Channel Name(s)	Unit(s)	Description
Fuselage		
FusβVAmbn, FusβVAmbc, FusβVAmbs	(m/s), (m/s), (m/s)	Ambient wind velocity at Fusβ in the local airfoil coordinate system
FusβSTVn, FusβSTVc, FusβSTVs	(m/s), (m/s), (m/s)	Structural translational velocity at Fusβ in the local airfoil coordinate system
FusβVRel	(m/s)	Relative wind speed at Fusβ
FusβDynP	(Pa)	Dynamic pressure at Fusβ
FusβRe, FusβM	(-), (-)	Reynolds number (in millions) and Mach number at Fusβ
FusβVIndn, FusβVIndc, FusβVInds	(m/s), (m/s), (m/s)	Induced wind velocity at Fusβ in the local airfoil coordinate system
FusβAlpha	(deg)	Angle of attack at Fusβ
FusβCl, FusβCd, FusβCm, FusβCn, FusβCc	(-), (-), (-), (-), (-)	Lift force, drag force, pitching moment, normal force (to chord), and chordwise force coefficients at Fusβ
FusβFl, FusβFd, FusβMm, FusβFn, FusβFc	(N/m), (N/m), (N·m/m), (N/m), (N/m)	Lift force, drag force, pitching moment, normal force (to chord), and chordwise force per unit length at Fusβ
Starboard (Right) Wing		
SWnβVAmbn, SWnβVAmbc, SWnβVAmbs	(m/s), (m/s), (m/s)	Ambient wind velocity at SWnβ in the local airfoil coordinate system
SWnβSTVn, SWnβSTVc, SWnβSTVs	(m/s), (m/s), (m/s)	Structural translational velocity at SWnβ in the local airfoil coordinate system
SWnβVRel	(m/s)	Relative wind speed at SWnβ
SWnβDynP	(Pa)	Dynamic pressure at SWnβ
SWnβRe, SWnβM	(-), (-)	Reynolds number (in millions) and Mach number at SWnβ
SWnβVIndn, SWnβVIndc, SWnβVInds	(m/s), (m/s), (m/s)	Induced wind velocity at SWnβ in the local airfoil coordinate system
SWnβAlpha	(deg)	Angle of attack at SWnβ
SFlpαCtrl	(user)	Control setting of flap SFlpα
SWnβCl, SWnβCd, SWnβCm, SWnβCn, SWnβCc	(-), (-), (-), (-), (-)	Lift force, drag force, pitching moment, normal force (to chord), and chordwise force coefficients at SWnβ
SWnβFl, SWnβFd, SWnβMm, SWnβFn, SWnβFc	(N/m), (N/m), (N·m/m), (N/m), (N/m)	Lift force, drag force, pitching moment, normal force (to chord), and chordwise force per unit length at SWnβ
Port (Left) Wing		
PWnβVAmbn, PWnβVAmbc, PWnβVAmbs	(m/s), (m/s), (m/s)	Ambient wind velocity at PWnβ in the local airfoil coordinate system
PWnβSTVn, PWnβSTVc, PWnβSTVs	(m/s), (m/s), (m/s)	Structural translational velocity at PWnβ in the local airfoil coordinate system
PWnβVRel	(m/s)	Relative wind speed at PWnβ
PWnβDynP	(Pa)	Dynamic pressure at PWnβ
PWnβRe, PWnβM	(-), (-)	Reynolds number (in millions) and Mach number at PWnβ
PWnβVIndn, PWnβVIndc, PWnβVInds	(m/s), (m/s), (m/s)	Induced wind velocity at PWnβ in the local airfoil coordinate system
PWnβAlpha	(deg)	Angle of attack at PWnβ
PFlpαCtrl	(user)	Control setting of flap PFlpα

PWnβCl, PWnβCd, PWnβCm, PWnβCn, PWnβCc	(-), (-), (-), (-), (-)	Lift force, drag force, pitching moment, normal force (to chord), and chordwise force coefficients at PWnβ
PWnβFl, PWnβFd, PWnβMm, PWnβFn, PWnβFc	(N/m), (N/m), (N·m/m), (N/m), (N/m)	Lift force, drag force, pitching moment, normal force (to chord), and chordwise force per unit length at PWnβ
Vertical Stabilizer		
VSβVAmbn, VSβVAmbc, VSβVAmbs	(m/s), (m/s), (m/s)	Ambient wind velocity at VSβ in the local airfoil coordinate system
