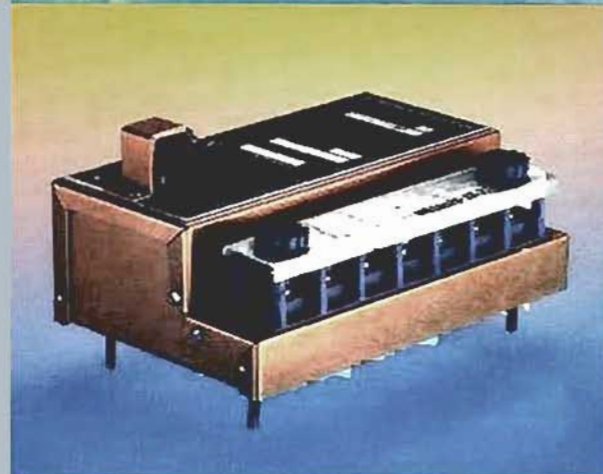


AIRBORNE POWER CONVERSION, DISTRIBUTION & REGULATION EQUIPMENT

Phoenix Aerospace Inc.



FAA APPROVED REPAIR STATION NO. SL2R165L
CAGE 29632

Bill Sutherland
PRESIDENT & CEO



Phoenix Aerospace Inc.

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**PHOENIX AEROSPACE, INC. STANDARD PRODUCTION MODELS
AIRCRAFT DESIGN GUIDE AND HANDBOOK FOR
DC AND AC ELECTRICAL SYSTEMS**

(REV 23 AUG 2004)

CONTENTS

AIRBORNE DC REGULATION AND DC STARTER - GENERATOR CONTROL SYSTEMS

SPECIFICATIONS

Item	Page
DC VOLTAGE REGULATORS AND GENERATOR CONTROLS	3-21
DC VOLTAGE REGULATORS	3-16
DC GENERATOR CONTROL UNITS (GCU'S)	17-21
DC CURRENT FAULT SENSOR	22
DC LOAD SHEDDING CONTROL BOX	23
DC BUS BAR PROTECTION UNIT	24
DC PANEL LIGHT DIMMERS	25 - 26B
DC ELECTRICAL POWER SYSTEMS - TECHNICAL DATA (28 VOLT DC VOLTAGE REGULATORS & GENERATOR CONTROL UNITS)	135-164

AIRBORNE DC TO AC POWER CONVERSION AND DISTRIBUTION EQUIPMENT

SPECIFICATIONS

Item	Page
STATIC INVERTERS - 3 PHASE	28-44
AUTOMATIC INVERTER CHANGEOVER BOXES - 3 PHASE	47-49
STATIC INVERTERS - 1 PHASE	52-110
AUTOMATIC INVERTER CHANGEOVER BOXES - 1 PHASE	112-114
INVERTER PARALLELING CONTROL BOXES - 1 PHASE	116-121
INVERTER 115/26 VAC AUTOFORMERS	123-126



CONTENTS

AIRBORNE DC TO AC POWER CONVERSION AND DISTRIBUTION EQUIPMENT

SPECIFICATIONS

Item	Page
INVERTER 115/200 VAC MONO-TRIPHASE ADAPTER	135-138
INVERTER WARNING LIGHT CONTROL BOXES - I PHASE	139-143
BLEED VALVE CONTROL UNIT	144
DC ELECTRICAL POWER SYSTEMS - TECHNICAL DATA (28 VOLT DC VOLTAGE REGULATORS & GENERATOR CONTROL UNITS)	145-156
DC TO AC ELECTRICAL POWER DISTRIBUTION SYSTEMS - TECHNICAL DATA	157-176
DC TO AC TRUE PARALLEL OPERATION POWER DISTRIBUTION SYSTEMS	177-185
SELLERS STANDARD WARRANTY	186-187
DC VOLTAGE REGULATOR CROSS-REFERENCE INDEX	189-190
DC GENERATOR CONTROL UNIT CROSS-REFERENCE INDEX	191
AIRCRAFT INDEX	193-196

WE DO IT A BETTER WAY!



DC ELECTRICAL POWER REGULATION EQUIPMENT

SPECIFICATIONS

Item	Page
DC VOLTAGE REGULATORS	1
VR-1010-24-1A DC VOLTAGE REGULATOR	3
VR-1010-24-1AS DC VOLTAGE REGULATOR	4
VR-1010-24-1C DC VOLTAGE REGULATOR	5
BH-1010-24-2A DC VOLTAGE REGULATOR	6
VR-1010-24-2A DC VOLTAGE REGULATOR	7
VR-1010-24-2AD DC VOLTAGE REGULATOR	8
VR-1010-24-2B DC VOLTAGE REGULATOR	9
VR-1010-24-2BE DC VOLTAGE REGULATOR	10
VR-1010-24-2C DC VOLTAGE REGULATOR	11
SB-1010-24-2E DC VOLTAGE REGULATOR	12
VR-1010-24-2GA DC VOLTAGE REGULATOR	13
VR-1010-24-4D DC VOLTAGE REGULATOR	14
VR-1010-24-4C DC VOLTAGE REGULATOR	14A
RY-1010-24-1 AS DC VOLTAGE REGULATOR	14B
VR-1010-24-6E DC VOLTAGE REGULATOR	15
BG-1010-24-7A DC VOLTAGE REGULATOR (BRUSHLESS GENERATOR)	16



**DC ELECTRICAL POWER REGULATION EQUIPMENT
SPECIFICATIONS**

Item	Page
DC GENERATOR CONTROLS	17
GC-1010-24-3B DC GENERATOR CONTROL	17
GC- 1010-24-3B I DC GENERATOR CONTROL	18
GC-1010-24-5B DC GENERATOR CONTROL	18
GC-1010-24-5C DC GENERATOR CONTROL	19
GC-1010-24-5D III DC GENERATOR CONTROL	20
GC-1010-24-6A DC GENERATOR CONTROL	20A
GC-1010-24-6D DC GENERATOR CONTROL	20B
GC-1010-24-9A DC GENERATOR CONTROL	21
CURRENT FAULT SENSOR	22
DH- 1030-24-2-CS TYPE I CURRENT FAULT SENSOR	22
DC LOAD SHEDDING CONTROL BOX	23
ES-1010-24-4-CS DC LOAD SHEDDING CONTROL BOX	23
DC BUS BAR PROTECTION UNIT	24
BP-1010-24-8D DC BUS BAR PROTECTION UNIT	24
DC PANEL LIGHT DIMMERS	25
DY-1010-5/1-8-CS DC PANEL LIGHT DIMMER	25
DY-1010-28/1-7-CS DC PANEL LIGHT DIMMER	26
DY-1010-28/2-7-CS DC PANEL LIGHT DIMMER	26A
DY-1010-28/3-7-CS DC PANEL LIGHT DIMMER	26B



28 VOLT DC VOLTAGE REGULATORS

NSN 6110-21-862-0083 (CANADA)

VR-1010-24-1A DC VOLTAGE REGULATOR -- NSN 6110-01-009-3828 (U.S.A.)

Silicon Solid State, Standard PLUG-IN Mount, with Automatic Paralleling, designed to operate with all 28 Volt DC Generators and Starter/Generators conforming to MIL-G-6162 (Direct retrofit for all Carbon Pile Plug-in Regulators)



Dimensions:

Unit: 3-7/8 L x 3-11/16 W x 2-15/16 H
98.43 mm L x 93.66 mm W x 74.61 mm H
Mounting Base: 4.125 L x 3.625 W
104.78 mm L x 92.08 mm W

Electrical Connectors:

Unit conforms to AN3206, drawing E-1597, MIL-R-6809, and MIL-R-23761B and plugs into Bendix Mounting Bases 1700, 19E04, 32E04, and 1838-1, MS Mounting Bases #AC40D-8445-2, AF49C-7573, and AN3204

Weight: 1.5 lbs - 680.4 g (Max.)

Applications:

Aero Commander 560; 680F, 680FL
Grand Commander; 680T, V, W, & 690
Turbo Commander (Retrofit)
Agusta/Sikorsky AS-6 INI Silver (Production)
Ayres S2R Turbo-Thrush (Production)
Beechcraft Queen Air A80 & B80 (Retrofit);
King Air A90, B90, C90, E90, & H90
(Retrofit); Super King Air 200T;
C-12A; & U-21 (Production)
Bell 206A/206B (Phoenix Aerospace Inc.
STC #SA2511CE 24 JUL 89/Retrofit)

Cessna Jet Trainer USAF A-37 (Retrofit)
de Havilland DHC-6 (Production)
Douglas DC-3 FAA Surveillance (Retrofit)
Gulfstream Aerospace G1 (Retrofit)
Grumman Mallard (Retrofit)
Lockheed 1329-6 and 1329-8 Jetstar I
(Retrofit)
Pilatus PC-6/B-H2 Turbo Porter (Retrofit)
Sikorsky S61-N Helicopter (Production)
Teledyne Ryan BQM-34 Firebee
Drone - UAV (Production)



28 VOLT DC VOLTAGE REGULATORS (CONT.)

VR-1010-24-1 AS DC VOLTAGE REGULATOR

Silicon Solid State, Standard PLUG-IN Mount, with Automatic Paralleling, designed to operate with all 28 Volt DC Generators and Starter/Generators conforming to MIL-G-6162

Dimensions:

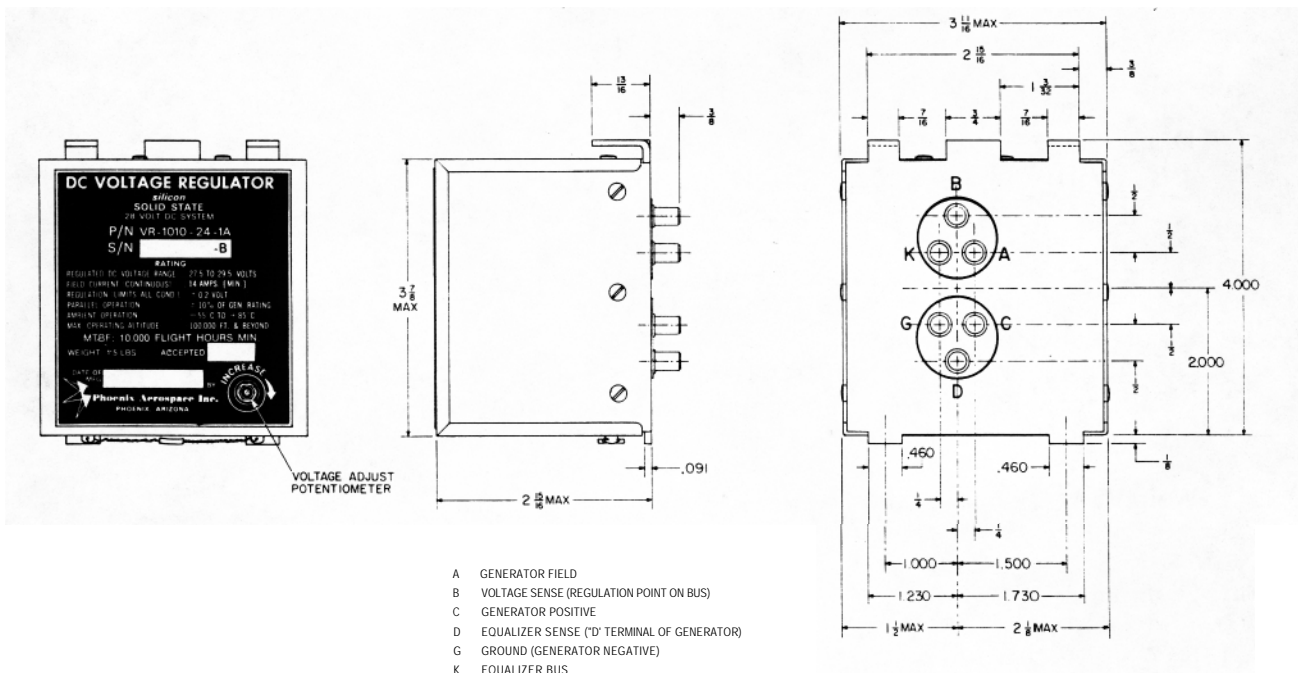
Unit: 3-7/8 L x 3-11/16 W x 2-15/16 H
98.43 mm L x 93.66 mm W x 74.61 mm H
Mounting Base: 4.125 L x 3.625 W
104.78 mm L x 92.08 mm W

Electrical Connectors:

Unit conforms to AN3206, drawing E-1597, MIL-R-6809, and MIL-R-23761B and plugs into Bendix Mounting Bases 1700, 19E04, 32E04, and 11338-1, MS Mounting Bases #AC40D-8445-2, AF49C-7573, and AN3204

Weight: 1.5 lbs - 680.4 g (Max.)

Applications: Aero Commander 1121 (Retrofit)
North American Rockwell 265-40, 265-60, 265-70 Sabreliner
(Production)



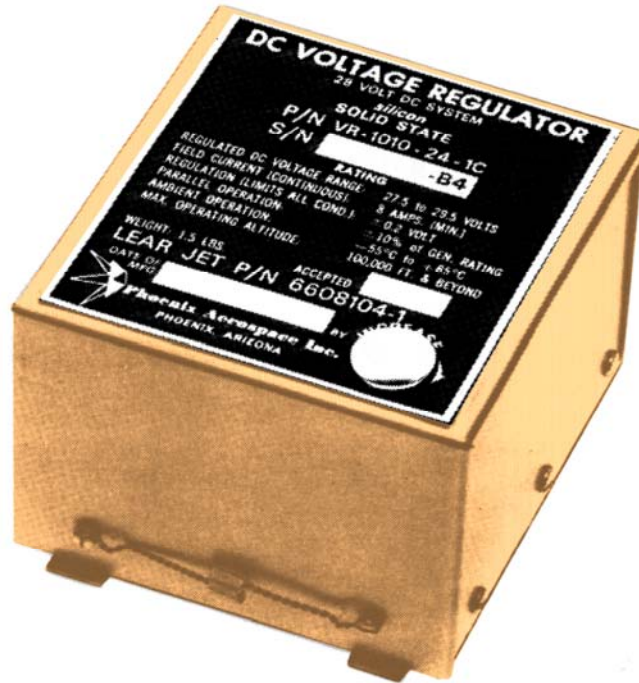
VR- 1010-24-1 (SERIES) DC VOLTAGE REGULATORS



28 VOLT DC VOLTAGE REGULATORS (CONT.)

VR-1010-24- 1C DC VOLTAGE REGULATOR - GLJ P/N 6608104-1

Silicon Solid State, Standard PLUG-IN Mount, with Automatic Paralleling, designed to operate with all 28 Volt DC Generators and Starter/Generators conforming to MIL-G-6162



Dimensions:

Unit: 3-7/8 L x 3-11/16 W x 2-15/16 H
98.43 mm L x 93.66 mm W x 74.61 mm H
Mounting Base: 4.125 L x 3.625 W
104.78 mm L x 92.08 mm W

Electrical Connectors:

Unit conforms to AN3206, drawing E-1597, MIL-R-6809, and MIL-R-237618 and plugs into Bendix Mounting Bases 1700, 19E04, 32E04, and 1B38-1, MS Mounting Bases #AC40D 8445-2, AF49C-7573, and AN3204

Weight: 1.5 lbs - 680.4 g (Max.)

Applications: Learjet Applications: Learjet Model 23, 24, 24A, 24B, 24B-A, and 25 (Retrofit)



28 VOLT DC VOLTAGE REGULATORS (CONT.)

BH P/N 209-075-228-1

BH-1010-24-2A DC VOLTAGE REGULATOR - NSN 6110-00-919- 637 (U.S.A.)

Silicon Solid State, Fixed Mount Type, with Overvoltage Sensing, designed to operate with all 28 Volt DC Generators and Starter/Generators conforming to MIL-G-6162

Dimensions:

Unit: 5 L x 3-1/2 W x 2-3/8 H
127.00 mm L x 88.90 mm W x 60.33 mm H
Mounting Base: 4-5/8 L x 4-1/2 W
117.48 mm L x 114.30 mm W
Mounting Centers: 4.000 L x 4.000 W
101.50 mm L x 101.50 mm W

Electrical Connectors:

Input/Output: MS3122E-14-5P Box Receptacle mates with MS3126F-14-5S
Connector - 5 Pin

Weight: 1.6 lbs - 726.0 g (Max.)

Applications: Bell Helicopter AH-1G HueyCobra (Retrofit)
Bell Helicopter 205 Iroquois (Retrofit)



28 VOLT DC VOLTAGE REGULATORS (CONT.)

VR-1010-24-2A DC VOLTAGE REGULATOR -- NSN6110-21-890-9063 (Canada)

Silicon Solid State, Fixed Mount Type, with Automatic Paralleling and Overvoltage Sensing, designed to operate with all 28 Volt DC Generators and Starter/Generators conforming to MIL-G-6162



Dimensions:

Unit: 5 L x 3-1/2 W x 2-3/8 H
127.00 mm L x 88.90 mm W x 60.33 mm H
Mounting Base: 4-5/8 L x 4-1/2 W
117.48 mm L x 114.30 mm W
Mounting Centers: 4.000 L x 4.000 W
101.50 mm L x 101.50 mm W

Electrical Connectors:

MS3102R- 16S-1P Box Receptacle mates with MS3106F-16S-1S Connector - 7 Pin

Weight: 1.6 lbs - 726.0 g (Max.)

Applications: Aerospatiale SNIAS AS332A (Solar Turbine APU/PATS Inc.

STC #SH250NE 6 APR 84/Retrofit)
Bell 206A/206B (Phoenix Aerospace Inc.
STC #SA2511CE 24 JUL 89/Retrofit)
Boeing 707 (Solar Turbine APU/PATS Inc.
Dual System STC #SA1168EA 29 JUN 81 /Retrofit
Triple System STC #SA1240EA 19 MAY 81 /Retrofit)
Cessna Citation III (Solar Turbine APU/PATS Inc.
STC #SA289NE 5 SEP 84/Retrofit)
Convair 880 (Solar Turbine APU/PATS Inc.
STC #SA1146EA 8 MAY 79/Retrofit)
de Havilland DHC-6 (Production)
Frakes Aviation (Retrofit)
Grumman Mallard (Retrofit)
Hawker Siddeley HS-748 (Replaces Lucas-Rotax
P/N U6106 DC Voltage Regulator
Bradley Air Services Ltd., Carp, ON/Haakon
Aass Aero Engineering Ltd., Ottawa, ON/Retrofit)



28 VOLT DC VOLTAGE REGULATORS (CONT.)

VR- 1010-24-2AD DC VOLTAGE REGULATOR

Silicon Solid State, Fixed Mount Type, with Automatic Paralleling and Overvoltage Sensing, designed to operate with all 28 Volt DC Generators and Starter/Generators conforming to MIL-G-6162

Dimensions:

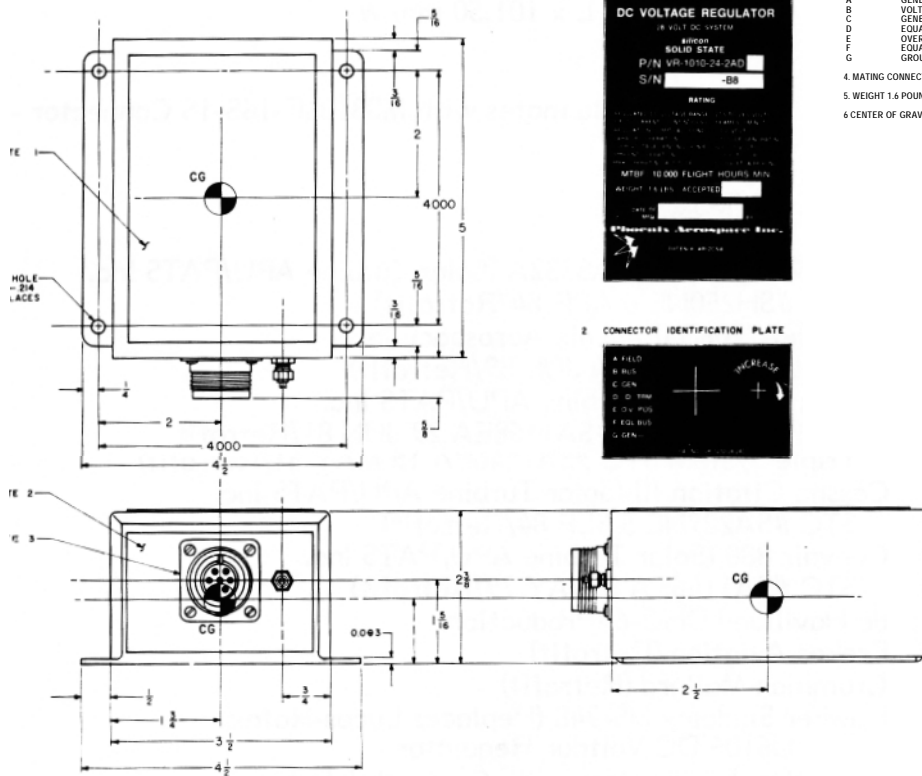
- Unit: 5 L x 3-1/2 W x 2-3/8 H
127.00 mm L x 88.90 mm W x 60.33 mm H
- Mounting Base: 4-5/8 L x 4-1/2 W
117.48 mm L x 114.30 mm W
- Mounting Centers: 4.000 L x 4.000 W
101.50 mm L x 101.50 mm W

Electrical Connectors:

MS3102R-16S-1P Box Receptacle mates with MS3106F- 16S-1S Connector - 7 Pin

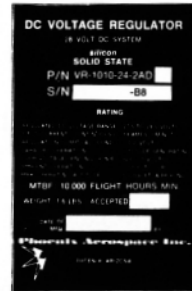
Weight: 1.6 lbs - 726.0 g (Max.)

Applications: Hawker Siddeley DH- 125-1A, -3A, -400, -600A
(Colt Electronics STC No. SA1466CE 22 DEC 78 -
Replaces Lucas-Rotax P/N U6818 or U6820 DC Voltage
Regulator/Retrofit)



NOTES

1 MODEL AND SERIAL PLATE



2 CONNECTOR IDENTIFICATION PLATE



3. RECEPTACLE J1 - TYPE MS3102R-16S-1P, MATING CONNECTOR TYPE MS3106F-16S-1S OR CANNON MS3106F-16S-1S (F80), OR AMPHENOL 696F-16S-1F, CONNECTIONS AS LISTED

PIN	CONNECTION	CODING
A	GENERATOR FIELD	FIELD
B	VOLTAGE SENSE (REGULATION POINT ON BUS)	US -
C	GENERATOR POSITIVE	GEN +
D	EQUALIZER SENSE ("D" TERMINAL OF GENERATOR)	"D" TERM
E	OVERVOLTAGE POSITIVE	O.V. +
F	EQUALIZER BUS	EQL BUS
G	GROUND (GENERATOR NEGATIVE)	GEN -

4. MATING CONNECTORS REQUIRE APPROXIMATELY 2-1/4 INCHES CLEARANCE TO CONNECT

5. WEIGHT 1.6 POUNDS (726 GRAMS)

6. CENTER OF GRAVITY AS INDICATED BY SYMBOLS

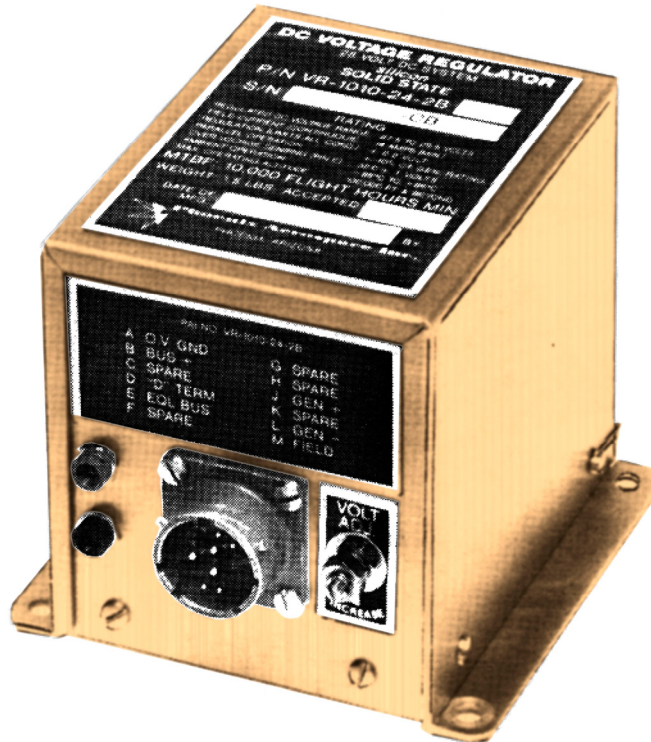
VR-1010-24-2AD DC VOLTAGE REGULATOR



28 VOLT DC VOLTAGE REGULATORS (CONT.)

VR- 1010-24-2B DC VOLTAGE REGULATOR

Silicon Solid State, Fixed Mount Type, with Automatic Paralleling and Overvoltage Sensing, designed to operate with all 28 Volt DC Generators and Starter/Generators conforming to MIL-G-6162



Dimensions:

Unit: 4 L x 3-1/8 W x 3-1/2 H
 101.60 mm L x 79.38 mm W x 88.50 mm H

Mounting Base: 3-7/8 L x 4 W
 98.43 mm L x 101.60 mm W

Mounting Centers: 3.375 L x 3.500 W
 85.73 mm L x 88.50 mm W

Electrical Connectors:

Input/Output J1: MS3122E-14-12P Box Receptacle mates with MS3126F-14-12S Connector - 12 Pin

Weight: 1.6 lbs - 726.0 g (Max.)

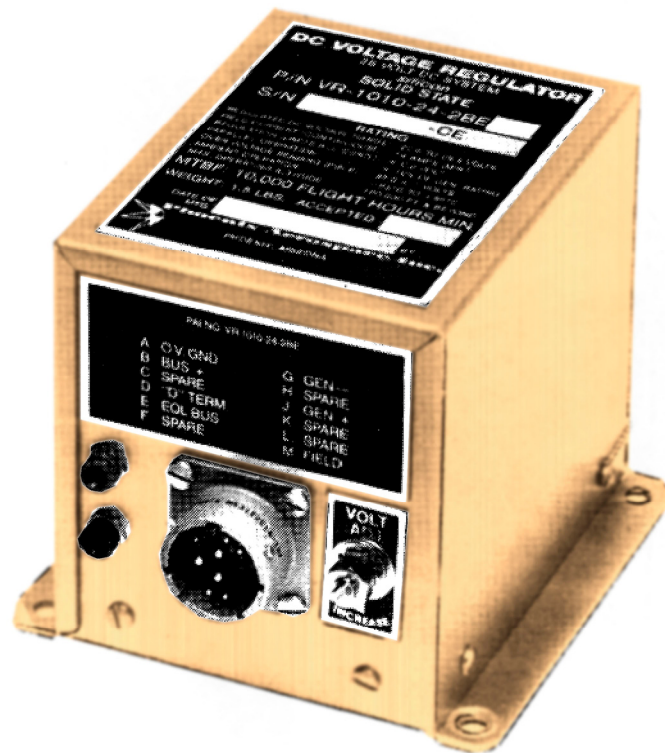
Applications: Beechcraft B99 & Baron (Factory Retrofit)



28 VOLT DC VOLTAGE REGULATORS (CONT.)

VR-1010-24-2BE DC VOLTAGE REGULATOR -- NSN 6110-01-016-M55 (U.S.A.)

Silicon Solid State, Fixed Mount Type, with Automatic Paralleling and Overvoltage Sensing, designed to operate with all 28 Volt DC Generators and Starter/Generators conforming to MIL-G-6162 (Direct retrofit for LSI/PED P/N 51565-000 and 51565-000R DC Voltage Regulators)



Dimensions:

Unit: 4 L x 3-1/8 W x 3-1/2 H
101.60 mm L x 79.38 mm W x 88.50 mm H
Mounting Base: 3-7/8 L x 4 W
98.43 mm L x 101.60 mm W
Mounting Centers: 3.375 L x 3.500 W
85.73 mm L x 88.50 mm W

Electrical Connectors:

Input/Output J1: MS3122E-14-12P Box Receptacle mates with
MS3126F-14-12S Connector - 12 Pin

Weight: 1.6 lbs - 726.0 g (Max.)

Applications: Aerospatiale Models AS355E, AS355F, and AS355F-1 Twin Star
(Retrofit)
Government Aircraft Factories N22B & N24A (Retrofit)
MBB BO-105 (Retrofit)
Mitsubishi MU-2 (Mitsubishi Service Bulletin No. SR024/24-001
Revision A dated January 17, 1983/Retrofit)



28 VOLT DC VOLTAGE REGULATORS (CONT.)

VR- 1010-24-2C DC VOLTAGE REGULATOR -- GLJ P/N 6608090-1

Silicon Solid State, Fixed Mount Type, with Automatic Paralleling and Overvoltage Sensing, designed to operate with all 28 Volt DC Generators and Starter/Generators conforming to MIL-G-6162

Dimensions:

Unit: 5 L x 3-1/2 W x 2-3/8 H
127.00 mm L x 88.90 mm W x 60.33 mm H
Mounting Base: 4-5/8 L x 4-1/2 W
117.48 mm L x 114.30 mm W
Mounting Centers: 4.000 L x 4.000 W
101.50 mm L x 101.50 mm W

Electrical Connectors:

MS3 102R-16S- 1P Box Receptacle mates with MS3106F- 16S-1S Connector - 7 Pin

Weight: 1.6 lbs - 726.0 g (Max.)

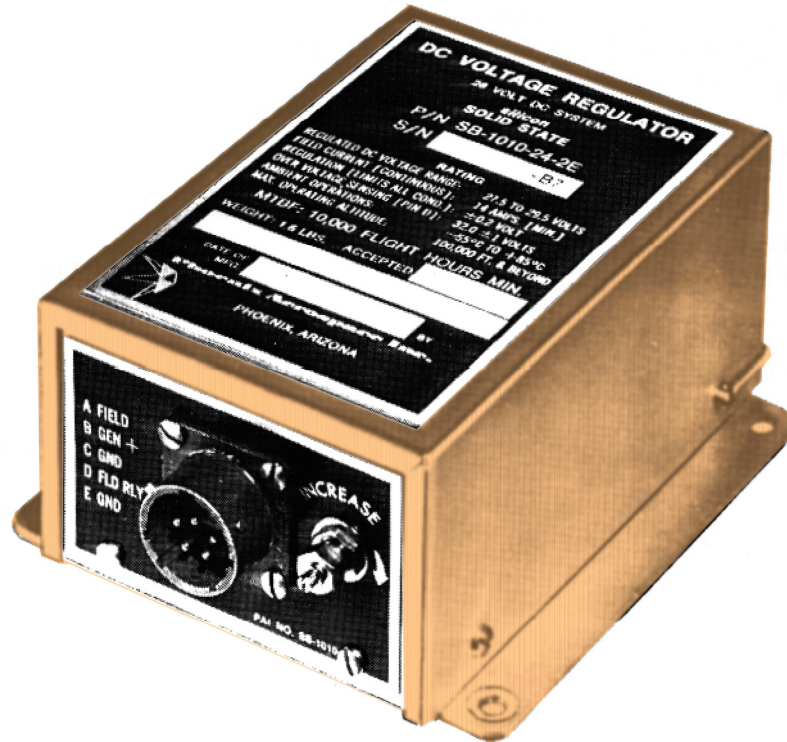
Applications: Learjet Models 24C, 24D, 24D-A, 24E, 24F, 24F-A, 25C, 25D, 25F, 28, and 29 (Production)
(Regulates Bendix P/N 30B37 28 VDC, 400 Amp Starter/Generator)



28 VOLT DC VOLTAGE REGULATORS (CONT.)

SB-1010-24-2E DC VOLTAGE REGULATOR

Silicon Solid State, Fixed Mount Type, with Overvoltage Sensing, designed to operate with all 28 Volt DC Generators and Starter/Generators conforming to MIL-G-6162



Dimensions:

Unit: 5 L x 3-1/2 W x 2-3/8 H
127.00 mm L x 88.90 mm W x 60.33 mm H
Mounting Base: 4-5/8 L x 4-1/2 W
117.48 mm L x 114.30 mm W
Mounting Centers: 4.000 L x 4.000 W
101.50 mm L x 101.50 mm W

Electrical Connectors:

Input/Output: MS3122E-14-5P Box Receptacle mates with MS3126F-14-5S Connector - 5 Pin

Weight: 1.6 lbs - 726.0 g (Max.)

