

## coolcept, coolcept-x



Table of countries

| Country             |                       |                          | Reconnection time<br>(Recon Time) | Nominal voltage<br>(U Nominal) | Voltage disconnection values<br>(peak values) <sup>2)</sup> |             |              |             | Voltage disconnection values $\emptyset$<br>(average values) <sup>3)</sup> |               |       |     | Nominal frequency<br>(F Nominal) | Frequency disconnection values <sup>4)</sup> |             |              |             | Reactive power control |
|---------------------|-----------------------|--------------------------|-----------------------------------|--------------------------------|---|-------------|--------------|-------------|--|---------------|-------|-----|----------------------------------|--|-------------|--------------|-------------|------------------------|
|                     |                       |                          |                                   |                                | upper   |             | lower        |             | upper  |               | lower |     |                                  | upper  |             | lower        |             |                        |
|                     |                       |                          |                                   |                                | (U 1UpLimit)  | (U 1UpTime) | (U 1LoLimit) | (U 1LoTime) | (U UpAve)  | (U UpAveTime) |       |     |                                  | (F 1UpLimit)                                 | (F 1UpTime) | (F 1LoLimit) | (F 1LoTime) |                        |
|                     |                       |                          |                                   |                                | s   | %           | s            | %           | s  | %             | s     | %   |                                  | s  | Hz          | s            | Hz          |                        |
| Name                | Display <sup>1)</sup> |                          | s                                 | V                              | %   | s           | %            | s           | %  | s             | %     | s   | Hz                               | Hz   | s           | Hz           | s           |                        |
| Australia           | 6100                  | Australia                | 60                                | 230                            | 17.0  | 2.00        | -13          | 2.00        | -  | -             | -     | -   | 50                               | 5.0  | 2.0         | -5.0         | 2.0         | no                     |
| Bulgaria            | 3590                  | Bългария                 | 30                                | 230                            | 15.0  | 0.20        | -20          | 0.20        | 10   | 600           | -     | -   | 50                               | 0.2  | 0.2         | -2.5         | 0.2         | no                     |
| Belgium 2           | 3203                  | Belgique 2 <sup>5)</sup> | 60                                | 230                            | 15.0  | 0.20        | -20          | 0.20        | 10   | 600           | -     | -   | 50                               | 1.5  | 0.2         | -2.5         | 0.2         | no                     |
| Belgium 2 unlimited | 3203                  | Belgique 2 unl.          | 60                                | 230                            | 15.0  | 0.20        | -20          | 0.20        | 10   | 600           | -     | -   | 50                               | 1.5  | 0.2         | -2.5         | 0.2         | no                     |
| Brazil 220          | 5500                  | Brasil 220V              | 300                               | 220                            | 10.0  | 0.20        | -20          | 0.40        | -  | -             | -     | -   | 60                               | 2.0  | 0.2         | -2.5         | 0.2         | yes                    |
| Brazil 230          | 5501                  | Brasil 230V              | 300                               | 230                            | 10.0  | 0.20        | -20          | 0.40        | -  | -             | -     | -   | 60                               | 2.0  | 0.2         | -2.5         | 0.2         | yes                    |
| Czech Republic      | 42000                 | Česko                    | 120                               | 230                            | 15.0  | 0.20        | -15          | 0.20        | 10   | 600           | -     | -   | 50                               | 0.5  | 0.2         | -0.5         | 0.2         | no                     |
| Cyprus              | 35700                 | Cyprus                   | 180                               | 230                            | 10.0  | 0.50        | -10          | 0.50        | -  | -             | -     | -   | 60                               | 2.0  | 0.5         | -3.0         | 0.5         | yes                    |
| Denmark unlimited   | 4500                  | Danmark unl.             | 60                                | 230                            | 15.0  | 0.20        | -20          | 0.20        | 10   | 600           | -     | -   | 50                               | 1.5  | 0.2         | -2.5         | 0.2         | yes                    |
| Denmark 2           | 4501                  | Danmark 2 <sup>6)</sup>  | 60                                | 230                            | 15.0  | 0.20        | -20          | 0.20        | 10   | 600           | -     | -   | 50                               | 1.5  | 0.2         | -2.5         | 0.2         | yes                    |
