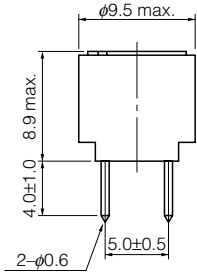
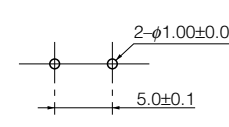
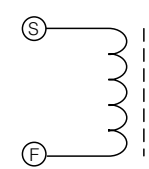


### Examples Type 09D

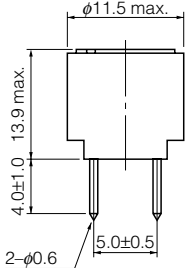
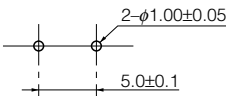
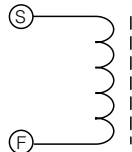
|   | Part No.  | Inductance (μH) | Tolerance (%) | Test Freq. (kHz) | R <sub>DC</sub> (Ω)<br>[at 20 °C]<br>**(Tol.±30 %)<br>(Tol.±20 %) | *I <sub>DC</sub> .<br>[at 20 °C]<br>(A)max. |
|---|---|-----------------|---------------|------------------|---|---|
| [Dimensions in mm]<br>(not to scale)<br><br> | ELC09D2R2□F   | 2.2             | ±20           | 10               | 0.012   | 3.50  |
|   | ELC09D2R7□F   | 2.7             |               |                  | 0.013   | 3.30  |
|   | ELC09D3R3□F   | 3.3             |               |                  | 0.015   | 3.20  |
|   | ELC09D3R9□F   | 3.9             |               |                  | 0.016   | 3.10  |
|   | ELC09D4R7□F   | 4.7             |               |                  | 0.018   | 3.00  |
|   | ELC09D5R6□F   | 5.6             |               |                  | 0.019   | 2.90  |
|   | ELC09D6R8□F   | 6.8             |               |                  | 0.021   | 2.80  |
|   | ELC09D8R2□F   | 8.2             |               |                  | 0.024   | 2.60  |
|   | ELC09D100□F   | 10.0            |               |                  | 0.027   | 2.50  |
|   | ELC09D120□F   | 12.0            |               |                  | 0.031   | 2.30  |
|   | ELC09D150□F   | 15.0            |               |                  | 0.035   | 2.10  |
|   | ELC09D180□F   | 18.0            |               |                  | 0.038   | 2.00  |
|   | ELC09D220□F   | 22.0            |               |                  | 0.051   | 1.80  |
|   | ELC09D270□F   | 27.0            |               |                  | 0.058   | 1.60  |
|   | ELC09D330□F   | 33.0            |               |                  | 0.081   | 1.40  |
|   | ELC09D390□F   | 39.0            |               |                  | 0.087   | 1.30  |
|   | ELC09D470□F   | 47.0            |               |                  | 0.110   | 1.20  |
|   | ELC09D560□F   | 56.0            |               |                  | 0.130   | 1.10  |
|   | ELC09D680□F   | 68.0            |               |                  | 0.140   | 1.00  |
|   | Recommended PWB<br>piercing plan<br><br> | ELC09D820□F     |               |                  | 82.0  | ±10   |
| ELC09D820□F   |   | 82.0            | 0.160         | 0.90             |   |   |
| ELC09D101□F   |   | 100.0           | 0.200         | 0.82             |   |   |
| ELC09D121□F   |   | 120.0           | 0.250         | 0.77             |   |   |
| ELC09D151□F   |   | 150.0           | 0.320         | 0.74             |   |   |
| ELC09D181□F   |   | 180.0           | 0.360         | 0.61             |   |   |
| ELC09D221□F   |   | 220.0           | 0.410         | 0.58             |   |   |
| ELC09D271□F   |   | 270.0           | 0.500         | 0.52             |   |   |
| ELC09D331□F   |   | 330.0           | 0.650         | 0.49             |   |   |
| ELC09D391□F   |   | 390.0           | 0.860         | 0.46             |   |   |
| ELC09D471□F   |   | 470.0           | 0.980         | 0.39             |   |   |
| ELC09D561□F   |   | 560.0           | 1.100         | 0.36             |   |   |
| ELC09D681□F   |   | 680.0           | 1.400         | 0.34             |   |   |
| ELC09D821□F   |   | 820.0           | 1.600         | 0.30             |   |   |
| ELC09D102□F   |   | 1000.0          | 2.100         | 0.28             |   |   |
| ELC09D122□F   |   | 1200.0          | 2.400         | 0.23             |   |   |
| ELC09D152□F   |   | 1500.0          | 2.800         | 0.21             |   |   |
| ELC09D182□F   |   | 1800.0          | 3.800         | 0.19             |   |   |
| ELC09D222□F   |   | 2200.0          | 4.400         | 0.17             |   |   |
| ELC09D272□F   |   | 2700.0          | 6.100         | 0.16             |   |   |
| ELC09D332□F   | 3300.0  | 7.000           | 0.14          |                  |   |   |
| ELC09D392□F   | 3900.0  | 8.000           | 0.13          |                  |   |   |
| ELC09D472□F   | 4700.0  | 11.200          | 0.12          |                  |   |   |
| ELC09D562□F   | 5600.0  | 12.600          | 0.11          |                  |   |   |
| ELC09D682□F   | 6800.0  | 14.400          | 0.10          |                  |   |   |
| ELC09D822□F   | 8200.0  | 16.600          | 0.09          |                  |   |   |
| ELC09D103□F   | 10000.0   | 18.800          | 0.08          |                  |   |   |
| Connection Schematic<br><br>               |   |                 |               |                  |   |   |
|   |   |                 |               |                  |   |   |