VSβSTVn, VSβSTVc, VSβSTVs	(m/s), (m/s), (m/s)	Structural translational velocity at VSβ in the local airfoil coordinate system
VSβVRel	(m/s)	Relative wind speed at VSβ
VSβDynP	(Pa)	Dynamic pressure at VSβ
VSβRe, VSβM	(-), (-)	Reynolds number (in millions) and Mach number at VSβ
VSβVIndn, VSβVIndc, VSβVInds	(m/s), (m/s), (m/s)	Induced wind velocity at VSβ in the local airfoil coordinate system
VSβAlpha	(deg)	Angle of attack at VSβ
RudrαCtrl	(user)	Control setting of rudder Rudrα
VSβCl, VSβCd, VSβCm, VSβCn, VSβCc	(-), (-), (-), (-), (-)	Lift force, drag force, pitching moment, normal force (to chord), and chordwise force coefficients at VSβ
VSβFl, VSβFd, VSβMm, VSβFn, VSβFc	(N/m), (N/m), (N·m/m), (N/m), (N/m)	Lift force, drag force, pitching moment, normal force (to chord), and chordwise force per unit length at VSβ
Starboard (Right) Horizontal Stabilizer		
SHSβVAmbn, SHSβVAmbc, SHSβVAmbs	(m/s), (m/s), (m/s)	Ambient wind velocity at SHSβ in the local airfoil coordinate system
SHSβSTVn, SHSβSTVc, SHSβSTVs	(m/s), (m/s), (m/s)	Structural translational velocity at SHSβ in the local airfoil coordinate system
SHSβVRel	(m/s)	Relative wind speed at SHSβ
SHSβDynP	(Pa)	Dynamic pressure at SHSβ
SHSβRe, SHSβM	(-), (-)	Reynolds number (in millions) and Mach number at SHSβ
SHSβVIndn, SHSβVIndc, SHSβVInds	(m/s), (m/s), (m/s)	Induced wind velocity at SHSβ in the local airfoil coordinate system
SHSβAlpha	(deg)	Angle of attack at SHSβ
SElvαCtrl	(user)	Control setting of elevator SElvα
SHSβCl, SHSβCd, SHSβCm, SHSβCn, SHSβCc	(-), (-), (-), (-), (-)	Lift force, drag force, pitching moment, normal force (to chord), and chordwise force coefficients at SHSβ
SHSβFl, SHSβFd, SHSβMm, SHSβFn, SHSβFc	(N/m), (N/m), (N·m/m), (N/m), (N/m)	Lift force, drag force, pitching moment, normal force (to chord), and chordwise force per unit length at SHSβ
Port (Left) Horizontal Stabilizer		
PHSβVAmbn, PHSβVAmbc, PHSβVAmbs	(m/s), (m/s), (m/s)	Ambient wind velocity at PHSβ in the local airfoil coordinate system
PHSβSTVn, PHSβSTVc, PHSβSTVs	(m/s), (m/s), (m/s)	Structural translational velocity at PHSβ in the local airfoil coordinate system
PHSβVRel	(m/s)	Relative wind speed at PHSβ
PHSβDynP	(Pa)	Dynamic pressure at PHSβ
PHSβRe, PHSβM	(-), (-)	Reynolds number (in millions) and Mach number at PHSβ

PHSβVIndn, PHSβVIndc, PHSβVInds	(m/s), (m/s), (m/s)	Induced wind velocity at PHSβ in the local airfoil coordinate system
PHSβAlpha	(deg)	Angle of attack at PHSβ
PElvαCtrl	(user)	Control setting of elevator PElvα
PHSβCl, PHSβCd, PHSβCm, PHSβCn, PHSβCc	(-), (-), (-), (-), (-)	Lift force, drag force, pitching moment, normal force (to chord), and chordwise force coefficients at PHSβ
PHSβFl, PHSβFd, PHSβMm, PHSβFn, PHSβFc	(N/m), (N/m), (N·m/m), (N/m), (N/m)	Lift force, drag force, pitching moment, normal force (to chord), and chordwise force per unit length at PHSβ
Pylons		
SPαβVAmbn, SPαβVAmbc, SPαβVAmbs, PPαβVAmbn, PPαβVAmbc, PPαβVAmbs	(m/s), (m/s), (m/s), (m/s), (m/s), (m/s)	Ambient wind velocity at SPαβ and PPαβ in the local airfoil coordinate system
SPαβSTVn, SPαβSTVc, SPαβSTVs, PPαβSTVn, PPαβSTVc, PPαβSTVs	(m/s), (m/s), (m/s), (m/s), (m/s), (m/s)	Structural translational velocity at SPαβ and PPαβ in the local airfoil coordinate system