| Germany             | 4900                  | Deutschland              | 60                                | 230                            | 15.0  | 0.20        | -20          | 0.20        | 10   | 600           | -     | -   | 50                               | 1.5  | 0.2         | -2.5         | 0.2         | yes                    |
| Estonia             | 3720                  | Eesti                    | 300                               | 230                            | 15.0  | 0.20        | -15          | 1.50        | -  | -             | -     | -   | 50                               | 1.0  | 0.5         | -3.0         | 0.5         | no                     |
| Ireland             | 35300                 | Éire                     | 30                                | 230                            | 10.0  | 0.50        | -10          | 0.50        | -  | -             | -     | -   | 50                               | 0.5  | 0.5         | -2.0         | 0.5         | no                     |
| Spain               | 3400                  | España 1699              | 180                               | 230                            | 15.0  | 0.20        | -15          | 1.50        | 10   | 1.5           | -     | -   | 50                               | 0.5  | 0.5         | -2.0         | 3.0         | no                     |
| France              | 3300                  | France                   | 30                                | 230                            | 15.0  | 0.20        | -20          | 0.20        | 10   | 600           | -     | -   | 50                               | 0.6  | 0.2         | -2.5         | 0.2         | no                     |
| Greek Mainland      | 3000                  | Greece contin.           | 180                               | 230                            | 15.0  | 0.50        | -20          | 0.50        | 10   | 600           | -     | -   | 50                               | 0.5  | 0.5         | -0.5         | 0.5         | no                     |
| Greek Islands       | 3001                  | Greece islands           | 180                               | 230                            | 15.0  | 0.50        | -20          | 0.50        | 10   | 600           | -     | -   | 50                               | 1.0  | 0.5         | -2.5         | 0.5         | no                     |
| India               | 9100                  | India                    | 300                               | 230                            | 35.0  | 0.05        | -50          | 0.10        | 10   | 2.0           | -15   | 2.0 | 50                               | 1.0  | 0.2         | -1.0         | 0.2         | no                     |
| Israel              | 9720                  | Israel                   | 300                               | 230                            | 35.0  | 0.05        | -50          | 0.10        | 10   | 2.0           | -15   | 2.0 | 50                               | 1.0  | 2.0         | -1.0         | 2.0         | no                     |
| Italy 3             | 3902                  | Italia 3                 | 30                                | 230                            | 22.0  | 0.10        | -25          | 0.20        | -  | -             | -     | -   | 50                               | 5.0  | 0.2         | -5.0         | 0.2         | no                     |
| Italy 8             | 3907                  | Italia 8 <sup>7)</sup>   | 300                               | 230                            | 15.0  | 0.20        | -15          | 0.40        | 10   | 600           | -15   | 0.4 | 50                               | 0.5  | 0.1         | -0.5         | 0.1         | no                     |
| Italy 9             | 3908                  | Italia 9 <sup>8)</sup>   | 300                               | 230                            | 15.0  | 0.20        | -15          | 0.40        | 10   | 600           | -15   | 0.4 | 50                               | 0.5  | 0.1         | -0.5         | 0.1         | yes                    |
| Italy 10            | 3909                  | Italia 10 <sup>7)</sup>  | 300                               | 230                            | 15.0  | 0.20        | -15          | 0.40        | 10   | 600           | -15   | 0.4 | 50                               | 1.5  | 0.1         | -2.5         | 0.1         | no                     |
| Italy 11            | 3910                  | Italia 11 <sup>8)</sup>  | 300                               | 230                            | 15.0  | 0.20        | -15          | 0.40        | 10   | 600           | -15   | 0.4 | 50                               | 1.5  | 0.1         | -2.5         | 0.1         | yes                    |
| Costa Rica          | 5060                  | Latinoam.60Hz            | 20                                | 240                            | 10.0  | 0.20        | -20          | 0.20        | -  | -             | -     | -   | 60                               | 0.6  | 0.2         | -0.6         | 0.2         | no                     |
| Hungary             | 3600                  | Magyarország             | 300                               | 230                            | 35.0  | 0.05        | -50          | 0.10        | 10   | 2.0           | -15   | 2.0 | 50                               | 1.0  | 0.2         | -1.0         | 0.2         | no                     |

