Specifications

Chapter Objectives

Chapter two contains the electrical and environmental specifications for the 1386 DC Servo Drive System. Dimensions are provided in Appendix A.

System Specifications

The general specifications of the 1386 are provided in the listing below. The specifications are divided when necessary for the various servo amplifier ratings.

Chassis Module / Power Supply	**1386-M2**	**1386-M4**	**1386-M6**
Nominal Control Voltage	105-125V AC, 50/60 Hz, 1-ph.	105-125V AC, 50/60 Hz, 1-ph.	105-125V AC, 50/60 Hz, 1-ph.
Rated AC Input Voltage	35/78V AC, 1 phase	35/78V AC, 1 or 3 phase	35/78V AC, 1 or 3 phase
Nominal Bus Output Voltage	50/106V DC	50/106V DC	50/106V DC
Continuous Current – 1 Phase	27A	27A	27A
Continuous Current – 3 Phase	–	50A	50A
Peak Current – 1 Phase (1 s)	50A	50A	50A
Peak Current – 3 Phase (1 s)	–	100A	100A
Overvoltage Clamp Rating	120V DC	120V DC	120V DC
Typical Overvoltage Shut Down Point	130V DC	130V DC	130V DC
Regenerative Capacity	70w	140w	140w
Control Voltage Draw	0.25A	0.5A	0.75A
±15V DC Supply Voltage	±1A	±1A	±2A[1]

Servo Amplifier Modules	**1386-AA06**	**1386-AA15**
Nominal Output Voltage	50/106V DC	50/106V DC
Continuous Current (rms)	6A	15A
Peak Current (rms)	1.5-15A	3.0-30A
Peak Current Adjust	~0-15A	~0-30A
Switching Frequency	20 kHz	20 kHz
Minimum Inductance of Motor	1.0 mH	1.0 mH
Current Loop Bandwidth	2.5 kHz	2.5 kHz
Command Input	±10V DC	±10V DC
±15V DC Source	50 mA	50 mA
Overall Static Gain	0-6A/mV min.	0-6A/mV min.
Input Impedance (Differential)	20 kohms	20 kohms
Velocity Loop Bandwidth (—3db)	100 Hz	100 Hz

Environmental	**All Units**
Storage Temperature	0° to 65° C (32° to 149° F)
Ambient Operating Temperature	0° to 50° C (32° to 122° F)
Relative Humidity	5% to 95% non-condensing
Altitude	3300 feet (1000 meters)

[1] Each axis draws approximately 200mA.

Environmental Specifications

The 1386 must be mounted in an enclosure that is clean and dry. Enclosures ventilated with ambient air must have appropriate filtering to protect against contamination caused by oils, coolants, dust, condensation etc. The ambient air temperature must be kept between 0 and 50° C (32° and 122° F) and the humidity between 5 and 95%, non-condensing.

The 1386 is equipped with an integral cooling fan(s). The general flow of air through the unit must be maintained by following the recommended spacing guidelines found in Chapter 6. The 1386 can operate at elevations to 3300 feet (1000 meters) without derating, however, the continuous current rating must be derated by 3% for each additional 1000 feet (305 meters) up to 10,000 feet (3050 meters). Consult with your local Allen-Bradley Sales Representative prior to operation over 10,000 feet (3050 meters).

Power Dissipation

The power dissipation characteristics of the 1386 drive and Isolation Transformer are provided below.

Important: The power dissipation figures shown below are for use in calculating cumulative system heat dissipation to assure ambient temperature inside enclosure does not exceed 50°C (122°F). To calculate total power dissipation, add Chassis and Servo Amplifier Module dissipations.

Table 2.A
1386 Power Dissipation

Rated Power Output	Chassis Module 1386-M2	1386-M4	1386-M6	Servo Amplifier Module 1386-AA06	1386-AA15
20%	20W	40W	60W	29W	61W
40%	20W	40W	60W	34W	73W
60%	20W	40W	60W	43W	96W
80%	20W	40W	60W	57W	130W
100%	20W	40W	60W	75W	186W

Table 2.B
1386 Isolation Transformer Power Dissipation

Rated Power Output	1386-... T015PV	T015PT	T030DT	T050DT
20%	25W	25W	60W	80W
40%	37W	40W	85W	115W
60%	50W	55W	115W	150W
80%	65W	65W	145W	190W
100%	80W	80W	180W	225W