

# POWER SPECIFICATIONS

## DISCOVERY/OPTIMA

(REV. DATE 06.AUG.14)

**VOLTAGE**

PRIMARY SOURCE IS REQUIRED FOR ALL INSTALLATIONS.  
 RANGE OF LINE VOLTAGES: NOMINAL LINE VOLTAGE OF 380 TO 480, 3 PHASE, 50 OR 60 Hz.  
 RECOMMENDED POWER SUPPLY: WYE-WITH GROUND OR FLOATING DELTA WITH GROUND  
 MAXIMUM DAILY VOLTAGE VARIATION MUST FALL WITHIN ONE OF THE RANGES IN TABLE A.

TABLE A  
 ALLOWABLE  
 INPUT  
 VOLTAGES/  
 CURRENT  
 DEMAND

NOMINAL VOLTAGE	ABSOLUTE RANGE	CURRENT (AMPS)		MINIMUM STANDARD OVERCURRENT PROTECTION **
		MAX	MOMENTARY CONTINUOUS	
380	342-418	187	151	200-A
400	360-440	178	143	200-A
415	374-456	171	138	200-A
<b>480</b>	<b>432-528</b>	<b>148</b>	<b>119</b>	<b>200-A</b>

\*\* OVERCURRENT PROTECTION SIZED FOR 125% CONTINUOUS CURRENT. (CALCULATIONS BASED UPON NOMINAL VOLTAGE).

**PHASE-BALANCE.**

PHASE-TO-PHASE VOLTAGES MUST BE WITHIN 2 PERCENT OF THE LOWEST PHASE-TO-PHASE VOLTAGE. MAXIMUM ALLOWABLE TRANSIENT VOLTAGE EXCURSIONS ABOVE OR BELOW NOMINAL WAVESHAPES FORM NOT TO EXCEED 200V AT A MAXIMUM DURATION OF 1 CYCLE AND FREQUENCY OF 10 TIMES PER HOUR.  
 VOLTAGE TRANSIENT OR IMPULSE ON THE INCOMING POWER MUST BE HELD TO A MINIMUM. TRANSIENTS CAUSED BY LIGHTNING, SURGES, LOAD SWITCHING, STATIC ELECTRICITY ETC. CAN CAUSE SCAN ABORTS OR, IN EXTREME INSTANCES, COMPONENT FAILURE IN THE COMPUTER SUBSYSTEM.

**POWER DEMAND**

MAXIMUM POWER DEMAND AVERAGED OVER 5 SECONDS = 123 KVA.

SYSTEM EQUIPMENT	POWER DEMAND
PDU 5 SECOND POWER (IN PGR)	103 kVA
HEC CONTINUOUS POWER (INCLUDING CRY)	20 kVA
CRYO COMPRESSOR CONTINUOUS POWER (CRY)	9 kVA

STANDBY (NO SCAN) POWER DEMAND = 17 KVA.

TABLE B  
 MAXIMUM  
 POWER  
 DEMAND.

DEMAND	DISCOVERY/OPTIMA
kVa *	123
POWER FACTOR AT	0.9

\* DEMAND INCLUDES POWER FOR ENTIRE MR SYSTEM. LINE VOLTAGE REGULATION AT MAXIMUM POWER DEMAND MUST BE LESS THAN OR EQUAL TO 2 PERCENT OR 4 PERCENT FROM POWER SOURCE.

**DISTRIBUTION TRANSFORMER**

FOR A SINGLE UNIT INSTALLATION, THE MINIMUM TRANSFORMER SIZE IS 225 KVA. REGULATED TRANSFORMER IS NOT REQUIRED UNLESS VOLTAGE CHANGES EXCEED ±10% OVER A PERIOD OF 1 HOUR OR LONGER.

REFER TO PRE-INSTALLATION MANUAL FOR ADDITIONAL INFORMATION



## FEEDER TABLE

### FEEDER TABLE

- CALCULATIONS BASED UPON NOMINAL VOLTAGE, WIRE SIZE IN AWG.
- RECOMMENDED FEEDER SIZES FROM DIST. TRANS. TO MDP, ALL CALCULATIONS BASED UPON A 20 FT. [6.1m] RUN FROM MDP TO PGR USING 1/0 AWG.
- THE GROUNDING CONDUCTOR ( ) SHALL BE COPPER AND WILL RUN IN THE SAME CONDUIT AS THE FEEDERS FROM EQUIPMENT BACK TO THE ROOM POWER SOURCE GROUNDING POINT.
- IF THE GENERAL ELECTRIC EQUIPMENT IS BEING FED BY A DELTA SECONDARY, IT IS RECOMMENDED THAT THE B PHASE ON THE SECONDARY BE CONNECTED TO GROUND TO PREVENT DAMAGE TO THE SYSTEM.
- NEUTRAL MUST BE TERMINATED PRIOR TO OR INSIDE THE MAIN DISCONNECT PANEL AND NOT BROUGHT INTO THE PGR OR HEC CABINET.
- \* MINIMUM WIRE SIZE FOR CIRCUIT BREAKER, BASED ON RECOMMENDED OVERCURRENT PROTECTION.
- **FOR A FULL SYSTEM UPS REFER TO ELECTRICAL DETAILS FOR UPS FEEDER WIRES.**

RUN LENGTH IN FEET	POWER SUPPLY VOLTAGE							
	342-418 380		360-440 400		374-456 415		432-528 480	
	FEEDER	GROUND	FEEDER	GROUND	FEEDER	GROUND	FEEDER	GROUND
100	* 3/0	(4)	* 3/0	(4)	* 3/0	(4)	* 3/0	(4)
150	* 3/0	(4)	* 3/0	(4)	* 3/0	(4)	* 3/0	(4)
200	* 3/0	(4)	* 3/0	(4)	* 3/0	(4)	* 3/0	(4)
250	4/0	(2)	3/0	(4)	3/0	(4)	* 3/0	(4)
300	250M	(2)	4/0	(2)	4/0	(2)	* 3/0	(4)
350	300M	(2)	300M	(2)	250M	(2)	3/0	(4)
400	400M	(1/0)	350M	(2)	300M	(2)	4/0	(2)
450	500M	(1/0)	400M	(1/0)	350M	(2)	4/0	(2)

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