\* Allowable DC Current: Smaller current value either when the inductance is -10 % or when the case temperature has risen 45 °C.

Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use.  
Should a safety concern arise regarding this product, please be sure to contact us immediately.

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## Examples Type 11D

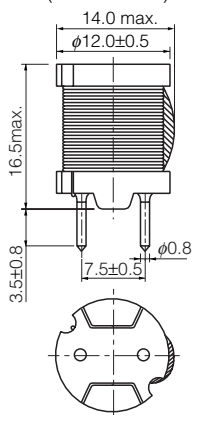
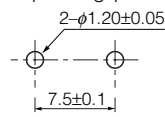
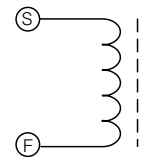
|  | Part No.    | Inductance (μH) | Tolerance (%) | Test Freq. (kHz) | R <sub>DC</sub> (Ω) [at 20 °C] (Tol.±20 %) | *I <sub>DC</sub> [at 20 °C] (A)max. |
|--|-------------|-----------------|---------------|------------------|--|-------------------------------------|
| [Dimensions in mm] (not to scale)<br> | ELC11D2R2□F | 2.2             | ±20           | 10               | 0.013                                      | 5.30                                |
|  | ELC11D2R7□F | 2.7             |               |                  | 0.014                                      | 5.10                                |
|  | ELC11D3R3□F | 3.3             |               |                  | 0.015                                      | 4.90                                |
|  | ELC11D3R9□F | 3.9             |               |                  | 0.016                                      | 4.80                                |
|  | ELC11D4R7□F | 4.7             |               |                  | 0.018                                      | 4.70                                |
|  | ELC11D5R6□F | 5.6             |               |                  | 0.020                                      | 4.60                                |
|  | ELC11D6R8□F | 6.8             |               |                  | 0.022                                      | 4.40                                |
|  | ELC11D8R2□F | 8.2             |               |                  | 0.024                                      | 3.90                                |
|  | ELC11D100□F | 10.0            |               |                  | 0.029                                      | 3.50                                |
|  | ELC11D120□F | 12.0            |               |                  | 0.030                                      | 3.40                                |
|  | ELC11D150□F | 15.0            |               |                  | 0.033                                      | 3.30                                |
|  | ELC11D180□F | 18.0            |               |                  | 0.037                                      | 3.10                                |
|  | ELC11D220□F | 22.0            |               |                  | 0.040                                      | 2.80                                |
|  | ELC11D270□F | 27.0            |               |                  | 0.048                                      | 2.70                                |
|  | ELC11D330□F | 33.0            |               |                  | 0.051                                      | 2.60                                |
|  | ELC11D390□F | 39.0            |               |                  | 0.057                                      | 2.50                                |
|  | ELC11D470□F | 47.0            |               |                  | 0.063                                      | 2.30                                |
|  | ELC11D560□F | 56.0            |               |                  | 0.071                                      | 2.10                                |
|  | ELC11D680□F | 68.0            |               |                  | 0.082                                      | 2.00                                |
|  | ELC11D820□F | 82.0            |               |                  | 0.090                                      | 1.90                                |
| Recommended PWB piercing plan<br>   | ELC11D101□F | 100.0           | ±10           | 10               | 0.120                                      | 1.80                                |
|  | ELC11D121□F | 120.0           |               |                  | 0.160                                      | 1.60                                |
