FIG. 10

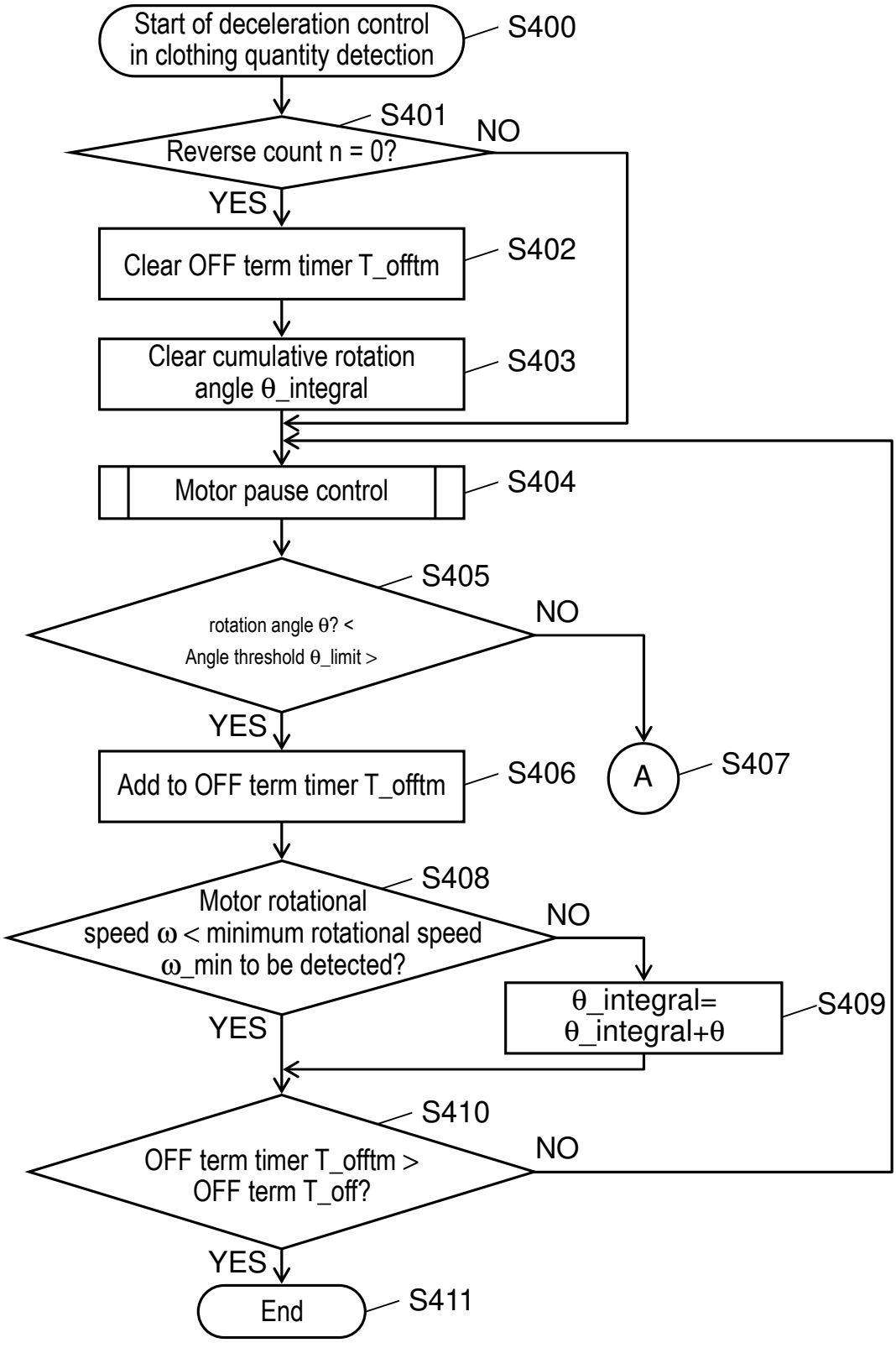
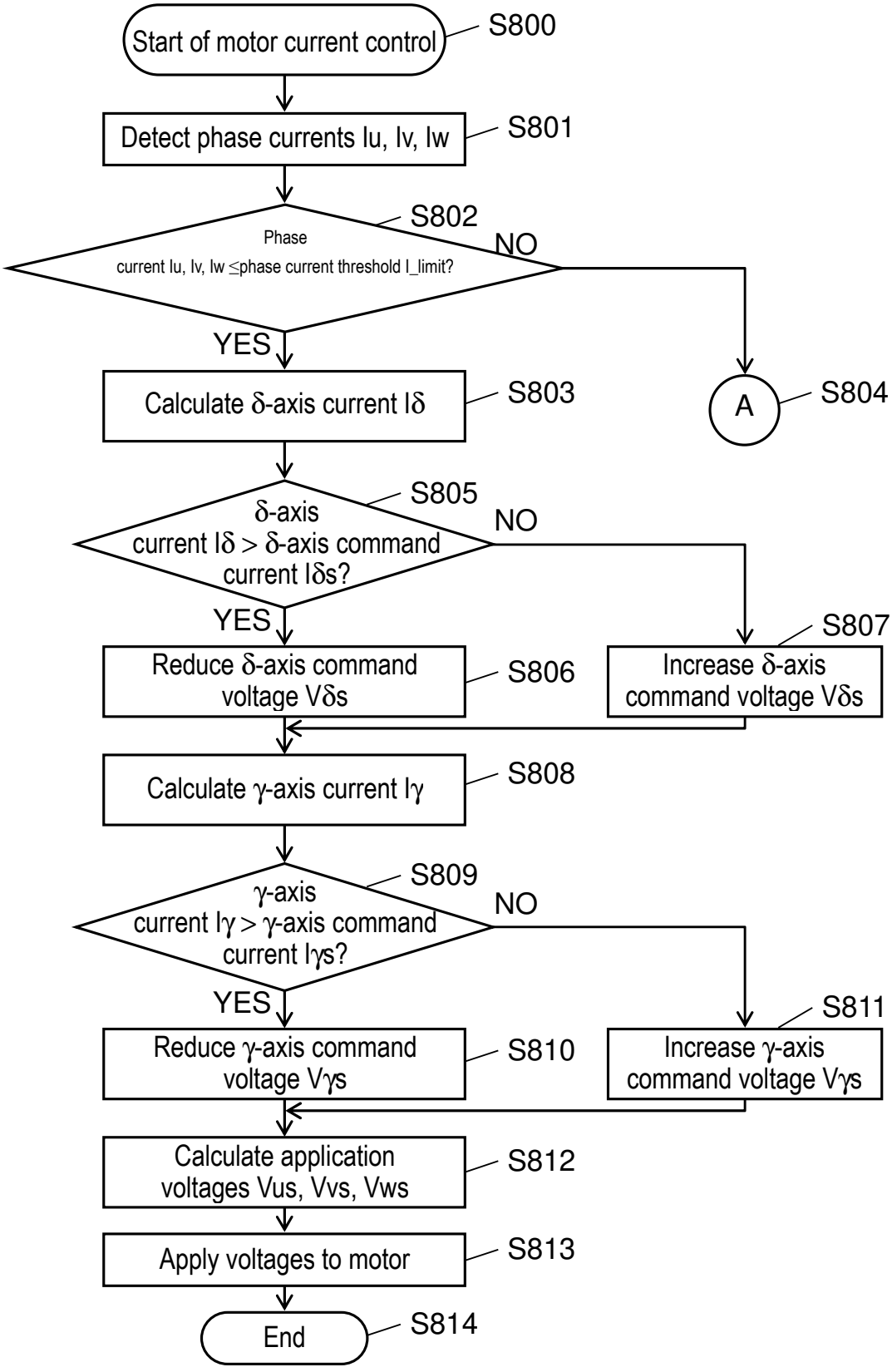