Applications: Grumman/Gulfstream American Super AGCAT (Production)
Schweizer Super Ag-Cat (Production)
Short Brothers SC.7 Srs 3 Skyvan (Production)
XM 16 Jet Exhaust Decon (U.S. Army)



28 VOLT DC VOLTAGE REGULATORS (CONT.)

VR-1010-24-2GA DC VOLTAGE REGULATOR

Silicon Solid State, Fixed Mount Type, with Automatic Paralleling and Overvoltage Sensing, designed to operate with all 28 Volt DC Generators and Starter/Generators conforming to MIL-G-6162

Dimensions:

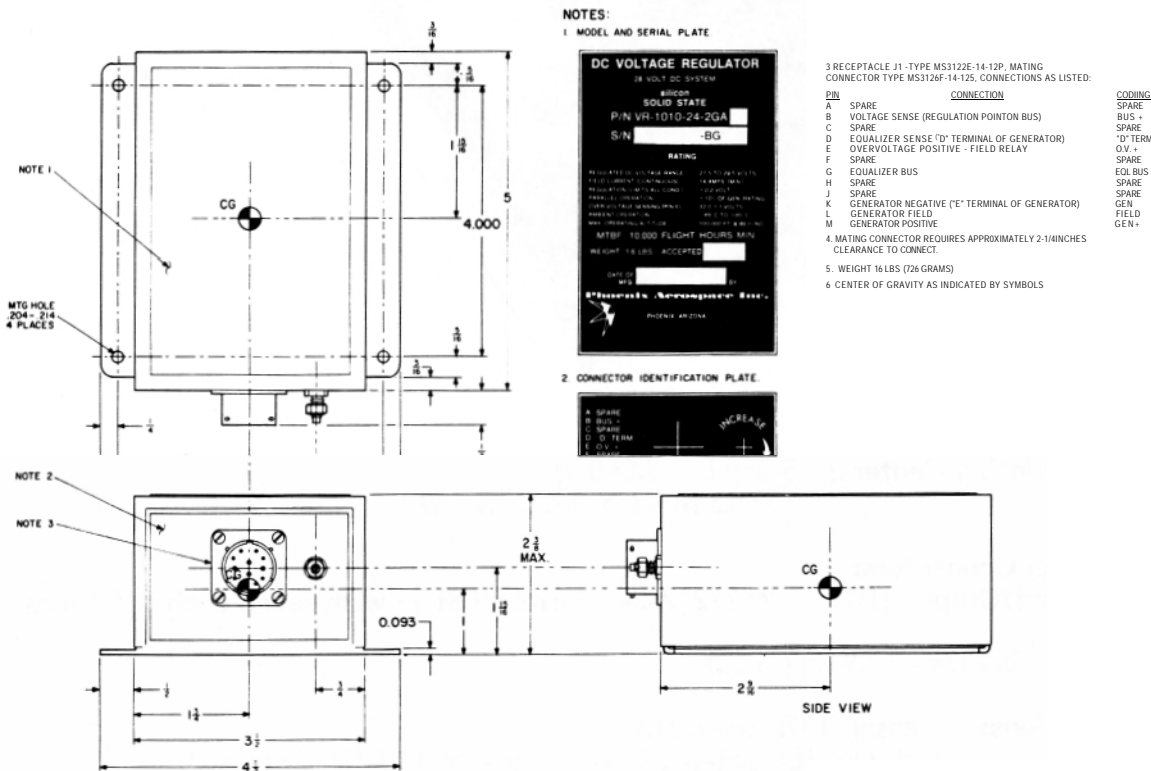
Unit: 5 L x 3-1/2 W x 2-3/8 H
 127.00 mm L x 88.90 mm W x 60.33 mm H
 Mounting Base: 4-5/8 L x 4-1/2 W
 117.48 mm L x 114.30 mm
 W Mounting Centers: 4.000 L x 4.000 W
 101.50 mm L x 101.50 mm W

Electrical Connectors:

Input/Output J1: MS3122E-14-12P Box Receptacle mates with MS3126F-14-125 Connector - 12 Pin

Weight: 1.6 lbs - 726.0 g (Max.)

Applications: Gulfstream Aerospace GII (Retrofit)



VR-1010-24-2GA DC VOLTAGE REGULATOR



28 VOLT DC VOLTAGE REGULATORS (CONT.)

MIL MS23761/2-2

VR-1010-24-4D DC VOLTAGE REGULATOR - NSN 6110-01-219-3445 (U.S.A.)

Silicon Solid State, STUD Mount Type, with Automatic Paralleling and Overvoltage Protection, designed to operate with all 28 Volt DC Generators and Starter/Generators conforming to MIL-G-6162. (Direct retrofit for Leland Electrosystems P/N CSV 1152-12AB and all other DC Voltage Regulators conforming to MS18071-12). VR-1010-24-4D/MS23761/2-2 supercedes AN3206, E-1597, MS90492 Plug-in modules and AN3204 bases, and MS18071-12 regulators in aircraft where overvoltage protection is not provided in the aircraft.



Dimensions:

Unit: 6-3/8 L x 4-1/4 W x 3-3/16 H
161.93 mm Lx 107.95 mm W x 81.06 mm H
Mounting Centers: 5.250 L x 3.000 W
133.35 mm L x 76.20 mm W

Electrical Connectors:

Input/Output TB1: MS27212-2-7 Terminal Strip with seven each #10 Studs

Weight: 2.4 lbs - 1.09 kg (Max.)

Applications: Cessna T-37B (Retrofit)
Bell UH-1D, UH-1F, UH-1H, UH-1N, UH-1P (Retrofit)



28 VOLT DC VOLTAGE REGULATORS (CONT.)

VR- 1010-24-4C DC VOLTAGE REGULATOR

Silicon Solid State, STUD Mount Type, with Automatic Paralleling, designed to operate with all 28 Volt DC Generators and Starter/Generators conforming to MIL-G-6162. (Direct retrofit for Leland Electrosystems P/N CSV 1152-11 AB and all other DC Voltage Regulators conforming to MS 18071-11).

Dimensions:

Unit: 6- 1 /4 L x 4- 1 /8 W x 2 H
158.75 mm L x 104.77 mm W x 50.80 mm H
Mounting Centers: 5.250 L x 3.000 W
133.35 mm L x 76.20 mm W

Electrical Connectors:

Input/Output TB1 : MS272 12-2-7 Terminal Strip with seven each # 10 Studs

Weight: 2.1 lbs - .95 kg (Max.)

Applications: UH- 1N (Retrofit)



28 VOLT DC VOLTAGE REGULATORS (CONT.)

RY-1010-24-1 AS CONTROL, EQUALIZER BUS

Designed to open the Equalizer Tie Bus when one Voltage Regulator in a Dual Generator System operating in parallel is turned off or malfunctions.

Dimensions:

Unit: 2-7/8 L x 1-25/32 W x 1-7/16 H
73.02 mm L x 45.23 mm W x 36.512 mm H
Mounting Base: 2-1/2 L x 2-3/4 W
Mounting Centers: 2.000 L x 2.250 W

Electrical Connector: MS3122E-10-6P mates with Type MS3126F-10-6S - 6-Pin

Weight: .25 lbs - 113.33 grams

Applications: North American Rockwell 265-40, 265-60, 265-70 Sabreliner
(Retrofit)



28 VOLT DC VOLTAGE REGULATORS (CONT.)

HH P/N HH-423-035

SC P/N 700-1052-1

VR- 1010-24-6E DC VOLTAGE REGULATOR -- NSN 6110-00-134-6541 (U.S.A.)

Silicon Solid State, Fixed Mount Type, with Overvoltage Sensing, designed to operate with all 28 Volt DC Generators and Starter/Generators conforming to MIL-G-6 162 (Direct retrofit for Hughes Helicopter P/N's 369A4652 or HH-423-035, AAE P/N 650692C Electro Delta P/N VR1000, or LSI/Aerospace Division P/N 39-371-105-000 DC Voltage Regulators)



Dimensions:

Unit: 4 L x 3-1/8 W x 3-1/2 H
101.60 mm L x 79.38 mm W x 88.50 mm H
Mounting Base: 3-7/8 L x 4 W
98.43 mm L x 101.60 mm W
Mounting Centers: 3.375 L x 3.500 W
85.73 mm L x 88.50 W

Electrical Connectors:

InPut/OutPut J1: MS3102E- 14S-6P Box Receptacle mates with
MS3106F-14S-6S

Weight: 1.6 lbs - 726.0 g (Max.)

Applications: Breda Nardi/Hughes BH-500 (Production)
Cessna TU and U206G Aircraft (Soloy Conversions, Ltd.
STC #SA2353NM 13 MAR 85/Production)
Hughes 500, 500C, 500D, 500E, 530E, 500M (Production)



28 VOLT DC VOLTAGE REGULATORS (CONT.)

BG-1010-24-7A DC VOLTAGE REGULATOR (BRUSHLESS GENERATOR)

Silicon Solid State, Fixed Mount Type, with Automatic Paralleling and Overvoltage Sensing. (Direct retrofit for Bendix P/N 25B18-4E DC Voltage Regulator)



Dimensions:

Unit: 5 L x 3-1/2 W x 2-3/8 H
127.00 mm L x 88.90 mm W x 60.33 mm H
Mounting Base: 4-3/4 L x 4-3/8 W
120.65 mm L x 111.13 mm
W Mounting Centers: 4.000 L x 4.000 W
101.60 mm L x 101.60 mm W

Electrical Connectors:

MS3102R-16S-1P Box Receptacle mates with MS3106F-16S-1S Connector - 7 Pin

Weight: 1.2 lbs - 544.3 g (Max.)

Applications:

Learjet Models 35, 35A, 36, 36A, and 21A
Supplemental Type Certificate Number ST00173W1
Learjet Models 55, 55B and 55C
Supplemental Type Certificate Number ST00537W1
(Regulates Bendix P/N 30B107-19A 28 VDC, 400 Amp Brushless Generator)



28 VOLT DC VOLTAGE REGULATORS (CONT.)

BG-1010-24-8A DC VOLTAGE REGULATOR (BRUSHLESS GENERATOR)

Silicon Solid State, Fixed Mount Type, with Automatic Paralleling and Overvoltage Sensing.
Direct retrofit for Bendix P/N 25B 18-4E DC Voltage Regulator.



Dimensions:

Unit: 5 L x 3-1/2 W x 2-3/8 H
127.00 mm L x 88.90 mm W x 60.33 mm H
Mounting Base: 4-3/4 L x 4-3/8 W
120.65 mm L x 111.13 mm W
Mounting Centers: 4.000 L x 4.000 W
101.60 mm L x 101.60 mm W

Electrical Connectors:

MS3122E-14-12P Box Receptacle mates with MS3126F-14-12S Connector 12 Pin

Weight: 1.2 lbs - 544.3 g (Max.)

Applications: Learjet Models 35, 35A, 36, 36A, and C21A

Supplemental Type Certificate Number ST00173W1
(Regulates Bendix P/N 30B107-19A 28 VDC, 400 Amp
Brushless Generator)



28 VOLT DC GENERATOR CONTROL UNITS

GC- 1010-24-3B DC GENERATOR CONTROL -- NSN 6 110-01-114-7302

Silicon Solid State, Fixed Mount Type, designed to operate with all 28 Volt DC Generators and Starter/Generators conforming to MIL-G-6162. Functions include: DC Voltage Regulation; DC Bus Contactor Control; Reverse Current Protection; Overvoltage Protection; Ground Fault Protection; Reverse Polarity Protection; Field Flash; Automatic Paralleling; and Over-Excitation Protection. (Direct retrofit for Lear Siegler Inc. P/N 51509-002R Generator Control.)



Dimensions:

Unit: 5-1/4 L x 3- 1/2 W x 4-11/16 H
133.35 mm L x 88.50 mm W x 119.06 mm H
Mounting Base: 4-3/4 L x 4-3/8 W
120.65 mm L x 111.13 mm W
Mounting Centers: 3.500 L x 3.9375 W
88.90 mm L x 100.08 mm W

Electrical Connectors:

Input/Output J1: MS3102R-24-28P Box Receptacle mates with
MS3106F-24-28S

Weight: 2.6 lbs - 1.17 kg (Max.)

Applications: Agusta AB-412 (Proposed)
Ahrens AR-404 (Prototype)
C.A.S.A. C-212, -100, -200, -300
(Phoenix Aerospace Inc. STC #SA2570CE 18 JAN
90/Retrofit) Lockheed 1329-23 Jetstar II
(Colt Electronics STC #SA 1596CE 6 JUN 80/Retrofit)



28 VOLT DC GENERATOR CONTROL UNITS (CONT.)

GC-1010-24-3B1 DC GENERATOR CONTROL

Silicon Solid State, Fixed Mount Type, designed to operate with all 28 Volt DC Generators and Starter/Generators conforming to MIL-G-6162. Functions include: DC Voltage Regulation; DC Bus Contactor Control; Reverse Current Protection; Overvoltage Protection; Reverse Polarity Protection; Automatic Paralleling; and Over-Excitation Protection. (Direct retrofit for Lear Siegler Inc. P/N 51530-007B Generator Control.)

Dimensions:

Unit: 5-1/4 L x 3-1/2 W x 4-11/16 H
133.35 mm L x 88.50 mm W x 119.06 mm H
Mounting Base: 5-1/4 L x 4-3/8 W
133.35 mm L x 111.13 mm
W Mounting Centers: 3.500 L x 3.94 W
88.90 mm L x 100.01 mm W

Electrical Connectors:

Input/Output J1: MS274999E-20B-16P Box Receptacle mates with
MS27473E-20B-16S

Weight: 2.6 lbs - 1.17 kg (Max.)

Applications: Gulfstream Aero Commander 690A, 690B, 690C, 690D, 695, 695A
(Retrofit)

GC-1010-24-5B DC GENERATOR CONTROL

Silicon Solid State, Fixed Mount Type, designed to operate with all 28 Volt DC Generators and Starter/Generators conforming to MIL-G-6162. Functions include: DC Voltage Regulation; DC Bus Contactor Control; Reverse Current Protection; Overvoltage Protection; Ground Fault Protection; Reverse Polarity Protection; Start Mode Field-Weakening; Automatic Starter Cutoff; Field Flash; Automatic Paralleling; and Over-Excitation Protection. (Direct retrofit for Lear Siegler Inc. P/N 51509-006BR Generator Control.)

Dimensions:

Unit: 5-1/4 L x 3-1/2 W x 5-1/4 H
133.35 mm L x 88.50 mm W x 133.35 mm H
Mounting Base: 4-3/4 L x 4-3/8 W
120.65 mm L x 111.13 mm W
Mounting Centers: 3.500 L x 3.9375 W
88.90 mm L x 100.08 mm W

Electrical Connectors:

Input/Output J1: MS3102R-24-28P Box Receptacle mates with
MS3106F-24-28S

Weight: 2.8 lbs - 1.27 kg (Max.)

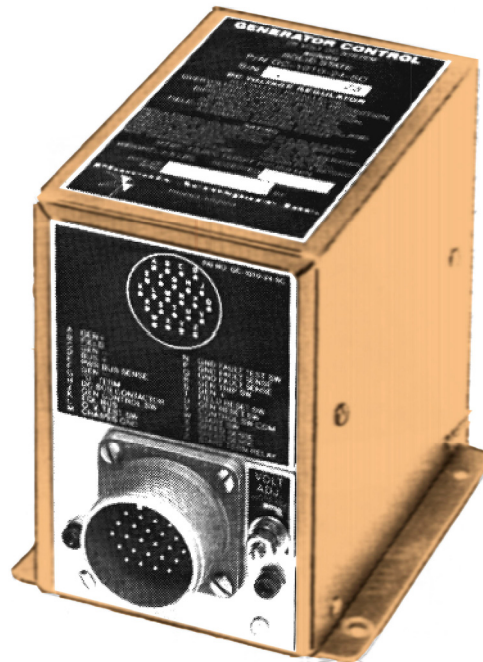
Applications: Cessna Citation I and II (Retrofit)



28 VOLT DC GENERATOR CONTROL UNITS (CONT.)

GC- 1010-24-5C DC GENERATOR CONTROL

Silicon Solid State, Fixed Mount Type, designed to operate with all 28 Volt DC Generators and Starter/Generators conforming to MIL-G-6162. Functions include: DC Voltage Regulation; DC Bus Contactor Control; Reverse Current Protection; Overvoltage Protection; Ground Fault Protection; Reverse Polarity Protection; Start Mode Field-Weakening; Automatic Starter Cutoff; Field Flash; Automatic Paralleling; and Over-Excitation Protection. (Direct retrofit for Lear Siegler Inc. P/N 51509-006C Generator Control.)



Dimensions:

Unit: 5-1/4 L x 3-1/2 W x 5-1/4 H
133.35 mm L x 88.50 mm W x 133.35 mm H
Mounting Base: 4-3/4 L x 4-3/8 W
120.65 mm L x 1.13 mm W
Mounting Centers: 3.500 L x 3.9375 W
88.90 mm L x 100.08 mm W

Electrical Connectors:

Input/Output J1: MS3102R-24-28P Box Receptacle mates with MS3106F-24-28S

Weight: 2.8 lbs - 1.27 kg (Max.)

Applications:

- Agusta A 129 (Proposed)
- C.A.S.A. C-101, CN-235 (Proposed)
- Dornier GMBH/Fuerza Argentina 1A-63 (Proposed)
- Government Aircraft Factories RAAF A 10 Basic Trainer
Turboprop Aircraft (Production)
- Grumman S2F Tracker/Conair Water Bomber Conversion
- Hawker Siddeley DH- 125-700 (Retrofit)
- Sabreliner Corporation Sabreliner 65 (Proposed)
- SAAB/Fairchild SF-340 (Proposed)
- Solar Turbine Titan APU/PATS Inc. Installation



28 VOLT DC GENERATOR CONTROL UNITS (CONT.)

GC-1010-24-5D III DC GENERATOR CONTROL - DHC P/N 8SC 0002

Silicon Solid State, Fixed Mount Type, designed to operate with all 28 Volt DC Generators and Starter/Generators conforming to MIL-G-6162. Functions include: DC Voltage Regulation; DC Bus Contactor Control; Contactor Inhibit for GPU operation; Reverse Current Protection; Under/Overvoltage Protection; Ground Fault Protection; Build-up Ground Fault Protection; Reverse Polarity Protection; Start Mode Field-Weakening; Cross Start Current Limiting; Automatic Starter Cutoff; Start Termination Override; Low RPM Contactor Dropout; Field Flash; Automatic Paralleling; and Differential Voltage Protection. (Direct retrofit for Lear Siegler Inc. P/N 51539-008D Generator Control.)



Dimensions:

Unit: 6-1/4 L x 3-1/2 W x 4-5/8 H
158.75 mm L x 88.50 mm W x 117.47 mm H
Mounting Base: 5-3/4 L x 4-3/8 W
146.05 mm L x 111.13 mm W
Mounting Centers: 3.500 L x 3.9375 W
88.90 mm L x 100.08 mm W

Electrical Connectors:

Input/Output J1 : MS3470L22-41PW Box Receptacle mates with MS3476L22-41SW

Weight: 3.25 lbs - 1.47 kg (Max.)

Applications: de Havilland DASH 8 (Production)



28 VOLT DC GENERATOR CONTROL UNITS (CONT.)

GC-1010-24-6A DC GENERATOR CONTROL

Silicon Solid State, Fixed Mount Type, designed to operate with all 28 Volt DC Generators and Starter/Generators conforming to MIL-G-6162. Functions include: DC Voltage Regulation; DC Bus Contactor Control; Generator Out Indicator; Reverse Current Protection; Under/Overtension Protection; Ground Fault Protection; Build-up Ground Fault Protection; Reverse Polarity Protection; and Start Mode Field Switching Inhibit. (Direct retrofit for Bell P/N 214-075-187-003, Tempo P/N 97499, LAPEC P/N 51530-006, & -006A Generator Controls.)



Dimensions:

Unit: 5-7/8 L x 3 W x 3-3/4 H
149.23 mm L x 76.20 mm W x 95.25 mm H
Mounting Base: 5-7/8 L x 4 W
149.23 mm L x 101.60 mm W Mounting
Centers: 3.375 L x 3.500 W
85.72 mm L x 88.90 mm W

Electrical Connectors:

Input/Output J1: MS3 122E-14- 12P Box Receptacle mates with MS3126F-14- 12S

Weight: 2.1 lbs - .952 kg (Max.)

Applications: Bell 206L, L-1, L-3, L-4 (Main with IFR)
(Phoenix Aerospace Inc. STC #SR0006I WI 10 MAY 93/Retrofit)



28 VOLT DC GENERATOR CONTROL UNITS (CONT.)

GC-1010-24-6D DC GENERATOR CONTROL

Silicon Solid State, Fixed Mount Type, designed to operate with all 28 Volt DC Generators and Starter/Generators conforming to MIL-G-6162. Functions include: DC Voltage Regulation; DC Bus Contactor Control; Reverse Current Protection; Overvoltage Protection; Start Mode Field Switching Inhibit; Reverse Polarity Protection; and Field Flash. (Direct retrofit for Bell 206-075-447-007, Leland CSV 1829-7, CSV 2508-1, Tempo P/N 94123-7, & LAPEC P/N 51509-006 Generator Controls.)



Dimensions:

Unit: 5-7/8 L x 3 W x 3-3/4 H
149.23 mm L x 76.20 mm W x 95.25 mm H
Mounting Base: 5-7/8 L x 4 W
149.23 mm L x 101.60 mm W
Mounting Centers: 3.375 L x 3.500 W
85.72 mm L x 88.90 mm W

Electrical Connectors:

Input/Output J1: MS3122E-14-12P Box Receptacle mates with MS3126F-14-12S

Weight: 2.1 lbs - .952 kg (Max.)

Applications: Bell 206L, L-1, L-3, L-4 (Auxiliary with IFR)
(Phoenix Aerospace Inc. STC #SR00061W1 10 MAY 93/Retrofit)
Bell 206L, L-1, L-3, L-4 (Main without IFR)
(Phoenix Aerospace Inc. STC #SR00083W1 20 JUL 93/Retrofit)



28 VOLT DC GENERATOR CONTROL UNITS (CONT.)

AHCSCD P/N 366D-125-04

GC- 1010-24-9A DC GENERATOR CONTROL - NSN P/N 6110-01-HR 1-9578

Silicon Solid State, Fixed Mount Type, designed to operate with all 28 Volt DC Generators and Starter/Generators conforming to MIL-G-6162. Functions include: DC Voltage Regulation; DC Bus Contactor Control; Reverse Current Protection; Overvoltage Protection; Ground Fault Protection; Reverse Polarity Protection; Field Flash; Automatic Paralleling; and Over-Excitation Protection. (Direct retrofit for Lear Siegler Inc. P/N 51509-002R Generator Control.)



Dimensions:

Unit: 5-1/4 L x 3-1/2 W x 4-11/16 H
133.35 mm L x 88.50 mm W x 119.06 mm H
Mounting Base: 4-3/4 L x 4-3/8 W
120.65 mm L x 111.13 mm W
Mounting Centers: 3.500 L x 3.9375 W
88.90 mm L x 100.08 mm W

Electrical Connectors:

Input/Output J1: MS3102R-24-28P Box Receptacle mates with MS3106F-24-28S

Weight: 2.8 lbs - 1.27 kg (Max.)

Applications: Aerospatiale Series SA-366G - U.S. Coast Guard HH-65A
Dolphin (Type Certification H (OEU 26 JUL 83/Production)
OMAC Inc. OMAC 1 Light Weight Turboprop Business Aircraft



DH- 1030-24-2-CS TYPE 1 CURRENT FAULT SENSOR - DHC P/N 8SC0004

Fixed Mount Type, designed to operate in conjunction with PA1 P/N GC-1010-24-3B through GC-1010-24-9A DC Generator Controls and all 28 Volt DC Generators and Starter/Generators conforming to MIL-G-6162. This unit is used in pairs with the above Generator Controls to provide Ground Fault Protection in DC Power Distribution Systems.



Dimensions:

Unit: 2-5/8 L x 1 11/16 W x 3-1/8 H
68.33 mm L x 42.67 mm W x 79.38 mm H
Mounting Base: 2-5/8 L x 1-11/16 W
66.68 mm L x 42.67 mm W
Mounting Centers: 1.500 GENERATOR SIDE
38.1 mm
1.625 FEEDER SIDE
41.27 mm
1.280 FORE TO AFT
32.51 mm

Electrical Connectors:

Output: Two 10-32 x 1/2-inch studs

Weight: 11.2 oz - 317.5 g (Max.)

Applications: de Havilland DASH 8 (Production)



DC LOAD SHEDDING CONTROL BOX

ES-1010-24-4-CS DC LOAD SHEDDING CONTROL BOX

Silicon Solid State - Automatic Load Shedding and Warning Light Annunciation for FAULT Condition in Parallel DC Generator Systems

Input: 18 - 32 Volts DC (28 VDC Nominal)
No damage 0 to 36 VDC 200 ma
(Nominal)

Output: 28 VDC for No. 1 and No. 2 Bus Contactors
(2 Amps per circuit (Nominal)) during NO FAULT Condition
GROUND provided for Warning Light during FAULT Condition

Dimensions:

Unit: 4 L x 3 W x 1-5/8 H
101.60 mm L x 76.20 mm W x 41.28 mm H
Mounting Base: 3-11/16 L x 4 W
93.66 mm L x 101.60 mm W
Mounting Centers: 2.500 L x 3.500 W
63.50 mm L x 88.90 mm W

Electrical Connectors:

Input/Output J1 : MS3122E-14-19P Box Receptacle mates with
MS3126F-14-195 (MIL-C-26482)

Weight: .08 lbs - 363 g (**Max.**)

Applications: Piper/Electrospace Conversion



DC BUS BAR PROTECTION UNIT

BP-1010-24-8D DC BUS BAR PROTECTION UNIT - DHC 8SC0003

Silicon Solid State, Fixed Mount Type, designed to operate with PAI P/N GC-1010-24-5D Generator Control Unit to provide automatic DC Bus Protection with simultaneous Warning Light Annunciation of an Overcurrent Fault Condition (Direct retrofit for Lear Siegler Inc. P/N 51309-008 Bus Bar Protection Unit)

- Input: Overcurrent detection signal from the Generator Control Unit during overcurrent operating conditions.
- Output: Delayed signal automatically opens the aircraft bus tie relay and simultaneously turns on the overcurrent warning light. If the overcurrent condition is sustained beyond the set time interval, a further delayed signal opens the generator field relay.



Dimensions:

- Unit: 4 L x 3 W x 2-5/8 H
101.60 mm L x 76.20 mm W x 66.68 mm H
- Mounting Base: 3-11/16 L x 4 W
93.66 mm L x 101.60 mm
- W Mounting Centers: 2.751 L x 3.735 W
69.87 mm L x 94.87 mm W

Electrical Connector:

Input/Output J1: MS3470L 14-19P Box Receptacle mates with MS3476L14-19S

Weight: .9 lbs - .40 kg (Max.)

Applications: de Havilland DASH 8 (Retrofit)



DC PANEL LIGHT DIMMERS

DY-1010-5/1-8-CS DC PANEL LIGHT DIMMER

Silicon Solid State

Input: 20 - 30 Volts DC (27.5 VDC Nominal)

Output: 0 - 5 VDC at 8 Amps (Max.)

Dimensions:

Unit: 5-1/2 L x 2-3/4 W x 2-1/8 H
139.700 mm L x 69.850 mm W x 57.150 mm H
Mounting Base: 4-3/16 L x 3-3/4 W
106.3625 mm L x 95.2500 mm W
Mounting Centers: 3.250 L x 3.250 W
82.55 mm L x 82.55 mm W

Electrical Connector:

Input/Output J1: MS3122E-14-5P Box Receptacle mates with
MS3126F-14-5S

Pinout Arrangement of Connector:	PIN A	28 VDC INPUT
	PIN B	GROUND
	PIN C	5 VDC OUTPUT
	PIN D	CONTROL LINE
	PIN E	SPARE

Weight: 1.2 lbs - .54 kg (Max.)

Applications: Bell 209 (AH-1G), 212 (UH1N), & 214 (Proposed)



DC PANEL LIGHT DIMMERS

DY-1010-28/1-7-CS DC PANEL LIGHT DIMMER Silicon Solid State

Input: 20 - 30 Volts DC (27.5 VDC Nominal)

Output: 1 Channel
2.5 - 28.0 VDC at 7 Amps (Max.)



Dimensions:

Unit: 8-3/4 L x 5-15/16 W x 4 H
222.2500 mm L x 150.8125 mm W x 101.6000 mm H
Mounting Base: 7-1/2 L x 6 W
190.50 mm L x 152.40 mm W
Mounting Centers: 6.000 L x 5.250 W
152.40 mm L x 133.35 mm W

Electrical Connector:

Input J1: MS3102R-18-10P mates with MS3106F-18-10S
Output J2: MS3102R-18-12S mates with MS3106F-18-12P

Weight: 7.0 lbs - 3.18 kg (Max.)

Applications: Lockheed C-130 Fleets (Proposed)



DC PANEL LIGHT DIMMERS

DY-1010-28/2-7-CS DC PANEL LIGHT DIMMER

Silicon Solid State

Input: 20- 30 Volts DC (27.5 VDC Nominal)

Output: 2 Channels
2.5 - 28.0 VDC at 7 Amps (Max.) each Channel



Dimensions:

Unit: 10-3/4 L x 7-5/8 W x 5 H
273.050 mm L x 193.675 mm W x 127.000 mm H
Mounting Base: 9-3/8 L x 7-3/4 W
238.125 mm L x 196.850 mm W
Mounting Centers: 7.000 L x 7.000 W
177.80 mm L x 177.80 mm W

Electrical Connector:

Input J1: MS3102R-22-13P mates with MS3106F-22-13S
Output J2: MS3102R-22-19S mates with MS3106F-22-19P

Weight: 13.5 lbs - 6.1236 kg (Max.)

Applications: Lockheed C-130 Fleets (Proposed)



DC PANEL LIGHT DIMMERS

DY-1010-28/3-7-CS DC PANEL LIGHT DIMMER Silicon Solid State

Input: 20 - 30 Volts DC (27.5 VDC Nominal)

Output: 3 Channels
2.5 - 28.0 VDC at 7 Amps (Max.) each Channel



Dimensions:

Unit: 14-7/8 L x 6 W x 6 H
377.95 mm L x 152.40 mm W x 152.40 mm H
Mounting Base: 12-3/8 L x 8-3/4 W
314.45 mm L x 222.25 mm W
Mounting Centers: 10.000 L x 8.000 W
254.00 mm L x 203.20 mm W

Electrical Connector:

Input J1: MS3452W-20-15P mates with MS3456W-20-15S
Output J2: MS3452W-20-29S mates with MS3456W-20-29P

Weight: 21.0 lbs - 9.53 kg (Max.)

Applications: Lockheed AC- 130H, HC-130, & MC-130E (Retrofit)



**AIRBORNE DC TO AC POWER CONVERSION AND DISTRIBUTION EQUIPMENT
SPECIFICATIONS**

<u>Item</u>	<u>Page</u>
115 VAC STATIC INVERTERS - 3 PHASE	27
BH-1020-12-75-CS TRANSVERTER - 115 VAC 50 VA (13.75 VDC INPUT NOMINAL)	28
BH-1020-24-50-CS TRANSVERTER - 115 VAC 30 VA	30
BH-1020-24-160-CS TRANSVERTER - 115 VAC 125 VA	31
BH-1020-24-160-CS TYPE B TRANSVERTER - 115 VAC 125 VA	32
BH-1020-24-160-CS TYPE E TRANSVERTER - 115 VAC 125 VA	34
BH-1020-24-160-CS TYPE JIB TRANSVERTER - 115 VAC 125 VA	35
BH-1020-24-450-CS TYPE 11 TRANSVERTER - 115/200 VAC 300 VA	37
IA-1020-24-900-CS TRANSVERTER - 115/200 VAC 600 VA	39
MD-1020-24-1800-CS TRANSVERTER - 115/200 VAC 1200 VA	41
MD-1020-24-1800-CS TYPE E TRANSVERTER - 115/200 VAC 1200 VA	43
MD-1020-24-1800-CS TYPE III TRANSVERTER - 115/200 VAC 1200 VA	45



115 VAC STATIC INVERTERS - 3 PHASE

BH-1020-12-75-CS TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 50 VA, 3/1 Phase, Class B, Mufti-purpose

Input: 12 - 16 Volts DC (13.75 VDC Nominal)
6 - 1 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 3/1 Phase
50 VA Continuous Duty
75 VA Intermittent Duty
(Combined 3/1 Phase Load)

Dimensions:

Unit: 7-11/16 L x 3-1/4 W x 4-1/2 H
195.26 mm L x 82.55 mm W x 114.30 mm H
Mounting Base: 6-1/2 L x 4-3/4 W
165.10 mm L x 120.65 mm W
Mounting Centers: 4.000 L x 4.000 W
101.60 mm Lx 101.60 mm W

Electrical Connectors:

Input J1: MS3102R-14S-9P Box Receptacle mates with MS3106F-14S-9S
Output J2: MS3102R-14S-7S Box Receptacle mates with MS3106F-14S-7P

Weight: 5.3 lbs - 2.4 kg (Max.)

Applications: Royal Netherlands Flying School/FAA Aircraft



115 VAC STATIC INVERTERS - 3 PHASE (CONT.)

BH-1020-24-50-CS TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 30 VA, 3 Phase, Class B, Multi-purpose

Input: 20- 30 Volts DC (27.5 VDC Nominal)
1.6- 1 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 3 Phase
30 VA Continuous Duty
50 VA Intermittent Duty



Dimensions:

Unit: 6 L x 4 W x 3 H
152.40 mm L x 101.60 mm W x 76.20 mm H
Mounting Base: 5-1/2 L x 4-1/2 W
139.70 mm L x 114.30 mm W
Mounting Centers: 4.000 L x 4.000 W
101.60 mm L x 101.60 mm W

Electrical Connectors:

Input J1 : MS3102R-14S-9P Box Receptacle mates with MS3106F- 14S-9S
Output J2: MS3102R-14-7S Box Receptacle mates with MS3106F-14-7P

Weight: 3.5 lbs - 1.59 kg (Max.)