|  | ELC11D151□F | 150.0           |               |                  | 0.180                                      | 1.40                                |
|  | ELC11D181□F | 180.0           |               |                  | 0.200                                      | 1.30                                |
|  | ELC11D221□F | 220.0           |               |                  | 0.230                                      | 1.20                                |
|  | ELC11D271□F | 270.0           |               |                  | 0.320                                      | 1.10                                |
|  | ELC11D331□F | 330.0           |               |                  | 0.350                                      | 1.00                                |
|  | ELC11D391□F | 390.0           |               |                  | 0.400                                      | 0.95                                |
|  | ELC11D471□F | 470.0           |               |                  | 0.490                                      | 0.82                                |
|  | ELC11D561□F | 560.0           |               |                  | 0.620                                      | 0.73                                |
|  | ELC11D681□F | 680.0           |               |                  | 0.780                                      | 0.64                                |
|  | ELC11D821□F | 820.0           |               |                  | 0.870                                      | 0.62                                |
|  | ELC11D102□F | 1000.0          |               |                  | 1.100                                      | 0.57                                |
|  | ELC11D122□F | 1200.0          |               |                  | 1.200                                      | 0.52                                |
|  | ELC11D152□F | 1500.0          |               |                  | 1.700                                      | 0.43                                |
|  | ELC11D182□F | 1800.0          |               |                  | 2.000                                      | 0.40                                |
|  | ELC11D222□F | 2200.0          |               |                  | 2.300                                      | 0.38                                |
|  | ELC11D272□F | 2700.0          |               |                  | 2.800                                      | 0.34                                |
|  | ELC11D332□F | 3300.0          |               |                  | 3.600                                      | 0.31                                |
|  | ELC11D392□F | 3900.0          |               |                  | 4.500                                      | 0.29                                |
| ELC11D472□F  | 4700.0      | 5.200           | 0.26          |                  |  |                                     |
| ELC11D562□F  | 5600.0      | 6.900           | 0.23          |                  |  |                                     |
| ELC11D682□F  | 6800.0      | 7.800           | 0.21          |                  |  |                                     |
| ELC11D822□F  | 8200.0      | 10.600          | 0.18          |                  |  |                                     |
| ELC11D103□F  | 10000.0     | 11.800          | 0.16          |                  |  |                                     |
| Connection Schematic<br>            |             |                 |               |                  |  |                                     |
|  |             |                 |               |                  |  |                                     |

\* Allowable DC Current: Smaller current value either when the inductance is -10 % or when the case temperature has risen 45 °C.

Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use. Should a safety concern arise regarding this product, please be sure to contact us immediately.

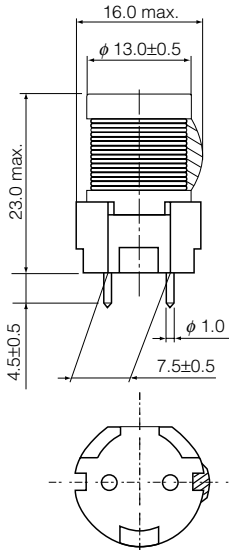
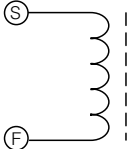
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### Examples Type 12D

