

**Motion profile per axis**

3rd Order  
4th Order

End position [mm]	180 0
Maximum velocity [m/s]	1 1
Maximum acceleration [m/s <sup>2</sup> ]	10 10
Maximum jerk [m/s <sup>3</sup> ]	200 200
Snap [m/s <sup>4</sup> ]	10000 10000
Waiting time [s]	0.2 0.2

**Load per axis**

Mass [kg]	5
Orientation [deg]	0
Friction coefficient [-]	0.001
Damping coefficient [Ns/m]	10

**Volume constraints per axis**

Maximum height [mm]	50
Maximum depth [mm]	100
Maximum width [mm]	1000
Total stroke [mm]	180

**Drive constraints per coil unit**

Maximum bus voltage [V]	400
Maximum peak current [A]	8
Maximum RMS current [A]	4

**Motor type and configuration**

Chiron  
Phoenix  
Gryphon

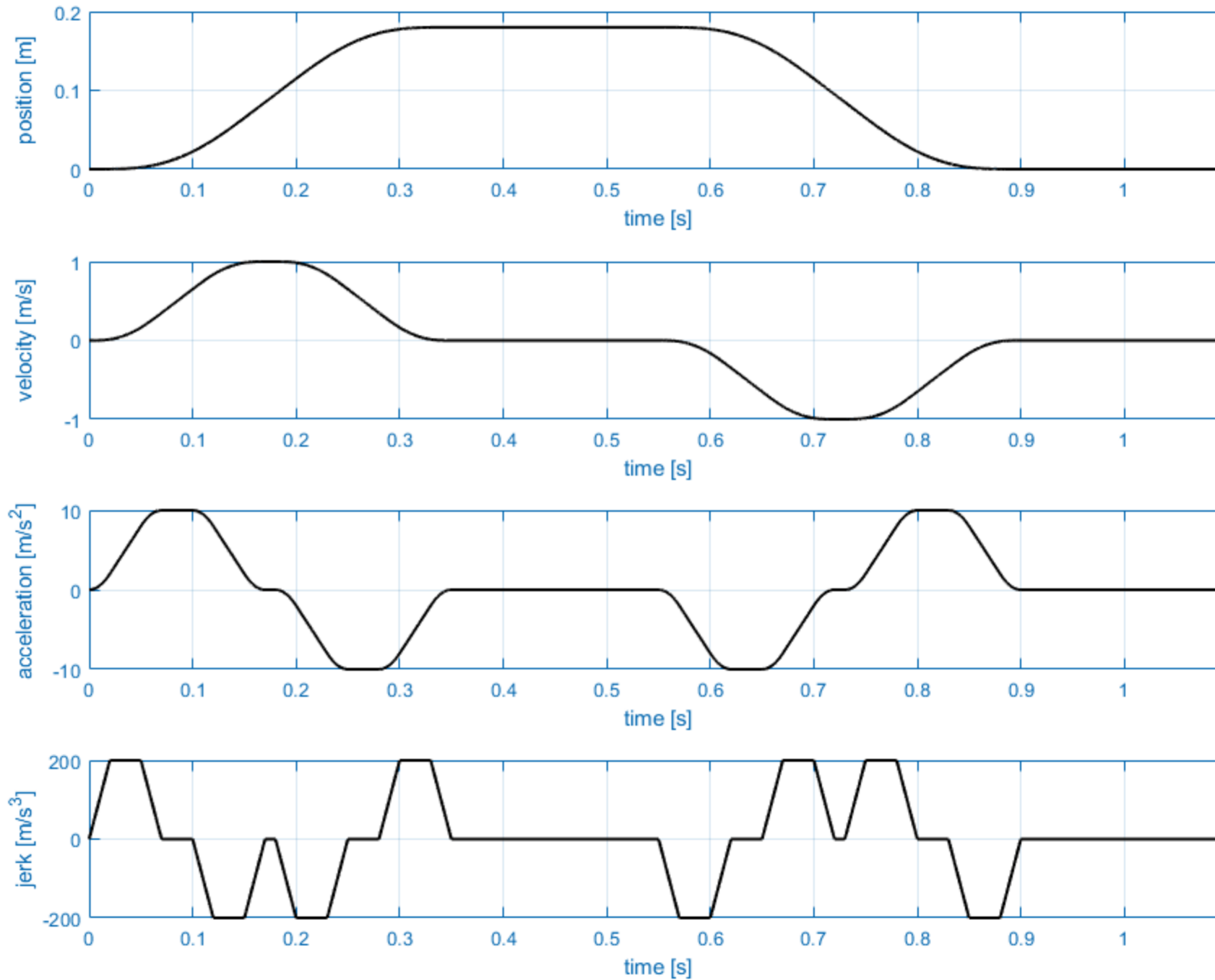
Temperature sensing

Number of coil units per axis: 1

**Thermal**

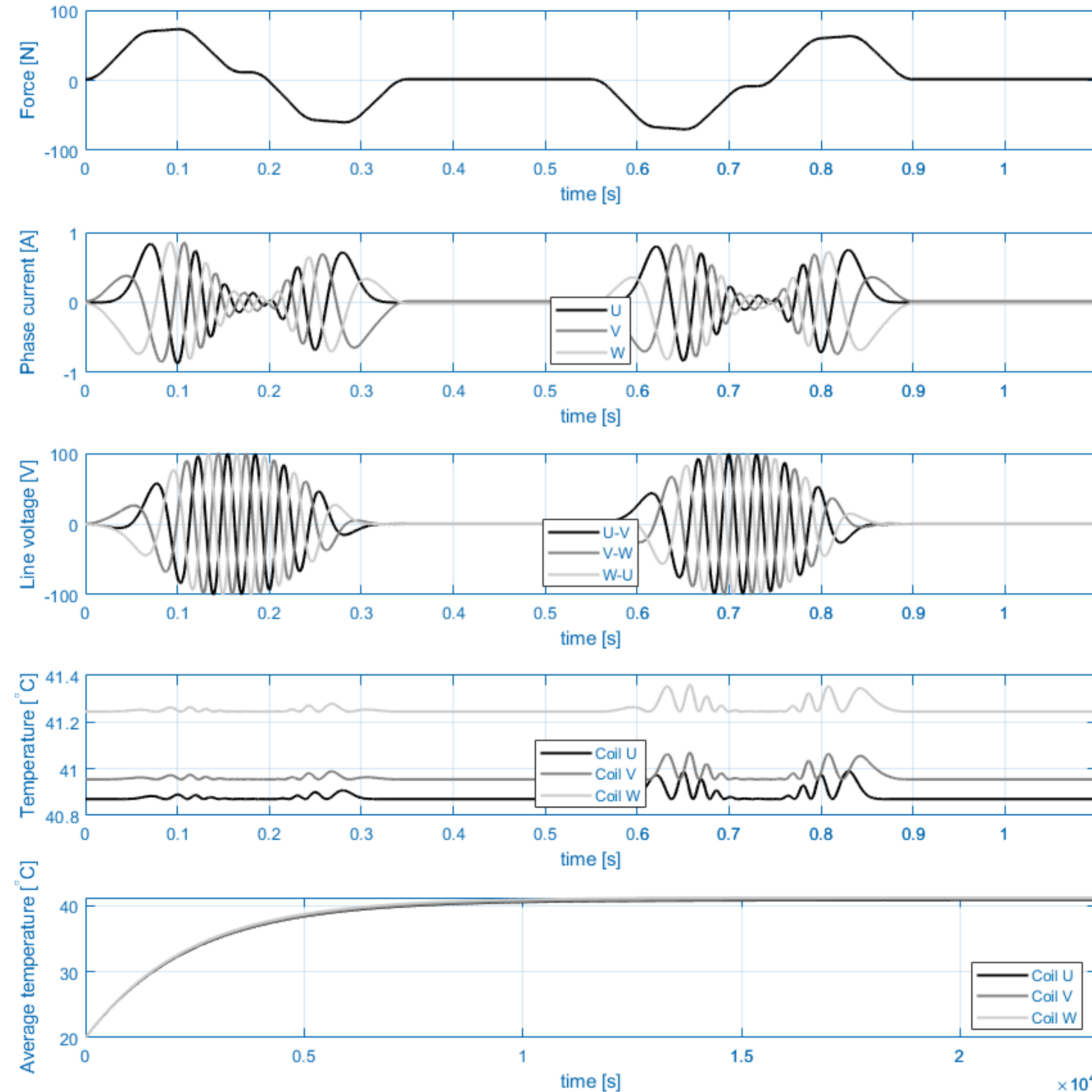
Interface temperature  
Convection  
Vacuum

Ambient temperature [C]	20
Maximum coil temperature [C]	80
Convection coef. [W/m <sup>2</sup> K]	10



**Coil unit list**

<input type="radio"/> CU-S-050-03-C (T)	<input type="radio"/> CU-S-080-12-B (F)	<input type="radio"/> CU-S-100-09-C (F)	<input type="radio"/> CU-S-100-30-C (V)	<input type="radio"/> CU-S-130-24-A (D)
<input type="radio"/> CU-S-050-06-B (T)	<input type="radio"/> CU-S-080-12-C (F)	<input type="radio"/> CU-S-100-12-A (F)	<input type="radio"/> CU-S-100-30-D (F)	<input type="radio"/> CU-S-130-24-B (D)
<input type="radio"/> CU-S-050-06-C (T)	<input type="radio"/> CU-S-080-15-B (F)	<input type="radio"/> CU-S-100-12-B (F)	<input type="radio"/> CU-S-130-03-C (D)	<input type="radio"/> CU-S-130-24-C (D)