Start of deceleration control in clothing quantity detection
S400
S401
Reverse count n = 0?
NO
YES
Clear OFF term timer T_offtm
S402
Clear cumulative rotation angle θ_integral
S403
Motor pause control
S404
S405
rotation angle θ? < Angle threshold θ_limit >
NO
YES
Add to OFF term timer T_offtm
S406
A
S407
S408
Motor rotational speed ω < minimum rotational speed ω_min to be detected?
NO
YES
θ_integral= θ_integral+θ
S409
S410
OFF term timer T_offtm > OFF term T_off?
NO
YES
End
S411

FIG. 16


Start of motor current control
S800
Detect phase currents Iu, Iv, Iw
S801
Phase current Iu, Iv, Iw ≤phase current threshold I_limit?
S802
NO
YES
Calculate δ-axis current Iδ
S803
A
S804
δ-axis current Iδ > δ-axis command current Iδs?
S805
NO
YES
Reduce δ-axis command voltage Vδs
S806
Increase δ-axis command voltage Vδs
S807
Calculate γ-axis current Iγ
S808
γ-axis current Iγ > γ-axis command current Iγs?
S809
NO
YES
Reduce γ-axis command voltage Vγs
S810
Increase γ-axis command voltage Vγs
S811
Calculate application voltages Vus, Vvs, Vws
S812
Apply voltages to motor
S813
End
S814