | L         |
| 53407-1  | 2    | L         |
| 53407-2  | 2    | L         |
| 53408-1  | 2    | L         |
| 53408-2  | 2    | L         |
| 53409-1  | 2    | L         |
| 53410-1  | 2    | L         |
| 53410-2  | 2    | L         |
| 53411-1  | 2    | L         |
| 53412-1  | 2    | L         |
| 53413-1  | 2    | L         |
| 53414-1  | 2    | L         |
| 53415-1  | 2    | L         |
| 53416-1  | 2    | L         |
| 53416-2  | 2    | L         |
| 53417-1  | 2    | L         |
| 53417-2  | 2    | L         |
| 53418-1  | 2    | L         |
| 53418-2  | 2    | L         |
| 53419-1  | 2    | L         |
| 53420-1  | 2    | L         |
| 53421-1  | 2    | L         |
| 53422-1  | 2    | L         |
| 53423-1  | 3    | L         |
| 53424-1  | 3    | L         |
| 53425-1  | 3    | L         |
| 53426-1  | 3    | L         |
| 53427-1  | 3    | L         |
| 53428-1  | 3    | L         |
| 53429-1  | 3    | L         |
| 53546-1  | 3    | L         |
| 53547-1  | 3    | L         |
| 53548-1  | 3    | L         |
| 53548-2  | 3    | L         |
| 53549-1  | 3    | L         |
| 53550-1  | 3    | L         |

| Part No. | Page | RoHS Code |
|----------|------|-----------|
| 53809-2  | 2    | L         |
| 53943-1  | 4    | L         |
| 53944-1  | 4    | L         |
| 53945-1  | 4    | L         |
| 53946-1  | 4    | L         |
| 53947-1  | 4    | L         |
| 53949-1  | 4    | L         |
| 53950-1  | 4    | L         |
| 53951-1  | 4    | L         |
| 53953-1  | 4    | L         |
| 53954-1  | 4    | L         |
| 53963-1  | 3    | L         |
| 53964-1  | 3    | L         |
| 53975-1  | 4    | L         |
| 53977-1  | 4    | L         |
| 53978-1  | 4    | L         |
| 53980-1  | 4    | L         |
| 53982-1  | 3    | L         |
| 53983-1  | 3    | L         |
| 53984-1  | 3    | L         |
| 54593-1  | 3    | L         |
| 54947-1  | 4    | L         |
| 696420-1 | 6    | R         |
| 696420-2 | 6    | R         |
| 696420-3 | 6    | R         |
| 696420-5 | 6    | R         |
| 696420-6 | 6    | R         |
| 696421-1 | 6    | R         |
| 696421-2 | 6    | R         |
| 696421-3 | 6    | R         |
| 696421-4 | 6    | R         |
| 696421-5 | 6    | R         |
| 696421-6 | 6    | R         |
| 696421-7 | 6    | R         |
| 696421-8 | 6    | R         |
| 696422-2 | 6    | R         |
| 696422-3 | 6    | R         |
| 696422-4 | 6    | R         |
| 696422-5 | 6    | R         |
| 696422-6 | 6    | R         |
| 696422-7 | 6    | R         |
| 696422-8 | 6    | R         |

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|------------|------|-----------|
| 696422-9   | 6    | R         |
| 1-696422-0 | 6    | R         |
| 696423-2   | 6    | R         |
| 696423-3   | 6    | R         |
| 696423-4   | 6    | R         |
| 696423-5   | 6    | R         |
| 696423-6   | 6    | R         |
| 696423-7   | 6    | R         |
| 696423-8   | 6    | R         |
| 696423-9   | 6    | R         |
| 1-696423-0 | 6    | R         |
| 696424-4   | 7    | R         |
| 696424-5   | 7    | R         |
| 696424-6   | 7    | R         |
| 696424-7   | 7    | R         |
| 696424-8   | 7    | R         |
| 696424-9   | 7    | R         |
| 1-696424-0 | 7    | R         |
| 696425-1   | 7    | R         |
| 696426-1   | 7    | R         |
| 696427-1   | 7    | R         |
| 696428-1   | 7    | R         |
| 696429-1   | 7    | R         |
| 696430-2   | 7    | R         |
| 696430-4   | 7    | R         |
| 696430-5   | 7    | R         |
| 696430-6   | 7    | R         |
| 696430-7   | 7    | R         |
| 696430-8   | 7    | R         |
| 696430-9   | 7    | R         |
| 1-696430-0 | 7    | R         |
| 737049-1   | 5    | R         |
| 737051-1   | 5    | R         |
| 737053-1   | 5    | R         |
| 1958191-1  | 5    | R         |
| 1958192-1  | 5    | R         |
| 1958193-1  | 5    | R         |

