

## Specifications

### Chapter Objectives

Chapter two contains the electrical and environmental specifications for the 1391-DES. Dimensions are provided in Appendix A.

### Drive Specifications

The general specifications of the 1391-DES are provided in the listing below. The specifications are divided when necessary for the various drive ratings.

<u>Specific Drive Ratings</u>	<u>1391-DES15</u>	<u>1391-DES22</u>	<u>1391-DES45</u>
Nominal Bus Voltage	300V DC	300V DC	300V DC
Continuous Current (RMS)	15A	22.5A	45A
Peak Current (RMS)	30A	45A	90A
Continuous Power Output	5.0 kW	7.5 kW	15.0 kW
Peak Power Output	10.0 kW	15.0 kW	30.0 kW
Input Circuit Breaker Rating	17A RMS	26A RMS	38A RMS
Circuit Breaker Interrupt Rating (Symmetrical Amperes)	1300A	1300A	1300A
Unit Weight in lbs. (kg)	22 (9.97)	28 (12.69)	34 (15.40)

#### All Drive Ratings

Static Gain (A/RMS)	1.5 x Rated Motor Current / rpm (typical)
Form Factor	1.03 or less
Peak Current Limit Adjust	20 to 300% of Rated Motor Current or 2 x Continuous Rating of Drive (max.), whichever achieves Drive Peak Current Rating first
Drive Efficiency	85% (Minimum at Rated Load)
Power Factor	95% Minimum
Modulation Frequency	2500 Hz $\pm$ 10%
Drift (Referred to Tach)	0.07 rpm /Degrees C. Maximum
Speed Regulation	0 to 0.05% of Maximum Motor Speed with 95% Load Change
Ambient Temperature	0 to 60° C (32 to 140° F)
Storage Temperature	0 to 65° C (32 to 149° F)
Input Voltage (from Transformer)	Power: 230V AC +10%/–15%, Three-Phase, 50/60 Hz $\pm$ 3 Hz Control: 36V AC, Single-Phase
Transformer Input Tolerance	+10%, –15%
Relative Humidity	5 to 95% Non-Condensing
Deadband	Zero
Altitude	1000 meters (3300 feet)
Integral Fan Output	50 CFM (Unloaded)
Max. RMS Short Circuit Current	1300A (Symmetrical Amperes)
Certifications	UL Listed - File No. E59272, CSA Certified - File No. LR32334-548,

*Specifications are for reference only and are subject to change without notice.*

## Environmental Specifications

The 1391-DES must be mounted in an enclosure that is clean, dry and ventilated by filtered or cooled air. Enclosures vented 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 to 60° C (32 to 140° F) and the humidity between 5 and 95%, non-condensing.

The 1391-DES is equipped with an integral cooling fan. The general flow of air through the unit must be maintained by following the recommended spacing guidelines found in Chapter 7. The 1391-DES can operate at elevations to 3300 feet (1000 meters) without derating, however, the 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).

## Drive Power Dissipation

The 1391-DES dissipation characteristics are approximated in Table 2.A.

**Table 2.A**  
**Drive Power Dissipation**

Rated Power Output (%)	1391-DES15 (watts)	1391-DES22 (watts)	1391-DES45 (watts)
20	38	55	104
40	76	110	208
60	114	165	312
80	152	220	416
100	190	275	520

## Transformer Power Dissipation

The power dissipation characteristics of the 1391 Isolation Transformer are shown in Table 2.B.

**Table 2.B**  
**1391 Isolation Transformer Power Dissipation**

Rated Power Output (%)	1.5kVA (watts)	3.5kVA (watts)	5.0kVA (watts)	10.0kVA (watts)	12.5kVA (watts)	15.0kVA (watts)
20	13	35	50	100	125	150
40	25	70	100	200	250	300
60	38	105	150	300	375	450
80	50	140	200	400	500	600
100	60	175	250	500	625	750

**Important:** Power Dissipation figures shown are for use in calculating cumulative system heat dissipation to ensure ambient temperature inside enclosure does not exceed 60° C (140° F).