

# International Thermocouple Color Codes - Thermocouple and Extension Grade Wires



| THERMO-<br>COUPLE<br>TYPE | <b>U.S. &amp; CANADIAN</b><br>(ANSI/MC96.1, ANSI/ASTM E230) |                         |   |                                    | International              | International                          | Czech<br>British                    | Netherlands<br>German                        | Japanese                                     | French                                       |
|---------------------------|---|-------------------------|---|------------------------------------|----------------------------|--|-------------------------------------|--|--|--|
|                           | ALLOY<br>COMBINATION  | THERMOCOUPLE<br>GRADE   | EXTENSION<br>GRADE                              | PLUG &<br>JACK                     | IEC 584-3                  | IEC 584-3<br><i>Intrinsically Safe</i> | BS 1843                             | DIN 43710                                    | JIS C 1610                                   | NFC 42-324                                   |
| <b>T</b>                  | Copper  | Brown Blue +<br>Red -   | + Blue Blue<br>- Red Red                        | Blue<br>●                          | Brown Brown +<br>White -   | Blue Brown +<br>White -                | Blue White +<br>Blue -              | Brown Red +<br>Brown -                       | Brown Red +<br>White -                       | Blue Yellow +<br>Blue -                      |
|                           | Constantan<br>(Copper-Nickel)                               |                         |   |                                    |                            |  |                                     |  |  |  |
| <b>J</b>                  | Iron<br><i>(magnetic)</i>                                   | Brown White +<br>Red -  | + White Black<br>- Red Red                      | Black<br>●                         | Black Black +<br>White -   | Blue Black +<br>White -                | Black Yellow +<br>Blue -            | Blue Red +<br>Blue -                         | Yellow Red +<br>White -                      | Black Yellow +<br>Black -                    |
|                           | Constantan<br>(Copper-Nickel)                               |                         |   |                                    |                            |  |                                     |  |  |  |
| <b>E</b>                  | Nickel - Chromium   | Brown Purple +<br>Red - | + Purple Purple<br>- Red Red                    | Purple<br>●                        | Purple Purple +<br>White - | Blue Purple +<br>White -               | Brown Brown +<br>Blue -             | Black Red +<br>Black -                       | Purple Red +<br>White -                      | Purple Yellow +<br>Purple -                  |
|                           | Constantan<br>(Copper-Nickel)                               |                         |   |                                    |                            |  |                                     |  |  |  |
| <b>K</b>                  | Nickel - Chromium   | Brown Yellow +<br>Red - | + Yellow Yellow<br>- Red Red                    | Yellow<br>●                        | Green Green +<br>White -   | Blue Green +<br>White -                | Red Brown +<br>Blue -               | Green Red +<br>Green -                       | Blue Red +<br>White -                        | Yellow Yellow +<br>Purple -                  |
|                           | Nickel - Aluminium<br><i>(magnetic)</i>                     |                         |   |                                    |                            |  |                                     |  |  |  |
| <b>N</b>                  | Nicrosil<br>(Nickel-Chromium- Silicon)                      | Brown Orange +<br>Red - | + Orange Orange<br>- Red Red                    | Orange<br>●                        | Pink Pink +<br>White -     | Blue Pink +<br>White -                 | Orange Orange +<br>Blue -           | No Standard<br>(Use American<br>Color Codes) | No Standard<br>(Use American<br>Color Codes) | No Standard<br>(Use American<br>Color Codes) |
|                           | Nisil<br>(Nickel-Silicon-Magnesium)                         |                         |   |                                    |                            |  |                                     |  |  |  |
| <b>S</b>                  | Platinum<br>Rhodium -10%                                    | None<br>Established     | + Black Green<br>- Red Green                    | Green<br>●                         | Orange Orange +<br>White - | Blue Orange +<br>White -               | Green White +<br>Blue -             | White Red +<br>White -                       | Black Red +<br>White -                       | Green Yellow +<br>Green -                    |
|                           | Platinum  |                         |   |                                    |                            |  |                                     |  |  |  |
| <b>R</b>                  | Platinum<br>Rhodium -13%                                    | None<br>Established     | + Black Green<br>- Red Green                    | Green<br>●                         | Orange Orange +<br>White - | Blue Orange +<br>White -               | Green White +<br>Blue -             | White Red +<br>White -                       | Black Red +<br>White -                       | Green Yellow +<br>Green -                    |
|                           | Platinum  |                         |   |                                    |                            |  |                                     |  |  |  |
| <b>B</b>                  | Platinum<br>Rhodium - 30%                                   | None<br>Established     | + Gray Gray<br>- Red Red<br>(Compensated Cable) | White<br>(Uncom-<br>pensated)<br>○ | Gray Gray +<br>White -     |  | No Standard<br>(Use Copper<br>Wire) | Gray Red +<br>Gray -<br>(Compensated Cable)  | Gray Red +<br>Gray -<br>(Compensated Cable)  | No Standard<br>(Use Copper<br>Wire)          |
|                           | Platinum<br>Rhodium - 6%                                    |                         |   |                                    |                            |  |                                     |  |  |  |
| <b>C</b>                  | Tungsten<br>Rhenium - 5%                                    | None<br>Established     | + Green Red<br>- Red Red                        | Red<br>●                           |                            |  |                                     | No Standard<br>(Use American<br>Color Codes) | No Standard<br>(Use American<br>Color Codes) | No Standard<br>(Use American<br>Color Codes) |
|                           | Tungsten<br>Rhenium - 26%                                   |                         |   |                                    |                            |  |                                     |  |  |  |