## Americas

**Argentina** (Buenos Aires)  
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Fax: +54-11-4733-2211

**Brasil** (São Paulo)  
Phone: +55-11-2103-6000  
Fax: +55-11-2103-6030

**Chile** (Santiago)  
Phone: +56-2-345-0361  
Fax: +56-2-223-1477

**Canada** (Toronto)  
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Fax: +905-474-5520  
Product Information Center:  
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Fax: +905-474-5525

**Colombia** (Bogota)  
Phone: +57-1-319-8959  
Fax: +57-1-319-8960

**Mexico** (Mexico City)  
Phone: +52-55-1106-0800  
+01-800-733-8926  
Fax: +52-55-1106-0901

**For Latin/South American**  
(Countries not shown)  
Phone: +54-11-4733-2015  
Fax: +54-11-4733-2083

**United States**  
(Harrisburg, PA)  
Phone: +1-717-564-0100  
Fax: +1-717-986-7575  
Product Information Center:  
Phone: +1-800-522-6752  
Fax: +1-717-986-7575

(Troy, MI)  
Phone: +1-248-273-3359  
Fax: +1-248-273-3322

## Asia/Pacific

**Australia** (Sydney)  
Phone: +61-2-9554-2600  
Fax: +61-2-9502-2556  
Product Information Center:  
Phone: +61-2-9840-8200  
Fax: +61-2-9634-6188

**India** (Bangalore)  
Phone: +91-80-285-40800  
Fax: +91-80-285-40820

**Indonesia** (Jakarta)  
Phone: +65-6482-0311  
Fax: +65-6482-1012

**Japan** (Kawasaki, Kanagawa)  
Phone: +81-44-844-8111  
Fax: +81-44-812-3207  
Product Information Center:  
Phone: +81-44-844-8013  
Fax: +81-44-812-3200

**Korea** (Seoul)  
Phone: +82-2-3415-4500  
Fax: +82-2-3486-3810

**Malaysia** (Selangor)  
Phone: +60-3-7805-3055  
Fax: +60-3-7805-3066

**New Zealand** (Auckland)  
Phone: +64-9-634-4580  
Fax: +64-9-634-4586

**Philippines** (Makati City)  
Phone: +632-848-0171  
Fax: +632-867-8661

**People's Republic of China**  
(Hong Kong)  
Phone: +852-2735-1628  
Fax: +852-2735-0243  
(Shanghai)  
Phone: +86-21-2407-1588  
Fax: +86-21-2407-1599

**Singapore** (Singapore)  
Phone: +65-6482-0311  
Fax: +65-6482-1012

**Taiwan** (Taipei)  
Phone: +886-2-8768-2788  
Fax: +886-2-8768-2268

**Thailand** (Bangkok)  
Phone: +66-2-955-0500  
Fax: +66-2-955-0505

**Vietnam** (Ho Chi Minh City)  
Phone: +84-8-930-5546  
Fax: +84-8-930-3443

## Europe/Middle East/Africa

**Austria** (Vienna)  
Phone: +43-1-905-60-0  
Fax: +43-1-905-60-1333  
Product Information Center:  
Phone: +43-1-905-60-1249  
Fax: +43-1-905-60-1251

**Belarus** (Minsk)  
Phone: +375 17 237 47 94  
Fax: +375 17 237 47 94

**Belgium** (Kessel-Lo)  
Phone: +32-16-352-300  
Fax: +32-16-352-355

**Bulgaria** (Sofia)  
Phone: +359-2-971-2152  
Fax: +359-2-971-2153

**Czech Republic and Slovakia**  
**Czech Republic** (Kurim)  
Phone: +420-541-162-111  
Fax: +420-541-162-223  
Product Information Center:  
Phone: +420-541-162-113  
Fax: +420-541-162-132

