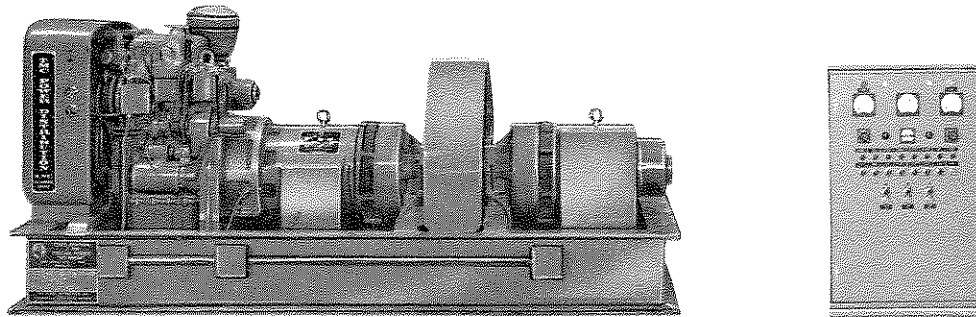


TECHNICAL BULLETIN NUMBER 501

"Precise No Break" Power Systems

TMC Model PFS 15 PNB



Model PFS 15 PNB

This compact "Precise No Break" power system provides continuity of power to critical operating equipment without regard to fluctuations and power outages commonly encountered with commercial power throughout the world. Generators of this size are used to provide constant power to sensitive computers, to industrial areas where breakdown of chemical and machinery processes would be harmful and to hospital operating areas. With this unit installed, you needn't worry about commercial power failing at any time of the day or night. When commercial power fails, the units automatically come up on their diesel engines by means of hydrostarters, and until the diesel reaches full power, the inertia flywheel continues to turn the generator at synchronous speed, thus providing full rated output at all times with absolutely no drop in output voltage. Once commercial power is restored, the transition from emergency to normal power is accomplished automatically and smoothly.

A solid state control unit constantly monitors the electrical and mechanical operation of the system. Easy to read meters give instant indication of input and output voltage, power and frequency.

A moment of your time to look over the technical specifications that follow on the unit will verify these points.

This unit is available in 5 kw and 10 kw capacity also.

"Precise No Break" Power Systems

TECHNICAL SPECIFICATIONS

ELECTRICAL SPECIFICATIONS

RATED POWER:	PFS 15 PNB 18.75 KVA
	PFS 10 PNB 12.5 KVA
	PFS 5 PNB 6.25 KVA
	All power ratings are 0.8 PF with 10% overload for 4 hours
OUTPUT:	120/208 volt or 240/416 volt, 60 cycle, three phase.
VOLTAGE REGULATION:	Within 1% from 0 load to 100% load.
*VOLTAGE TRANSIENTS:	Under no load to full load and full load to no load. (Transients will be reduced proportionately under lesser load changes.)
No Load To Full Load	Less than 7.5% dip
Full Load To No Load	Less than 9% rise
FREQUENCY REGULATION:	1/6 of 1%.
*FREQUENCY TRANSIENTS:	Less than 1% droop after failure of primary power.
INPUT:	208 or 480 volt, 60 cycle, 3 phase.
SAFETY FEATURES:	Engine lock-out control, engine protection shutdown, flywheel bearing overtemperature protection, alternator failure protection and fuse protection of control circuits.

COMPONENTS

ENGINE:	GM Detroit Diesel 5023-7101 (2-53)
STARTING SYSTEM:	
PRIMARY:	Automatic Hydrostarter with 3 accumulators.
SECONDARY:	Engagement to the inertia flywheel.
GOVERNOR:	Woodward electric load and frequency sensing governor with centrifugal governor backup.
CLUTCH:	Eddy-current clutch, special design.
INERTIA FLYWHEEL:	Single forged steel, SAE 4340, vacuum poured, 36" diameter by 8".

*Transients are defined to mean momentary changes under changing load conditions, and have no real effect on power supply.

TMC Model PFS 15 PNB

FLYWHEEL BEARINGS:	Spherical roller bearings, special design.
MOTOR:	TMC Power 10 HP brushless, synchronous motor, special design, manufactured by Delco Products.
ALTERNATOR:	Brushless, synchronous alternator, manufactured by Delco Products.
BASE:	Fabricated steel with machined mounting surfaces.

CONTROLS

CABINET:	One NEMA free standing cabinet, dead front.
BREAKERS:	Motor-operated molded case breakers for alternator to load and for primary to load (generator set bypass).
MOTOR CONTACTOR:	NEMA-size solenoid operated contactor.
METERS:	Frequency, elapsed time and synchronization.
VOLTAGE REGULATOR:	Instant response solid state three transistor model.

Standard equipment includes solid state sensing and monitoring devices, automatic synchronizers, heavy duty sealed relays, current and potential transformers, terminal blocks and fuse blocks.