Applications: Power Supply for Remote or Standby Three Phase Attitude
Gyro Indicator (any aircraft)
Beechcraft King Air B90 (Retrofit)
Bell Helicopter AH-1G HUEYCOBRA (Retrofit)
Learjet Model 23 (Retrofit)
North American 265-40, 265-60, 265-70 Sabreliner (Retrofit)



115 VAC STATIC INVERTERS - 3/1 PHASE - 125 VA (CONT.)

BH-1020-24-160-CS TRANSVERTER - NSN 6125-15-85-1340 (ITALY)

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 125 VA, 3/1 Phase, Class B, Multi-purpose

Input: 20- 30 Volts DC (27.5 VDC Nominal)
7 - 1 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 3/1 Phase
125 VA Continuous Duty (Combined 3/1 Phase Load)
190 VA Intermittent Duty (Combined 3/1 Phase Load)



Dimensions:

Unit: 7-11/16 L x 3-1/4 W x 4-1/2 H
195.26 mm L x 82.55 mm W x 114.30 mm H
Mounting Base: 6-1/2 L x 4-3/4 W
165.10 mm L x 120.65 mm W
Mounting Centers: 4.000 L x 4.000 W
101.60 mm L x 101.60 mm W

Electrical Connectors:

Input J1: MS3102R-14S-9P Box receptacle mates with MS3106F-14S-9S
Output J2: MS3102R-14S-7S Box Receptacle mates with MS3106F-14S-7P

Weight: 6.6 lbs - 2.9 kg (Max.)

Applications:

Agusta AB 206A (Production)
Beechcraft Model 18 (Retrofit)
Bell AH-1G HUEYCOBRA, Model UH-1D, & 212 (Retrofit) Siai
Marchetti SM-1019 & SF-260 (Production)



115 VAC STATIC INVERTERS - 3/1 PHASE - 125 VA (CONT.)

BH-1020-24-160-CS TYPE B TRANSVERTER - NSN 6125-66-055-4319 (AUSTRALIA)

(DC to AC Airborne Static Electrical Power Inverter)

Silicon Solid State - 125 VA, 3/1 Phase, Class B, Multi-purpose

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
7 - 1 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 3/1 Phase
125 VA Continuous Duty (Combined 3/1 Phase Load)
190 VA Intermittent Duty (Combined 3/1 Phase Load)

Dimensions:

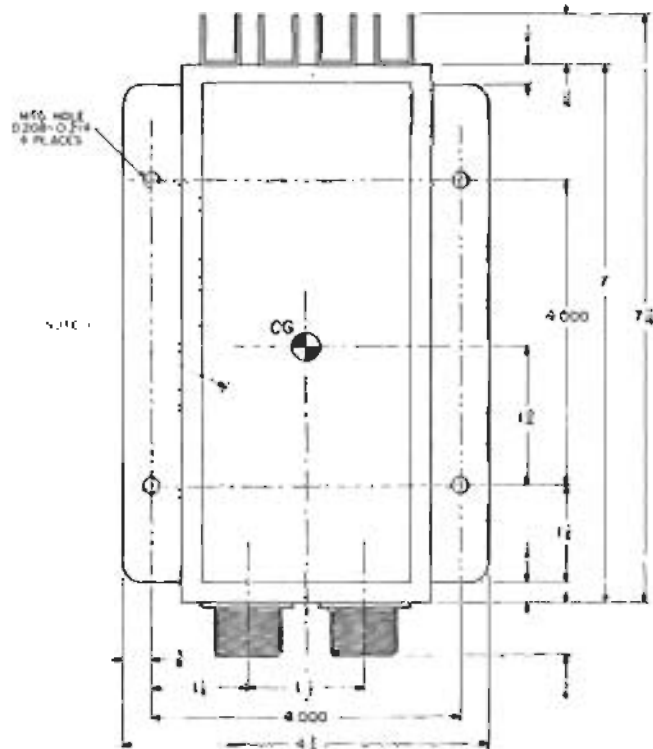
Unit: 7-11/16 L x 3-1/4 W x 4-1/2 H
195.26 mm L x 82.55 mm W x 114.30 mm H
Mounting Base: 6-1/2 L x 4-3/4 W
165.10 mm L x 120.65 mm W
Mounting Centers: 4.000 L x 4.000 W
101.60 mm L x 101.60 mm W

Electrical Connectors:

Input J1: MS3102R-14S-9P Box Receptacle mates with MS3106F-14S-9S
Output J2: MS3102R-14S-7S Box Receptacle mates with MS3106F-14S-7P

Weight: 6.6 lbs - 2.9 kg (Max.)

Applications: Royal Australian Air Force CT4 Airtrainer



NOTES:

1 MODEL AND SERIAL PLATE



2 Connector identification PLATE



3 RECEPTACLE J1-INPUT-TYPE MS102P-145-SP, MATING CONNECTOR TYPE MS102P-145-SE, CONNECTIONS AS LISTED:

TERMINAL	CONNECTION	COORDS.
1	DC POSITIVE (17.5V DC NOM)	27.0 V DC
2	DC NEGATIVE (27.0V DC NOM)	27.0 V DC

4 RECEPTACLE J2-OUTPUT-TYPE MS102P-145-TL, MATING CONNECTOR TYPE MS102P-145-FP, CONNECTIONS AS LISTED:

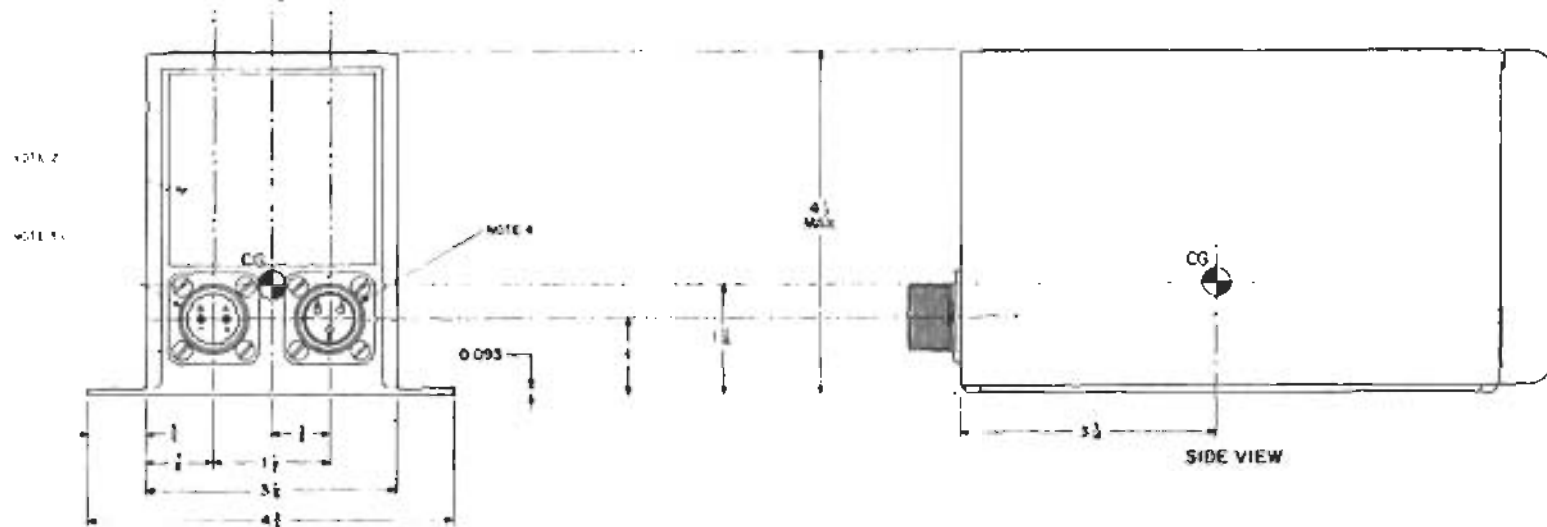
TERMINAL	CONNECTION	COORDS.
A	115 VOLTS AC, 60 HZ, PHASE A	115V AC 3A
B	115 VOLTS AC, 60 HZ, PHASE B	115V AC 3B
C	115 VOLTS AC, 60 HZ, PHASE C	115V AC 3C

5 MATING CONNECTORS REQUIRE APPROXIMATELY 2-1/4 INCHES CLEARANCE TO CONNECT

6 WEIGHT 3.5 POUNDS (2 SID GRABS)

7 CENTER OF GRAVITY AS INDICATED BY SYMBOLS

8 PHASE ROTATION A, B, C



BH-1020-24-160-CS TYPE E TRANSVERTER



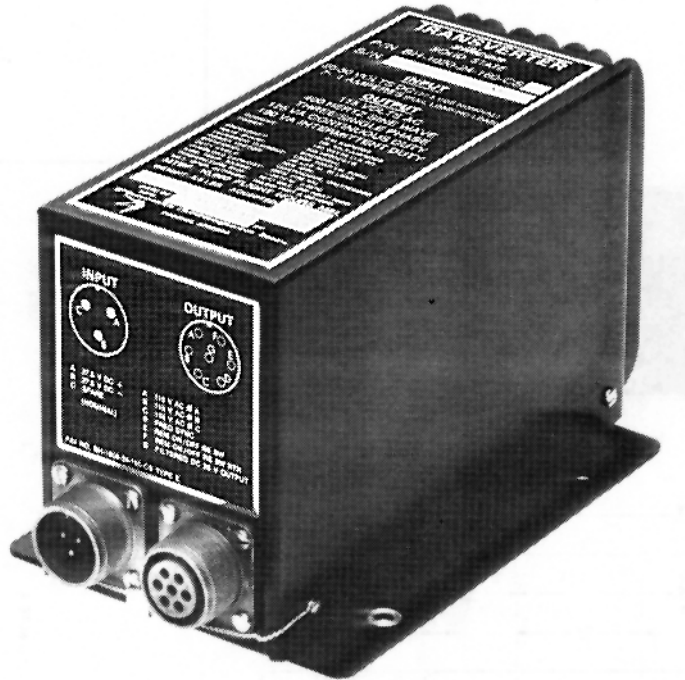
115 VAC STATIC INVERTERS - 3/1 PHASE - 125 VA (CONT.)

BH-1020-24-160-CS TYPE E TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 125 VA, 3/1 Phase, Class B, Multi-purpose, with Remote Turn-on Circuitry for use with BH-1020-115/2-160-CS Type E Automatic Inverter Changeover Box

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
7 - 1 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 3/1 Phase
125 VA Continuous Duty (Combined 3/1 Phase Load)
190 VA Intermittent Duty (Combined 3/1 Phase Load)



Dimensions:

Unit: 7-11/16 L x 3-1/4 W x 4-1/2 H
195.26 mm L x 82.55 mm W x 114.30 mm H
Mounting Base: 6-1/2 L x 4-3/4 W
165.10 mm L x 120.65 mm W
Mounting Centers: 4.000 L x 4.000 W
101.60 mm L x 101.60 mm W

Electrical Connectors:

Input J1: MS3102R-16S-6P Box Receptacle mates with MS3106F-16S-6S
Output J2: MS3102R-16S-1S Box Receptacle mates with MS3106F-16S-1P

Weight: 6.6 lbs - 2.9 kg (Max.)

Applications: Breda Nardi/Hughes BH-500 (Production)
Breda Nardi BN-500H (Production)



115 VAC STATIC INVERTERS - 1 PHASE - 100 VA (CONT.)

BH-1020-24-160-CS TYPE IIB TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)

Silicon Solid State - 100 VA, 1 Phase, Class B, Multi-purpose, for New Applications and Single Phase Retrofit of 3/1 Phase Rotary Brush-type Inverters without circuitry, wiring, or mechanical changes of any kind in the aircraft. Supersedes E-1616 and AN3499. Meets the requirements of MIL-1-7032. (Direct single phase retrofit for MS 16057-1 - 3/1 Phase Rotary Brush-type Inverters and MS 16057-3 - 1 Phase Static Inverters.)

Input: 20 - 30 Volts DC (27.5 VDC Nominal) 5.5
- 1 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
100 VA Continuous Duty
150 VA Intermittent Duty

Dimensions:

Unit: 7 L x 3-1/4 W x 4-1/2 H
177.80 mm L x 82.55 mm W x 114.30 mm H
Mounting Base: 6-1/2 L x 4-3/4 W
165.10 mm L x 120.65 mm W
Mounting Centers: 4.000 L x 4.000 W
101.60 mm L x 101.60 mm W

Electrical Connectors:

Input/Output J1: MS3102R-14S-7P Box Receptacle mates with
MS3106F-14S-7S

Weight: 5.5 lbs - 2.49 kg (Max.)

Applications: Bell Helicopter AH-1G Huey Cobra (Retrofit)
Bell Helicopter UH-1D Iroquois (Retrofit)
Sikorsky S-58T (Retrofit)



115 VAC STATIC INVERTERS - 1 PHASE - 100 VA (CONT.)

BH-1020-24-160-CS TYPE IIB TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)

Silicon Solid State - 100 VA, 1 Phase, Class B, Multi-purpose, for New Applications and Single Phase Retrofit of 3/1 Phase Rotary Brush-type Inverters without circuitry, wiring, or mechanical changes of any kind in the aircraft. Supersedes E-1616 and AN3499. Meets the requirements of MIL-1-7032. (Direct single phase retrofit for MS 16057-1 - 3/1 Phase Rotary Brush-type Inverters and MS 16057-3 - 1 Phase Static Inverters.)

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
5.5 - 1 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
100 VA Continuous Duty
150 VA Intermittent Duty

Dimensions:

Unit: 7 L x 3-1/4 W x 4-1/2 H
177.80 mm L x 82.55 mm W x 114.30 mm H
Mounting Base: 6-1/2 L x 4-3/4 W
165.10 mm L x 120.65 mm W
Mounting Centers: 4.000 L x 4.000 W
101.60 mm L x 101.60 mm W

Electrical Connectors:

Input/Output J1: MS3102R-14S-7P Box Receptacle mates with
MS3106F-14S-7S

Weight: 5.5 lbs - 2.49 kg (Max.)

Applications: Bell Helicopter AH-1G HueyCobra (Retrofit)
Bell Helicopter UH-1D Iroquois (Retrofit)
Sikorsky S-58T (Retrofit)



115/200 VAC STATIC INVERTERS - 3/1 PHASE - 300 VA (CONT.)

BH-1020-24-450-CS TYPE II TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 300 VA, 3/1 Phase, Class B, Multi-purpose,
with Automatic Short Circuit Protection and Remote Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
14 - 3 Amperes (Full Load - No Load)

Output: 115/200 Volts AC, 400 Hertz Sine Wave, 3/1 Phase
(115/200 VAC - Three Phase - 4-Wire Wye,
115 VAC - Three Phase - 3-Wire Delta, or
115 VAC - Single Phase - 2-Wire),
300 VA Continuous Duty (3 Ø or 3/1 Ø Combined),
450 VA Intermittent Duty (3 Ø or 3/1 Ø Combined)

Dimensions:

Unit: 11-3/4 L x 7-11/16 W x 5 H
298.45 mm L x 195.26 mm W x 127.00 mm H
Mounting Base: 11-3/8 L x 7-3/4 W
288.93 mm L x 196.85 mm W
Mounting Centers: 8.000 L x 7.000 W
203.20 mm L x 177.80 mm W

Electrical Connectors:

Input J1: MS3 102R-22-1 P Box Receptacle mates with MS3106F-22-1S
Output J2: MS3102R-22-18S Box Receptacle mates with MS3106F-22-18P

Weight: 14.5 lbs - 6.58 kg (Max.)

Applications: Alpha Jet (Proposed)
Dornier GMBH/Fuerza Argentina 1A-63 (Production)



1A-1020-24-900-IS III TRANSVERTER



115/200 VAC STATIC INVERTERS - 3/1 PHASE - 600 VA (CONT.)

1A-1020-24-900-CS III TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 600 VA, 3/1 Phase, Class B, Multi-purpose,
with Automatic Short Circuit Protection and Remote Turn-on Circuitry (Refer
to Nameplate on Page 18A)

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
27 - 4 Amperes (Full Load - No Load)

Output: 115/200 Volts AC, 400 Hertz Sine Wave, 3/1 Phase
(115/200 VAC - Three Phase - 4-Wire Wye,
115 VAC - Three Phase - 3-Wire Delta, or
115 VAC - Single Phase - 2-Wire),
600 VA Continuous Duty (3 Ø or 3/1 Ø Combined),
900 VA Intermittent Duty (3 Ø or 3/1 Ø Combined)

Dimensions:

Unit: 14-7/8 L x 8-3/4 W x 6 H
377.83 mm L x 222.25 mm W x 152.40 mm H
Mounting Base: 13-3/8 L x 8-3/4 W
339.73 mm L x 222.25 mm W
Mounting Centers: 12.000 L x 8.000 W
304.80 mm L x 203.20 mm W

Electrical Connectors:

Input J1: MS3102R-24-9P Box Receptacle mates with MS3106F-24-9S
Output J2: MS3102R-24-6S Box Receptacle mates with MS3106F-24-6P

Weight: 26 lbs - 11.8 kg (Max.)

Applications: Agusta A 109/Military with Hughes Tow Missile (Production)
Agusta A 129/Military with Hughes Tow Missile (Production)
Agusta/Sikorsky AS-6INI Silver (Production)
Agusta/Sikorsky SH-3D (Production)
Convair C-131 Turbo-Goose/Powers Fuel Booster Pumps
(US. Dept. of Interior)
Sikorsky S-61N (Production)
S.M.A. EH-101 Radar (Production)



MD-1020-24-1800-CS TRANSVERTER



115/200 VAC STATIC INVERTERS - 3/1 PHASE - 1200 VA (CONT.)

MD-1020-24-1800-CS TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 1200 VA, 3/1 Phase, Class B, Multi-purpose,
with Automatic Short Circuit Protection and Remote Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
54 - 6 Amperes (Full Load - No Load)

Output: 115/200 Volts AC, 400 Hertz Sine Wave, 3/1 Phase
(115/200 VAC - Three Phase - 4-Wire Wye,
115 VAC - Three Phase - 3-Wire Delta, or
115 VAC - Single Phase - 2-Wire),
1200 VA Continuous Duty (3 Ø or 3/1 Ø Combined),
1800 VA Intermittent Duty (3 Ø or 3/1 Ø Combined)

Dimensions:

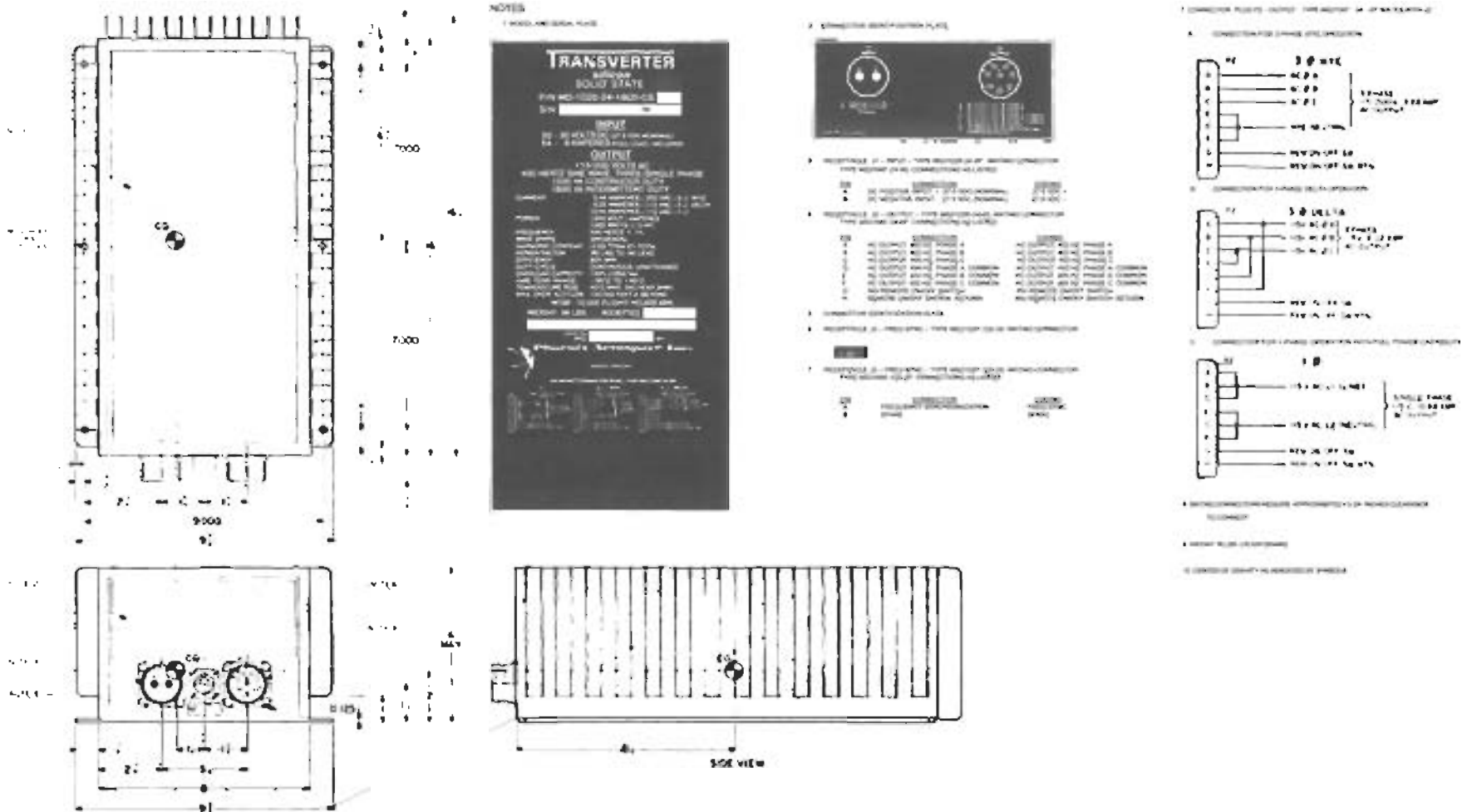
Unit: 16-7/8 L x 9-3/4 W x 6 H
428.63 mm L x 247.65 mm W x 152.40 mm H
Mounting Base: 15-3/8 L x 9-3/4 W
90.53 mm L x 247.65 mm W
Mounting Centers: 14.000 L x 9.000 W
355.60 mm L x 228.60 mm W

Electrical Connectors:

Input J1: MS3102R-24-9P Box Receptacle mates with MS3106F-24-95
Output J2: MS3102R-24-6S Box Receptacle mates with MS3106F-24-6P

Weight: 36 lbs - 16.3 kg (Max.)

Applications: Agusta A 109 with ECM (Proposed)
Alinavi Hydrofoil/Montedel/Elmer Program (Production)
Chrysler M60 Modified Tank (Production)
Hawker Siddeley HS-748 (Retrofit)
Howell Instruments/Meat Wagon (Mobile Engine Analyzer
Tester) for Naval Air Test Center



OUTLINE DIMENSION MD-1020-2-1800-CS TYPE E TRANSVERTER



115/200 VAC STATIC INVERTERS - 3/1 PHASE - 1200 VA (CONT.)

MD-1020-24-1800-CS TYPE E TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 1200 VA, 3/1 Phase, Class B, Multi-purpose,
with Automatic Short Circuit Protection and Remote Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
54 - 6 Amperes (Full Load - No Load)

Output: 115/200 Volts AC, 400 Hertz Sine Wave, 3/1 Phase
(115/200 VAC - Three Phase - 4-Wire Wye,
115 VAC - Three Phase - 3-Wire Delta, or
115 VAC - Single Phase - 2-Wire),
1200 VA Continuous Duty (3 Ø or 3/1 Ø Combined),
1800 VA Intermittent Duty (3 Ø or 3/1 Ø Combined)

Dimensions:

Unit: 16-7/8 L x 9-3/4 W x 6 H
428.63 mm L x 247.65 mm W x 152.40 mm H
Mounting Base: 15-3/8 L x 9-3/4 W
390.53 mm L x 247.65 mm W
Mounting Centers: 14.000 L x 9.000 W
355.60 mm L x 228.60 mm W

Electrical Connectors:

Input J1: MS3102R-24-9P Box Receptacle mates with MS3106F-24-9S
Output J2: MS3102R-24-6S Box Receptacle mates with MS3106F-24-6P

Weight: 36 lbs - 16.3 kg (Max.)

Applications: C.A.S.A. C-212/Powers Eaton APS-128 Radar (Production)
Shorts Skyvan/Powers Eaton APE-128 Radar (Proposed)



TRANSVERTER

silicon
SOLID STATE

P/N MD-1020-24-1800-CS

S/N [REDACTED] -W

INPUT

20 - 30 VOLTS DC (27.5 VDC NOMINAL)
54 - 6 AMPERES (FULL LOAD—NO LOAD)

OUTPUT

115/200 VOLTS AC
400 HERTZ SINE WAVE, THREE/SINGLE PHASE
1200 VA CONTINUOUS DUTY
1800 VA INTERMITTENT DUTY

CURRENT: 3.46 AMPERES—200 VAC—3 Ø WYE
6.02 AMPERES—115 VAC—3 Ø DELTA
10.44 AMPERES—115 VAC—1 Ø

POWER: 1200 VOLT - AMPERES
1200 WATTS (1.0 PF)

FREQUENCY: 400 HERTZ ±1%

WAVE SHAPE: SINUSOIDAL

HARMONIC CONTENT: LESS THAN 5% TOTAL

POWER FACTOR: .80 LAG, TO .95 LEAD.

EFFICIENCY: 80% MIN.

DUTY CYCLE: CONTINUOUS, UNATTENDED

OVERLOAD CAPACITY: 150% (1800 VA)

AMB. TEMP. RANGE: -85°C TO +85°C

TEMPERATURE RISE: 40°C MAX. (NO HEAT SINK)

MAX. OPER. ALTITUDE: 100,000 FEET & BEYOND

MTBF: 10,000 FLIGHT HOURS MIN.

WEIGHT: 36 LBS. ACCEPTED [REDACTED]

DATE OF MFG. [REDACTED] BY [REDACTED]

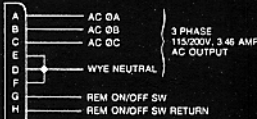


Phoenix Aerospace Inc.

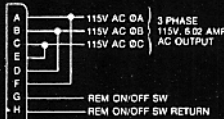
PHOENIX, ARIZONA

P2 OUTPUT CONNECTOR PLUG—TYPE MS3106F-24-6P:

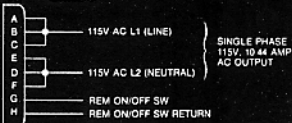
CONNECTION FOR 3-PHASE WYE OPERATION
P2 3 Ø WYE



CONNECTION FOR 3-PHASE DELTA OPERATION
P2 3 Ø DELTA



CONNECTION FOR 1-PHASE OPERATION
P2 SINGLE Ø



NOTE: INTERNAL STRAP AT THE PHASE SPLITTING NETWORK IN TRANSVERTER REQUIRED.

MD-1020-24-1800-CS TRANSVERTER NAMEPLATE



115/200 VAC STATIC INVERTERS - 3/1 PHASE - 1200 VA (CONT.)

MD-1020-24-1800-CS TYPE IIC TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)

Silicon Solid State - 1200 VA, 3/1 Phase, Class B, Multi-purpose, with Automatic Short Circuit Protection and Remote Turn-on Circuitry.

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
54 - 6 Amperes (Full Load - No Load)

Output: 115/200 Volts AC, 400 Hertz Sine Wave, 3/1 Phase
(115/200 VAC - Three Phase - 4-Wire Wye,
115 VAC - Three Phase - 3-Wire Delta, or
115 VAC - Single Phase - 2-Wire),
1200 VA Continuous Duty (3 Ø or 3/1 Ø Combined),
1800 VA Intermittent Duty (3 Ø or 3/1 Ø Combined)

Dimensions:

Unit: 16-7/8 L x 9-3/4 W x 6 H
428.63 mm L x 247.65 mm W x 152.40 mm H
Mounting Base: 15-3/8 L x 9-3/4 W
390.53 mm L x 247.65 mm W
Mounting Centers: 14.000 L x 9.000 W
355.60 mm L x 228.60 mm W

Electrical Connectors:

Input J1: MS3102R-24-9P Box Receptacle mates with MS3106F-24-9S
Output J2: MS3102R-24-6S Box Receptacle mates with MS3106F-24-6P

Weight: 36 lbs - 16.3 kg (Max.)

Applications: Hawker Siddeley HS-748 (Bradley Air Services Limited –
Bradley First Air, Carp, ON) (Retrofit)
Peoples Republic of China Chengdu Type F-7M (Production)



MD-1040-24-1800-CS IID TRANSVERTER



115/200 VAC STATIC INVERTERS - 3/1 PHASE - 1200 VA (CONT.)

MD-1020-24-1800-CS TYPE IID TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)

Silicon Solid State - 1200 VA, 3/1 Phase, Class B, Multi-purpose, with Automatic Short Circuit Protection and Remote Turn-on Circuitry.

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
54 - 6 Amperes (Full Load - No Load)

Output: 115/200 Volts AC, 400 Hertz Sine Wave, 3/1 Phase
(115/200 VAC - Three Phase - 4-Wire Wye,
115 VAC - Three Phase - 3-Wire Delta, or
115 VAC - Single Phase - 2-Wire),
1200 VA Continuous Duty (3 Ø or 3/1 Ø Combined),
1800 VA Intermittent Duty (3 Ø or 3/1 Ø Combined)

Dimensions:

Unit: 16-7/8 L x 9-3/4 W x 6 H
428.63 mm L x 247.65 mm W x 152.40 mm H
Mounting Base: 15-3/8 L x 9-3/4 W
390.53 mm L x 247.65 mm W
Mounting Centers: 14.000 L x 9.000 W
355.60 mm L x 228.60 mm W

Electrical Connectors:

Input J1: MS3102R-24-9P Box Receptacle mates with MS3106F-24-9S
Output J2: MS3102R-24-6S Box Receptacle mates with MS3106F-24-6P

Weight: 36 lbs - 16.3 kg (Max.)

Applications: Peoples Republic of China Chengdu Type F-7M (Production)



MA-1040-24-900-CS IIID TRANSVERTER



20.8/36.0 VAC STATIC INVERTERS-3/1 PHASE-600 VA (CONT.)

PAI P/N MA-1040-24-900-CS IID TRANSVERTER,

(DC to AC Airborne Static Electrical Power Inverter) Silicon Solid State 600 VA, 3 Phase, Class B, Multi-Purpose, with Remote Turn -On Circuitry .

Input: 20 -30 Volts DC (27.0 VDC Nominal)
36 - 8 Amperes Max (Full Load - No Load)
(31-6 Amps Typical).

Output: 20.8 / 36.0 Volts AC, 400 Hertz Sine Wave, 3 Phase,
(20.8 / 36.0 VAC - Three - Phase - 4 - Wire Wye,
20.8 VAC - Three - Phase - 3 - Wire Delta,
600 VA Continuous Duty,
900 VA Intermittent Duty.

DESIGNED FOR CONTINUOUS, HEAVY DUTY APPLICATIONS UNDER THE MOST ADVERSE SERVICE CONDITIONS - HIGH VIBRATION, TEMPERATURES AND EMERGENCY OPERATING CONDITIONS.

Dimensions:

Unit: 14-3/4 inches (37.46 cm) long;
8-3/4 inches (22.22 cm) wide;
7 inches (17.78 cm) high;

Mounting Base: 14 inches (35.56 cm) long;
8-3/4 inches (22.22 cm) wide;

Mounting Centers: 12 inches (30.48 cm) long;
8 inches (20.32 cm) wide.

Electrical Connectors:

INPUT: J1: MS3102R-24-9P Box Receptacle mates
With MS3106F-24-9S.

OUTPUT: J2: MS3102R-24-6S Box Receptacle mates
With MS3106F-24-6P.

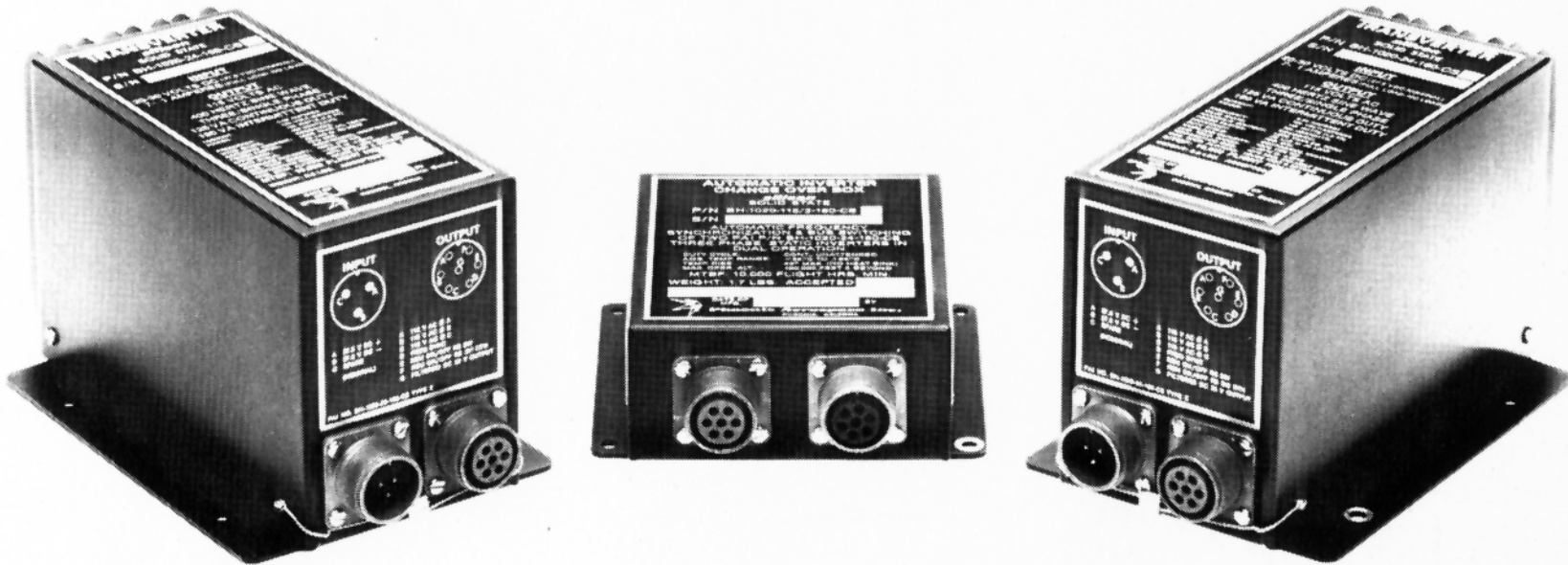
Weight: 26.3 pounds (11.934 kg.) (Maximum) .

