

# CA30

## Current Amplifier



- High output and compliance voltage
- Patent pending technology
- Designed for integration with FREJA 300 to boost power and capability

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### Description

The CA30 is a 3-channel current amplifier with a switched mode power supply capable of delivering up to 3 x 35 A.

The DC-coupled design makes it suitable for acyclic generation.

In use together with FREJA 300 the CA30 can increase the current output from FREJA to 3 x 35 A or to 1 x 100 A, but also increase the output voltage at lower current, for example when testing electromechanical relays.

The CA30 is a differential amplifier with floating inputs. The differential amplifier design makes it possible to use CA30 even if there is a small voltage difference in the ground system between input and output.

Maximum output power is 250 VA per channel, and the maximum compliance voltage is 50 V<sub>RMS</sub>. The amplifier can generate 50 V<sub>RMS</sub> up to a current generation of 5 A per channel.

CA30, in combination with FREJA, allows the generation of six currents, which is convenient when testing differential relays. See the FREJA 306 data sheet for more information.



**A FREJA 300 can easily be upgraded to a FREJA 306 by adding in the CA30.**

**Specifications CA30**

The specifications are valid at an input voltage of 100 – 240 V and at an ambient temperature of +25°C (77°F) and at generated frequency of 50/60 Hz. Specifications are subject to change without notice.

**Environment**

|  |  |
|--|--|
| <i>Application field</i>                   | The instrument is intended for use in high-voltage substations and industrial environments.  |
| <i>Temperature, operating</i>              | 0°C to +50°C (32°F to +122°F)  |
| <i>Temperature storage &amp; transport</i> | -40°C to +70°C (-40°F to +158°F)   |
| <i>Humidity</i>                            | 5% – 95% RH, non-condensing  |
| <i>Altitude (operational)</i>              | 3000 m<br>Full duty cycle up to 2000 m. Duty cycle limitation based on internal over temperature protection for altitudes >2000 m. |

**CE-marking**

|            |             |
|------------|-------------|
| <i>EMC</i> | 2004/108/EC |
| <i>LVD</i> | 2006/95/EC  |

**General**

|                          |   |
|--------------------------|---|
| <i>Mains voltage</i>     | 100 – 240 V AC, 50–60 Hz                    |
| <i>Power consumption</i> | 1500 VA (max)                               |
| <i>Dimensions</i>        |   |
| <i>Instrument</i>        | 446 x 55 x 395 mm<br>(17.6" x 2.2" x 15.6") |
| <i>Transport case</i>    | 535 x 140 x 520 mm<br>(21" x 5.5" x 20.5")  |
| <i>Weight</i>            |   |
| <i>Instrument</i>        | 7,9 kg (17.4 lbs)                           |
| <i>Transport case</i>    | 5,1 kg (11.2 lbs)                           |

**Control input**

|                        |   |
|------------------------|---|
| <i>Control voltage</i> | 0 – 6 Vrms SELV<br>To be connected to outputs fulfilling IEC/EN 61010-1 |
|------------------------|---|

**Monitor output**

|                        |  |
|------------------------|--|
| <i>Monitor voltage</i> | 0 – 6 Vrms SELV<br>To be connected to inputs fulfilling IEC/EN 61010-1 |
|------------------------|--|

**Current outputs**

|  |  |
|--|--|
| <i>Voltage transients - Immunity</i>     | 2500 V transient level (to chassis) + working voltage level (255 V)            |
| <i>Working voltage</i>                   | 255 V<br>Not to be used on live circuits                                       |
| <i>Application</i>                       |  |
| <i>3-phase AC (per phase)</i>            | 250 VA, 5 A < I ≤ 25 A<br>200 VA, 25 A < I ≤ 30 A<br>150 VA, 30 A < I ≤ 35 A   |
| <i>1-phase AC (3 ch. in parallel)</i>    | 750 VA, 15 A < I ≤ 75 A<br>600 VA, 75 A < I ≤ 90 A<br>450 VA, 90 A < I ≤ 100 A |
| <i>3-ch. DC</i>                          | 3 x ±20 A  |
| <i>Compliance voltage</i>                | ≤50 Vrms   |
| <i>Time limits</i>                       |  |
| <i>Continuous</i>                        | 3 x 20 A, 150 VA (max)   |
| <i>0.5 s on 1 s off repeatedly</i>       | 3 x 35 A   |
| <i>Resolution</i>                        | 1.7 mA   |
| <i>Inaccuracy<sup>1)</sup> typical</i>   | < 0.3% (of reading), 0.5 A < I ≤ 35 A<br>< 8 mA, 0 A < I ≤ 0.5 A               |
| <i>Phase accuracy error<sup>1)</sup></i> | < ±0.2°  |
| <i>Distortion (THD+N)<sup>2)</sup></i>   | < 0.4% typical   |

1) Values at max amplitude, 50% power and resistive load.  
2) THD+N: Values at 25 A, 125 VA.

**Ordering information**

| <b>Item</b>   | <b>Art. No.</b> |
|---|-----------------|
| <b>CA30</b>   | CA-29000        |
| <b>CA30</b><br>Including software FREJA Win and soft transport case | CA-29090        |
| <b>CA30</b><br>Including software FREJA Win and hard transport case | CA-29091        |