OTHER TECHNICAL DATA

INSTALLATION DATA:

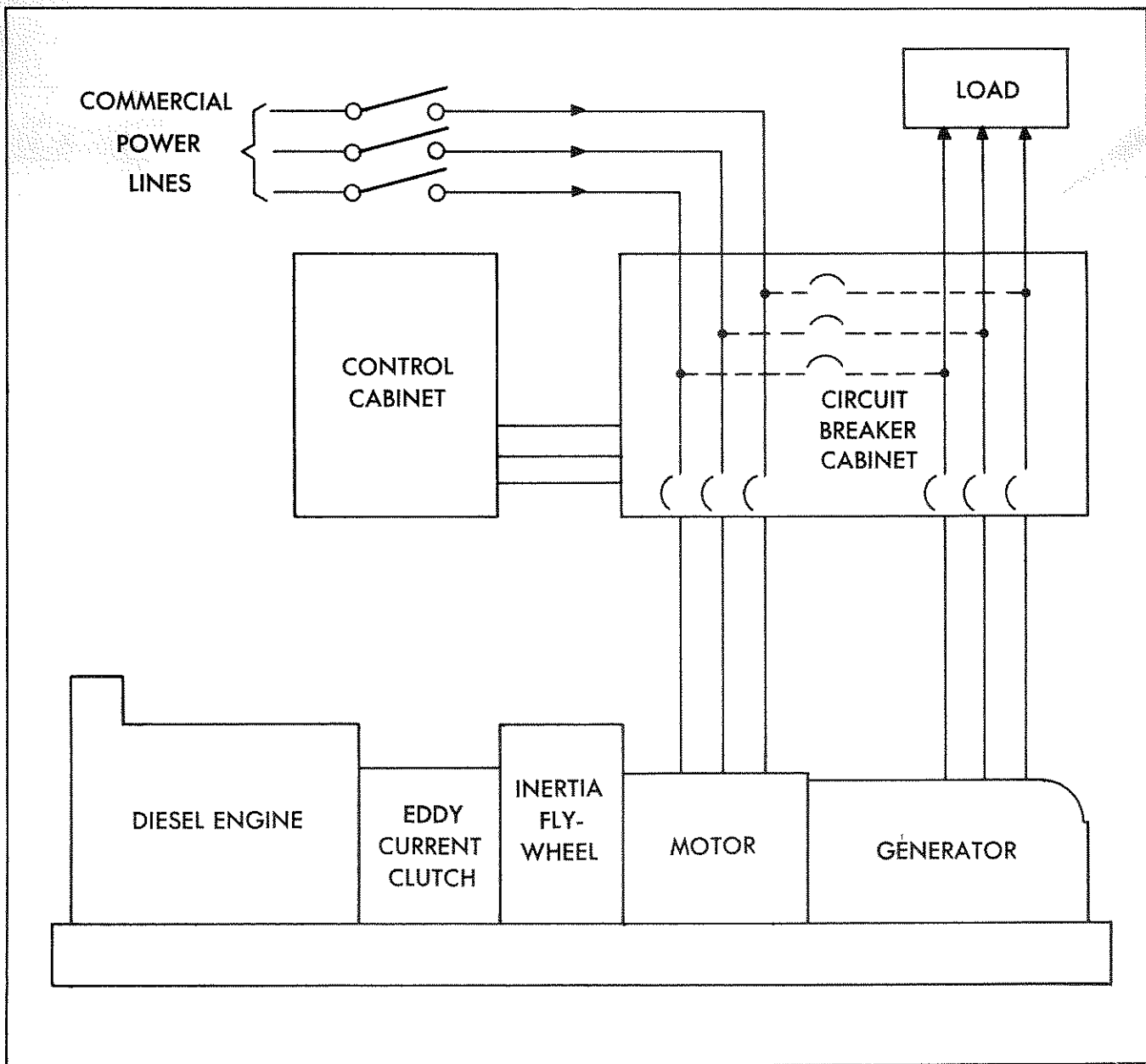
Generator Length	8'11"
Generator Width	3'8"
Generator Height	3'11"
Weight	5000 lbs. approximately
Cabinet	30" × 30" × 70"

ENVIRONMENTAL CONDITIONS: Unit is designed to operate in any ambient temperature from -40° to $+50^{\circ}$ C and normal environmental humidity conditions.

OPTIONAL EQUIPMENT

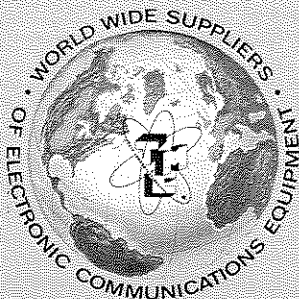
The following options are available at extra cost and may be added to the system:

1. Remote monitoring
2. Remote monitoring and remote operation
3. Alarm system
4. Tie-in control of existing standby generators for non-critical service
5. Integrated fuel systems
6. Pre-fabricated environmental shelters



FUNCTIONAL BLOCK DIAGRAM "PRECISE NO-BREAK" POWER SYSTEM

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