Applications: Peoples Republic of China Chengdu Type F-7M (Production)



**AIRBORNE DC TO AC POWER CONVERSION AND DISTRIBUTION EQUIPMENT
SPECIFICATIONS**

Item	Page
AUTOMATIC INVERTER CHANGEOVER BOX - 3 PHASE	47
BH-1020-115/2-160-CS TYPE E SYSTEM	48
BH-1020-115/2-160-CS TYPE E AUTOMATIC INVERTER CHANGEOVER BOX - 115 VAC 3 PHASE	49
MD-1020-115/2-1800-CS TYPE II AUTOMATIC INVERTER CHANGEOVER BOX - 115/200 VAC 3 PHASE	51



115 VAC, 400 HERTZ, 125 VA 3/1 PHASE DUAL INVERTER SYSTEM WITH
AUTOMATIC INVERTER CHANGEOVER BOX



(AUTOMATIC INVERTER CHANGEOVER BOX FOR PAI P/N BH-1020-24-160-CS TYPE E INVERTER)

BH-1020-115/2-160-CS TYPE E AUTOMATIC INVERTER CHANGEOVER BOX

Silicon Solid State, Automatic Frequency Synchronization and Bus Switching of two PAI P/N BH-1020-24-160-CS Type E Three Phase, Static Inverters in Dual Operation (Refer to Typical Wiring Diagram - Two Inverter (Transverter) Automatic Changeover Operation on Page 50)



Dimensions:

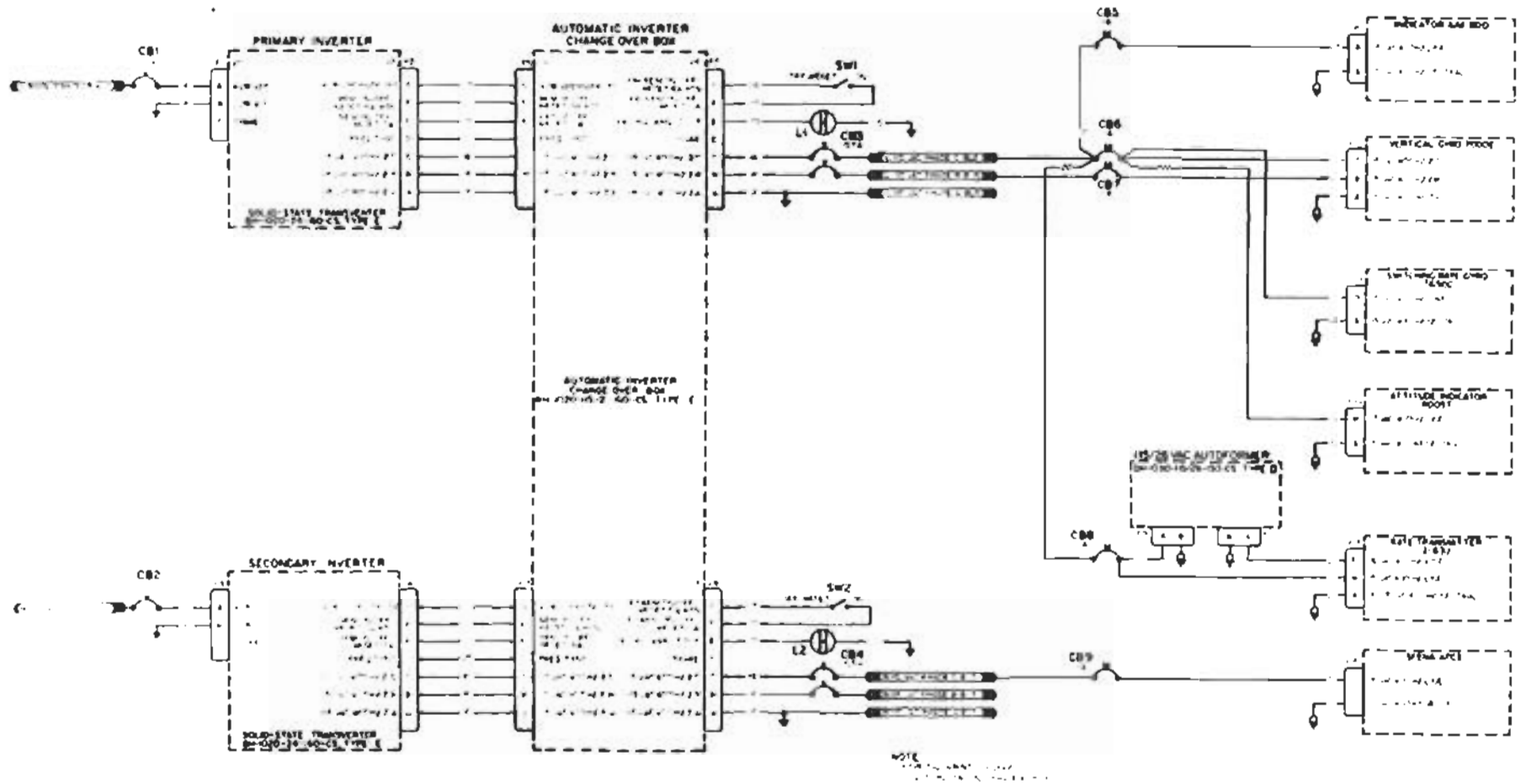
Unit: 5 L x 4-1/4 W x 2 H
127.00 mm L x 107.95 mm W x 50.80 mm H
Mounting Base: 4-1/2 L x 5-1/4 W
114.30 mm L x 133.35 mm W
Mounting Centers: 4.000 L x 4.750 W
101.60 mm L x 120.65 mm W

Electrical Connectors:

Input J1: MS3102R-16S-1P Receptacle mates with MS3106F-16S-1S
Input J2: MS3102R-16S-1PW Receptacle mates with MS3106F-16S-1 SW
Output J3: MS3102R-16S-1S Receptacle mates with MS3106F-16S-1P
Output J4: MS3102R-16S-1SW Receptacle mates with MS3106F-16S-1PW

Weight: 1.7 lbs - 771 g (Max.)

Applications: Breda Nardi BN-500H (Production)



TYPICAL WIRING DIAGRAM TWO INVERTER (TRANSVERTER)
AUTOMATIC CHANGEOVER OPERATION



115/200 VAC AUTOMATIC INVERTER CHANGEOVER BOX

(MD-1020-115/2-1800-CS TYPE II AUTOMATIC INVERTER CHANGEOVER BOX FOR PAI P/N MD-1020-24- 1800-CS TYPE II)

Silicon Solid State, Automatic Frequency Synchronization and Bus Switching of two PAI P/N MD-1020-24-1800-CS Type II Three Phase, Static Inverters in Dual Operation

Dimensions:

Unit: 5 L x 4-1/4 W x 2 H
127.00 mm L x 107.35 mm W x 50.80 mm H
Mounting Base: 4-1/2 L x 5-1/4 W
114.30 mm L x 133.35 mm W
Mounting Centers: 4.000 L x 4.750 W
101.60 mm L x 120.65 mm W

Electrical Connectors:

Input J1: MS3102R-16S-1P Receptacle mates with MS3106F-16S-1S
Input J2: MS3102R-16S-1PW Receptacle mates with MS3106F-16S-1SW
Output J3: MS3102R-16S-1S Receptacle mates with MS3106F- 16S-1P
Output J4: MS3102R-16S-1SW Receptacle mates with MS3106F- 16S-1PW

Weight: 1.7 lbs - 771 g (**Max.**)

Applications: Hawker Siddeley HS-748 (Proposed)



**AIRBORNE DC TO AC POWER CONVERSION AND DISTRIBUTION EQUIPMENT
SPECIFICATIONS**

Item	Page
STATIC INVERTERS - 1 PHASE	53
1025-24-15-CS TRANSVERTER 26 VAC 15 VA	55
KR-1025-24-75-CS TRANSVERTER 26 VAC 50 VA	56
DH-1030-24-25-CS TRANSVERTER 115 VAC 15 VA	57
AC-1030-24-50-CS TRANSVERTER 115/26 VAC 35 VA	58
DH-1030-24-65-CS TRANSVERTER 115/26 VAC 65 VA	59
BH-1030-24-100-CS TRANSVERTER 115 VAC 65 VA	61
DH-1030-24-100-CS TRANSVERTER 115 VAC 65 VA	62
AC-1030-24-150-CS TRANSVERTER 115 VAC 100 VA	63
BHP-1030-24-150-CS TRANSVERTER 115 VAC 100 VA	64
DH-1030-24-150-CS TYPE A TRANSVERTER 115 VAC 100 VA	65
DH-1030-24-200-CS TYPE I TRANSVERTER 115 VAC 135 VA	67
DH- 1030-24-200-CS TYPE II TRANSVERTER 115 VAC 135 VA	68
DH-1030-24-225-CS TYPE IID TRANSVERTER 115/26 VAC 150 VA	69
DH-1030-24-300-CS TYPE IID TRANSVERTER 115/26 VAC 200 VA	70
DH- 1030-24-300-CS TYPE IIF TRANSVERTER 115 VAC 200 VA	71
DH- 1030-24-375-CS TYPE I TRANSVERTER 115 VAC 250 VA	73
DH-1030-24-375-CS TYPE II TRANSVERTER 115 VAC 250 VA	75
DH-1030-24-375-CS TYPE IID TRANSVERTER 115/26 VAC 250 VA	77
DH-1030-24-375-CS TYPE IIDB TRANSVERTER 115/26 VAC 250 VA	78
DH-1030-24-375-CS TYPE IIDS TRANSVERTER 115/26 VAC 250 VA	79
DH-1030-24-450-CS TYPE I TRANSVERTER 115 VAC 300 VA	80
DH-1030-24-450-CS TYPE II TRANSVERTER 115 VAC 300 VA	81
DH-1030-24-450-CS TYPE IID TRANSVERTER 115/26 VAC 300 VA	82
DH-1030-24-600-CS TYPE B TRANSVERTER 115 VAC 400 VA	83
DH-1030-24-600-CS TYPE I TRANSVERTER 115 VAC 400 VA	85
DH- 1030-24-600-CS TYPE II TRANSVERTER 115 VAC 400 VA	87
DH- 1030-24-600-CS TYPE IIB TRANSVERTER 115 VAC 400 VA	89
DH-1030-24-600-CS TYPE IIC TRANSVERTER 115/26 VAC 400 VA	90
DH-1030-24-600-CS TYPE IID TRANSVERTER 115/26 VAC 400 VA	91



**AIRBORNE DC TO AC POWER CONVERSION AND DISTRIBUTION EQUIPMENT
SPECIFICATIONS**

Item	Page
DH-1030-24-750-CS TYPE I TRANSVERTER 115 VAC 500 VA	93
DH-1030-24-750-CS TYPE II TRANSVERTER 115 VAC 500 VA	94
DH-1030-24-750-CS TYPE IIDS TRANSVERTER 115/26 VAC 500 VA	95
DH-1030-24-900-CS TYPE I TRANSVERTER 115 VAC 800 VA	96
DH- 1030-24-900-CS TYPE II TRANSVERTER 115 VAC 800 VA	97
DH- 1030-24-900-CS TYPE IIB TRANSVERTER 115 VAC 800 VA	98
DH-1030-24-900-CS TYPE IIC TRANSVERTER 115/26 VAC 800 VA	99
DH-1030-24-900-CS TYPE IID TRANSVERTER 115/26 VAC 800 VA	101
DH-1030-24-1200-CS TYPE IIA TRANSVERTER 115 VAC 1000 VA	103
DH-1030-24-1200-CS TYPE II TRANSVERTER 115 VAC 1000 VA	105
DH-1030-24-1200-CS TYPE IIB TRANSVERTER 115 VAC 1000 VA	107
DH-1030-24-1200-CS TYPE IID TRANSVERTER 115/26 VAC 1000 VA	107B
DH-1030-24-2250-CS TRANSVERTER 115/26 VAC 1500 VA	109
DH-1030-24-2400-CS TYPE I TRANSVERTER 115 VAC 1600 VA	110
DH-1030-24-2400-CS TYPE II TRANSVERTER 115 VAC 1600 VA	113
DH- 1030-24-2400-CS TYPE IIB TRANSVERTER 115 VAC 1600 VA	114



26 VAC STATIC INVERTERS - 1 PHASE - 15 VA

1025-24-15-CS TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 15 VA, 1 Phase, Class B, Multi-purpose

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
0.84 - 0.25 Amperes (Full Load - No Load)

Output: 26 Volts AC, 400 Hertz Sine Wave, 1 Phase
15 VA Continuous Duty
25 VA Intermittent Duty



Dimensions:

Unit: 4-11/32 L x 2-5/8 W x 2-9/16 H
110.33 mm L x 66.68 mm W x 65.09 mm W

Mounting Base: 3-7/8 L x 3-1/2 W
98.43 mm L x 88.90 mm W

Mounting Centers: 3.000 L x 3.000 W
76.20 mm L x 76.20 mm W

Electrical Connectors:

Input J1: MS3102R-12S-3P Box Receptacle mates with MS3106F-12S-3S
Output J2: MS3102R-12S-3S Box Receptacle mates with MS3106F-12S-3P

Weight: 1.6 lbs - 726 g (Max.)

Applications: Beechcraft 18 (Retrofit)
de Havilland DHC-2 (Production)
Fairchild C-119 (Retrofit)
Pilatus PC-6/B-H2 (Production)



26 VAC STATIC INVERTERS - 1 PHASE - 50 VA (CONT.)

KR-1025-24-75-CS TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 50 VA, 1 Phase, Class B, Multi-purpose

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
2.8 - 1.0 Amperes (Full Load - No Load)

Output: 26 Volts AC, 400 Hertz Sine Wave, 1 Phase
50 VA Continuous Duty
75 VA Intermittent Duty



Dimensions:

Unit: 6-1/2 L x 3-1/4 W x 3-1/2 H
165.10 mm L x 82.55 mm W x 88.90 mm H
Mounting Base: 6 L x 4-3/4 W
152.40 mm L x 120.65 mm W
Mounting Centers: 4.000 L x 4.000 W
101.60 mm L x 101.60 mm W

Electrical Connectors:

Input J1: MS3102R-14S-9P Box Receptacle mates with MS3106F-14S-9S
Output J2: MS3102R-14S-9S Box Receptacle mates with MS3106F-14S-9P

Weight: 4.5 lbs - 2.04 kg (Max.)

Applications: Hindustani Aircraft (Production)
King Radio Gold Crown Line (Any aircraft/Retrofit)
Siai Marchetti SF-260 (Tunisian Air Force/Production)



115 VAC STATIC INVERTERS - 1 PHASE - 15 VA (CONT.)

DH- 1030-24-25-CS TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 15 VA, 1 Phase, Class B, Multi-purpose

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
1.0 - 0.5 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
15 VA Continuous Duty
25 VA Intermittent Duty

Dimensions:

Unit: 5-1/4 L x 2-1/2 W x 2-1/2 H
133.35 mm L x 63.50 mm W x 63.50 mm H
Mounting Base: 5 L x 3-1/2 W
127.00 mm L x 88.90 mm W
Mounting Centers: 3.000 L x 3.000 W
76.20 mm L x 76.20 mm W

Electrical Connectors:

Input J1: MS3102R-12S-3P Box Receptacle mates with MS3106F-12S-3S
Output J2: MS3102R-12S-3S Box Receptacle mates with MS3106F-12S-3P

Weight: 1.9 lbs - 861.8 g (Max.)

Applications: Aero Commander 690 (Retrofit)
Power Supply for Bendix Fuel Flow Indicator (Retrofit)



115/26 VAC STATIC INVERTERS -1 PHASE - 35 VA (CONT.)

AC-1030-24-50-CS TRANSVERTER - AC P/N 485-0318-501

(DC to AC Airborne Static Electrical Power Inverter)

Silicon Solid State - 35 VA, 1 Phase, Class B, Multi-purpose

Input: 14 - 30 Volts DC (27.5 VDC Nominal)
2.0 - 0.6 Amperes (Full Load - No Load)

Output: 115/26 Volts AC, 400 Hertz Sine Wave, 1 Phase
35 VA Continuous Duty (any Input Voltage from 14 to 30 Volts DC)
50 VA Intermittent Duty



Dimensions:

Unit: 6 L x 4-3/8 W x 3-1/2 H
152.40 mm L x 111.13 mm W x 88.90 mm H
Mounting Base: 5-3/8 L x 6 W
136.53 mm L x 152.40 mm W
Mounting Centers: 4.000 L x 5.250 W
101.60 mm L x 133.35 mm W

Electrical Connectors:

Input J1: MS3102R-14S-9P Box Receptacle mates with MS3106F-14S-9S
Output J2: MS3102R-14S-7S Box Receptacle mates with MS3106F-14S-7P

Weight: 5.5 lbs - 2.49 kg (Max.)

Applications: Aero Commander 680T, V, & W (Production)
Excellent Laboratory Power Supply



115/26 VAC STATIC INVERTERS - 1 PHASE - 65 VA (CONT.)

DH-1030-24-65-CS TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 65 VA, 1 Phase, Class B, Multi-purpose

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
3.4 - 1.0 Amperes (Full Load - No Load)

Output: 115/26 Volts AC, 400 Hertz Sine Wave, 1 Phase
65 VA Continuous Duty
100 VA Intermittent Duty



Dimensions:

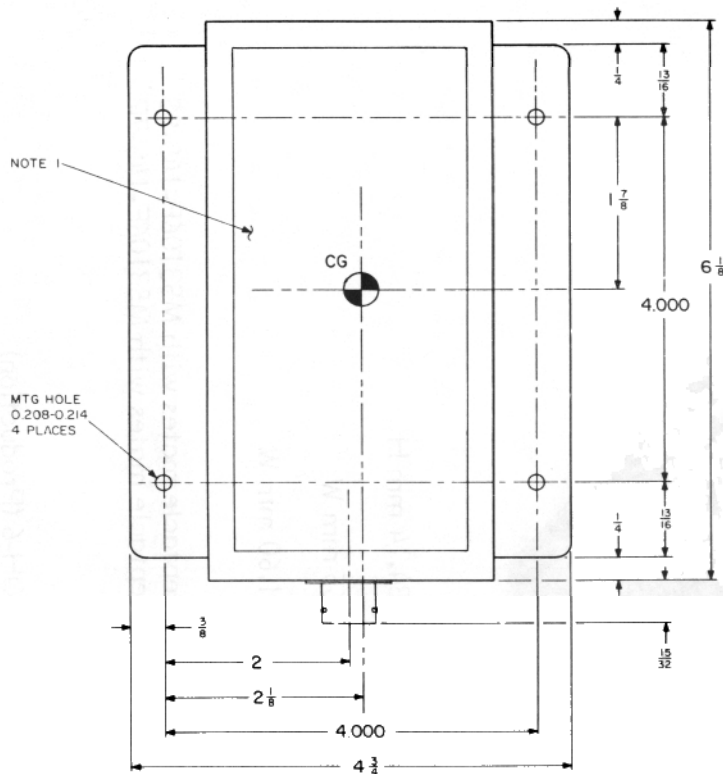
Unit: 6-1/8 L x 3-1/16 W x 3-5/16 H
155.58 mm L x 77.79 mm W x 84.14 mm H
Mounting Base: 5-5/8 L x 4-3/4 W
142.88 mm L x 120.65 mm W
Mounting Centers: 4.000 L x 4.000 W
101.60 mm L x 101.60 mm W

Electrical Connectors:

Input J1: MS3102R-14S-9P Box Receptacle mates with MS3106F-14S-9S
Output J2: MS3102R-14S-7S Box Receptacle mates with MS3106F-14S-7P

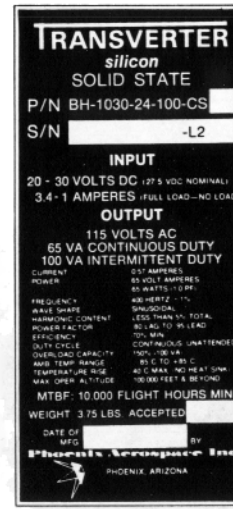
Weight: 3.75 lbs - 1.7 kg (Max.)

Applications: Bell 206A, OH-58A LOH, & OH-6 (Production)
de Havilland DHC-6 (Production)
Kawasaki V-107 (Production)



NOTES:

1. MODEL AND SERIAL PLATE.



2. CONNECTOR IDENTIFICATION PLATE.



3. MATING CONNECTOR REQUIRES APPROXIMATELY 2-3/4 INCHES CLEARANCE TO CONNECT.

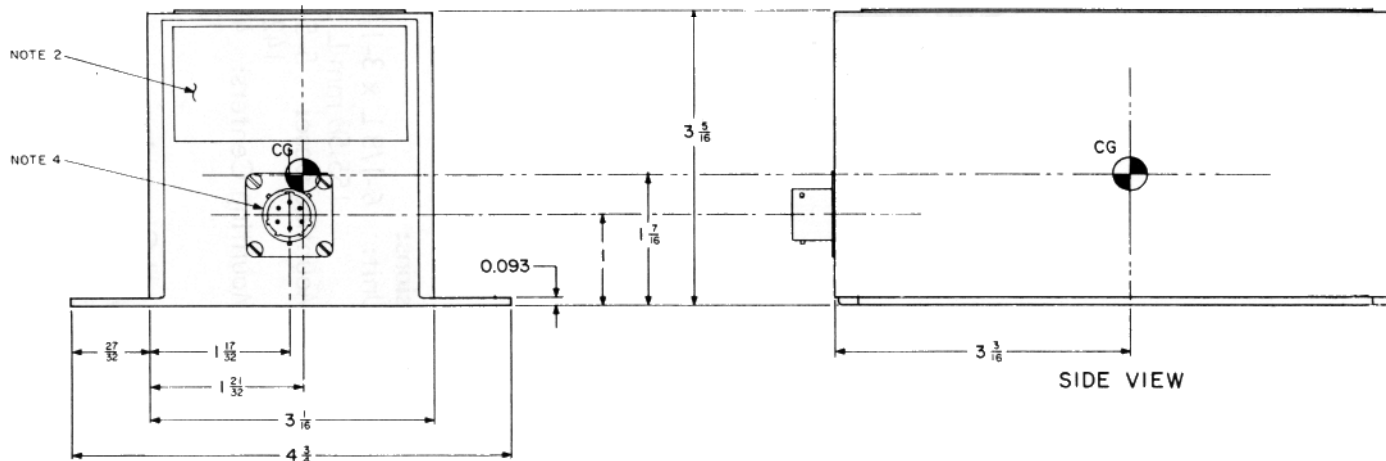
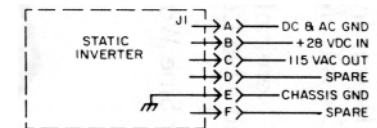
4. RECEPTACLE J1 - INPUT/OUTPUT - TYPE MS3122E-10-6P, MATES WITH A TYPE MS3128F-10-6S.

PIN	CONNECTION	CODING
A.	DC NEGATIVE (-27.5 VDC NOM) L2 - 115VAC, 400HZ, OUTPUT (NEUTRAL)	DC 8 AC GNC
B.	DC POSITIVE (+27.5 VDC NOM)	+28 VDC IN
C.	L1 - 115 VAC, 400 HZ, OUTPUT (LINE)	115 VAC OUT
D.	SPARE	SPARE
E.	CHASSIS GROUND	CHASSIS GND
F.	SPARE	SPARE

5. CENTER OF GRAVITY AS INDICATED BY SYMBOLS.

6. WEIGHT 3.75 LBS (1,700 GRAMS)

7. CONNECTOR WIRING DIAGRAM.



OUTLINE DIMENSION BH-1030-24-100-CS TRANSVERTER



115 VAC STATIC INVERTERS - 1 PHASE - 65 VA (CONT.)

BH P/N 206-075-364-1

BH-1030-24-100-CS TRANSVERTER - NSN 6130-00-225-3465 (CANADA & U.S.A.)

(DC to AC Airborne Static Electrical Power Inverter)

Silicon Solid State - 65 VA, 1 Phase, Class B, Multi-purpose

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
3.4 - 1.0 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
65 VA Continuous Duty
100 VA Intermittent Duty



Dimensions:

Unit: 6-1/8 L x 3-1/16 W x 3-5/16 H
155.58 mm L x 77.79 mm W x 84.14 mm H
Mounting Base: 5-5/8 L x 4-3/4 W
142.88 mm L x 120.65 mm W
Mounting Centers: 4.000 L x 4.000 W
101.60 mm L x 101.60 mm W

Electrical Connectors:

Input/Output J1: MS3122E-10-6P Box Receptacle mates with
MS3126F-10-6S.

Weight: 3.75 lbs - 1.7 kg (Max.)

Applications: Bell OH-58A LOH (Retrofit)
Bell 206A/CH136 KIOWA Canadian Government Conversion
Hawker Siddeley DH-125-700 (Retrofit)
Howell Instruments (Northrop T-38 Hot Section Tester)
(Production)
Howell Instruments (NASA Apollo Lunar Landing Module)
(Production)



115 VAC STATIC INVERTERS - 1 PHASE - 65 VA (CONT.)

DH-1030-24-100-CS TRANSVERTER - NSN 6125-21-844-8117 (CANADA)

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 65 VA, 1 Phase, Class B, Multi-purpose

Input: 20 - 30 Volts DC (23.5 VDC Nominal)
3.95 - 1.0 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
65 VA Continuous Duty
100 VA Intermittent Duty

Dimensions:

Unit: 6-1/2 L x 3-5/16 W x 3-1/2 H
165.10 mm L x 84.14 mm W x 88.90 mm H
Mounting Base: 6-1/8 L x 4-3/4 W
155.58 mm L x 120.65 mm W
Mounting Centers: 4.000 L x 4.000 W
101.60 mm L x 101.60 mm W

Electrical Connectors:

Input J1: MS3102R-14S-9P Box Receptacle mates with MS3106F-14S-9S
Output J2: MS3102R-14S-9S Box Receptacle mates with MS3106F-14S-9P

Weight: 4.6 lbs - 2.09 kg (Max.)

Applications: Agusta-Bell 212 (Production)
de Havilland DHC-5 (Production)
(Fuel Quantity Gauging - Inverter is battery powered)
Howell Instruments (Northrop T-38 Hot Section Tester)
(Production)
Howell Instruments (NASA Apollo Lunar Landing Module)
(Production)



115 VAC STATIC INVERTERS - 1 PHASE - 100 VA (CONT.)

AC-1030-24-150-CS TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 100 VA, 1 Phase, Class B, Multi-purpose

Input: 14 - 30 Volts DC (27.5 VDC Nominal)
5 - 1 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
100 VA Continuous Duty (any input voltage from 14-30 Volts DC)
150 VA Intermittent Duty



Dimensions:

Unit: 7 L x 6 W x 3-3/4 H
177.80 mm L x 152.40 mm W x 95.25 mm H
Mounting Base: 6-1/2 L x 7-1/2 W
165.10 mm L x 190.50 mm W
Mounting Centers: 6.000 L x 6.750 W
52.40 mm L x 171.45 mm W

Electrical Connectors:

Input J1: MS3102R-14S-9P Box Receptacle mates with MS3106F-14S-9S
Output J2: MS3102R-14S-9S Box Receptacle mates with MS3106R-14S-9P

Weight: 9.0 lbs - 4.08 kg (Max.)

Applications: Chrysler Electric Tank (Production)
Messerschmitt-Boelkow-Blohm MB-326 (Factory Retrofit)
Excellent Laboratory Power Supply



115 VAC STATIC INVERTERS - 1 PHASE - 100 VA (CONT.)

BH-1030-24-150-CS TRANSVERTER - BH P/N 209-075-213-I

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 100 VA, 1 Phase, Class B, Multi-purpose,
with Remote Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
5 - 1 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
100 VA Continuous Duty
150 VA Intermittent Duty

Dimensions:

Unit: 7 L x 5-1/2 W x 5 H
177.80 mm x 139.70 mm W x 127.00 mm H
Mounting Base: 6-1/2 L x 5-1/2 W
165.10 mm L x 139.70 mm W
Mounting Centers: 5.000 L x 3.250 W
127.00 mm L x 82.55 mm W

Electrical Connectors:

Input/Output: MS3122E-10-6P Box Receptacle mates with MS3126F-10-6S

Weight: 6.0 lbs - 2.72 kg (Max.)

Applications: Bell AH-1G (Production)



115 VAC STATIC INVERTERS - 1 PHASE - 100 VA (CONT.)

**Naval Air Engineering Center
P/N 5SEO1365-1**

DH-1030-24-150-CS TYPE A TRANSVERTER - NSN 5950-01-277-3509 (U.S.A.)

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 100 VA, 1 Phase, Class B, Multi-purpose,
with Remote Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
5 - 1 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
100 VA Continuous Duty
150 VA Intermittent Duty



Dimensions:

Unit 7-15/16 L x 3-3/8 W x 4 H
201.61 mm L x 85.73 mm W x 101.60 mm H
Mounting Base: 6-3/4 L x 4-3/4 W
171.45 mm L x 120.65 mm W
Mounting Centers: 4.000 L x 4.000 W
101.60 mm L x 101.60 mm W

Electrical Connectors:

Input J1 : MS3102R-18-3P Box Receptacle mates with MS3106F-18-3S
Output J2: MS3102R-18-4S Box Receptacle mates with MS3106F-18-4P

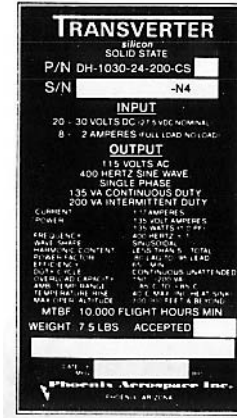
Weight: 5.5 lbs - 2.49 kg (Max.)

Applications: Aero Commander 1121 (Retrofit)
Bell AH-1G (Retrofit)

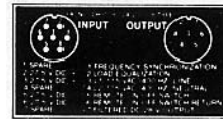


NOTES:

1. MODEL AND SERIAL PLATE.



2. CONNECTOR IDENTIFICATION PLATE



3. RECEPTACLE J1 - INPUT - TYPE DBA70-19-7PN, MATING CONNECTOR TYPE DBA77-19-7SN, CONNECTIONS AS LISTED

PIN	CONNECTION	CODING
1	SPARE	SPARE
2	DC POSITIVE INPUT, +27.5V DC (NOMINAL)	27.5V DC +
3	DC POSITIVE INPUT, +27.5V DC (NOMINAL)	27.5V DC +
4	SPARE	SPARE
5	DC NEGATIVE INPUT	27.5V DC-
6	DC NEGATIVE INPUT	27.5V DC-
7	SPARE	SPARE

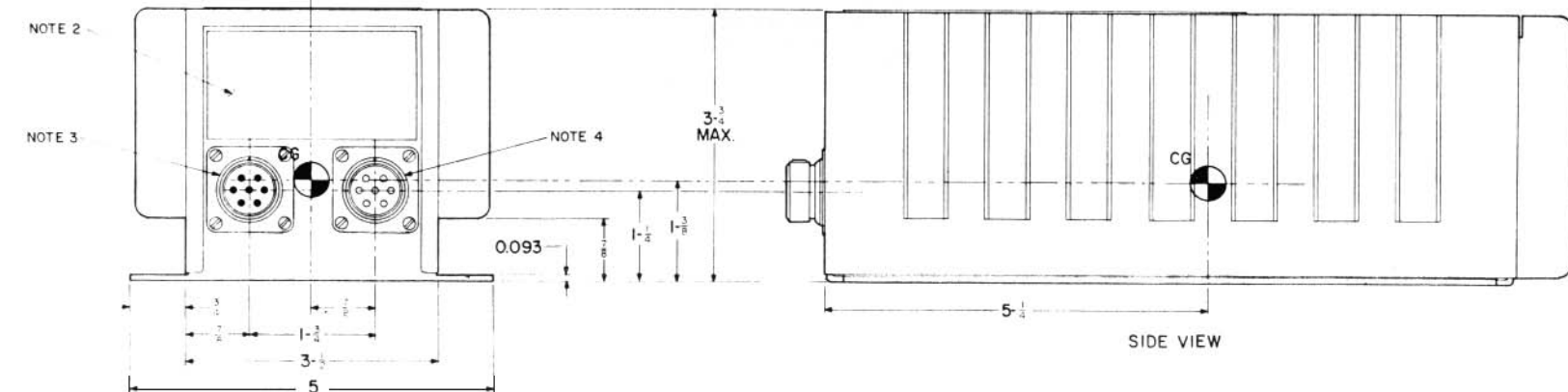
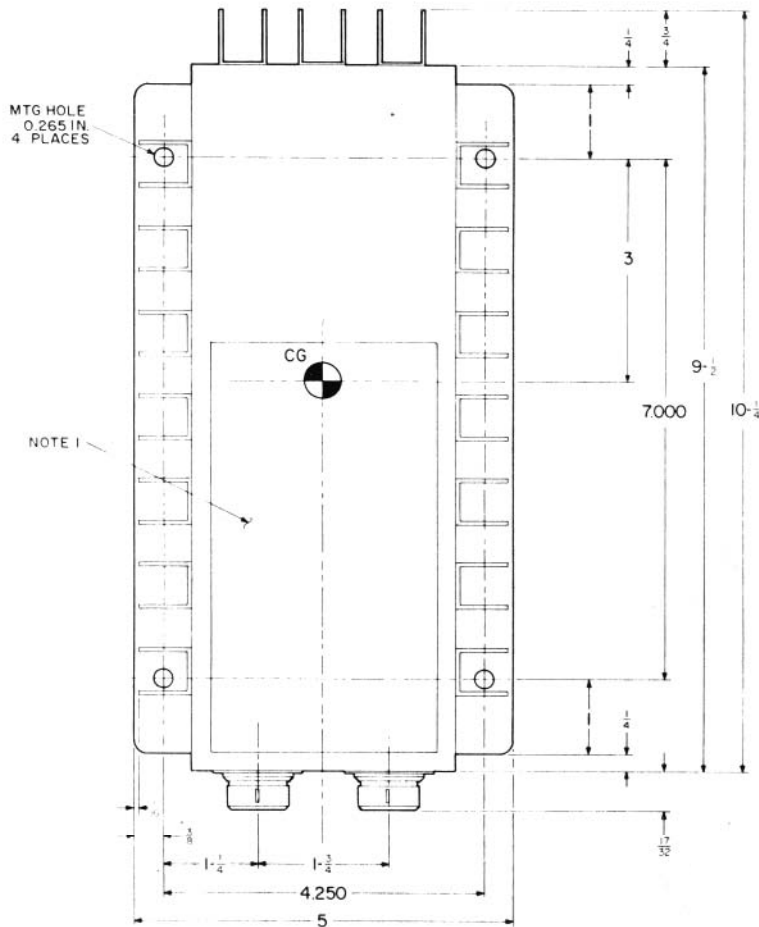
4. RECEPTACLE J2 - OUTPUT - TYPE DBA70-19-7SN, MATING CONNECTOR TYPE DBA77-19-7PN, CONNECTIONS AS LISTED

PIN	CONNECTION	CODING
1	FREQUENCY SYNCHRONIZATION	FREQ SYNC
2	LOAD EQUALIZATION	LOAD EQL
3	L1-115 VAC (400 HZ) LINE	L1(115 VAC)
4	L2 - 115 VAC (400 HZ) NEUTRAL	L2(115 VAC)
5	REMOTE ON/OFF SWITCH	REM SW
6	REMOTE ON/OFF SWITCH RETURN	REM SW RETURN
7	FILTERED DC 28 V OUTPUT	+28V DC

5. MATING CONNECTORS REQUIRE APPROXIMATELY 2-1/4 INCHES CLEARANCE TO CONNECT.

6. WEIGHT 75 LBS (3,676 GRAMS).

7. CENTER OF GRAVITY AS INDICATED BY SYMBOLS.



OUTLINE DIMENSION DH-1030-24-200-CS TYPE I TRANSVERTER



115 VAC STATIC INVERTERS - 1 PHASE - 135 VA (CONT.)

DH-1030-24-200-CS TYPE I TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)

Silicon Solid State - 135 VA, 1 Phase, Class B, Multi-purpose, with Remote Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
8 - 2 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
135 VA Continuous Duty
200 VA Intermittent Duty

Dimensions:

Unit: 10-1/4 L x 4-7/8 W x 3-3/4 H
260.35 mm L x 123.83 mm W 95.25 mm H
Mounting Base: 9 L x 5 W
228.60 mm L x 127.00 mm W
Mounting Centers: 7.000 L x 4.250 W
177.80 mm Lx 107.95 mm W

Electrical Connectors:

Input J1: DBA70-19-7PN Deutsch Box Receptacle mates with DBA77-19-7SN
Output J2: DBA70-19-7SN Deutsch Box Receptacle mates with DBA77-19-7PN

Weight: 7.5 lbs - 3.4 kg (Max.)

