For the cosine/sine and amplitude/phase Fourier series representations, the summation extends from $n = 1$ to $n = \infty$. What are the limits on the summation for the complex exponential representation?

For the complex exponential representation, n extends from $-\infty$ to $+\infty$.

$$f(t) = \sum_{n=-\infty}^{\infty} c_n e^{jn\omega_0 t},$$

(exponential representation)