|                      |       |                 |     |     |      |      |     |      |      |     |      |     |    |     |     |      |     |     |
|----------------------|-------|-----------------|-----|-----|------|------|-----|------|------|-----|------|-----|----|-----|-----|------|-----|-----|
| Malaysia             | 6000  | Malaysia        | 180 | 230 | 17.4 | 2.00 | -13 | 2.00 | -    | -   | -    | -   | 50 | 5.0 | 2.0 | -5.0 | 2.0 | no  |
| Mauritius            | 23000 | Mauritius       | 180 | 230 | 10.0 | 0.20 | -6  | 1.50 | 6    | 1.5 | -    | -   | 50 | 1.0 | 0.5 | -3.0 | 0.5 | no  |
| Mexico               | 5200  | Mexico          | 300 | 240 | 35.0 | 0.05 | -50 | 0.10 | 10   | 600 | -15  | 600 | 60 | 1.2 | 5.0 | -1.2 | 5.0 | yes |
| Netherlands          | 3100  | Nederland       | 30  | 230 | 10.0 | 2.00 | -20 | 2.00 | -    | -   | -    | -   | 50 | 1.0 | 2.0 | -2.0 | 2.0 | no  |
| Austria              | 4300  | Österreich      | 30  | 230 | 15.0 | 0.10 | -20 | 0.20 | 12   | 600 | -    | -   | 50 | 1.5 | 0.2 | -2.5 | 0.2 | yes |
| Poland               | 4800  | Polska          | 30  | 230 | 15.0 | 0.20 | -15 | 1.50 | 10   | 600 | -    | -   | 50 | 1.0 | 0.5 | -3.0 | 0.5 | no  |
| Portugal             | 35100 | Portugal        | 20  | 230 | 15.0 | 0.20 | -15 | 1.50 | 10   | 600 | -    | -   | 50 | 1.0 | 0.5 | -3.0 | 0.5 | no  |
| Slovenia             | 38600 | Slovenija       | 30  | 230 | 15.0 | 0.20 | -30 | 0.20 | 10   | 1.5 | -15  | 1.5 | 50 | 1.0 | 0.2 | -3.0 | 0.2 | no  |
| South Africa         | 2700  | South Africa    | 60  | 230 | 20.0 | 0.16 | -50 | 0.20 | 10   | 2.0 | -15  | 2.0 | 50 | 2.0 | 0.5 | -2.5 | 0.5 | no  |
| Switzerland          | 4100  | Suisse          | 30  | 230 | 15.0 | 0.20 | -20 | 0.20 | 10   | 600 | -    | -   | 50 | 0.2 | 0.2 | -2.5 | 0.2 | no  |
| Finland              | 35800 | Suomi           | 30  | 230 | 10.0 | 0.20 | -15 | 0.20 | -    | -   | -    | -   | 50 | 1.0 | 0.2 | -2.0 | 0.2 | no  |
| Sweden               | 4600  | Sverige         | 30  | 230 | 15.0 | 0.20 | -15 | 0.20 | 11   | 60  | -    | -   | 50 | 1.0 | 0.5 | -3.0 | 0.5 | no  |
| Tahiti               | 6890  | Tahiti 60Hz     | 30  | 230 | 15.0 | 0.20 | -20 | 0.20 | 10   | 600 | -    | -   | 60 | 2.5 | 0.2 | -5.0 | 0.2 | no  |
| Taiwan 220           | 8860  | Taiwan          | 300 | 230 | 10.0 | 0.20 | -12 | 0.20 | -    | -   | -    | -   | 60 | 0.5 | 0.5 | -0.5 | 0.5 | no  |
| Thailand MEA         | 6601  | Thailand MEA    | 150 | 230 | 35.2 | 0.05 | -50 | 0.10 | 4.3  | 2.0 | -13  | 2.0 | 50 | 1.0 | 0.1 | -1.0 | 0.1 | no  |
| Thailand PEA         | 6600  | Thailand PEA    | 150 | 220 | 19.0 | 0.16 | -50 | 0.30 | 10.2 | 1.0 | -9.4 | 2.0 | 50 | 1.0 | 0.1 | -2.0 | 0.1 | yes |
| Turkey               | 9000  | Türkiye         | 30  | 230 | 15.0 | 0.20 | -20 | 0.20 | 10   | 600 | -    | -   | 50 | 0.2 | 0.2 | -2.5 | 0.2 | no  |
| United Kingdom G59/3 | 4401  | UK (G59/3)      | 180 | 240 | 19.0 | 0.50 | -20 | 0.50 | 14   | 1.0 | -13  | 2.5 | 50 | 2.0 | 0.5 | -3.0 | 0.5 | no  |
| United Kingdom G83/1 | 4402  | UK (G83/1)      | 20  | 230 | 14.7 | 1.50 | -10 | 1.50 | -    | -   | -    | -   | 50 | 0.5 | 0.5 | -3.0 | 0.5 | no  |
| United Kingdom G83/2 | 4400  | UK (G83/2)      | 20  | 230 | 19.0 | 0.50 | -20 | 0.50 | 14   | 1.0 | -13  | 2.5 | 50 | 2.0 | 0.5 | -3.0 | 0.5 | no  |
| EN 50438:2014        | 50439 | EN 50438:2014   | 60  | 230 | 15.0 | 0.20 | -15 | 1.50 | 10   | 3.0 |      |     | 50 | 2.0 | 0.5 | -2.5 | 0.5 | no  |
| Droop Mode           | 0007  | Droop-Mode 50Hz | 60  | 230 | 20.0 | 0.50 | -20 | 0.50 | -    | -   | -    | -   | 50 | 5.0 | 0.5 | -3.5 | 0.5 | no  |
| Droop Mode 60        | 0008  | Droop-Mode 60Hz | 60  | 230 | 20.0 | 0.50 | -20 | 0.50 | -    | -   | -    | -   | 60 | 5.0 | 0.5 | -3.5 | 0.5 | no  |