Applications: Learavia Lear Fan (Proposed)



115 VAC STATIC INVERTERS - 1 PHASE - 135 VA (CONT.)

DH-1030-24-200-CS TYPE II TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 135 VA, 1 Phase, Class B, Multi-purpose, with
Remote Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
8 - 2 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
135 VA Continuous Duty
200 VA Intermittent Duty

Dimensions:

Unit: 10-1/4 L x 4-7/8 W x 3-3/4 H
260.35 mm L x 123.83 mm W x 95.25 mm H
Mounting Base: 9 L x 5 W
228.60 mm L x 127.00 mm W
Mounting Centers: 7.000 L x 4.250 W
177.80 mm L x 107.95 mm W

Electrical Connectors:

Input J1: MS3102R-18-3P Box Receptacle mates with MS3106F-18-3S
Output J2: MS3102R- 18-4S Box Receptacle mates with MS3106F-18-4P

Weight: 7.5 lbs - 3.4 kg (Max.)

Applications: Beechcraft Model 99 (Proposed)



115/26 VAC STATIC INVERTERS - 1 PHASE - 150 VA (CONT.)

DH-1030-24-225-CS TYPE IID TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 150 VA, 1 Phase, Class B, Multi-purpose

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
8.5 - 2 Amperes (Full Load - No Load)

Output: 115/26 Volts AC, 400 Hertz Sine Wave, 1 Phase
150 VA Continuous Duty - 115 VAC
100 VA Continuous Duty - 26 VAC
150 VA Continuous Duty - 115/26 VAC Combined Load
225 VA Intermittent Duty

Dimensions:

Unit: 10-1/4 L x 4-7/8 W x 3-3/4 H
260.35 mm L x 123.83 mm W x 95.25 mm H
Mounting Base: 9 L x 5 W
228.60 mm L x 127.00 mm W
Mounting Centers: 7.000 L x 4.250 W
177.80 mm L x 107.95 mm W

Electrical Connectors:

Input/Output J1: MS3102R-18-9P Box Receptacle mates with
MS3106F- 18-9S

Weight: 7.5 lbs - 3.4 kg (Max.)

Applications: Embraer AM-X (Proposed)
Government Aircraft Factories RAAF Basic Trainer
(Proposed)



115/26 VAC STATIC INVERTERS - 1 PHASE - 200 VA (CONT.)

DH-1030-24-300-CS TYPE IID TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)

Silicon Solid State - 200 VA, 1 Phase, Class B, Multi-purpose

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
10 - 2 Amperes (Full Load - No Load)

Output: 115/26 Volts AC, 400 Hertz Sine Wave, 1 Phase
200 VA Continuous Duty - 115 VAC
30 VA Continuous Duty - 26 VAC
200 VA Continuous Duty - 115/26 VAC Combined Load
300 VA Intermittent Duty

Dimensions:

Unit: 8-3/4 L x 6 W x 4 H
222.25 mm L x 152.40 mm W x 101.60 mm H
Mounting Base: 7-1/2 L x 6 W
190.50 mm L x 152.40 mm W
Mounting Centers: 6.000 L x 5.250 W
152.40 mm L x 133.35 mm W

Electrical Connectors:

Input/Output J1: MS3102R-18-9P Box Receptacle mates with
MS3106F-18-9S

Weight: 9.9 lbs - 4.49 kg (Max.)

Applications: Agusta A 109/Commercial (Production)
Siai Marchetti S-211 (Production)



115 VAC STATIC INVERTERS - 1 PHASE - 200 VA (CONT.)

DH-1030-24-300-CS TYPE IIF TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 200 VA, 1 Phase, Class B, Multi-purpose,
with Remote Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
10 - 2 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
200 VA Continuous Duty
300 VA Intermittent Duty

Dimensions:

Unit: 8-3/4 L x 6 W x 4 H
222.25 mm L x 152.40 mm W x 101.60 mm H
Mounting Base: 7-1/2 L x 6 W
190.50 mm L x 152.40 mm W
Mounting Centers: 6.000 L x 5.250 W
152.40 mm L x 133.35 mm W

Electrical Connectors:

Input J1: MS3122E-18-11P Box Receptacle mates with MS3126F-18-11S
Output J2: MS3122E-18-11S Box Receptacle mates with MS3126F-18-11P

Weight: 8.6 lbs - 3.9 kg (Max.)

Applications: Kiva Mining/Geophysical Aircraft Instrumentation
Applications (Retrofit)



DH-1030-24-375-CS TYPE I TRANSVERTER



115 VAC STATIC INVERTERS - 1 PHASE - 250 VA (CONT.)

DH-1030-24-375-CS TYPE I TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 250 VA, 1 Phase, Class B, Multi-purpose, with
Remote Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
13 - 2 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
250 VA Continuous Duty
375 VA Intermittent Duty

Dimensions:

Unit: 8-3/4 L x 5-15/16 W x 4 H
222.25 mm L x 150.81 mm W x 101.60 mm H
Mounting Base: 7-1/2 L x 6 W
190.50 mm L x 152.40 mm W
Mounting Centers: 6.000 L x 5.250 W
152.40 mm L x 133.35 mm W

Electrical Connectors:

Input J1: DBA70-19-7PN Deutsch Box Receptacle mates with
DBA77-19-7SN
Output J2: DBA70-19-7SN Deutsch Box Receptacle mates with
DBA77-19-7PN

Weight: 8.6 lbs - 3.9 kg (Max.)

Applications: C.A.S.A. C-212 (Production)



DH-1030-24-375-CS TYPE II TRANSVERTER



115 VAC STATIC INVERTERS - 1 PHASE - 250 VA (CONT.)

DH-1030-24-375-CS TYPE II TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)

Silicon Solid State - 250 VA, 1 Phase, Class B, Multi-purpose, with Remote Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
13 - 2 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
250 VA Continuous Duty
375 VA Intermittent Duty

Dimensions:

Unit: 8-3/4 L x 5-15/16 W x 4 H
222.25 mm L x 150.81 mm W x 101.60 mm H
Mounting Base: 7-1/2 L x 6 W
190.50 mm L x 152.40 mm W
Mounting Centers: 6.000 L x 5.250 W
152.40 mm L x 133.35 mm W

Electrical Connectors:

Input J1: MS3102R-18-3P Box Receptacle mates with MS3106F-18-3S
Output J2: MS3102R-18-8S Box Receptacle mates with MS3106F-18-8P

Weight: 8.6 lbs - 3.9 kg (Max.)

Applications: Rockwell International - Collins Defense Communications
G.P.S. Support Equipment (NAVSTAR User Equipment
Instrumentation for the Global Positioning Satellite) CPN
270-0909-010



DH-1030-24-375-CS TYPE IID TRANSVERTER



115/26 VAC STATIC INVERTERS - 1 PHASE - 250 VA (CONT.)

DH-1030-24-375-CS TYPE IID TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter) Silicon Solid State - 250 VA, 1 Phase, Class B, Multi-purpose

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
13 - 2 Amperes (Full Load - No Load)

Output: 115/26 Volts AC, 400 Hertz Sine Wave, 1 Phase
250 VA Continuous Duty - 115 VAC
150 VA Continuous Duty - 26 VAC
250 VA Continuous Duty - 115/26 VAC Combined Load
375 VA Intermittent Duty

Dimensions:

Unit: 8-3/4 L x 5-15/16 W x 4 H
222.25 mm L x 150.81 mm W x 101.60 mm H
Mounting Base: 7-1/2 L x 6 W
190.50 mm L x 152.40 mm W
Mounting Centers: 6.000 L x 5.250 W
152.40 mm L x 133.35 mm W

Electrical Connectors:

Input/Output J1: MS3102R-18-9P Box Receptacle mates with
MS3106F- 18-9S

Weight: 9.2 lbs - 4.2 kg (Max.)

Applications: Agusta A 109 (Production)
Government Aircraft Factories RAAF Basic Trainer
(Proposed)
Siai Marchetti Commercial S-211 (Proposed)



115/26 VAC STATIC INVERTERS - 1 PHASE - 250 VA (CONT.)

DH-1030-24-375-CS TYPE IIDB TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 250 VA, 1 Phase, Class B, Multi-purpose

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
13 - 2 Amperes (Full Load - No Load)

Output: 115/26 Volts AC, 400 Hertz Sine Wave, 1 Phase
250 VA Continuous Duty - 115 VAC
150 VA Continuous Duty - 26 VAC
250 VA Continuous Duty - 115/26 VAC Combined Load
375 VA Intermittent Duty

Dimensions:

Unit: 8-3/4 L x 5-15/16 W x 4 H
222.25 mm L x 150.81 mm W x 101.60 mm H
Mounting Base: 7-1/2 L x 6 W
190.50 mm L x 152.40 mm W
Mounting Centers: 6.000 L x 5.250 W
152.40 mm L x 133.35 mm W
Special Mounting Plate: 10-5/8 L x 6 W
269.88 mm L x 152.40 mm W
Mounting Centers: 10.000 L x 3.250 W
254.00 mm L x 81.79 mm W

Electrical Connectors:

Input/Output J1: MS3102R-18-9P Box Receptacle mates with
MS3106F-18-9S

Weight: 9.2 lbs - 4.2 kg (Max.)

Applications: Dornier GMBH/Fuerza Argentina 1A-63 (Proposed)



115/26 VAC STATIC INVERTERS - 1 PHASE - 250 VA (CONT.)

DH-1030-24-375-CS TYPE IIDS TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 250 VA, 1 Phase, Class B, Multi-purpose,
with Remote Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
13 - 2 Amperes (Full Load - No Load)

Output: 115/26 Volts AC, 400 Hertz Sine Wave, 1 Phase
250 VA Continuous Duty - 115 VAC
150 VA Continuous Duty - 26 VAC
250 VA Continuous Duty - 115/26 VAC Combined Load
375 VA Intermittent Duty

Dimensions:

Unit: 8-3/4 L x 5-15/16 W x 4 H
222.25 mm L x 150.81 mm W x 101.60 mm H
Mounting Base: 7-1/2 L x 6 W
190.50 mm L x 152.40 mm W
Mounting Centers: 6.000 L x 5.250 W
152.40 mm L x 133.35 mm W

Electrical Connectors:

Input/Output J1: MS3102R-18-9P Box Receptacle mates with
MS3106F-18-9S

Weight: 9.2 lbs - 4.2 kg (Max.)

Applications: Dornier GMBH/Fuerza Argentina 1A-63 (Proposed)



115 VAC STATIC INVERTERS - 1 PHASE - 300 VA (CONT.)

DH-1030-24-450-CS TYPE 1 TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 300 VA, 1 Phase, Class B, Multi-purpose,
with Remote Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
14 - 2 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
300 VA Continuous Duty 450 VA Intermittent Duty

Dimensions:

Unit: 9-3/4 L x 6-3/4 W x 5 H
247.65 mm L x 171.45 mm W x 127.00 mm H
Mounting Base: 8-3/8 L x 6-3/4 W
212.73 mm L x 171.45 mm W
Mounting Centers: 6.000 L x 6.000 W
152.40 mm L x 152.40 mm W

Electrical Connectors:

Input J1: DBA70-19-7PN Deutsch Box Receptacle mates with
DBA77-19-7SN
Output J2: DBA70-19-7SN Deutsch Box Receptacle mates with
DUBAI-19-7PN

Weight: 12.5 lbs - 5.67 kg (Max.)

Applications: C.A.S.A. C-212 (Production)



115 VAC STATIC INVERTERS - 1 PHASE - 300 VA (CONT.)

DH-1030-24-450-CS TYPE 11 TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 300 VA, 1 Phase, Class B, Multi-purpose,
with Remote Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
14 - 2 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
300 VA Continuous Duty
450 VA Intermittent Duty

Dimensions:

Unit: 9-3/4 L x 6-3/4 W x 5 H
247.65 mm L x 171.45 mm W x 127.00 mm H
Mounting Base: 8-3/8 L x 6-3/4 W
212.73 mm L x 171.45 mm W
Mounting Centers: 6.000 L x 6.000 W
152.40 mm L x 152.40 mm W

Electrical Connectors:

Input J1: MS3102R-22-1P Box Receptacle mates with MS3106F-22-1S
Output J2: MS3102R-22-18S Box Receptacle mates with MS3106F-22-18P

Weight: 12.5 lbs - 5.67 kg (Max.)

Applications: Agusta A 109/Military (Production)



115/26 VAC STATIC INVERTERS - 1 PHASE - 300 VA (CONT.)

DH-1030-24-450-CS TYPE IID TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)

Silicon Solid State - 300 VA, 1 Phase, Class B, Multi-purpose

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
14 - 2 Amperes (Full Load - No Load)

Output: 115/26 Volts AC, 400 Hertz Sine Wave, 1 Phase
300 VA Continuous Duty - 115 VAC
150 VA Continuous Duty - 26 VAC
300 VA Continuous Duty - 115/26 VAC Combined Load
450 VA Intermittent Duty

Dimensions:

Unit: 9-3/4 L x 6-3/4 W x 5 H
247.65 mm L x 171.45 mm W x 127.00 mm H
Mounting Base: 8-3/8 L x 6-3/4 W
212.73 mm L x 171.45 mm W
Mounting Centers: 6.000 L x 6.000 W
152.40 mm L x 152.40 mm W

Electrical Connectors:

Input/Output J1: MS3102R-18-9P Box Receptacle mates with
MS3106F-18-9S

Weight: 13.0 lbs - 5.9 kg (Max.)

Applications: Agusta A 109/Military (Production)
Mitsubishi MU-2 (Proposed)



115 VAC STATIC INVERTERS - 1 PHASE - 400 VA (CONT.)

DH-1030-24-600-CS TYPE B TRANSVERTER - NSN 6130-21-862-0528 (CANADA)

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 400 VA, 1 Phase, Class B, Multi-purpose

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
18 - 2 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
400 VA Continuous Duty
600 VA Intermittent Duty

Dimensions:

Unit: 10-3/4 L x 7-5/8 W x 5 H
273.05 mm L x 193.68 mm W x 127.00 mm H
Mounting Base: 9-3/8 L x 7-3/4 W
238.13 mm L x 196.85 mm W
Mounting Centers: 7.000 L x 7.000 W
177.80 mm L x 177.80 mm W

Electrical Connectors:

Input J1: MS3 102R-22-1P Box Receptacle mates with MS3106F-22-1S
Output J2: MS3102R-22-10S Box Receptacle mates with MS3106F-22-10P

Weight: 14.5 lbs - 6.58 kg (Max.)

Applications: de Havilland DHC-6 (Production)



DH-1030-24-600-CS TYPE I TRANSVERTER



115 VAC STATIC INVERTERS - 1 PHASE - 400 VA (CONT.)

DH-1030-24-600-CS TYPE I TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 400 VA, 1 Phase, Class B, Multi-purpose,
with Remote Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
18 - 2 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
400 VA Continuous Duty
600 VA Intermittent Duty

Dimensions:

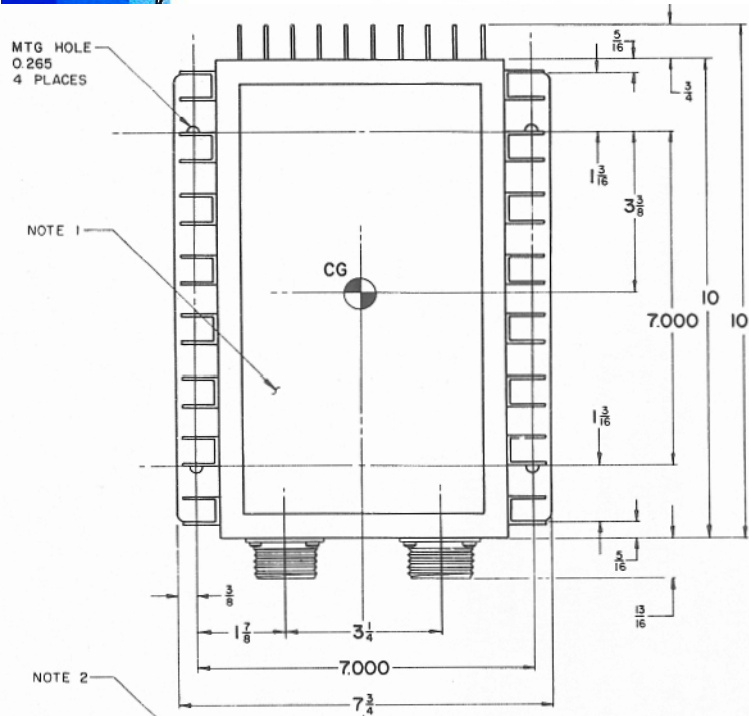
Unit: 10-3/4 L x 7-5/8 W x 5 H
273.05 mm L x 193.68 mm W x 127.00 mm H
Mounting Base: 9-3/8 L x 7-3/4 W
238.13 mm L x 196.85 mm W
Mounting Centers: 7.000 L x 7.000 W
177.80 mm L x 177.80 mm W

Electrical Connectors:

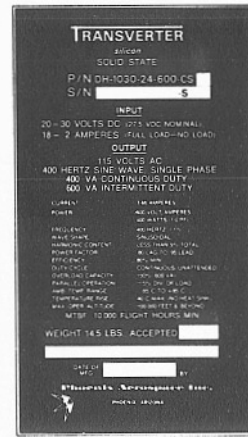
Input J1: DBA70-19-7PN Deutsch Box Receptacle mates with
DBA77-19-7SN
Output J2: DBA70-19-7SN Deutsch Box Receptacle mates with
DBA77-19-7PN

Weight: 14.5 lbs - 6.58 kg (Max.)

Applications: Agusta A 129 (Production)
C.A.S.A. C-212 (Production)
C.A.S.A. CN-235 (Proposed)
Hawker Siddeley DH-125, -1A, -3A, -3AR, & -400/United
Telephone STC No. SA740CE 20 NOV 70 (Retrofit)
Hawker Siddeley HS-748 (MBB Conversions)
Nurtanio C-212 (Production)
Nurtanio CN-235 (Proposed)
Shorts Seacat Missile (Production)
Siai Marchetti SF-260 (Production)



1. MODEL AND SERIAL PLATE



2. CONNECTOR IDENTIFICATION PLATE



3. RECEPTACLE J1-INPUT-TYPE MS3102R-22-1P, MATING CONNECTOR TYPE MS3106F-22-1S, CONNECTIONS AS LISTED

PIN	CONNECTION	CODING
A	DC POSITIVE INPUT, +27.5 VDC, NOMINAL	+28 VDC
B	DC NEGATIVE INPUT, -27.5 VDC, NOMINAL	27.5 VDC +

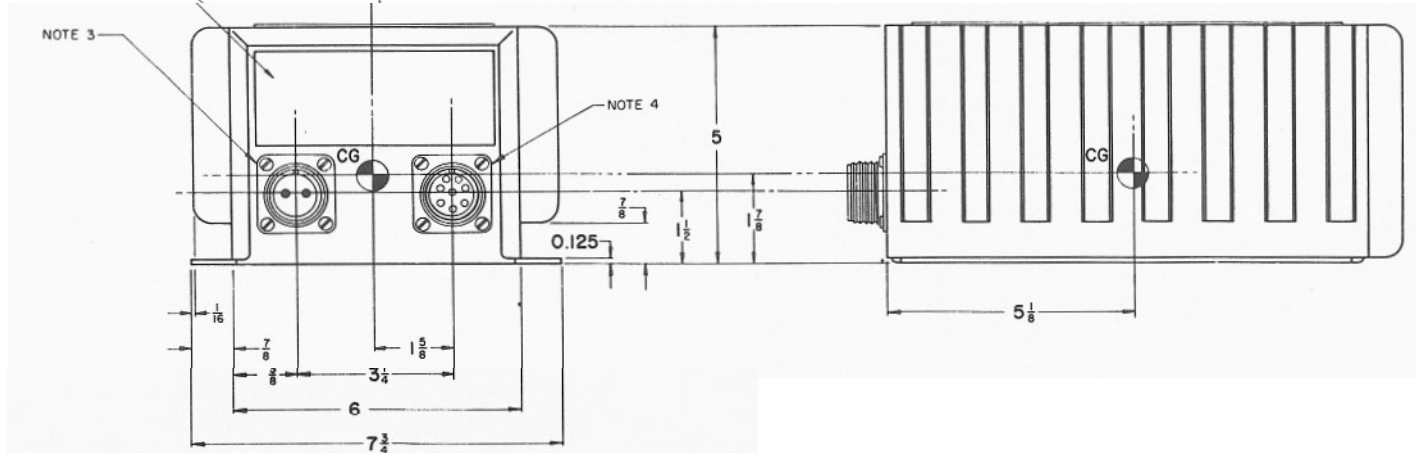
4. RECEPTACLE J2-OUTPUT-TYPE MS3102R-22-18S, MATING CONNECTOR TYPE MS3106F-22-18P, CONNECTIONS AS LISTED

PIN	CONNECTION	CODING
A	FILTERED DC 28 V OUTPUT	+28 VDC
B	L1-115 VAC (400 HZ) LINE	L1 (115 VAC)
C	LOAD EQUALIZATION	LOAD EGL
D	FREQUENCY SYNCHRONIZATION	FREQ SYNC
E	REMOTE ON/OFF SWITCH	REM SW
F	REMOTE ON/OFF SWITCH RETURN	REM SW RETURN
G	L2-115 VAC (400 HZ) NEUTRAL	L2 (115 VAC)
H	SPARE	SPARE

5. MATING CONNECTORS REQUIRE APPROXIMATELY 2-1/4 INCHES CLEARANCE TO CONNECT.

6. WEIGHT 14.5 LBS (6577 GRAMS).

7. CENTER OF GRAVITY AS INDICATED BY SYMBOLS.



OUTLINE DIMENSION DH-1030-24-600-CS TYPE II TRANSVERTER



115 VAC STATIC INVERTERS - 1 PHASE - 400 VA (CONT.)

DH-1030-24-600-CS TYPE II TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 400 VA, 1 Phase, Class B, Multi-purpose, with
Remote Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
18 - 2 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
400 VA Continuous Duty
600 VA Intermittent Duty

Dimensions:

Unit: 10-3/4 L x 7-5/8 W x 5 H
273.05 mm L x 193.68 mm W x 127.00 mm H
Mounting Base: 9-3/8 L x 7-3/4 W
238.13 mm L x 196.85 mm W
Mounting Centers: 7.000 L x 7.000 W
177.80 mm L x 177.80 mm W

Electrical Connectors:

Input J1: MS3 102R-22- I P Box Receptacle mates with MS3106F-22-1 S
Output J2: MS3102R-22-18S Box Receptacle mates with MS3106F-22-18P

Weight: 14.5 lbs - 6.58 kg (Max.)

Applications: Canadair CL-215 (Production)
de Havilland DHC-5 (Production)
Helio H-600 (Production)
Mitsubishi MU-300 (Proposed)
Sikorsky S-58T Production



DH-1030-24--600--CS TYPE IIB TRANSVERTER



115 VAC STATIC INVERTERS - 1 PHASE - 400 VA (CONT.)

NSN 6130-21-902-8732 (CANADA)

DH-1030-24-600-CS TYPE IIB TRANSVERTER - DHC P/N 8SC 0009

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 400 VA, 1 Phase, Class B, Multi-purpose, with
Remote Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
18 - 2 Amperes (Full Load No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
400 VA Continuous Duty
600 VA Intermittent Duty

Dimensions:

Unit: 10-3/4 L x 7-5/8 W x 5 H
273.05 mm L x 193.68 mm W x 127.00 mm H
Mounting Base: 9-3/8 L x 7-3/4 W
238.13 mm L x 196.85 mm W
Mounting Centers: 7.000 L x 7.000 W
177.80 mm L x 177.80 mm W

Electrical Connectors:

Input J1: MS3102R-22-1P Box Receptacle mates with MS3106F-22-1S
Output J2: MS3102R-22-18S Box Receptacle mates with MS3106F-22-18P

Weight: 14.5 lbs - 6.58 kg (Max.)

Applications: de Havilland DASH 8 (Production)



115/26 VAC STATIC INVERTERS - 1 PHASE - 400 VA (CONT.)

DH-1030-24-600-CS TYPE IIC TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 350 VA, 1 Phase, Class B, Multi-purpose,
with Fault Monitoring Output and Remote Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal) (Dual DC Input)
16 - 2 Amperes (Full Load - No Load)

Output: 115/26 Volts AC, 400 Hertz Sine Wave, 1 Phase
350 VA Continuous Duty - 115 VAC
150 VA Continuous Duty - 26 VAC
350 VA Continuous Duty - 115/26 VAC Combined Load
525 VA Intermittent Duty

Dimensions:

Unit: 10-3/4 L x 7-5/8 W x 5 H
273.05 mm L x 193.68 mm W x 127.00 mm H
Mounting Base: 9-3/8 L x 7-3/4 W
238.13 mm L x 196.85 mm W
Mounting Centers: 7.000 L x 7.000 W
177.80 mm L x 177.80 mm W

Electrical Connectors:

Input J1: MS3 102R-22-22P Box Receptacle mates with MS3106F-22-22S
Output J2: MS3102R-22-20S Box Receptacle mates with MS3106F-22-20P

Weight: 15.0 lbs - 6.8 kg (Max.)

Applications: All Battery Operated Emergency Systems



115/26 VAC STATIC INVERTERS - 1 PHASE - 400 VA

DH-1030-24-600-CS TYPE IID TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 400 VA, 1 Phase, Class B, Multi-purpose

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
18 - 2 Amperes (Full Load - No Load)

Output: 115/26 Volts AC, 400 Hertz Sine Wave, 1 Phase
400 VA Continuous Duty - 115 VAC
150 VA Continuous Duty - 26 VAC
400 VA Continuous Duty - 115/26 VAC Combined Load
600 VA Intermittent Duty

Dimensions:

Unit: 10-3/4 L x 7-5/8 W x 5 H
273.05 mm L x 193.68 mm W x 127.00 mm H
Mounting Base: 9-3/8 L x 7-3/4 W
238.13 mm L x 196.85 mm W
Mounting Centers: 7.000 L x 7.000 W
177.80 mm L x 177.80 mm W

Electrical Connectors:

Input/Output J1: MS3102R-18-9P Box Receptacle mates with
MS3106F-18-9S

Weight: 15.0 lbs - 6.8 kg (Max.)

Applications: Flitetronics PC-450 (Retrofit)



NOTES:

1. MODEL AND SERIAL PLATE.

3. RECEPTACLE J1-INPUT-TYPE DBA70-19-7PN (DEUTSCH), MATING CONNECTOR TYPE DBA77-19-7SN (DEUTSCH), CONNECTIONS AS LISTED

PIN	CONNECTION	CODING
1	DC POSITIVE INPUT, +28VDC (+27.5V DC NOM)	27.5 V DC+
2	DC POSITIVE INPUT, +28VDC (+27.5V DC NOM)	27.5 V DC+
3	DC POSITIVE INPUT, +28VDC (+27.5V DC NOM)	27.5 V DC+
4	DC NEGATIVE INPUT	27.5V DC-
5	DC NEGATIVE INPUT	27.5 V DC-
6	DC NEGATIVE INPUT	27.5 V DC-
7	SPARE	SPARE

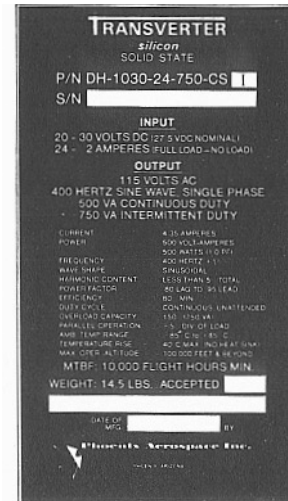
4 RECEPTACLE J2-OUTPUT-TYPE DBA70-19-7SN (DEUTSCH), MATING CONNECTOR TYPE DBA77-19-7PN (DEUTSCH), CONNECTIONS AS LISTED PIN

PIN	CONNECTION	CODING
1	FREQUENCY SYNCHRONIZATION	FREQ SYNC
2	LOAD EQUALIZATION	LOAD EGL
3	L1-115VAC (400HZ) LINE	L1(115 VAC)
4	L2-115 VAC (400 HZ) NEUTRAL	L2 (115 VAC)
5	REMOTE ON/OFF SWITCH	REM SW
6	REMOTE ON/OFF SWITCH RETURN	REM SW RETURN
7	FILTERED DC 28 V OUTPUT	+28 VDC

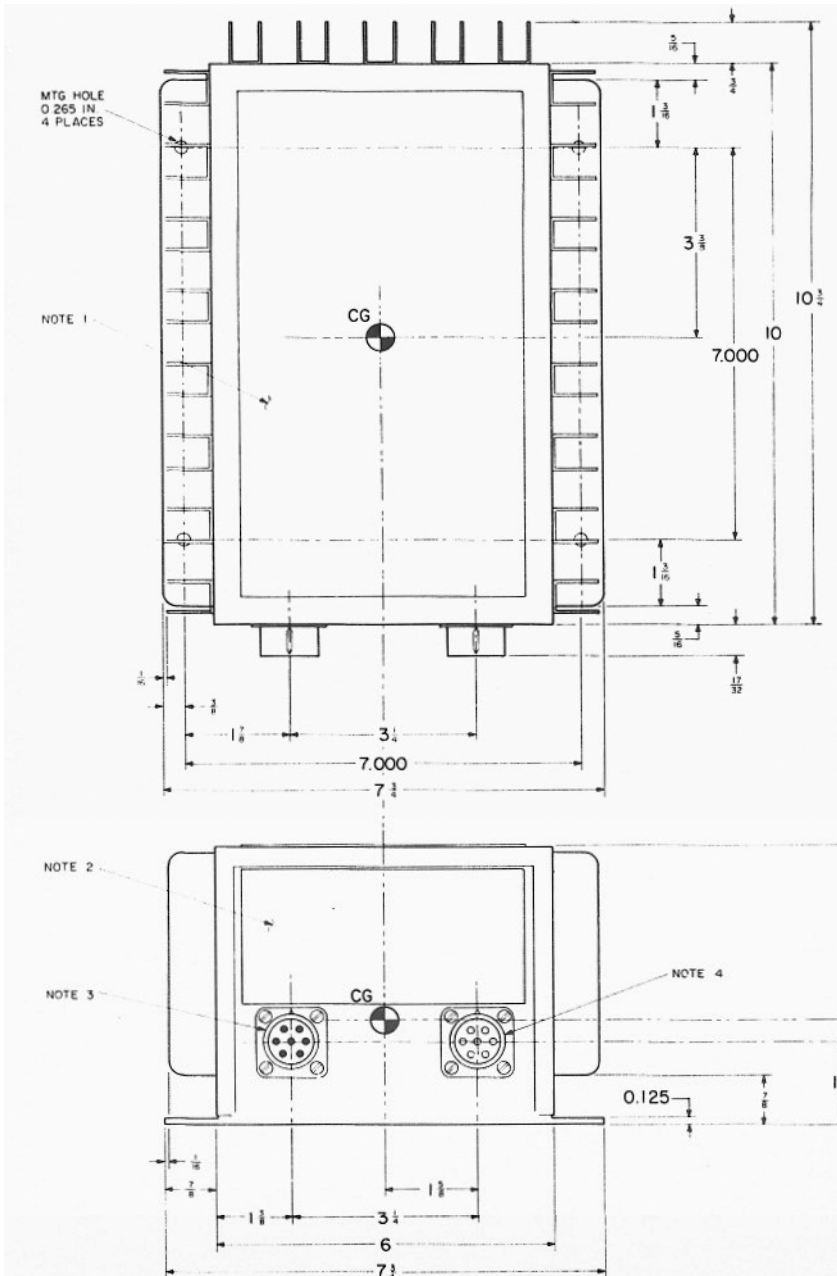
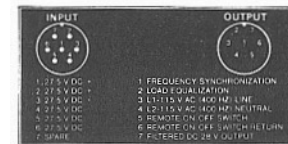
5. MATING CONNECTORS REQUIRE APPROXIMATELY 2-1/4 INCHES CLEARANCE TO CONNECT

6 WEIGHT 14.5 LBS (6,577 GRAMS).

7. CENTER OF GRAVITY AS INDICATED BY SYMBOLS



2. CONNECTOR IDENTIFICATION PLATE



OUTLINE DIMENSION DH-1030-24-750-CS TYPE I TRANSVERTER



115 VAC STATIC INVERTERS - 1 PHASE - 500 VA

DH-1030-24-750-CS TYPE I TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 500 VA, 1 Phase, Class B, Multi-purpose,
with Remote Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
24 - 2 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
500 VA Continuous Duty
750 VA Intermittent Duty

Dimensions:

Unit: 10-3/4 L x 7-5/8 W x 5 H
273.05 mm L x 193.68 mm W x 127.00 mm H
Mounting Base: 9-3/8 L x 7-3/4 W
238.13 mm L x 196.85 mm W
Mounting Centers: 7.000 L x 7.000 W
177.80 mm L x 177.80 mm W

Electrical Connectors:

Input J1: DBA70-19-7PN Deutsch Box Receptacle mates with
DBA77- 19-7SN
Output J2: DBA70-19-7SN Deutsch Box Receptacle mates with
DBA77- 19-7PN

Weight: 14.5 lbs - 6.58 kg (Max.)