**Denmark** (Glostrup)  
Phone: +45-43-48-04-00  
Fax: +45-43-44-14-14

**Egypt** (Cairo)  
Phone: +202-419-2334  
Fax: +202-417-7647

**Estonia** (Tartu)  
Phone: +372-5138-274  
Fax: +372-7400-779

**Finland** (Helsinki)  
Phone: +358-95-12-34-20  
Fax: +358-95-12-34-250

**France** (Cergy-Pontoise Cedex)  
Phone: +33-1-3420-8888  
Fax: +33-1-3420-8600  
Product Information Center:  
Phone: +33-1-3420-8686  
Fax: +33-1-3420-8623

**France Export Divisions**  
(Cergy-Pontoise Cedex)  
Phone: +33-1-3420-8804  
Fax: +33-1-3420-8699

**Germany** (Bensheim)  
Phone: +49-6251-133-0  
Fax: +49-6251-133-1600  
**Product Information Center:**  
Phone: +49-6251-133-1999  
Fax: +49-6251-133-1988

**Greece** (Athens)  
Phone: +30-210-9370-396/397  
Fax: +30-210-9370-655

**Hungary** (Budapest)  
Phone: +36-1-289-1000  
Fax: +36-1-289-1010  
Product Information Center:  
Phone: +36-1-289-1016  
Fax: +36-1-289-1017

**Ireland** (Dublin)  
Phone: +353-1-866-5612  
Fax: +353-1-866-5714

**Israel** (Petach-Tikva)  
Phone: +972-3-929-0999  
Fax: +972-3-919-1088

**Italy** (Collegno (Torino))  
Phone: +39-011-4012-111  
Fax: +39-011-4031-116  
Product Information Center:  
Phone: +39-011-4012-428  
Fax: +39-011-40-287-428

**Lithuania and Latvia**  
**Lithuania** (Vilnius)  
Phone: +370-5-213-1402  
Fax: +370-5-213-1403  
Product Information Center:  
Phone: +370-5-211-3016  
Fax: +370-5-213-1403

**Netherlands** ('s-Hertogenbosch)  
Phone: +31-73-6246-246  
Fax: +31-73-6212-365  
Product Information Center:  
Phone: +31-73-6246-999  
Fax: +31-73-6246-998

**Norway** (Nesbru)  
Phone: +47-66-77-88-50  
Fax: +47-66-77-88-55

**Poland** (Warsaw)  
Phone: +48-22-4576-700  
Fax: +48-22-4576-720  
Product Information Center:  
Phone: +48-22-4576-704  
Fax: +48-22-4576-720

**Romania** (Bucharest)  
Phone: +40-21-311-3479/3596  
Fax: +40-21-312-0574

**Russia** (Moscow)  
Phone: +7-495-790-7902  
Fax: +7-495-721-1893  
Product Information Center:  
Phone: +7-495-790-7902-404  
Fax: +7-495-790-7902-401

**Russia** (St. Petersburg)  
Phone: +7-812-718-8192  
Fax: +7-812-718-8193

**Slovenia** (Ljubljana)  
Phone: +386-1561-3270  
Fax: +386-1561-3240

**South Africa** (Port Elizabeth)  
Phone: +27-41-503-4500  
Fax: +27-41-581-0440

**Spain** (Barcelona)  
Phone: +34-93-291-0330  
Fax: +34-93-201-7879

**Sweden** (Upplands Väsby)  
Phone: +46-8-50-72-50-00  
Fax: +46-8-50-72-50-01

**Switzerland** (Steinach)  
Phone: +41-71-447-0447  
Fax: +41-71-447-0444

**Turkey** (Istanbul)  
Phone: +90-212-281-8181/2/3  
+90-212-282-5130/5430  
Fax: +90-212-281-8184

**Ukraine** (Kiev)  
Phone: +380-44-206-2265  
Fax: +380-44-206-2264  
Product Information Center:  
Phone: +380-44-206-2265  
Fax: +380-44-206-2264

**United Kingdom**  
(Stanmore, Middlesex)  
Phone: +44-8706-080208  
Fax: +44-208-954-6234  
Product Information Center:  
Freephone (UK only):  
+0800-267-666  
Phone: +44-8706-080208  
Fax: +44-208-420-8095

**Tyco Electronics Corporation**  
Harrisburg, PA

**[www.tycoelectronics.com](http://www.tycoelectronics.com)**

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82038 CIS PDF 7/2009

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