- 1) Country code and name as shown on the display.
- 2) Disconnection values are upper and lower deviations from the peak values of the rated voltage (in %) and the associated switch-off time (in s).
- 3) Disconnection values are upper and lower deviations from the average values of the rated voltage (in %) and the associated switch-off time (in s).
- 4) Disconnection values are upper and lower deviations from the rated frequency (in Hz) and the associated switch-off time (in s).
- 5) Maximum output power for StecaGrid 3600 and 4200: 3330 W.
- 6) Maximum output power of all units except StecaGrid 1500 and 1800: 2000 W.
- 7) For systems smaller than 3 kW maximum power.
- 8) For systems between 3 kW and 6 kW maximum power.
- 9) Activation of DroopMode is recommended when the inverter is operated in conjunction with a stand-alone inverter. The system must not be connected to a public electricity grid.

## coolcept, coolcept-x



### Certificates overview

| Country        | Standard                          | coolcept                              | coolcept-x                   |
|----------------|-----------------------------------|---------------------------------------|------------------------------|
| -              | CE Certificate                    | yes                                   | yes                          |
|                | VDE V 0126-1-1                    | yes                                   | yes                          |
| -              | EN 50438:2007                     | yes, but not StecaGrid 4200           | yes, but not StecaGrid 4200x |
| -              | IEC 61727                         | yes                                   | yes                          |
| -              | IEC 62109                         | yes                                   | yes                          |
| -              | IEC 62116                         | yes                                   | yes                          |
| Australia      | AS/NZS 4777                       | yes                                   | yes                          |
| Austria        | ÖNORM E 8001-4-712                | yes                                   | yes                          |
| Belgium        | VDE V 0126-1-1                    | yes, but only StecaGrid 3000 and 3600 | no                           |
| Brazil         | IEC 62116                         | yes                                   | yes                          |
| Czech Republic | EN 50438:2007                     | yes, but not StecaGrid 4200           | yes, but not StecaGrid 4200x |
| Denmark        | VDE AR N 4105                     | yes                                   | yes                          |
| France         | VDE V 0126-1-1                    | yes                                   | yes                          |
| Germany        | VDE AR N 4105                     | yes                                   | yes                          |
| Greece         | VDE 0126-1-1                      | yes                                   | yes                          |
| Hungary        | IEC 62109-1, IEC 61727, IEC 62116 | yes, but only StecaGrid 3000 and 3600 | no                           |
| Ireland        | CER/06/190                        | yes                                   | yes                          |
| Italy          | CEI 0-21                          | yes                                   | yes                          |
| New Zealand    | AS/NZS 4777                       | yes                                   | yes                          |
| Poland         | EN 50438:2007                     | yes, but not StecaGrid 4200           | yes, but not StecaGrid 4200x |
| Portugal       | EN 50438                          | yes                                   | yes                          |
| Slovakia       | EN 50438:2007                     | yes, but not StecaGrid 4200           | yes, but not StecaGrid 4200x |
| South Africa   | NRS 097                           | yes                                   | yes                          |

|                |   |                                 |                                  |
|----------------|---|---------------------------------|----------------------------------|
| Spain          | RD 1699/2011                                | yes                             | yes                              |
| Sweden         | EN 50438:2007,<br>SEK TK8                   | yes                             | yes                              |
| Thailand       | IEC 61727, IEC 62116,<br>IEEE 1547, AS 4777 | yes, but only<br>StecaGrid 3600 | yes, but only<br>StecaGrid 3600x |
| United Kingdom | G59/3                                       | yes                             | yes                              |
| United Kingdom | G83/2                                       | yes, but not<br>StecaGrid 4200  | yes, but not<br>StecaGrid 4200x  |

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