|  | Part No.   | Inductance (μH) | Tolerance (%) | Test Freq. (kHz) | R <sub>dc</sub> (Ω)<br>[at 20 °C]<br>(Tol. ±20 %) | *I <sub>dc</sub> [at 20 °C] (A)max. |
|--|------------|-----------------|---------------|------------------|---|-------------------------------------|
| <p>[Dimensions in mm]<br/>(not to scale)</p>  <p>Recommended PWB piercing plan</p>  <p>Connection Schematic</p>  | ELC12D101E | 100             | ±10           | 10               | 0.150   | 1.90                                |
|  | ELC12D121E | 120             |               |                  | 0.170   | 1.78                                |
|  | ELC12D151E | 150             |               |                  | 0.190   | 1.67                                |
|  | ELC12D181E | 180             |               |                  | 0.210   | 1.58                                |
|  | ELC12D221E | 220             |               |                  | 0.230   | 1.55                                |
|  | ELC12D271E | 270             |               |                  | 0.270   | 1.44                                |
|  | ELC12D331E | 330             |               |                  | 0.300   | 1.34                                |
|  | ELC12D391E | 390             |               |                  | 0.330   | 1.32                                |
|  | ELC12D471E | 470             |               |                  | 0.380   | 1.25                                |
|  | ELC12D561E | 560             |               |                  | 0.420   | 1.15                                |
|  | ELC12D681E | 680             |               |                  | 0.460   | 0.98                                |
|  | ELC12D821E | 820             |               |                  | 0.650   | 0.94                                |
|  | ELC12D102E | 1000            |               |                  | 0.720   | 0.87                                |
|  | ELC12D122E | 1200            |               |                  | 0.830   | 0.86                                |
|  | ELC12D152E | 1500            |               |                  | 1.270   | 0.64                                |
|  | ELC12D182E | 1800            |               |                  | 1.330   | 0.63                                |
|  | ELC12D222E | 2200            |               |                  | 1.500   | 0.60                                |
|  | ELC12D272E | 2700            |               |                  | 1.890   | 0.54                                |
|  | ELC12D332E | 3300            |               |                  | 2.370   | 0.48                                |
|  | ELC12D392E | 3900            |               |                  | 2.830   | 0.45                                |
| ELC12D472E   | 4700       | 3.190           | 0.41          |                  |   |                                     |
| ELC12D562E   | 5600       | 4.080           | 0.34          |                  |   |                                     |
| ELC12D682E   | 6800       | 5.740           | 0.29          |                  |   |                                     |
| ELC12D822E   | 8200       | 6.340           | 0.28          |                  |   |                                     |
| ELC12D103E   | 10000      | 7.200           | 0.27          |                  |   |                                     |

\* Allowable DC Current: Smaller current value either when the inductance is -10 % or when the case temperature has risen 45 °C.