Applications: Aeritalia ATR-42 (Proposed)
C.A.S.A. CN-235 (Proposed)



115 VAC STATIC INVERTERS - 1 PHASE - 500 VA (CONT.)

DH-1030-24-750-CS TYPE II TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 500 VA, 1 Phase, Class B, Multi-purpose,
with Remote Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
24 - 2 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
500 VA Continuous Duty
750 VA Intermittent Duty

Dimensions:

Unit: 10-3/4 L x 7-5/8 W x 5 H
273.05 mm L x 193.68 mm W x 127.00 mm H
Mounting Base: 9-3/8 L x 7-3/4 W
238.13 mm L x 196.85 mm W
Mounting Centers: 7.000 L x 7.000 W
177.80 mm L x 177.80 mm W

Electrical Connectors:

Input J1 : MS3102R-22-1 P Box Receptacle mates with MS3106F-22-1S
Output J2: MS3102R-22-18S Box Receptacle mates with MS3106F-22-18P

Weight: 14.5 lbs - 6.58 kg (Max.)

Applications: SAAB/Fairchild SF-340 (Proposed)



115/26 VAC STATIC INVERTERS - 1 PHASE - 500 VA (CONT.)

DH-1030-24-750-CS TYPE IIDS TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 500 VA, 1 Phase, Class B, Multi-purpose,
with Remote Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
24 - 2 Amperes (Full Load - No Load)

Output: 115/26 Volts AC, 400 Hertz Sine Wave, 1 Phase
500 VA Continuous Duty - 115 VAC
150 VA Continuous Duty - 26 VAC
500 VA Continuous Duty - 115/26 VAC Combined Load
750 VA Intermittent Duty

Dimensions:

Unit: 10-3/4 L x 7-5/8 W x 5 H
273.05 mm L x 193.68 mm W x 127.00 mm H
Mounting Base: 9-3/8 L x 7-3/4 W
238.13 mm L x 196.85 mm W
Mounting Centers: 7.000 L x 7.000 W
177.80 mm L x 177.80 mm W

Electrical Connectors:

Input/Output J1: MS3 102R-24-IIP Box Receptacle mates with
MS3 106F-24-IIS

Weight: 15.4 lbs - 6.99 kg (Max.)

Applications: Dornier GMBH/Fuerza Argentina 1A-63 (Proposed)



115 VAC STATIC INVERTERS - 1 PHASE - 800 VA (CONT.)

DH-1030-24-900-CS TYPE I TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 800 VA, 1 Phase, Class B, Multi-purpose,
with Remote Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
39 - 4 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
800 VA Continuous Duty
1200 VA Intermittent Duty

Dimensions:

Unit: 12-3/4 L x 7-5/8 W x 5 H
323.85 mm L x 193.68 mm W x 127.00 mm H
Mounting Base: 11-1/2 L x 7-3/4 W
292.10 mm L x 196.85 mm W
Mounting Centers: 10.000 L x 7.000 W
254.00 mm L x 177.80 mm W

Electrical Connectors:

Input J1: DBA70-19-7PN Deutsch Box Receptacle mates with
DBA77-19-7SN
Output J2: DBA70-19-7SN Deutsch Box Receptacle mates with
DBA77-19-7PN

Weight: 20.0 lbs - 9.07 kg (Max.)

Applications: Aeritalia ATR-42 (Proposed)
C.A.S.A. CN-235 (Proposed)



115 VAC STATIC INVERTERS - 1 PHASE - 800 VA (CONT.)

DH-1030-24-900-CS TYPE II TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 800 VA, 1 Phase, Class B, Multi-purpose,
with Remote Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
39 - 4 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
800 VA Continuous Duty
1200 VA Intermittent Duty

Dimensions:

Unit: 12-3/4 L x 7-5/8 W x 5 H
323.85 mm L x 193.68 mm W x 127.00 mm H
Mounting Base: 11-1/2 L x 7-3/4 W
292.10 mm L x 196.85 mm W
Mounting Centers: 10.000 L x 7.000 W
254.00 mm L x 177.80 mm W

Electrical Connectors:

Input J1: MS3102R-24-22P Box Receptacle mates with MS3106F-24-22S
Output J2: MS3102R-24-20S Box Receptacle mates with MS3106F-24-20P

Weight: 20.0 lbs - 9.07 kg (Max.)

Applications: Ares, Inc./Sperry Ordnance (Production)
SAAB/Fairchild SF-340 (Proposed)



115 VAC STATIC INVERTERS - 1 PHASE - 800 VA (CONT.)

DH-1030-24-900-CS TYPE JIB TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 800 VA, 1 Phase, Class B, Multi-purpose, with
Remote Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
39 - 4 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
800 VA Continuous Duty
1200 VA Intermittent Duty

Dimensions:

Unit: 12-3/4 L x 7-5/8 W x 5 H
323.85 mm L x 193.68 mm W x 127.00 mm H
Mounting Base: 11-1/2 L x 7-3/4 W
292.10 mm L x 196.85 mm W
Mounting Centers: 10.000 L x 7.000 W
254.00 mm L x 177.80 mm W

Electrical Connectors:

Input J1: MS3102R-24-22P Box Receptacle mates with MS3106F-24-22S
Output J2: MS3102R-24-20S Box Receptacle mates with MS3106F-24-20P

Weight: 20.0 lbs - 9.07 kg (Max.)

Applications: Israel Aircraft Industries 1124A (Proposed)



115/26 VAC STATIC INVERTERS - 1 PHASE - 800 VA (CONT.)

DH-1030-24-900-CS TYPE IIC TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 800 VA, 1 Phase, Class B, Multi-purpose

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
39 - 4 Amperes (Full Load - No Load)

Output: 115/26 Volts AC, 400 Hertz Sine Wave, 1 Phase
800 VA Continuous Duty - 115 VAC
150 VA Continuous Duty - 26 VAC
800 VA Continuous Duty - 115/26 VAC Combined Load
1200 VA Intermittent Duty

Dimensions:

Unit: 12-3/4 L x 7-5/8 W x 5 H
323.85 mm L x 193.68 mm W x 127.00 mm H
Mounting Base: 11-1/2 L x 7-3/4 W
292.10 mm L x 196.85 mm W
Mounting Centers: 10.000 L x 7.000 W
254.00 mm L x 177.80 mm W

Electrical Connectors:

Input J1: MS3102R-24-9P Box Receptacle mates with MS3106F-24-9S
Output J2: MS3102R-24-6S Box Receptacle mates with MS3106F-24-6P

Weight: 21.0 lbs - 9.53 kg (Max.)

Applications: Proposed for new design



DH-1030-24-900-CS TYPE IID TRANSVERTER



115/26 VAC STATIC INVERTERS - 1 PHASE - 800 VA (CONT.)

DH-1030-24-900-CS TYPE IID TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 800 VA, 1 Phase, Class B, Multi-purpose

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
39 - 4 Amperes (Full Load - No Load)

Output: 115/26 Volts AC, 400 Hertz Sine Wave, 1 Phase
800 VA Continuous Duty - 115 VAC
150 VA Continuous Duty - 26 VAC
800 VA Continuous Duty - 115/26 VAC Combined Load
1200 VA Intermittent Duty

Dimensions:

Unit: 12-3/4 L x 7-5/8 W x 5 H
323.85 mm L x 193.68 mm W x 127.00 mm H
Mounting Base: 11-1/2 L x 7-3/4 W
292.10 mm L x 196.85 mm W
Mounting Centers: 10.000 L x 7.000 W
254.00 mm L x 177.80 mm W

Electrical Connectors:

Input/Output J1: MS3102R-24-11P Box Receptacle mates with
MS3106F-24-1 IS

Weight: 21.0 lbs - 9.53 kg (Max.)

Applications: Aeritalia ATR-42 (Proposed)
Peoples Republic of China Xian Yun-7 (Production)



DH- 1030-24-1200-CS TYPE ILA TRANSVERTER



115 VAC STATIC INVERTERS - 1 PHASE - 1000 VA (CONT.)

DH-1030-24-1200-CS TYPE ILA TRANSVERTER - GLJ P/N 6608109-3

(DC to AC Airborne Static Electrical Power Inverter) Silicon
Solid State - 1000 VA, 1 Phase, Class B, Multi-purpose, with Remote
Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
45 - 3 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
1000 VA Continuous Duty
1500 VA Intermittent Duty

Dimensions:

Unit: 14-7/8 L x 7-3/4 W x 6 H
377.83 mm L x 196.85 mm W x 152.40 mm H
Mounting Base: 13-3/8 L x 7-3/4 W
339.73 mm L x 196.85 mm W
Mounting Centers: 12.000 L x 7.000 W
304.80 mm L x 177.80 mm W

Electrical Connectors:

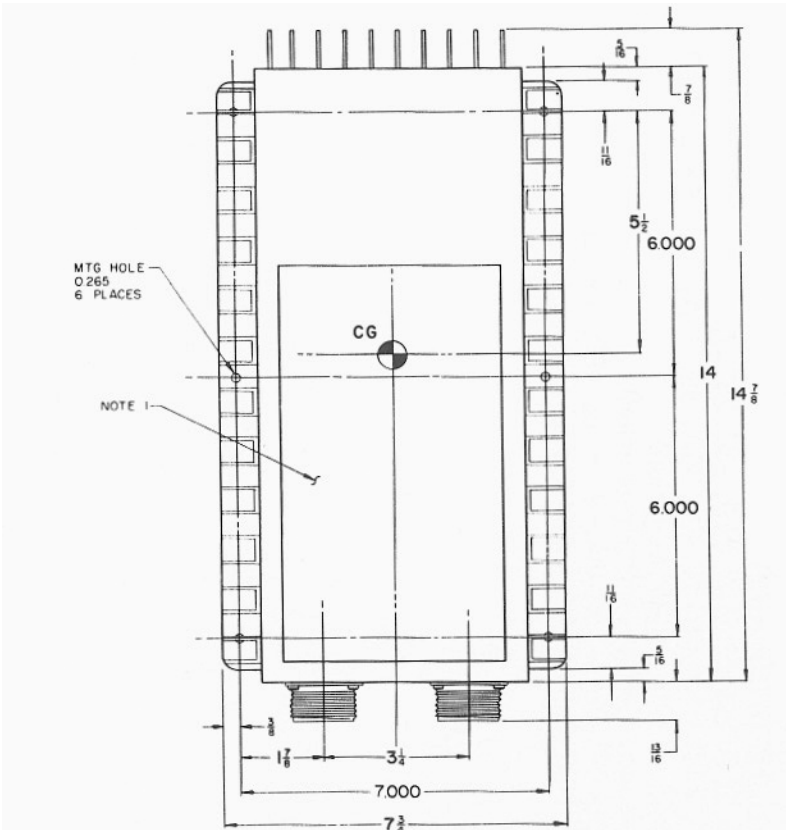
Input J1: DBA70-19-7PN Deutsch Box Receptacle mates with
DAB77-19-7SN
Output J2: DBA70-19-7SN Deutsch Box Receptacle mates with
DBA77-19-7PN

Weight: 24.0 lbs - 10.9 kg (Max.)

Applications: Cessna Citation II & III (Retrofit)
Learjet Models 24C, 24D, 24D-A, 24E, 24F, 24F-A,
25C, 25D, 25F, 25G, 28, 29, 35, 35A, 36, 36A, 55, 55ER, 55LR,
55LXR, & 21A (Military) (Production)
Goodyear Aerospace Conversions (Production)
Hawker Siddeley DH-125, -1 A, -3A, -3AR, & -400/United
Telephone STC No. SA740CE 20 NOV 70 (Retrofit)



NOTES



1. MODEL AND SERIAL PLATE.



3 RECEPTACLE J1-INPUT-TYPE MS3102R-24-9P, MATING CONNECTOR TYPE MS3106F-24-9S, CONNECTIONS AS LISTED.

PIN	CONNECTION	CODING
A	DC POSITIVE INPUT, +27.5 VDC, NOM	27.5 VDC +
B	DC NEGATIVE INPUT, -27.5 VDC, NOM	27.5 VDC -

4 RECEPTACLE J2-OUTPUT-TYPE MS3102R-24-3S, MATING CONNECTOR TYPE MS3106F-24-3P, CONNECTIONS AS LISTED.

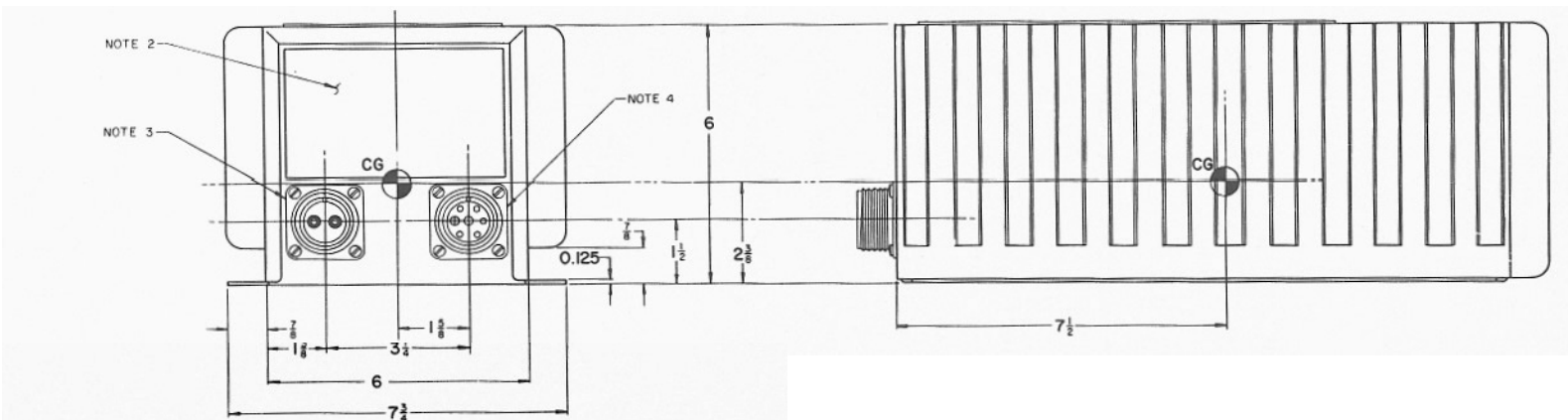
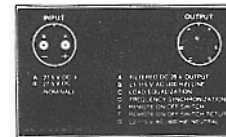
PIN	CONNECTION	CODING
A	FILTERED DC 28 V OUTPUT	+28 VDC
B	L1-115 VAC (400 HZ) LINE	L1 (115 VAC)
C	LOAD EQUALIZATION	LOAD EOL
D	FREQUENCY SYNCHRONIZATION	FREQ SYNC
E	REMOTE ON/OFF SWITCH	REM SW
F	REMOTE ON/OFF SWITCH RETURN	REM SW RETURN
G	L2-115 VAC (400 HZ) NEUTRAL	L2 (115 VAC)

5 MATING CONNECTORS REQUIRE APPROXIMATELY 2-1/4 INCHES CLEARANCE TO CONNECT.

6 WEIGHT 24 LBS (10,886 GRAMS).

7 CENTER OF GRAVITY AS INDICATED BY SYMBOLS.

2. CONNECTOR IDENTIFICATION PLATE



OUTLINE DIMENSION DH-1030-24-1200-CS TYPE II TRANSVERTER



115 VAC STATIC INVERTERS - 1 PHASE - 1000 VA (CONT.)

NSN 6130-21-867-7772 (CANADA)

DH-1030-24-1200-CS TYPE II TRANSVERTER - NSN 6130-25-111-2709 (NORWAY)

(DC to AC Airborne Static Electrical Power Inverter)

Silicon Solid State - 1000 VA, 1 Phase, Class B, Multi-purpose,
with Remote Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
45 - 3 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
1000 VA Continuous Duty
1500 VA Intermittent Duty

Dimensions:

Unit: 14-7/8 L x 7-3/4 W x 6 H
377.83 mm L x 196.85 mm W x 152.40 mm H
Mounting Base: 13-3/8 L x 7-3/4 W
339.73 mm L x 196.85 mm W
Mounting Centers: 12.000 L x 7.000 W
304.80 mm L x 177.80 mm W

Electrical Connectors:

Input J1: MS3102R-24-9P Box Receptacle mates with MS3106F-24-9S
Output J2: MS3102R-24-3S Box Receptacle mates with MS3106F-24-3P

Weight: 24.0 lbs - 10.9 kg (Max.)

Applications: Agusta-Bell AB 212ASW
(Italian, Peruvian, and Greek Navies/Production)
Agusta/Sikorsky SH-3D (Production)
Bell UH1D (Bristol Aerospace Conversion to CUH-1H)
Canadair CL-215 Government Model (Production)
de Havilland DHC-6/Norwegian Air Force Conversions



DH-1030-24-1200-CS TYPE IIB TRANSVERTER



115 VAC STATIC INVERTERS - 1 PHASE - 1000 VA (CONT.)

DH-1030-24-1200-CS TYPE IIB TRANSVERTER - DHC P/N 7SC 0166

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 1000 VA, 1 Phase, Class B, Multi-purpose,
with Remote Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
45 - 3 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
1000 VA Continuous Duty
1500 VA Intermittent Duty

Dimensions:

Unit: 14-7/8 L x 7-3/4 W x 6 H
377.83 mm L x 196.85 mm W x 152.40 mm H
Mounting Base: 13-3/8 L x 7-3/4 W
339.73 mm L x 196.85 mm W
Mounting Centers: 12.000 L x 7.000 W
304.80 mm L x 177.80 mm W

Electrical Connectors:

Input J1: MS3102R-24-22P Box Receptacle mates with MS3106F-24-22S
Output J2: MS3102R-24-20S Box Receptacle mates with MS3106F-24-20P

Weight: 24.0 lbs - 10.9 kg (Max.)

Applications: British Aerospace Canberra (Proposed)
Convair CV-580 (Retrofit)
de Havilland DHC-4 CARIBOU (Production) de
Havilland DASH 7 (Production)
Peoples Republic of China Xian Yun-7 (Production)



DH-1030-24-1200-CS TYPE IID TRANSVERTER



115 VAC STATIC INVERTERS - 1 PHASE - 1000 VA (CONT.)

DH-1030-24-1200-CS TYPE IID TRANSVERTER - NSN 6130-01-406-2839

(DC to AC Airborne Static Electrical Power Inverter)

Silicon Solid State - 1000 VA, 1 Phase, Class B, Multi-purpose,
with Remote Turn-on Circuitry.

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
45 - 4 Amperes (Full Load - No Load)

Output: 115/26 VAC, 400 Hertz Sine Wave, 1 Phase
1000 VA Continuous Duty - 115 VAC
300 VA Continuous Duty - 26 VAC
1000 VA Continuous Duty - 115/26 VAC Combined Load
1500 VA Intermittent Duty

Dimensions:

Unit: 14-7/8 L x 7-3/4 W x 6 H
377.83 mm L x 196.85 mm W x 152.40 mm H
Mounting Base: 14-7/8 L x 7-3/4 W
377.80 mm L x 196.90 mm W
Mounting Centers: 12.000 L x 7.000 W
304.80 mm L x 177.80 mm W

Electrical Connectors:

Input/Output J1: MS3102R-24-11P Box Receptacle mates with
MS3106F-24-11S

Weight: 25.5 lbs - 9.07 kg (Max.)

Applications: Canadian Jet Trainer CT-133 Silver
(Lockheed F-80 Shooting Star) (Retrofit)



DH- 1030-24-2250-CS TRANSVERTER



115/26 VAC STATIC INVERTERS - 1 PHASE - 1500 VA (CONT.)

DH-1030-24-2250-CS TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 1500 VA, 1 Phase, Class B, Multi-purpose,
with Remote Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
68 - 6 Amperes (Full Load - No Load)

Output: 115/26 Volts AC, 400 Hertz Sine Wave, 1 Phase
1500 VA Continuous Duty - 115 VAC
150 VA Continuous Duty - 26 VAC
1500 VA Continuous Duty - 115/26 VAC Combined Load
2250 VA Intermittent Duty

Dimensions:

Unit: 16-7/8 L x 9-3/4 W x 6 H
428.63 mm L x 247.65 mm x 152.40 mm H
Mounting Base: 15-5/16 L x 9-3/4 W
388.94 mm L x 247.65 mm W
Mounting Centers: 14.000 L x 9.000 W
355.60 mm L x 228.60 mm W

Electrical Connectors:

Input J1: MS3102R-24-9P Box Receptacle mates with MS3106F-24-9S
Output J2: MS3102R-24-6S Box Receptacle mates with MS3106F-24-6P

Weight: 38.0 lbs - 17.24 kg (Max.)

Applications: Agusta AB 212
(Spain, Iran, Turkey, & Venezuela/Production)
Agusta AB 412 (Production)



115 VAC STATIC INVERTERS - 1 PHASE - 1600 VA (CONT.)

DH-1030-24-2400-CS TYPE 1 TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 1600 VA, 1 Phase, Class B, Multi-purpose,
with Remote Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
72 - 6 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
1600 VA Continuous Duty
2400 VA Intermittent Duty

Dimensions:

Unit: 16-7/8 L x 9-3/4 W x 6 H
428.63 mm L x 247.65 mm W x 152.40 mm H
Mounting Base: 15-5/16 L x 9-3/4 W
388.94 mm L x 247.65 mm W
Mounting Centers: 14.000 L x 9.000 W
355.60 mm L x 228.60 mm W

Electrical Connectors:

Input J1: DBA70-19-7PY Deutsch Box Receptacle mates with
DBA77-19-7SY
Input J2: DBA70-19-7PN Deutsch Box Receptacle mates with
DBA77-19-7SN
Output J2: DBA70-19-7SN Deutsch Box Receptacle mates with
DBA77-19-7PN

Weight: 36.0 lbs - 16.33 kg (Max.)

Applications: Aero Commander 1121 (Retrofit)



Phoenix Aerospace Inc.

TRANSVERTER

silicon
SOLID STATE

P/N DH-1030-24-2400-CS

S/N -X

INPUT

20 - 30 VOLTS DC (27.5 VDC NOMINAL)

72 - 6 AMPERES (FULL LOAD—NO LOAD)

OUTPUT

115 VOLTS AC

400 HERTZ SINE WAVE, SINGLE PHASE

1600 VA CONTINUOUS DUTY

2400 VA INTERMITTENT DUTY

CURRENT:	13.91 AMPERES
POWER:	1600 VOLT—AMPERES
	1600 WATTS (1.0 PF)
FREQUENCY:	400 HERTZ ± 1%
WAVE SHAPE:	SINUSOIDAL
HARMONIC CONTENT:	LESS THAN 5% TOTAL
POWER FACTOR:	.80 LAG. TO .95 LEAD.
EFFICIENCY:	80% MIN.
DUTY CYCLE:	CONTINUOUS, UNATTENDED
OVERLOAD CAPACITY:	150% (2400 VA)
AMB. TEMP. RANGE:	-85°C TO +85°C
TEMPERATURE RISE:	40°C MAX. (NO HEAT SINK)
MAX. OPER. ALTITUDE:	100,000 FEET & BEYOND

MTBF: 10,000 FLIGHT HOURS MIN.

WEIGHT: 36 LBS. ACCEPTED

DATE OF MFG. BY

Phoenix Aerospace Inc.



KANSAS CITY, MISSOURI

DH-1030-24-2400-CS TYPE II NAMEPLATE



DH- 1030-24-2400-CS TYPE II TRANSVERTER



115 VAC STATIC INVERTERS - 1 PHASE - 1600 VA (CONT.)

DH-1030-24-2400-CS TYPE II TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 1600 VA, 1 Phase, Class B, Multi-purpose,
with Remote Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
72 - 6 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
1600 VA Continuous Duty
2400 VA Intermittent Duty

Dimensions:

Unit: 16-7/8 L x 9-3/4 W x 6 H
428.63 mm L x 247.65 mm W x 152.40 mm H
Mounting Base: 15-3/8 L x 9-3/4 W
390.53 mm L x 247.65 mm W
Mounting Centers: 14.000 L x 9.000 W
355.60 mm L x 228.60 mm W

Electrical Connectors:

Input J1: MS3 102R-24-9P Box Receptacle mates with MS3106F-24-9S
Output J2: MS3102R-24-6S Box Receptacle mates with MS3106F-24-6P

Weight: 36.0 lbs - 16.33 kg (Max.)

Applications: Piaggio PD-808 (Retrofit)



115 VAC STATIC INVERTERS - 1 PHASE - 1600 VA (CONT.)

DH-1030-24-2400-CS TYPE JIB TRANSVERTER

(DC to AC Airborne Static Electrical Power Inverter)
Silicon Solid State - 1600 VA, 1 Phase, Class B, Multi-purpose,
with Remote Turn-on Circuitry

Input: 20 - 30 Volts DC (27.5 VDC Nominal)
72 - 6 Amperes (Full Load - No Load)

Output: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
1600 VA Continuous Duty
2400 VA Intermittent Duty

Dimensions:

Unit: 16-7/8 L x 9-3/4 W x 6 H
428.63. mm L x 247.65 mm W x 152.40 mm H
Mounting Base: 15-3/8 L x 9-3/4 W
390.53 mm L x 247.65 mm W
Mounting Centers: 14.000 L x 9.000 W
355.60 mm L x 228.60 mm W

Electrical Connectors:

Input J1: MS3 102R-24-22P Box Receptacle mates with MS3106F-24-22S
Output J2: MS3102R-24-20S Box Receptacle mates with MS3106F-24-20P

Weight: 36.0 lbs - 16.33 kg (Max.)

Applications: Proposed for new design



**AIRBORNE DC TO AC POWER CONVERSION AND DISTRIBUTION EQUIPMENT
SPECIFICATIONS**

Item	Page
AUTOMATIC INVERTER CHANGEOVER BOXES - 1 PHASE	115
DH-1030-I 15/2-1500-SS TYPE I AUTOMATIC INVERTER CHANGEOVER BOX	117
DH-1030-115/2-1500-SS TYPE II AUTOMATIC INVERTER CHANGEOVER BOX	117
DH-1030-115-26/2-750-CS TYPE II AUTOMATIC INVERTER CHANGEOVER AND WARNING LIGHT CONTROL BOX	119



AUTOMATIC INVERTER CHANGEOVER BOXES - 1 PHASE - 100 VA TO 1000 VA

DH-1030-115/2-1500-SS TYPE I AUTOMATIC INVERTER CHANGEOVER BOX

Silicon Solid State, Automatic Frequency Synchronization and Bus Switching of two PAI Type I Single Phase Static Inverters in Dual Operation, 100 VA to 1000 VA per Inverter

Dimensions:

Unit: 5 L x 4-1/4 W x 2 H
127.00 mm L x 107.95 mm W x 50.80 mm H
Mounting Base: 4-1/2 L x 5-1/4 W
114.30 mm L x 139.70 mm W
Mounting Centers: 4.000 L x 4.750 W
101.60 mm L x 120.65 mm W

Electrical Connectors:

Input J1: DBA70-19-7PN Receptacle mates with DBA77-19-7SN
Input J2: DBA70-19-7PY Receptacle mates with DBA77-19-7SY
Output J3: DBA70-19-7SN Receptacle mates with DBA77-19-7PN
Output J4: DBA70-19-7SY Receptacle mates with DBA77-19-7PY

Weight: 1.7 lbs - 771 g (Max.)

Applications: Proposed for new design

DH- 1030-115/2-1500-SS TYPE II AUTOMATIC INVERTER CHANGEOVER BOX

Silicon Solid State, Automatic Frequency Synchronization and Bus Switching of two PAI Type II Single Phase Static Inverters in Dual Operation, 100 VA to 1000 VA per Inverter

Dimensions:

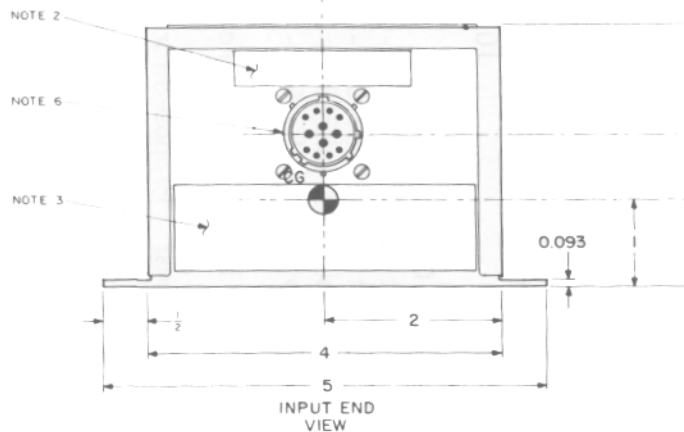
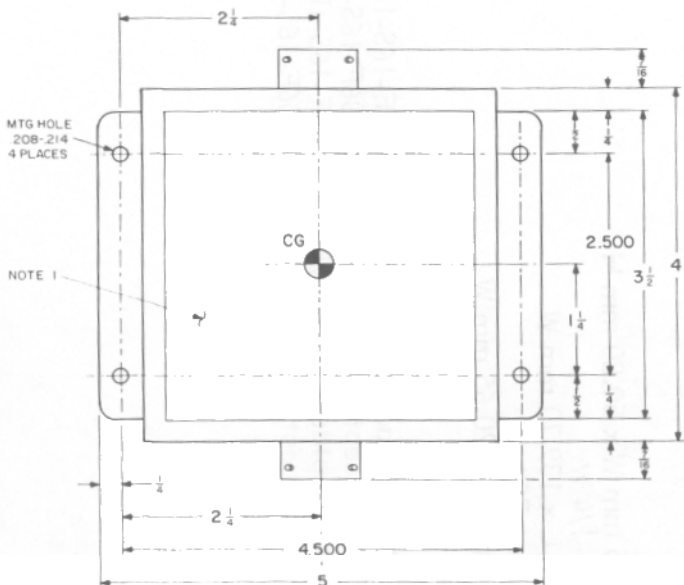
Unit: 5 L x 4-1/4 W x 2 H
127.00 mm L x 107.95 mm W x 50.80 mm H
Mounting Base: 4-1 /2 L x 5-1 /4 W
114.30 mm L x 139.70 mm W
Mounting Centers: 4.000 L x 4.750 W
101.60 mm L x 120.65 mm W

Electrical Connectors:

Input J1: MS3102R-16S-1P Receptacle mates with MS3106F-16S-1S
Input J2: MS3102R-16S-1PW Receptacle mates with MS3106F-16S-1PW
Output J3: MS3102R-16S-1S Receptacle mates with MS3106F-16S-1P
Output J4: MS3102R-16S-1SW Receptacle mates with MS3106F-16S-1PW

Weight: 1.7 lbs - 771 g (Max.)