SPαβVRel, PPαβVRel	(m/s), (m/s)	Relative wind speed at SPαβ and PPαβ
SPαβDynP, PPαβDynP	(Pa), (Pa)	Dynamic pressure at SPαβ and PPαβ
SPαβRe, SPαβM, PPαβRe, PPαβM	(-), (-), (-), (-)	Reynolds number (in millions) and Mach number at SPαβ and PPαβ
SPαβVIndn, SPαβVIndc, SPαβVInds PPαβVIndn, PPαβVIndc, PPαβVInds	(m/s), (m/s), (m/s), (m/s), (m/s), (m/s)	Induced wind velocity at SPαβ and PPαβ in the local airfoil coordinate system
SPαβAlpha, PPαβAlpha	(deg), (deg)	Angle of attack at SPαβ and PPαβ
SPαβCl, SPαβCd, SPαβCm, SPαβCn, SPαβCc, PPαβCl, PPαβCd, PPαβCm, PPαβCn, PPαβCc	(-), (-), (-), (-), (-), (-), (-), (-), (-), (-)	Lift force, drag force, pitching moment, normal force (to chord), and chordwise force coefficients at SPαβ and PPαβ
SPαβFl, SPαβFd, SPαβMm, SPαβFn, SPαβFc, PPαβFl, PPαβFd, PPαβMm, PPαβFn, PPαβFc	(N/m), (N/m), (N·m/m), (N/m), (N/m), (N/m), (N/m), (N·m/m), (N/m), (N/m)	Lift force, drag force, pitching moment, normal force (to chord), and chordwise force per unit length at SPαβ and PPαβ
Rotors		
SPαTTSR, SPαBTSR, PPαTTSR, PPαBTSR	(-), (-), (-), (-)	Rotor tip-speed ratio of the top (T) and bottom (B) rotor on SPα and PPα
SPαTPitch, SPαBPitch, PPαTPitch, PPαBPitch	(deg), (deg), (deg), (deg)	Rotor-collective blade-pitch angle of the top (T) and bottom (B) rotor on SPα and PPα
SPαTSkew, SPαBSkew, PPαTSkew, PPαBSkew	(deg), (deg), (deg), (deg)	Rotor inflow-skew angle of the top (T) and bottom (B) rotor on SPα and PPα
SPαTRtSpd, SPαBRtSpd, PPαTRtSpd, PPαBRtSpd	(rad/s), (rad/s), (rad/s), (rad/s)	Rotor speed of the top (T) and bottom (B) rotor on SPα and PPα
SPαTVRel, SPαBVRel, PPαTVRel, PPαBVRel	(m/s), (m/s), (m/s), (m/s)	Rotor-disk-averaged relative wind speed of the top (T) and bottom (B) rotor on SPα and PPα
SPαTCp, SPαBCp, PPαTCp, PPαBCp, SPαTCq, SPαBCq, PPαTCq, PPαBCq, SPαTCt, SPαBCt, PPαTCt, PPαBCt	(-), (-), (-), (-), (-), (-), (-), (-), (-), (-), (-), (-)	Rotor power, torque, and thrust coefficients of the top (T) and bottom (B) rotor on SPα and PPα
SPαTFx, SPαBFx, PPαTFx, PPαBFx, SPαTFy, SPαBFy, PPαTFy, PPαBFy, SPαTFz, SPαBFz, PPαTFz, PPαBFz, SPαTMx, SPαBMx, PPαTMx, PPαBMx, SPαTMy, SPαBMy, PPαTMy, PPαBMy, SPαTMz, SPαBMz, PPαTMz, PPαBMz	(N), (N), (N), (N), (N), (N), (N), (N), (N), (N), (N), (N), (N·m), (N·m), (N·m), (N·m), (N·m), (N·m), (N·m), (N·m), (N·m), (N·m), (N·m), (N·m)	Rotor aerodynamic loads in the local coordinate system of the top (T) and bottom (B) roto and PPα
SPαTPwr, SPαBPwr, PPαTPwr, PPαBPwr	(W), (W), (W), (W)	Rotor power of the top (T) and bottom (B) rotor on SPα and PPα

Commented [JJ1]: This coordinate system is coincident with the body-fixed local coordinate of the energy kite, but following the deflections of the wings and pylons. The coordinate system is not associated with the azimuth or inflow-skew angle of the rotor.

Energy Kite		
KiteFxi, KiteFyi, KiteFzi, KiteMxi, KiteMyi, KiteMzi	(N), (N), (N), (N·m), (N·m), (N·m)	Total integrated aerodynamic loads applied to the energy kite about the fuselage reference point in the global inertial-frame coordinate system
KitePwr	(W)	Total power from all rotors