## Examples Type 16B

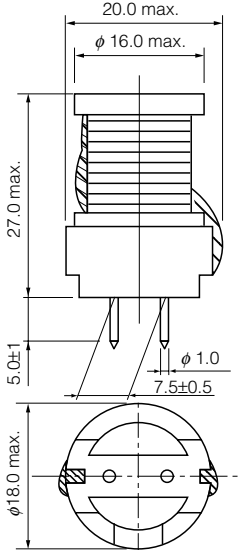
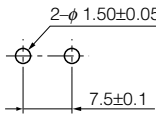
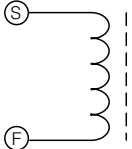
|   | Part No.   | Inductance (μH) | Tolerance (%) | Test Freq. (kHz) | R <sub>DC</sub> (Ω)<br>[at 20 °C]<br>**(Tol.±30 %)<br>(Tol.±20 %) | *I <sub>DC</sub> .<br>[at 20 °C]<br>(A)max. |
|---|------------|-----------------|---------------|------------------|---|---|
| <p>[Dimensions in mm]<br/>(not to scale)</p>  <p>Recommended PWB piercing plan</p>  <p>Connection Schematic</p> | ELC16B3R3L | 3.3             | ±25           | 10               | **0.012   | 8.50  |
|   | ELC16B3R9L | 3.9             |               |                  | **0.013   | 8.00  |
|   | ELC16B4R7L | 4.7             |               |                  | **0.015   | 7.80  |
|   | ELC16B5R6L | 5.6             | ±20           |                  | **0.016   | 7.40  |
|   | ELC16B6R8L | 6.8             |               |                  | 0.018   | 6.70  |
|   | ELC16B8R2L | 8.2             |               |                  | 0.019   | 6.10  |
|   | ELC16B100L | 10.0            |               |                  | 0.022   | 5.60  |
|   | ELC16B120L | 12.0            |               |                  | 0.023   | 5.50  |
|   | ELC16B150L | 15.0            |               |                  | 0.026   | 5.40  |
|   | ELC16B180L | 18.0            |               |                  | 0.028   | 5.10  |
|   | ELC16B220L | 22.0            |               |                  | 0.031   | 4.60  |
|   | ELC16B270L | 27.0            |               |                  | 0.034   | 4.30  |
|   | ELC16B330L | 33.0            |               |                  | 0.039   | 4.00  |
|   | ELC16B390L | 39.0            | 0.042         |                  | 3.90  |   |
|   | ELC16B470L | 47.0            | 0.045         |                  | 3.80  |   |
|   | ELC16B560L | 56.0            | 0.051         |                  | 3.40  |   |
|   | ELC16B680L | 68.0            | 0.057         |                  | 3.20  |   |
|   | ELC16B820L | 82.0            | 0.064         |                  | 3.00  |   |
|   | ELC16B101L | 100.0           | 0.072         |                  | 2.60  |   |
|   | ELC16B121L | 120.0           | 0.080         |                  | 2.50  |   |
|   | ELC16B151L | 150.0           | 0.103         |                  | 2.20  |   |
|   | ELC16B181L | 180.0           | 0.115         |                  | 2.10  |   |
|   | ELC16B221L | 220.0           | 0.130         |                  | 1.90  |   |
|   | ELC16B271L | 270.0           | 0.170         |                  | 1.60  |   |
|   | ELC16B331L | 330.0           | 0.200         |                  | 1.50  |   |
|   | ELC16B391L | 390.0           | 0.250         |                  | 1.30  |   |
|   | ELC16B471L | 470.0           | 0.280         |                  | 1.20  |   |
|   | ELC16B561L | 560.0           | 0.380         |                  | 1.10  |   |
|   | ELC16B681L | 680.0           | 0.430         |                  | 1.00  |   |
|   | ELC16B821L | 820.0           | 0.580         |                  | 0.88  |   |
|   | ELC16B102L | 1000.0          | 0.660         |                  | 0.85  |   |
|   | ELC16B122L | 1200.0          | 0.740         |                  | 0.82  |   |
|   | ELC16B152L | 1500.0          | 0.870         |                  | 0.74  |   |
| ELC16B182L  | 1800.0     | 1.220           | 0.60          |                  |   |   |
| ELC16B222L  | 2200.0     | 1.380           | 0.57          |                  |   |   |
| ELC16B272L  | 2700.0     | 1.570           | 0.54          |                  |   |   |
| ELC16B332L  | 3300.0     | 2.000           | 0.47          |                  |   |   |
| ELC16B392L  | 3900.0     | 2.400           | 0.42          |                  |   |   |
| ELC16B472L  | 4700.0     | 3.300           | 0.36          |                  |   |   |
| ELC16B562L  | 5600.0     | 3.700           | 0.34          |                  |   |   |
| ELC16B682L  | 6800.0     | 4.200           | 0.32          |                  |   |   |
| ELC16B822L  | 8200.0     | 5.600           | 0.28          |                  |   |   |
| ELC16B103L  | 10000.0    | 6.400           | 0.26          |                  |   |   |

\* Allowable DC Current: Smaller current value either when the inductance is -10 % or when the case temperature has risen 45 °C.

Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use. Should a safety concern arise regarding this product, please be sure to contact us immediately.

