

IDEAL ELECTRIC CO.

330 EAST FIRST STREET • MANCHESTER, OHIO 44004 • USA
 TELEPHONE (419) 622-3611 • FAX (419) 622-3400

SYNCHRONOUS GENERATOR DATA

105 °C RISE	KW	2500	KVA	2941	P.F.	0.85
	VOLTS	4160	AMPS	408	RPM	1800

REACTANCES

PER UNIT ON 2941 kVA BASE

Direct Axis Synchronous	(Unsaturated)	Xd	1.729
Direct Axis Transient	(Rated Voltage)	X'd	0.239
Direct Axis Subtransient	(Rated Voltage)	X" d	0.167
Quadrature Axis Synchronous	(Unsaturated)	Xq	0.899
Quadrature Axis Subtransient	(Rated Voltage)	X" q	0.163
Negative Sequence	(Rated Voltage)	X2	0.170
Zero Sequence	(Rated Voltage)	Xo	0.065
Short Circuit Ratio		SCR	0.750

TIME CONSTANTS

Direct Axis Open Circuit Transient	T'do	3.710 Sec.
Direct Axis Short Circuit Transient	T'd	0.512 Sec.
Direct Axis Short Circuit Subtransient	T" d	0.030 Sec.
Short Circuit Armature	Ta	0.041 Sec.

RESISTANCES

Armature (per phase at 25°C)	0.04495 Ohms
Field (at 25°C)	0.484 Ohms
Rotor Inertia	2200 Lb-Ft ²

EFFICIENCY

Load	Eff. at 0.85 P.F.
4/4	96.2%
3/4	96.1%
1/2	95.4%

JATE 10/09/95

Ref: 2112018

SCOPE OF SUPPLY**Generator Control & Switchgear Cubicle**

One (1) Generator Control & Switchgear Cubicle, 2500 KW, 0.85 PF, 4160V, 3P, 4W, 60 Hz, ANSC 37, Indoor Construction with Approximate Dimensions of 94"H, 72"W, 90"D to include:

- Generator CB, Vacuum, 4160V, 3P, 1200A, EO, DO, 350MVA
- Surge Protection Arrestor, 4160V, 3P
- AC Instrumentation: Electronic Multimeter to Include AM, VM, FM, KW, KVAR, KWH, KVARH, PF, 1% Class - Utility Grade
- RTD Monitor Relay - Two (2) Channel with Temperature Meter & Channel Selector Switch
- Control & Synchronizing Panel to include:
 - Annunciator, 12 Point, with Ringback Control Logic, Reset, PB, Silence PB, Lamp Test PB, & Horn
 - Sync Scope
 - Sync Lights
 - Sync Switch
 - Voltage Adjust Potentiometer
 - Speed Adjust Up/Down Switch
 - Mode Control Switches
- Device 15V - Electronic Synchronizer with 5% Voltage Match, SPMA
- Device 90PF - VAR-Power Factor Controller, Type SCP250
- Device 51V - Phase Overcurrent Relay with Voltage Restraint
- Device 51N - Ground Overcurrent Relay
- Device 87 - Phase Differential Current Relay with Six (6) Cts
- Device 86 - Lockout Relay
- Device 32 - Reverse Power Relay
- Device 40 - Reverse VAR, Loss of Excitation Relay
- Device 46 - Negative Sequence Current Relay, 3P
- Circuit Breaker Control Switch with R/G Indicating Lights
- Two (2) Sets of Potential Transformers with Fusing
- Three (3) Sets of Current Transformers with Shorting Blocks
- Mount/Wire Speed Governor Equipment Furnished by Customer
- Mount/Wire Voltage Regulating Equipment Furnished by Customer
- Transition Section for Connection to Bus Bar
- Station Battery & Charger, 48VDC, Powered from Separate 120 Volt Source Provided by Others
- Space Heater & Humistat Control Powered from Separate 120 Volt Source Provided by Others

Condenser

One (1) Graham or Equal Condenser System in accordance with the Attached Seven (7) Vendor Information Sheets.