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<input type="radio"/> CU-S-050-09-C (F)	<input type="radio"/> CU-S-080-18-A (F)	<input type="radio"/> CU-S-100-15-B (F)	<input type="radio"/> CU-S-130-06-C (D)	<input type="radio"/> CU-S-130-30-A (D)
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<input type="radio"/> CU-S-080-06-B (F)	<input type="radio"/> CU-S-080-24-D (F)	<input type="radio"/> CU-S-100-24-B (F)	<input type="radio"/> CU-S-130-15-C (D)	
<input checked="" type="radio"/> CU-S-080-06-C (F)	<input type="radio"/> CU-S-100-03-C (F)	<input type="radio"/> CU-S-100-24-C (V)	<input type="radio"/> CU-S-130-18-A (D)	
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Continuous force = 35.9 N  
Peak force = 73.1 N

Continuous current = 0.30 A  
Peak current = 0.86 A

Rated line voltage = 36.1 V  
Peak line voltage = 100.3 V

Average coil temperature = 41.2 C  
Peak coil temperature = 41.4 C

**Legend**

(F) = Feasible  
(T) = Coil temperature too high  
(V) = Motor voltage too high  
(C) = Motor current too high  
(B) = Bus voltage too high  
(D) = Depth too large  
(H) = Height too large  
(W) = Width too large

**Proposed magnet plate/yokes**

# MP-080-12:	2
# MP-080-16:	0
# MP-080-28:	0
# MP-080-36:	0

**Mass**

CU Mass = 1.50 kg  
MY Mass = 1.80 kg  
Total Mass = 3.30 kg

**Bill of Materials**

Part Name	Quantity
Chiron-CU-S-080-06-C-B	1
Chiron-MP-080-12	2

Calculate