Applications: Proposed for new design



NOTES:

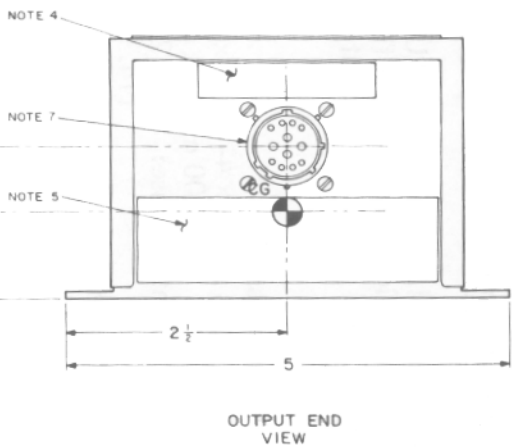
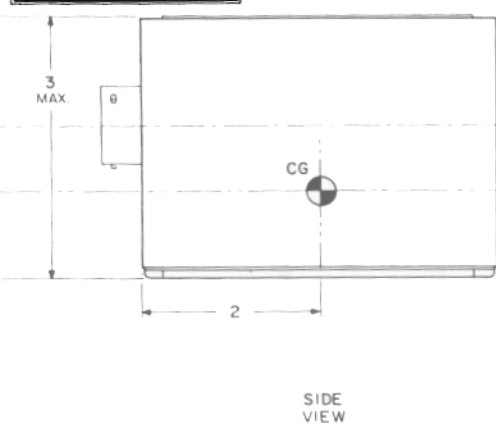
- 1. MODEL AND SERIAL PLATE.
- 2. INPUT CONNECTOR IDENTIFICATION PLATE.

INPUT
- 3. INPUT CONNECTOR IDENTIFICATION PLATE.
- 4. OUTPUT CONNECTOR IDENTIFICATION PLATE.

OUTPUT
- 5. OUTPUT CONNECTOR IDENTIFICATION PLATE.
- 6. RECEPTACLE J1-INPUT-TYPE MS3122E-14-12P, MATING CONNECTOR TYPE MS3126F-14-12S, CONNECTIONS AS LISTED.

PIN	CONNECTION	CODING
A	ESSENTIAL INVERTER REMOTE ON/OFF SWITCH	ESS INV REM ON/OFF SW
B	ESSENTIAL INVERTER REMOTE ON/OFF SWITCH RETURN	ESS INV REM ON/OFF SW RTN
C	ESSENTIAL INVERTER DC CONTACTOR CONTROL	ESS INV DC CONTACTOR CNTRL
D	+28V DC INPUT ESSENTIAL BUS	+28V DC INPUT ESS BUS
E	+28V DC INPUT NON ESSENTIAL BUS	+28V DC INPUT NON ESS BUS
F	NONESSENTIAL INVERTER DC CONTACTOR CONTROL	NON-ESS INV DC CONTACTOR CNTRL
G	NON-ESSENTIAL INVERTER REMOTE ON/OFF SWITCH RETURN	NON-ESS INV REM ON/OFF SW RTN
H	NON-ESSENTIAL INVERTER REMOTE ON/OFF SWITCH	NON-ESS INV REM ON/OFF SW
I	ESSENTIAL INVERTER L1-115 VAC, 400HZ (LINE)	ESS INV L1-115 VAC, 400HZ (LINE)
K	ESSENTIAL INVERTER L1-28 VAC, 400 HZ (LINE)	ESS INV L1-28 VAC, 400 HZ (LINE)
L	NONESSENTIAL INVERTER L1-115 VAC, 400 HZ (LINE)	NON-ESS INV L1-115 VAC, 400 HZ (LINE)
M	NONESSENTIAL INVERTER L1-28 VAC, 400 HZ (LINE)	NON-ESS INV L1-28VAC, 400HZ(LINE)
- 7. RECEPTACLE J2-OUTPUT-TYPE MS3122E-14-12S, MATING CONNECTOR TYPE MS3126F-14-12P, CONNECTIONS AS LISTED.

PIN	CONNECTION	CODING
A	ESSENTIAL INVERTER REMOTE ON/OFF SWITCH	ESS INV REM ON/OFF SW
B	ESSENTIAL INVERTER REMOTE ON/OFF SWITCH RETURN	ESS INV REM ON/OFF SW RTN
C	ESSENTIAL INVERTER WARNING LIGHT	ESS INV WRNG LT
D	NON-ESSENTIAL INVERTER WARNING LIGHT	NON-ESS INV WRNG LT
E	AIRCRAFT GROUND	AIRCRAFT GROUND
F	AIRCRAFT GROUND	AIRCRAFT GROUND
G	NON-ESSENTIAL INVERTER REMOTE ON/OFF SWITCH RETURN	NON-ESS INV REM ON/OFF SW RTN
H	NON-ESSENTIAL INVERTER REMOTE ON/OFF SWITCH	NON-ESS INV REM ON/OFF SW
J	ESSENTIAL 115 VAC BUS	ESS 115 VAC BUS
K	ESSENTIAL 28 VAC BUS	ESS 28 VAC BUS
L	NONESSENTIAL 115 VAC BUS	NON-ESS 115 VAC BUS
M	NONESSENTIAL 28 VAC BUS	NON-ESS 28 VAC BUS
- 8. MATING CONNECTORS REQUIRE APPROXIMATELY 2-1/4 INCHES CLEARANCE TO CONNECT.
- 9. WEIGHT 1.4 LBS (635 GRAMS).
- 10. CENTER OF GRAVITY AS INDICATED BY SYMBOLS.



**OUTLINE DIMENSION DH-1030-I 15-26/2-750-CS TYPE II
AUTOMATIC INVERTER CHANGEOVER AND WARNING LIGHT CONTROL BOX**



AUTOMATIC INVERTER CHANGEOVER & WARNING LIGHT CONTROL BOX - 1 PHASE

DH-1030-115-26/2-750-CS TYPE II AUTOMATIC INVERTER CHANGEOVER AND WARNING LIGHT CONTROL BOX

Silicon Solid State, Remote Turn-on Control, Automatic AC Bus Switching and Warning Light Control for two Phoenix Aerospace Inc. Single Phase, DC to AC Airborne Static Electrical Power Inverters in Dual Operation, 500 VA per Inverter

Input: 18 - 32 Volts DC (27.5 VDC Nominal)
0.132 - 0.012 Amperes (Full Load - No Load)

Output: 115/26 Volts AC, 400 Hertz Sine Wave, 1 Phase
1000 VA Continuous Duty - 115/26 VAC Combined Load (Maximum)
1500 VA Intermittent Duty - 115/26 VAC Combined Load (Maximum)

Dimensions:

Unit: 4 L x 4 W x 3 H
101.60 mm L x 101.60 mm W x 76.20 mm H
Mounting Base: 3-1/2 L x 5 W
88.90 mm L x 127.00 mm W
Mounting Centers: 2.500 L x 4.500 W
63.50 mm L x 114.30 mm W

Electrical Connectors:

Input J1: MS3122E-14-12P Box Receptacle mates with MS3126F-14-125
Output J2: MS3122E-14-12S Box Receptacle mates with MS3126F-14-12P

Weight: 1.4 lbs - 635 g (Max.)

Applications: Dornier GMBH/Fuerza Argentina 1A-63 (Proposed)



AIRBORNE DC TO AC POWER CONVERSION AND DISTRIBUTION EQUIPMENT

SPECIFICATIONS

Item	Page
INVERTER PARALLELING CONTROL BOXES	121
DH-1030-115/3-600-SS TYPE I PARALLELING CONTROL BOX	123
DH-1030-115/3-1200-SS TYPE I PARALLELING CONTROL BOX	124
DH-1030-115/3-1200-SS TYPE II PARALLELING CONTROL BOX	125
DH-1030-115/3-1200-SS TYPE IIC PARALLELING CONTROL BOX	126
DH-1030-115/3-1200-SS TYPE IID PARALLELING CONTROL BOX	127
DH-1030-115/3-2400-SS TYPE II PARALLELING CONTROL BOX	128



INVERTER PARALLELING CONTROL BOXES - 1 PHASE - 100 VA TO 1000 VA

DH-1030-115/3-600-SS TYPE 1 PARALLELING CONTROL BOX

Silicon Solid State, Automatic Frequency Synchronization and Load Equalization of two or three Phoenix Aerospace Single Phase, DC to AC Airborne Static Electrical Power Inverters in Parallel Operation, 100 VA to 1000 VA per Inverter



Dimensions:

Unit: 6 L x 4-1/4 W x 3 H
152.40 mm L x 107.95 mm W x 76.20 mm H
Mounting Base: 5-1/2 L x 5-1/4 W
139.70 mm x 133.35 mm W
Mounting Centers: 4.000 L x 4.750 W
101.60 mm L x 120.65 mm W

Electrical Connectors:

Input J1: DBA70-19-7PN Deutsch Box Receptacle mates with DBA77-19-7SN
Input J2: DBA70-19-7PY Deutsch Box Receptacle mates with DBA77-19-7SY
Input J3: DBA70-19-7PB Deutsch Box Receptacle mates with DBA77-19-7SB
Output J4: DBA70-19-7SN Deutsch Box Receptacle mates with DBA77-19-7PN
Output J5: DBA70-19-7SY Deutsch Box Receptacle mates with DBA77-19-7PY

Weight: 2.6 lbs - 1.18 kg (Max.)

Applications: C.A.S.A. C-212 (Production)
C.A.S.A. CN-235 (Proposed)
Nurtanio C-212 (Production)
Nurtanio CN-235 (Proposed)



INVERTER PARALLELING CONTROL BOXES - 1 PHASE - 100 VA TO 1000 VA (CONT.)

DH-1030-115/3-1200-SS TYPE I PARALLELING CONTROL BOX -- GLJ P/N 6608118-I Silicon Solid State, Automatic Frequency Synchronization and Load Equalization of two or three Phoenix Aerospace Single Phase, DC to AC Airborne Static Electrical Power Inverters in Parallel Operation, 100 VA to 1000 VA per Inverter

Dimensions:

Unit: 6 L x 4-1/4 W x 3 H
152.40 mm L x 107.95 mm W x 76.20 mm H
Mounting Base: 5-1/2 L x 5-1/4 W
139.70 mm L x 133.35 mm W
Mounting Centers: 4.000 L x 4.750 W
101.60 mm L x 120.65 mm W

Electrical Connectors:

Input J1: DBA70-19-7PN Deutsch Box Receptacle mates with DBA77-19-7SN
Input J2: DBA70-19-7PY Deutsch Box Receptacle mates with DBA77-19-7SY
Input J3: DBA70-19-7PB Deutsch Box Receptacle mates with DBA77-19-7SB
Output J4: DBA70-19-7SN Deutsch Box Receptacle mates with DBA77-19-7PN
Output J5: DBA70-19-7SY Deutsch Box Receptacle mates with DBA77-19-7PY

Weight: 2.6 lbs - 1.18 kg (Max.)

Applications: Cessna Citation II & III (Retrofit)
Learjet Models 24C, 24D, 24D-A, 24E, 24F, 24F-A,
25C, 25D, 25F, 25G, 28, 29, 35, 35A, 36, 36A, 55, 55ER, 55LR,
55LXR, & 21 A (Military) (Production)
Hawker Siddeley DH-125, -1A, -3A, -3AR, & -400 (Retrofit)
Mitsubishi MU-300 (Proposed)



INVERTER PARALLELING CONTROL BOXES - 1 PHASE - 100 TO 1000 VA (CONT.)

DH-1030-115/3-1200-SS TYPE II PARALLELING CONTROL BOX

Silicon Solid State, Automatic Frequency Synchronization and Load Equalization of two or three Phoenix Aerospace Single Phase, DC to AC Airborne Static Electrical Power Inverters in Parallel Operation, 100 VA to 1000 VA per Inverter

Dimensions:

Unit: 6 L x 4-1/4 W x 3 H
152.40 mm L x 107.95 mm W x 76.20 mm H
Mounting Base: 5-1/2 L x 5-1/4 W
139.70 mm L x 133.35 mm W
Mounting Centers: 4.000 L x 4.750 W
101.60 mm L x 120.65 mm W

Electrical Connectors:

Input J1: MS3122E-14-12P Box Receptacle mates with MS3 126F-14-12S
Input J2: MS3122E-14-12PX Box Receptacle mates with MS3126F-14-12SX
Input J3: MS3122E-14-12PW Box Receptacle mates with MS3 126F-14-12SW
Output J4: MS3122E-14-12S Box Receptacle mates with MS3126F-14-12P
Output J5: MS3122E-14-12SW Box Receptacle mates with MS3126F-14-12PW

Weight: 2.6 lbs - 1.18 kg (Max.)

Applications: Canadair CL-215 (Production)
Sikorsky S-58T (Production)



INVERTER PARALLELING CONTROL BOXES - 1 PHASE - 100 TO 1000 VA (CONT.)

DH-1030-115/3-1200-SS TYPE IIC PARALLELING CONTROL BOX

Silicon Solid State, Automatic Frequency Synchronization and Load Equalization of two or three Phoenix Aerospace Single Phase, DC to AC Airborne Static Electrical Power Inverters in Parallel Operation, 100 VA to 1000 VA per Inverter



Dimensions:

Unit: 6 L x 4-1/4 W x 3 H
152.40 mm L x 107.95 mm W x 76.20 mm H
Mounting Base: 5-1/2 L x 5-1/4 W
139.70 mm L x 133.35 mm W
Mounting Centers: 4.000 L x 4.750 W
101.60 mm L x 120.65 mm W

Electrical Connectors:

Input J1: MS3122E-14-12P Box Receptacle mates with MS3126F-14-12S
Input J2: MS3122E-14-12PX Box Receptacle mates with MS3126F-14-12SX
Input J3: MS3122E-14-12PW Box Receptacle mates with MS3126F-14-12SW
Output J4: MS3122E-14-12S Box Receptacle mates with MS3126F-14-12P
Output J5: MS3122E-14-12SW Box Receptacle mates with MS3126F-14-12PW

Weight: 2.6 lbs - 1.18 kg (Max.)

Applications: Peoples Republic of China Xian Yun-7 (Production)



INVERTER PARALLELING CONTROL BOXES - 1 PHASE - 100 TO 1000 VA (CONT.)

DH-1030-115/3-1200-SS TYPE IID PARALLELING CONTROL BOX - DHC P/N 75C 0167

Silicon Solid State, Automatic Frequency Synchronization and Load Equalization of two or three Phoenix Aerospace Single Phase, DC to AC Airborne Static Electrical Power Inverters in Parallel Operation, 100 VA to 1000 VA per Inverter



Dimensions:

Unit: 6 L x 4-1/4 W x 3 H
 152.40 mm L x 107.95 mm W x 76.20 mm H

Mounting Base: 5-1/2 L x 5-1/4 W
 139.70 mm L x 133.35 mm W

Mounting Centers: 4.000 L x 4.750 W
 101.60 mm L x 120.65 mm W

Electrical Connectors:

Input J1: MS3122E-14-12P Box Receptacle mates with MS3126F-14-12S
 Input J2: MS3122E-14-12PX Box Receptacle mates with MS3126F-14-12SX
 Input J3: MS3122E-14-12PW Box Receptacle mates with MS3126F-14-12SW
 Output J4: MS3122E-14-12S Box Receptacle mates with MS3126F-14-12P
 Output J5: MS3122E-14-12SW Box Receptacle mates with MS3126F-14-12PW

Weight: 2.6 lbs - 1.18 kg (Max.)

Applications: de Havilland DHC-5 (Production)
 de Havilland DASH 7 (Production)
 de Havilland DASH 8 (Production)



INVERTER PARALLELING CONTROL BOXES - 1 PHASE - 1000 TO 2500 VA

DH-1030-115/3-2400-SS TYPE II PARALLELING CONTROL BOX

Silicon Solid State, Automatic Frequency Synchronization and Load Equalization of two or three Phoenix Aerospace Single Phase, DC to AC Airborne Static Electrical Power Inverters in Parallel Operation, 1000 VA to 2500 VA per Inverter

Dimensions:

Unit: 6 L x 4-1/4 W x 3 H
152.40 mm L x 107.95 mm W x 76.20 mm H
Mounting Base: 5-1/2 L x 5-1/4 W
139.70 mm L x 133.35 mm W
Mounting Centers: 4.000 L x 4.750 W
101.60 mm L x 120.65 mm W

Electrical Connectors:

Input J1: MS3122E-14-12P Box Receptacle mates with MS3126F-14-12S
Input J2: MS3122E-14-1SPX Box Receptacle mates with MS3126F-14-12SX
Input J3: MS3122E-14-12PW Box Receptacle mates with MS3126F-14-12SW
Output J4: MS3122E-14-12S Box Receptacle mates with MS3126F-14-12P
Output J5: MS3122E-14-12SW Box Receptacle mates with MS3126F-14-12PW

Weight: 2.6 lbs - 1.18 kg (Max.)

Applications: Aero Commander 1121 Jet Commander



**AIRBORNE DC TO AC POWER CONVERSION AND DISTRIBUTION EQUIPMENT
SPECIFICATIONS**

Item	Page
INVERTER 115/26 VAC AUTOFORMERS	129
DH-1030-115/26-75-CS TYPE II AUTOFORMER	131
DH-1030-115/26- 150-CS TYPE I AUTOFORMER	132
DH-1030-115/26-150-CS TYPE II AUTOFORMER	133
DH-1030-115/26-150-CS TYPE IIB AUTOFORMER	134



INVERTER 115/26 VAC AUTOFORMERS - 50 VA

DH-1030-1 15/26-75-CS TYPE II AUTOFORMER

(AC to AC Airborne Static Electrical Power Autotransformer)
Toroidal Design - 75 VA, 1 Phase, Class B, Multi-purpose

Input: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
.46 - .1 Amperes (Full Load - No Load)

Output: 26 Volts AC, 400 Hertz Sine Wave, 1 Phase
50 VA Continuous Duty
75 VA Intermittent Duty

Dimensions:

Unit: 3-1/2 L x 3 W x 1-1/2 H
88.90 mm L x 76.20 mm W x 38.10 mm H
Mounting Base: 3-1/2 L x 4 W
88.90 mm L x 101.60 mm W
Mounting Centers: 2.500 L x 3.500 W
63.50 mm L x 88.90 mm W

Electrical Connectors:

Input J1: MS3 102R- 12S-3P Box Receptacle mates with MS3 106F- 12S-3S
Output J2: MS3 102R- 12S-3S Box Receptacle mates with MS3 106F- 12S-3P

Weight: 12 oz - 408 g (Max.)

Applications: Siai Marchetti SF-260 (Production)

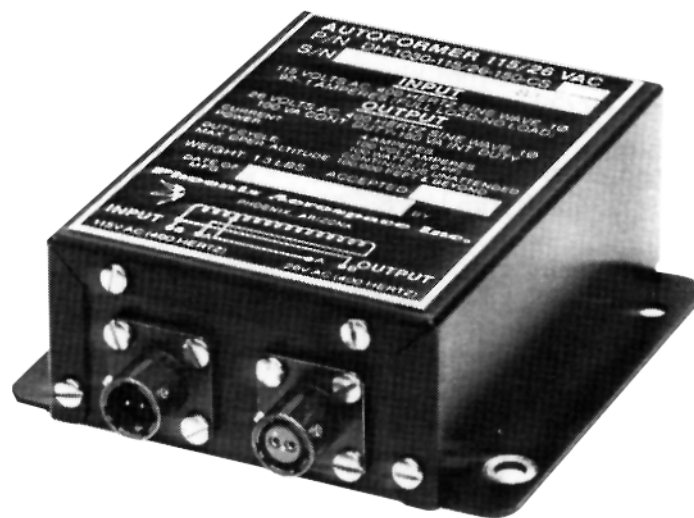


INVERTER 115/26 VAC AUTOFORMERS - 100 VA

DH-1030-115/26-150-CS TYPE I AUTOFORMER -- GLJ 6608119- I (AC to AC Airborne Static Electrical Power Autotransformer) Toroidal Design - 100 VA, 1 Phase, Class B, Multi-purpose

Input: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
.92 - .1 Amperes (Full Load - No Load)

Output: 26 Volts AC, 400 Hertz Sine Wave, 1 Phase
100 VA Continuous Duty
150 VA Intermittent Duty



Dimensions:

Unit: 4 L x 3 W x 1-1/2 H
101.60 mm L x 76.20 mm W x 38.10 mm H
Mounting Base: 3-11/16 L x 4 W
93.66 mm L x 101.60 mm W
Mounting Centers: 2.500 L x 3.500 W
63.50 mm L x 88.90 mm W

Electrical Connectors:

Input J1: 22022-8-2PN Deutsch Box Receptacle mates with 22021-8-2SN
Output J2: 22022-8-2SN Deutsch Box Receptacle mates with 22021-8-2PN

Weight: 1.3 lbs - 590 g (Max.)

Applications: C.A.S.A. C-212 (Production)
C.A.S.A. CN-235 (Proposed)
Learjet Models 24C, 24D, 24D-A, 24E, 24F, 24F-A,
25C, 25D, 25F, 25G, 28, 29, 35, 35A, 36, 36A, 55, 55ER, 55LR,
55LXR, & 21A (Military) (Production)
Nurtanio C-212 (Production) Nurtanio CN-
235 (Proposed)



INVERTER 115/26 VAC AUTOFORMERS - 100 VA (CONT.)

DH-1030-115/26-ISO-CS TYPE II AUTOFORMER

(AC to AC Airborne Static Electrical Power Autotransformer)
Toroidal Design - 100 VA, 1 Phase, Class B, Multi-purpose

Input: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
.92 - .1 Amperes (Full Load - No Load)

Output: 26 Volts AC, 400 Hertz Sine Wave, 1 Phase
100 VA Continuous Duty
150 VA Intermittent Duty



Dimensions:

Unit: 3-1/2 L x 3 W x 1-1/2 H
88.90 mm L x 76.20 mm W x 38.10 mm H
Mounting Base: 3-3/16 L x 4 W
80.96 mm L x 101.60 mm W
Mounting Centers: 2.500 L x 3.500 W
63.50 mm L x 88.90 mm W

Electrical Connectors:

Input J1: MS3 102R- 12S-3P Box Receptacle mates with MS3 106F- 12S-3S
Output J2: MS3102R-12S-3S Box Receptacle mates with MS3106F-12S-3P

Weight: 1.3 lbs - 590 g (Max.)

Applications: Aero Commander 1121 (Retrofit)
Agusta Models A 129 and AB 205 (Production)
Canadair CL-215 (Production)
Peoples Republic of China Xian Yun-7 (Production)
Sikorsky S-58T (Production)



INVERTER 115/26 AUTOFORMERS - 100 VA (CONT.)

DH-1030-115/26-150-CS TYPE IIB AUTOFORMER

(AC to AC Airborne Static Electrical Power Autotransformer)

Toroidal Design - 100 VA, 1 Phase, Class B, Multi-purpose

Input: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
.92 - .1 Amperes (Full Load - No Load)

Output: 26 Volts AC, 400 Hertz Sine Wave, 1 Phase
100 VA Continuous Duty
150 VA Intermittent Duty

Dimensions:

Unit: 3-1/2 L x 3 W x 1-1/2H
88.90 mm L x 76.20 mm W x 38.10 mm H
Mounting Base: 3-3/16 L x 4 W
80.96 mm L x 101.60 mm W
Mounting Centers: 2.500 L x 3.500 W
63.50 mm L x 88.90 mm W

Electrical Connectors:

Input J1: MS3122E-12-3P Box Receptacle mates with MS3126F-12-3S
Output J2: MS3122E-12-3S Box Receptacle mates with MS3126F-12-3P

Weight: 1.3 lbs - 590 g (Max.)

Applications: Proposed for new design



**AIRBORNE DC TO AC POWER CONVERSION AND DISTRIBUTION EQUIPMENT
SPECIFICATIONS**

Item	Page
INVERTER MONO-TRIPHASE ADAPTER	135
DH-1030-115/200-450-CS TYPE IID MONO-TRIPHASE ADAPTER	137



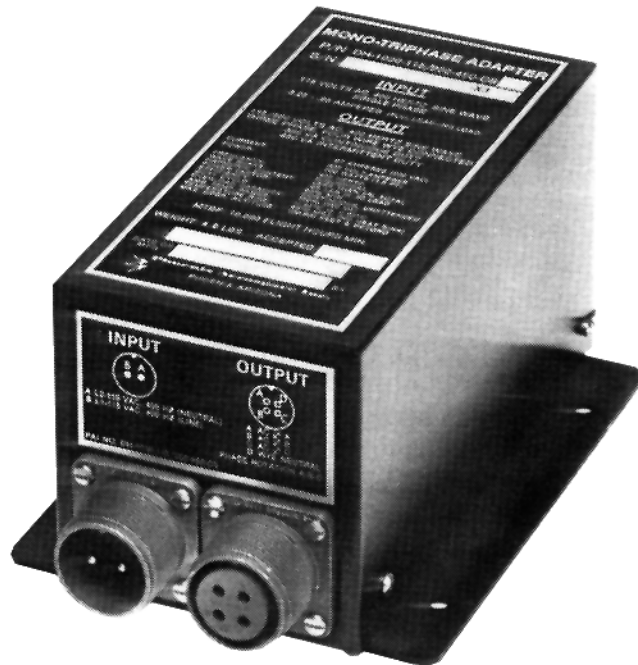
INVERTER 115/200 VAC MONO-TRIPHASE ADAPTER - 3 PHASE WYE - 300 VA

DH-1030-115/200-450-CS TYPE IID MONO-TRIPHASE ADAPTER

(Single Phase to Three Phase Airborne Static Electrical Power Adapter) 300 VA; 1/3 Phase, Class B, Multi-purpose

Input: 115 Volts AC, 400 Hertz Sine Wave, 1 Phase
3.25 - .25 Amperes (Full Load - No Load)

Output: 115/200 VAC, 400 Hertz Sine Wave, Three Phase,
115/200 VAC - Three Phase - 4-Wire Wye, or 115
VAC - Three Phase - 3-Wire Delta. 300 VA
Continuous Duty 450 VA Intermittent Duty



Dimensions:

Unit: 6-1/2 L x 3-5/16 W x 3-1/2 H
165.10 mm L x 84.14 mm L x 88.90 mm H
Mounting Base: 5-15/16 L x 4-3/4 W
150.81 mm L x 120.65 mm W
Mounting Centers: 4.000 L x 4.000 W
101.60 mm L x 101.60 mm W

Electrical Connectors:

Input J1: MS3 1028-18-3P Box Receptacle mates with MS3 106F-18-3S
Output J2: MS3102R-18-4S Box Receptacle mates with MS3106F-18-4P

Weight: 4.9 lbs - 2.2 kg (Max.)

Applications: Agusta-Bell AB 212ASW (Production)
(Powers General Electric SR-3 Gyro Platform on AB-212 for Italian,
Peruvian, and Greek Navies)
Agusta/Sikorsky SH-3D (Production)



**AIRBORNE DC TO AC POWER CONVERSION AND DISTRIBUTION EQUIPMENT
SPECIFICATIONS**

Item	Page
INVERTER WARNING LIGHT CONTROL BOXES	139
DH-1030-24-3-CS TYPE I INVERTER WARNING LIGHT CONTROL BOX	141
DH-1030-24-3-CS TYPE II INVERTER WARNING LIGHT CONTROL BOX	142
DH-1030-24-3-CS TYPE IID INVERTER WARNING LIGHT CONTROL BOX	143
DH-1080-24-1A BLEED VALVE CONTROL UNIT	144



INVERTER WARNING LIGHT CONTROL BOXES - C.A.G.S.

DH-1030-24-3-CS TYPE I INVERTER WARNING LIGHT CONTROL BOX - C.A.G.S. (Airborne),
Silicon Solid State-Automatic Central Attention Getting System (C.A.G.S.) and Warning
Light Annunciation of Fault Condition in PAI Parallel Inverter Systems

Input: 18 - 32 Volts DC (27.5 VDC Nominal)
.132 - .012 Amperes (Full Load - No Load)

Output: 0 - +27.5 VDC (3 C.A.G.S. Circuits)
0 - -27.5 VDC (Ground) (3 Warning Light Circuits)
1.0 Ampere (Maximum) per Circuit (6 Circuits)



Dimensions:

Unit: 4 L x 3 W x 1-5/8 H
101.60 mm L x 76.20 mm W x 41.28 mm H
Mounting Base: 3-11/16 L x 4 W
93.66 mm L x 101.60 mm W
Mounting Centers: 2.50 L x 3.50 W
63.50 mm L x 88.90 mm W

Electrical Connectors:

Input/Output J1: DBA70-19-OPN Deutsch Box Receptacle mates with
Deutsch DBA77-19-OSN

Weight: 8 oz - 227 g (Max.)

Applications: C.A.S.A. C-212 (Production)
C.A.S.A. CN-235 (Production)
Hawker Siddeley DH-125, -1A, -3A, -EAR, & -400/United
Telephone STC No. SA740CE 20 NOV 70 (Retrofit)
Mitsubishi MU-300 (Proposed)
Nurtanio C-212 (Production)
Nurtanio CN-235 (Retrofit)



INVERTER WARNING LIGHT CONTROL BOXES - C.A.G.S. (CONT.)

DH-1030-24-3-CS TYPE II INVERTER WARNING LIGHT CONTROL BOX - DHC P/N 7SC 0175

(Airborne), Silicon Solid State-Automatic Central Attention Getting System (C.A.G.S.) and Warning Light Annunciation of Fault Condition in PAI Parallel Inverter Systems

Input: 18 - 32 Volts DC (27.5 VDC Nominal)
.132 - .012 Amperes (Full Load - No Load)

Output: 0 - +27.5 VDC (3 C.A.G.S. Circuits)
0 - -27.5 VDC (Ground) (3 Warning Light Circuits)
1.0 Ampere (Maximum) per Circuit (6 Circuits)



Dimensions:

Unit 4 L x 3 W x 1-5/8 H
101.60 mm L x 76.20 mm X 41.28 mm H
Mounting Base: 3-11/16 L x 4 W
93.66 mm L x 101.60 mm W
Mounting Centers: 2.500 L x 3.500 W
63.50 mm L x 88.90 mm W

Electrical Connectors:

Input/Output J1: MS3122E-14-19P Box Receptacle mates with MS3 126F- 14-19S

Weight: 8 oz - 227 g (Max.)

Applications: Aero Commander 1121 (Proposed)
Canadair CL-215 Water Bomber (Production) de Havilland DHC-5 (Production) de Havilland DASH 7 (Production)
Peoples Republic of China Xian Yun-7 (Production)
Sikorsky S58-T (Production)



INVERTER WARNING LIGHT CONTROL BOXES - C.A.G.S. (CONT.)

**DH-1030-24-3-CS TYPE IID INVERTER WARNING LIGHT CONTROL BOX -DHC
P/N 8SC 0010**

(Airborne), Silicon Solid State-Automatic Central Attention Getting System (C.A.G.S.) and Warning Light Annunciation of Fault Condition in PAI Parallel Inverter Systems with Bus Tie Control

Input: 18 - 32 Volts DC (27.5 VDC Nominal)
.132 - .012 Amperes (Full Load - No Load)

Output: 0 - +27.5 VDC (3 C.A.G.S. Circuits)
0 - -27.5 VDC (Ground) (3 Warning Light Circuits)
1.0 Ampere (Maximum) per Circuit (6 Circuits)



Dimensions:

Unit: 4 L x 3 W x 1-5/8 H
101.60 mm L x 76.20 mm x 41.28 mm H
Mounting Base: 3-11/16 L x 4 W
93.66 mm L x 101.60 mm W
Mounting Centers: 2.500 L x 3.500 W
63.50 mm L x 88.90 mm W

Electrical Connectors:

Input/Output J1: MS3122E-14-19P Box Receptacle mates with MS3126F-14-19S

Weight: 8 oz - 227 g (Max.)

Applications: de Havilland DASH 8 (Production)



BLEED VALVE CONTROL UNIT

DH-1080-24--1A BLEED VALVE CONTROL UNIT

(Airborne), Silicon Solid State-Automatic Time Delay Control for 28 VDC Bleed Valve Drive Motor

Input: 18 - 32 Volts DC (27.5 VDC Nominal)

Output: 1.0 Ampere DC



Dimensions:

Unit: 4 L x 3 W x 1-5/8H
101.60 mm L x 76.20 mm X 41.28 mm H
Mounting Base: 3-11/16 L x 4 W
93.66 mm L x 101 .60 mm
W Mounting Centers: 2.500 L x 3.500 W
63.50 mm L x 88.90 mm W

Electrical Connectors:

Input/Output J1: MS3 122E- 14-5P Box Receptacle mates with MS3 126F-14-5S

Weight: 8 oz - 227 g (Max.)