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### Examples Type 18B

|   | Part No.   | Inductance (μH) | Tolerance (%) | Test Freq. (kHz) | R <sub>DC</sub> (Ω) [at 20 °C] (Tol.±20 %) | *I <sub>DC</sub> [at 20 °C] (A)max. |
|---|------------|-----------------|---------------|------------------|--|-------------------------------------|
| <p>[Dimensions in mm] (not to scale)</p>  <p>Recommended PWB piercing plan</p>  <p>Connection Schematic</p>  | ELC18B3R3L | 3.3             | ±20           | 10               | 0.010                                      | 8.50                                |
|   | ELC18B3R9L | 3.9             |               |                  | 0.011                                      | 8.00                                |
|   | ELC18B4R7L | 4.7             |               |                  | 0.012                                      | 7.80                                |
|   | ELC18B5R6L | 5.6             |               |                  | 0.013                                      | 7.40                                |
|   | ELC18B6R8L | 6.8             |               |                  | 0.015                                      | 6.80                                |
|   | ELC18B8R2L | 8.2             |               |                  | 0.016                                      | 6.60                                |
|   | ELC18B100L | 10.0            |               |                  | 0.017                                      | 6.50                                |
|   | ELC18B120L | 12.0            |               |                  | 0.018                                      | 6.00                                |
|   | ELC18B150L | 15.0            |               |                  | 0.021                                      | 5.90                                |
|   | ELC18B180L | 18.0            |               |                  | 0.022                                      | 5.60                                |
|   | ELC18B220L | 22.0            |               |                  | 0.025                                      | 5.40                                |
|   | ELC18B270L | 27.0            |               |                  | 0.028                                      | 4.80                                |
|   | ELC18B330L | 33.0            | 0.030         |                  | 4.60                                       |                                     |
|   | ELC18B390L | 39.0            | 0.033         |                  | 4.40                                       |                                     |
|   | ELC18B470L | 47.0            | 0.037         |                  | 4.30                                       |                                     |
|   | ELC18B560L | 56.0            | 0.040         |                  | 4.20                                       |                                     |
|   | ELC18B680L | 68.0            | 0.046         |                  | 4.00                                       |                                     |
|   | ELC18B820L | 82.0            | 0.051         |                  | 3.70                                       |                                     |
|   | ELC18B101L | 100.0           | 0.057         |                  | 3.20                                       |                                     |
|   | ELC18B121L | 120.0           | 0.065         |                  | 3.00                                       |                                     |
|   | ELC18B151L | 150.0           | 0.072         |                  | 2.70                                       |                                     |
|   | ELC18B181L | 180.0           | 0.082         |                  | 2.60                                       |                                     |
|   | ELC18B221L | 220.0           | 0.090         |                  | 2.40                                       |                                     |
|   | ELC18B271L | 270.0           | 0.110         |                  | 2.20                                       |                                     |
|   | ELC18B331L | 330.0           | 0.130         |                  | 1.90                                       |                                     |
|   | ELC18B391L | 390.0           | 0.150         |                  | 1.80                                       |                                     |
|   | ELC18B471L | 470.0           | 0.210         |                  | 1.60                                       |                                     |
|   | ELC18B561L | 560.0           | 0.230         |                  | 1.50                                       |                                     |
|   | ELC18B681L | 680.0           | 0.260         |                  | 1.40                                       |                                     |
|   | ELC18B821L | 820.0           | 0.340         |                  | 1.30                                       |                                     |
|   | ELC18B102L | 1000.0          | 0.390         |                  | 1.10                                       |                                     |
|   | ELC18B122L | 1200.0          | 0.440         |                  | 1.00                                       |                                     |
|   | ELC18B152L | 1500.0          | 0.580         |                  | 0.85                                       |                                     |
| ELC18B182L  | 1800.0     | 0.650           | 0.84          |                  |  |                                     |
| ELC18B222L  | 2200.0     | 0.880           | 0.75          |                  |  |                                     |
| ELC18B272L  | 2700.0     | 1.200           | 0.68          |                  |  |                                     |
| ELC18B332L  | 3300.0     | 1.400           | 0.60          |                  |  |                                     |
| ELC18B392L  | 3900.0     | 1.500           | 0.57          |                  |  |                                     |
| ELC18B472L  | 4700.0     | 1.700           | 0.55          |                  |  |                                     |
| ELC18B562L  | 5600.0     | 2.200           | 0.46          |                  |  |                                     |
| ELC18B682L  | 6800.0     | 2.800           | 0.45          |                  |  |                                     |
| ELC18B822L  | 8200.0     | 3.100           | 0.41          |                  |  |                                     |
| ELC18B103L  | 10000.0    | 3.900           | 0.36          |                  |  |                                     |

\* Allowable DC Current: Smaller current value either when the inductance is -10 % or when the case temperature has risen 45 °C.

Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use. Should a safety concern arise regarding this product, please be sure to contact us immediately.

00 Sep. 2010