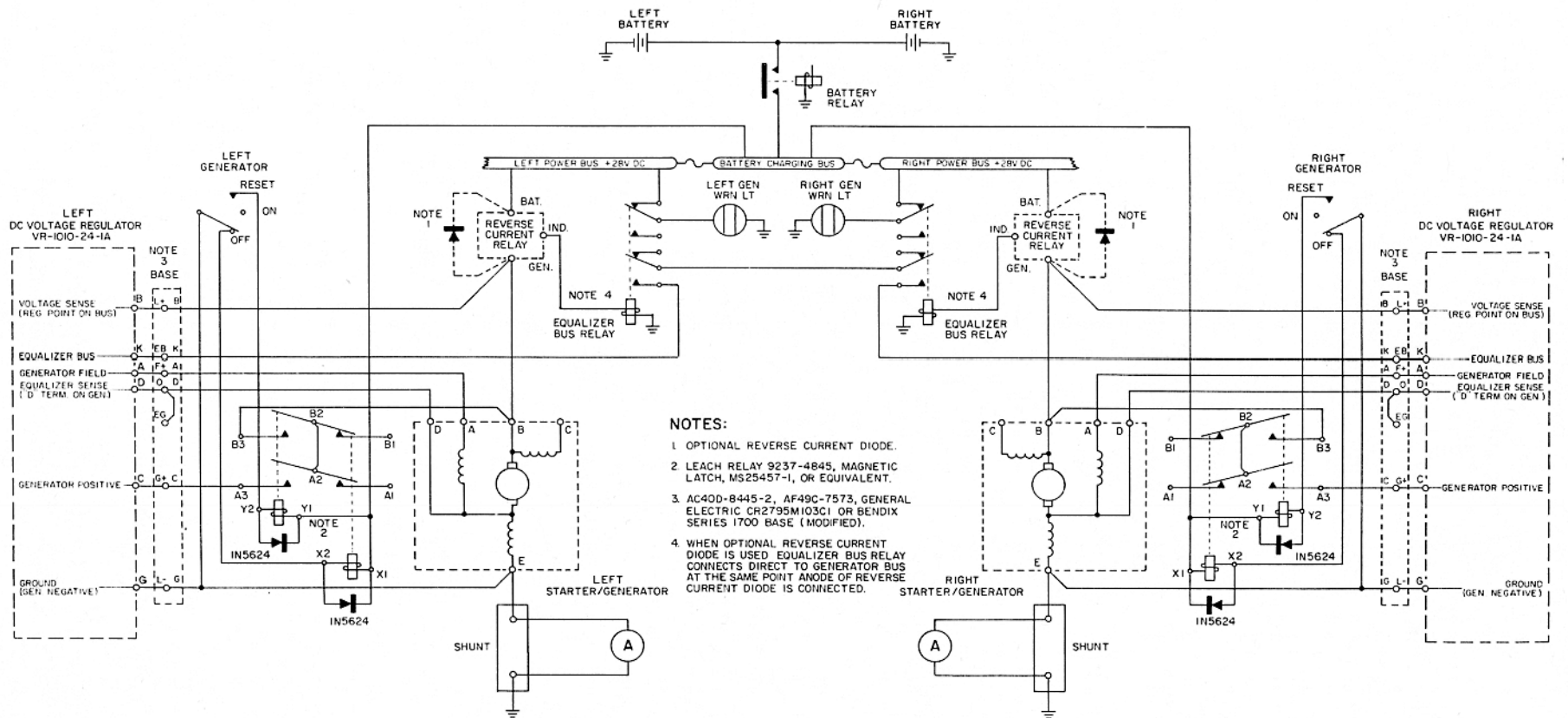
Applications: de Havilland DASH 8 (Production)



DC ELECTRICAL POWER SYSTEMS

TECHNICAL DATA

Item	Page
DC VOLTAGE REGULATORS AND GENERATOR CONTROL UNITS	145
VR-1010-24-1A DC VOLTAGE REGULATOR TO DUAL GENERATOR (TYPICAL WIRING DIAGRAM)	146
TECHNICAL APPROACH, RELIABILITY, APPLICATIONS AND ENVIRONMENTAL TESTING	147
GENERAL	147
PAI DC ELECTRICAL POWER SYSTEM COMPONENT DESIGN CHARACTERISTICS	147
DESIGN, PERFORMANCE AND RELIABILITY ADVANTAGES	147
VR- 1010-24-2A DC VOLTAGE REGULATOR TO DUAL GENERATOR (TYPICAL WIRING DIAGRAM)	148
DESIGN, PERFORMANCE AND RELIABILITY ADVANTAGES (CONT.)	149
VR-1010-24-1A DC VOLTAGE REGULATOR RETROFIT (TYPICAL WIRING DIAGRAM)	150
GLOBAL PAI DC ELECTRICAL POWER SYSTEMS APPLICATIONS (TYPICAL)	151
DC VOLTAGE REGULATORS	151
DC GENERATOR CONTROLS	152
RELIABILITY	153
ENVIRONMENTAL PERFORMANCE REQUIREMENTS AND TESTING	153
MANUFACTURING	153
STORAGE LIFE	154
CONCLUSIONS	154
GC- 1010-24-9A DC GENERATOR CONTROLS TO DUAL GENERATOR SYSTEM	155



NOTES:

1. OPTIONAL REVERSE CURRENT DIODE.
2. LEACH RELAY 9237-4845, MAGNETIC LATCH, MS25457-1, OR EQUIVALENT.
3. AC40D-8445-2, AF49C-7573, GENERAL ELECTRIC CR2795M103C1 OR BENDIX SERIES I700 BASE (MODIFIED).
4. WHEN OPTIONAL REVERSE CURRENT DIODE IS USED EQUALIZER BUS RELAY CONNECTS DIRECT TO GENERATOR BUS AT THE SAME POINT ANODE OF REVERSE CURRENT DIODE IS CONNECTED.

VR-1010-24-1A DC VOLTAGE REGULATOR TO DUAL GENERATOR SYSTEM



TECHNICAL DATA

DC VOLTAGE REGULATORS AND GENERATOR CONTROL UNITS

DC ELECTRICAL POWER SYSTEM COMPONENTS

TECHNICAL APPROACH, RELIABILITY, APPLICATIONS, AND ENVIRONMENTAL TESTING

GENERAL:

Phoenix Aerospace Inc. manufactures 18 separate models of DC VOLTAGE REGULATORS and DC GENERATOR CONTROLS in 30 configurations currently being installed as standard equipment in production aircraft throughout the world. Every individual production unit is tested to rated output performance parameters before shipment, then packaged to the highest commercial and military standards, assuring safe arrival at destination for installation with zero defects. Established MTBF for all models is 10,000 flight hours minimum; TBO is "On Condition" - no preventive maintenance recommended nor required - 5,000 flight hours minimum; useful life is 50,000 flight hours minimum.

PAI DC ELECTRICAL POWER SYSTEM COMPONENT DESIGN CHARACTERISTICS:

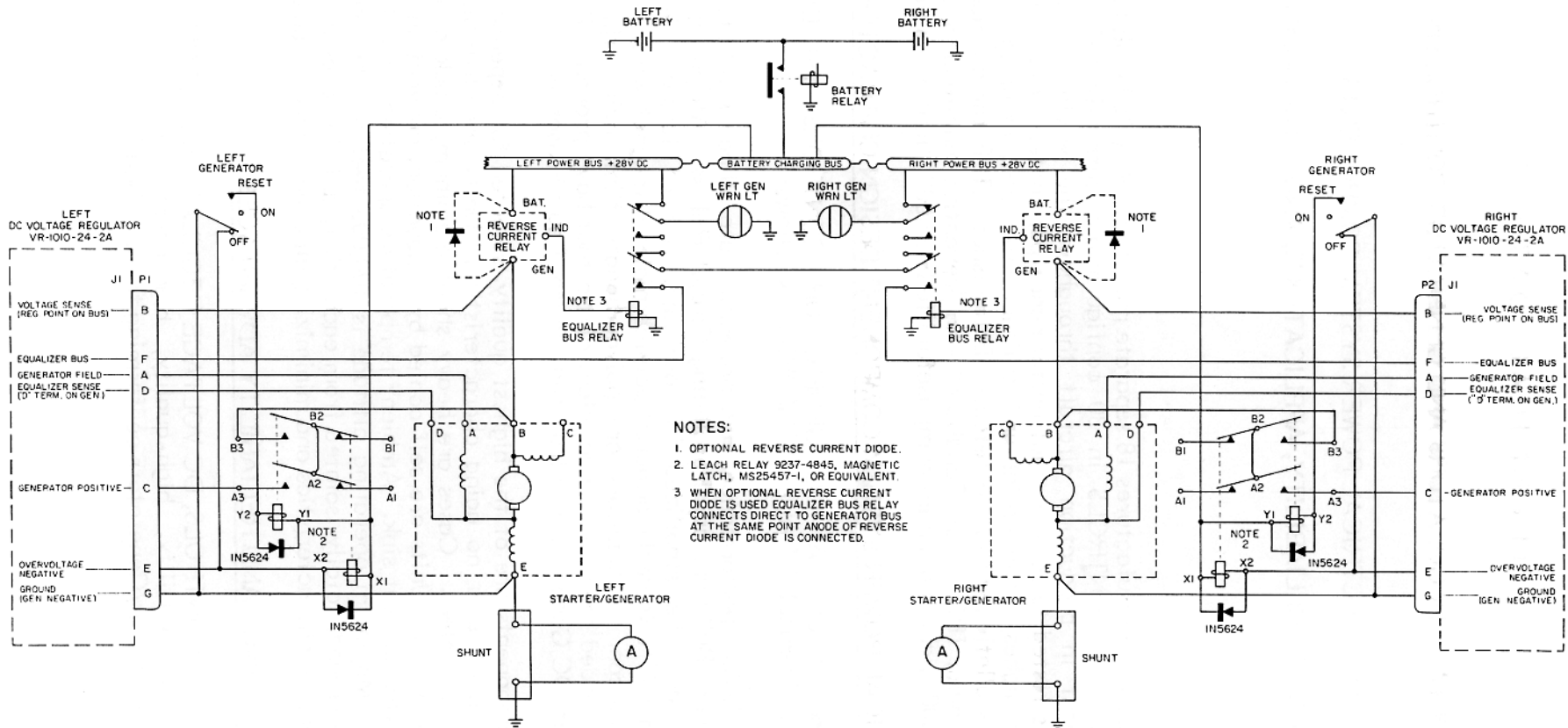
The basic design of all PAI DC GENERATOR CONTROLS and DC VOLTAGE REGULATORS and CURRENT FAULT SENSORS is as follows:

All functions of design, performance, and protection are silicon solid state except for properly-sized Field, Build-up, and Paralleling Circuit Relays. All power transformers, linear inductors, and the stabilized LC oscillator are of toroidal design and are constructed from HAPT (heavily armored polythermaleze) magnet wire. All transistors and diodes are silicon. Capacitors are polycarbonate film, mylar film, mylar foil, tantalum, and extended range aluminum electrolytic that have proven reliability for DC Voltage Regulator, DC Generator Control, and Current Fault Sensor use.

All additional components are of the highest quality, selected for dependability and long operating life with little or no aging characteristics. Units are all-teflon wired. All hardware is stainless steel. Cases are heavy sheet aluminum, black or gold anodized externally and internally. Units are self-cooled by conduction, convection, and radiation and require no external heat sink. Ambient temperature operating range is rated from - 85°C to +85°C. Maximum operating altitude is 100,000 feet and beyond. Input and output are above ground, totally isolated from each other, assuring exceptional electrical magnetic interference characteristics and minimizing all conducted and radiated RFI.

DESIGN, PERFORMANCE AND RELIABILITY ADVANTAGES:

PAI DC GENERATOR CONTROLS, DC VOLTAGE REGULATORS, and CURRENT FAULT SENSORS are high-reliability, high-quality, high-performance devices which are compatible with all Starter/Generators conforming to MIL-G-6162.



VR-1010-24-2A DC VOLTAGE REGULATOR TO DUAL GENERATOR SYSTEM



TECHNICAL DATA

DC VOLTAGE REGULATORS AND GENERATOR CONTROL UNITS

DESIGN, PERFORMANCE AND RELIABILITY ADVANTAGES (CONT.):

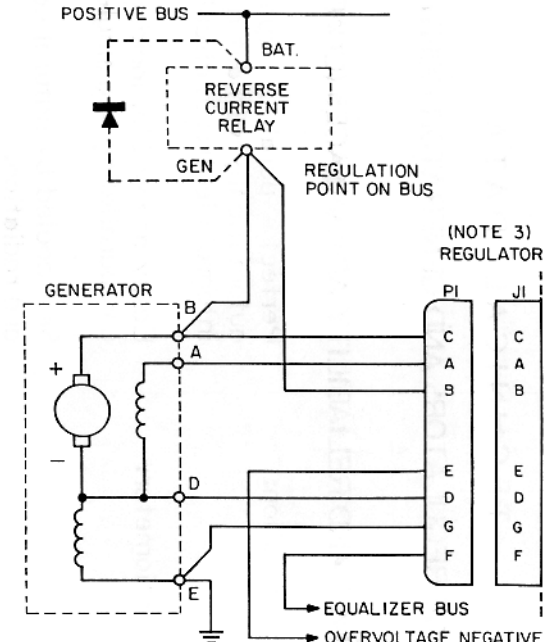
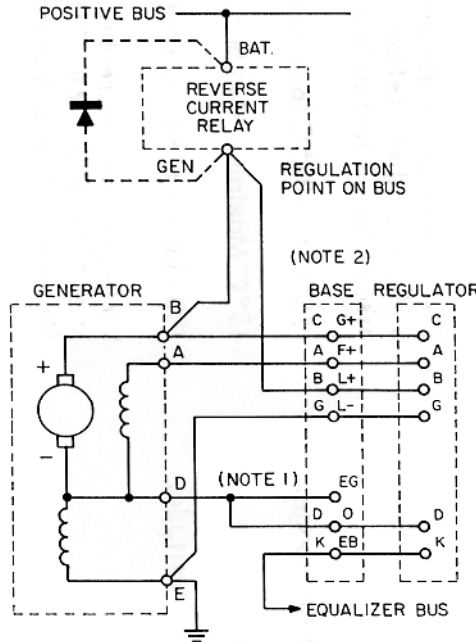
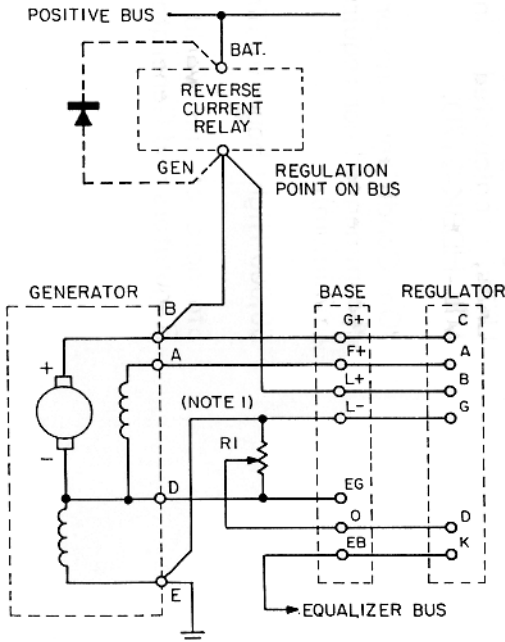
- * Automatic Parallel Operation: Perfect parallel operation is achieved automatically without a paralleling pot. by an integral electronic circuit.
- * Voltage Setting Potentiometer: Easily accessible, locking type, adjusts voltage and paralleling in a single operation.
- * Cooling: Self-cooled by natural convection, conduction, and radiation.
- * Installation: Operation in any position does not adversely affect power output, heating, or other operating characteristics.
- * Components: Discrete silicon solid state components of the highest calibre, teflon wired throughout, and assembled with stainless steel hardware.
- * Ambient Temperature Range: -85°C to +85°C (operating).
- * Temperature Rise: 15° C Maximum (No heat sink).
- * Maximum Operating Altitude: 100,000 feet (30,479 meters) and beyond.
- * EMI and RFI: Virtually immeasurable. Exceeds MIL-STD-461A, MIL-STD-462, and MIL-1-6181 D requirements.
- * Reliability: Designed to operate a minimum of 10,000 Flight Hours without component malfunction. MTBF is 20,000 Hours (minimum) for all Voltage Regulators and Generator Control Units, calculated in accordance with MIL-HDBK-217D.
- * TBO: "On Condition" - no preventive maintenance recommended nor required - 5,000 flight hours (minimum).
- * Useful Life: 50,000 flight hours (minimum).
- * Merit: Standard of the world in static DC Voltage Regulators and Generator Control Units.



AN3206-1 OR EQUIVALENT
DC VOLTAGE REGULATOR, PLUG-IN UNIT
CARBON PILE
BENDIX OR GENERAL ELECTRIC BASE

MODEL VR-1010-24-1A
DC VOLTAGE REGULATOR, PLUG-IN UNIT
SILICON SOLID-STATE
AC40D-8445-2/AF49C-7573, OR
MODIFIED BENDIX OR GENERAL ELECTRIC BASE

MODEL VR-1010-24-2A
DC VOLTAGE REGULATOR
SOLID MOUNTING
SILICON SOLID-STATE



(NOTE 4)

VR-1010-24-1A DC VOLTAGE REGULATOR CONTACT	CONNECTION	SERIES 1700 BENDIX BASE TERMINAL	AC40D-8445-2 OR AF49C-7573 BASE TERMINAL	CR2795MI03CI GENERAL ELECTRIC VIBRATION MOUNT TERMINAL	VR-1010-24-2A DC VOLTAGE REGULATOR PIN
A	GENERATOR FIELD	F+	A	F+	A
B	VOLTAGE SENSE (REGULATION POINT ON BUS)	L+	B	L+	B
C	GENERATOR POSITIVE	G+	C	G+	C
D	EQUALIZER SENSE ("D" TERMINAL OF GENERATOR)	O-EG	D	O-EG	D
NONE	OVERVOLTAGE NEGATIVE	-	-	-	E
K	EQUALIZER BUS	EB	K	EB	F
G	GROUND (GENERATOR NEGATIVE)	L-	G	L-	G

NOTES:

1. REMOVE PARALLELING RESISTOR R1. IF PARALLELING RESISTOR R1 IS NOT REMOVED, DISCONNECT RESISTOR LEADS AT TAPS L- AND EG, AND CONNECT JUMPER WIRE BETWEEN TAPS EG AND O.
2. PAI MODEL VR-1010-24-1A DC VOLTAGE REGULATOR ON THE DESIRED TYPE OF MOUNTING BASE.
3. PAI MODEL VR-1010-24-2A DC VOLTAGE REGULATOR CONNECTS TO THE SYSTEM THROUGH A TYPE MS3106F-16S-IS, OR EQUIVALENT CONNECTOR PLUG.
4. TABLE OF VOLTAGE REGULATOR MOUNTING BASE CONNECTIONS.

VR-1010-24-1A DC VOLTAGE REGULATOR RETROFIT



TECHNICAL DATA

DC VOLTAGE REGULATORS AND GENERATOR CONTROL UNITS

GLOBAL PAI DC ELECTRICAL POWER SYSTEMS APPLICATIONS (TYPICAL):

DC VOLTAGE REGULATORS:

Our vast family of DC Static Voltage Regulators and Generator Control Units have been accepted and used worldwide by leading airframe manufacturers for over a quarter of a century. Our entire product line of DC Voltage Regulators and DC Generator Control Units represent state-of-the-art expertise utilizing electronic components and circuitry proven reliable by millions of flight hours in a wide variety of high production commercial and military fixed wing and rotary wing aircraft. Successful hybrid systems using PAI DC regulation equipment with DC generating and starter generator systems manufactured by APC, Auxilec, Bendix, General Electric, Lear Siegler, Lucas-Rotax, Plessey, Sal Moiraghi, Shinko, Westinghouse and other well known manufacturers, literally cover the globe and are the standard of the world by which all others are judged. A few of the many high production commercial and military hybrid applications follow:

1. Ayres Corporation: Ayres Turbo-Thrush Aircraft, LSI/PED P/N 23081 -001, 200 Amp Starter/Generators (PAI P/N VR-1010-24-1A DC VOLTAGE REGULATORS).
2. Beech Aircraft Corporation: LSI/PED P/N 23048-004, 200 Amp Starter/Generators and LSI/PED P/N 23046-007, 300 Amp Starter/Generators (USAF designation: VC-6B; US Navy designation: T-44A; US Army designation: U-21 F; US Military designations: C-12A, UC-12B, C-12C, C-12D, and RU-21J), (PAI P/N's VR-1010-24-1A and VR-1010-24-2B DC VOLTAGE REGULATORS).
3. de Havilland: DHC-6 Twin Turbo Otter, LSI/PED P/N 23048-004, 200 Amp Starter/Generators (PAI P/N's VR-1010-24-1A and VR-1010-24-2A DC VOLTAGE REGULATORS).
4. Frakes Aviation Corporation: Frakes/Grumman Turbo-Mallard Aircraft Conversion, LSI/PED P/N 23081-001, 200 Amp Starter/Generators P/N (PAI P/N VR-1010-24-2A DC VOLTAGE REGULATORS).
5. Gates Learjet: Model 23 and Model 24, Bendix P/N 30837, 400 Amp Starter/Generators (PAI VR-1010-24-2C DC VOLTAGE REGULATORS).
6. Hughes Helicopters, Inc.: Model 500 (Military versions), LSI/PED P/N 23032-028, Starter/Generators, and Aircraft Parts Corporation P/N 150SG111Q, 150 Amp Starter/Generators (PAI P/N VR-1010-24-6E DC VOLTAGE REGULATOR).
7. Mitsubishi Aircraft International, Inc.: MU-2, LSI/PED P/N 23081-001, 200 Amp Starter/Generators (Mitsubishi Service Recommendation SR024/24-001 and SR024/24-001, Revision A) (PAI P/N's VR-1010-24-2AE and VR-1010-24-2BE DC VOLTAGE REGULATORS).
8. Sabreliner Corporation: All Sabreliner Models except Model 65, Bendix P/N 30B58-3B, 400 Amp Starter/Generators and General Electric P/N 352060DC 168C1B, 400 Amp Starter/Generators (Trio Aviation STC No. SA1013SW and Sabreliner



TECHNICAL DATA

DC VOLTAGE REGULATORS AND GENERATOR CONTROL UNITS

GLOBAL PAI DC ELECTRICAL POWER SYSTEMS APPLICATIONS (TYPICAL) (CONT.):

Service Letter No. 80 and Optional Kit No. 8215) (PAI P/N's VR-1010-24-1A and VR-1010-24-1AS DC VOLTAGE REGULATORS and RY-1010-24-1AS EQUALIZER BUS CONTROL).

9. Short Brothers Ltd.: Skyvan 3, LSI/PED P/N 23046-007, 300 Amp Starter/Generators (PAI P/N SB-1010-24-2E VOLTAGE REGULATORS).
10. Soloy Conversions Ltd.: Turboprop Conversion for Cessna TU and U206G, LSI/PED P/N 23032-020, 150 Amp Starter/Generators (PAI P/N VR-1010-24-6E DC VOLTAGE REGULATORS).
11. USAF: A37 Trainer Aircraft, Bendix P/N 30B58 Series, 400 Amp Starter/Generators (PAI P/N VR-1010-24-1A DC VOLTAGE REGULATORS).
12. US Army Procurement: Seven aircraft retrofit programs (PAI P/N VR-1010-24-1A DC VOLTAGE REGULATOR, NSN 6110-01-009-3828).
13. Other: Several hundred other Commercial and Military Aircraft (worldwide) including Helicopters, Turbo-prop, and Jet-Engined Aircraft (PAI P/N VR-1010-24-1A DC VOLTAGE REGULATORS, VR-1010-24-2A DC VOLTAGE REGULATORS, etc.).

DC GENERATOR CONTROLS:

Phoenix Aerospace Inc. DC GENERATOR CONTROL UNITS and CURRENT FAULT SENSORS are a direct retrofit for most Lear Siegler, Inc. standard production models without circuitry, wiring, or mechanical changes in the aircraft and are vastly superior in design, performance, and construction. A few of the many world-renown high production commercial and military hybrid applications follow:

1. DC Electrical Power Systems with Field Weakening (Start and Generate Cycle Control):
 - A. British Aerospace Corporation: HS-125-700 Aircraft APU installations, LSI/PED P/N 23080-002, 400 Amp Starter/Generators (PAI P/N GC-1010-24-5C DC GENERATOR CONTROLS).
 - B. Sabreliner Corporation: Sabreliner 65 Aircraft, LSI/PED P/N 23080-004, 400 Amp Starter/Generators, APU and Engine installations (PAI P/N GC-1010-24-5C DC GENERATOR CONTROLS).
 - C. Solar Turbines/Turbomach Division: APU installations for US Army and US Air Force communications applications (PAI P/N GC-1010-24-5C DC GENERATOR CONTROLS).



TECHNICAL DATA

DC VOLTAGE REGULATORS AND GENERATOR CONTROL UNITS

GLOBAL PAI DC ELECTRICAL POWER SYSTEMS APPLICATIONS (TYPICAL) (CONT.):

- D. Government Aircraft Factories RAAF: A10 Basic Trainer Turboprop Aircraft, ARC P/N 200SG111Q, 200 Amp Starter/Generators (PAI P/N GC-1010-24-5CA DC GENERATOR CONTROLS).
2. DC Electrical Power Systems without Field Weakening (Generate Cycle Control, only)
 - A. Aerospatiale Helicopter Corporation: SA366G Dolphin (US Coast Guard HH-65A Helicopter), APC 150 Amp Starter/Generator (PAI P/N GC-1010-24-9A DC GENERATOR CONTROLS and PAI P/N DH-1030-24-2-CS CURRENT FAULT SENSORS).
 - B. Colt Electronics: STC for Lockheed Jetstar 731, LSI/PED 300 Amp Starter/Generators (PAI P/N GC-1010-24-3B DC GENERATOR CONTROLS).
 - C. OMAC Inc.: OMAC Turboprop Business Aircraft, LSI/PED 300 Amp Starter Generators (PAI P/N GC-1010-24-9A DC GENERATOR CONTROLS).
 - D. Solar Turbines/Turbomach Division: APU installations for US Army and US Air Force communications applications (PAI P/N GC-1010-24-3F DC GENERATOR CONTROLS).
 - E. Other: Many other Commercial and Military Aircraft applications worldwide including Helicopters, Turbo-prop, and Jet-Engined Aircraft.

RELIABILITY:

All PAI devices are designed to operate a minimum of 10,000 Flight Hours without component malfunction. MTBF is 20,000 Hours (minimum) for all DC Static Voltage Regulators and Generator Control Units calculated in accordance with MIL-HDBK-217D.

ENVIRONMENTAL PERFORMANCE REQUIREMENTS AND TESTING:

All Phoenix Aerospace Inc. DC VOLTAGE REGULATORS, DC GENERATOR CONTROLS, CURRENT FAULT SENSORS, and associated equipment are designed, manufactured and have been environmentally tested to meet or exceed the maximum performance standards and requirements of RTCA Document Number DO-160, Environmental Categories /A1A2BA2B1C2C3D1D2D3E1 E2/AJEWXDFSZXAZZ, MIL-R-23761B, MIL-E-5272C (ASG), MIL-E-5400T, MIL-T-5422F(AS), MIL-E-6051D, MIL-1-6181D, MIL-R-6809, MIL-HDBK-217D, MIL-STD-461B, MIL-STD-462, MIL-STD-704A/D, MIL-STD-781C, MIL-STD-810D, MIL-STD-826A(USAF).

MANUFACTURING:

All manufacturing techniques utilize the highest degree of care to insure the most reliable, high-performance equipment reaches the customer.



TECHNICAL DATA

DC VOLTAGE REGULATORS AND GENERATOR CONTROL UNITS

MANUFACTURING (CONT.):

Final testing is performed by veteran technicians utilizing sophisticated methods and equipment. Complete burn-in is achieved at the factory to eliminate premature or infantile failures. A Test Card accompanies each unit which delineates its performance in the final testing procedure.

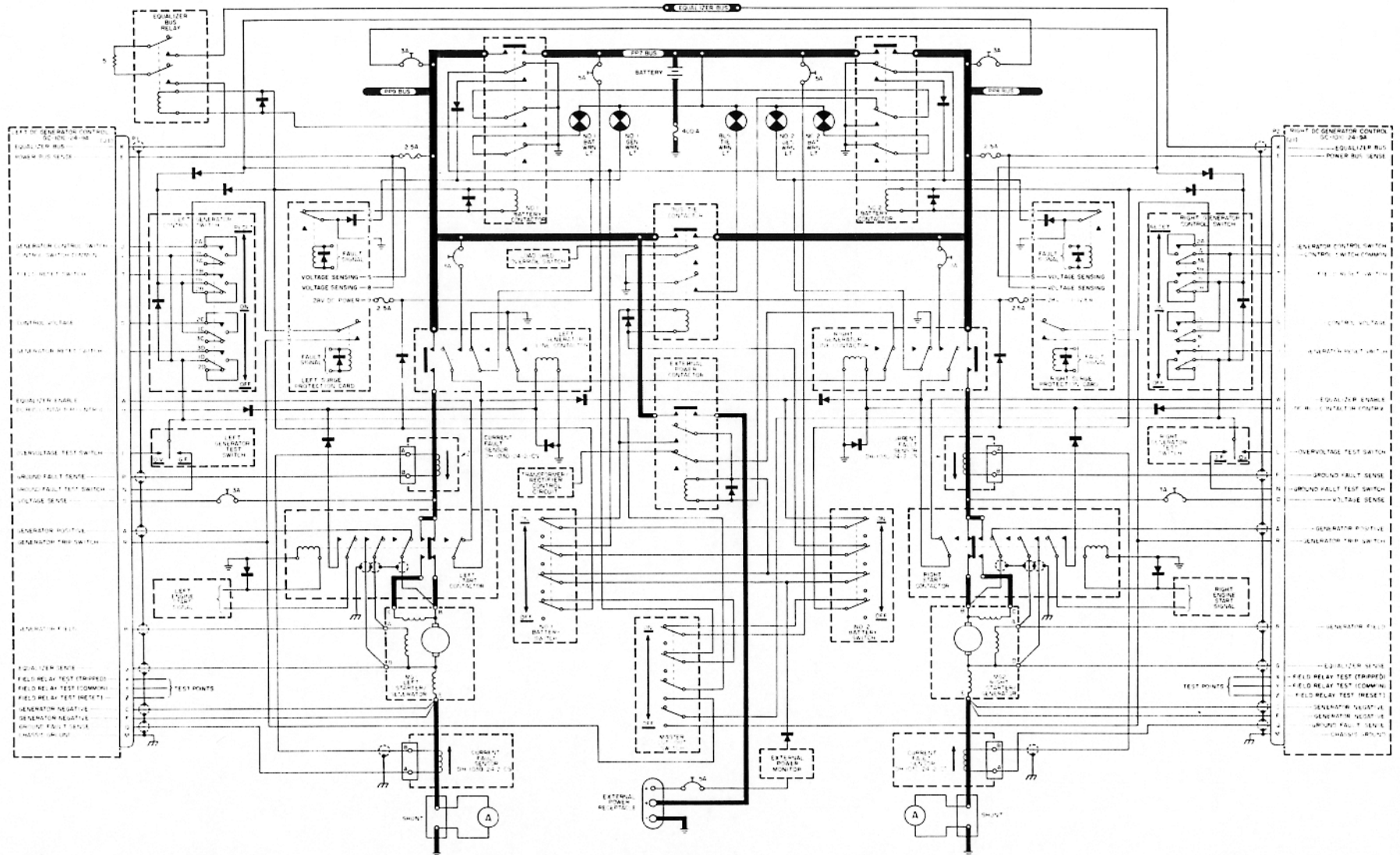
STORAGE LIFE:

Every individual production unit is operated for 50 continuous hours, tested to rated output performance parameters before shipment, then packaged to the highest commercial and military standards, assuring safe arrival at destination for installation with zero defects.

CONCLUSIONS:

- * Un-surpassed performance of PAI devices.
- * Un-surpassed reliability of PAI devices for maximum safety.
- * Un-surpassed DC Electrical Power System design, maintenance and service record for a quarter of a century.
- * Minimum Aircraft Ground-Run Time.
- * Minimum certification costs to the airframe manufacturer.
- * Minimum pilot training for system operation.
- * Minimum avionics system operational costs.
- * Minimum electrical engineering design costs.
- * Superior Automatic Parallel operation that totally eliminates generator hunting.
- * Superior Feeder Fault Protection and Overvoltage Protection.
- * Superior Starter/Generator Brush and Drive-Spline Life.
- * Superior cost effective designs resulting in lowest cost of ownership of any equipment manufactured in the world today.
- * Universal customer acceptance.
- * "Evolution has shown that at any given moment, out of all conceivable constructions, a single one has always proved itself absolutely superior to all the rest."

ALBERT EINSTEIN, Essays in Science



GC-1010-24-9A DC GENERATOR CONTROLS TO DUAL GENERATOR SYSTEM



STATIC INVERTER

TECHNICAL DATA

Item	Page
DC TO AC STATIC INVERTERS - TECHNICAL DATA	157
TECHNICAL APPROACH, RELIABILITY, APPLICATIONS, AND ENVIRONMENTAL TESTING	159
GENERAL	159
PAI AC ELECTRICAL POWER SYSTEM COMPONENT DESIGN CHARACTERISTICS	159
PAI AC ELECTRICAL POWER SYSTEM COMPONENT DESIGN CHARACTERISTICS (CONT.)	160
PAI TRANSVERTER PERFORMANCE SPECIFICATIONS	161
PAI TRANSVERTER PERFORMANCE SPECIFICATIONS (CONT.)	162
PAI TRANSVERTER PERFORMANCE SPECIFICATIONS (CONT.)	163
PHOENIX AEROSPACE INC. BASIC DC TO AC ELECTRICAL POWER SYSTEM DESIGN PHILOSOPHY	163
ADVANTAGES OF TRUE PARALLEL OPERATION DC TO AC ELECTRICAL POWER SYSTEMS	163
1. EQUAL TRANSVERTER STRESS AND SERVICE LIFE	163
2. EXTERNALLY-MOUNTED 115/26 VAC AUTOFORMERS	163
3. MAXIMUM FAULT PROTECTION	163
PARALLELING	164
FREQUENCY SYNCHRONIZATION	164
PHASE SYNCHRONIZATION	165
TRANSVERTER INPUT AND OUTPUT FAULT PROTECTION	165
SHORT CIRCUIT FAULT PROTECTION	165
4. SAFE AND EASY SYSTEM OPERATION	165
5. MAXIMUM AC ELECTRICAL SYSTEM AND AVIONICS RELIABILITY	166



STATIC INVERTER

TECHNICAL DATA

Item	Page
6. CERTIFICATION	166
DISADVANTAGES OF NON-PARALLEL OPERATING DC TO AC ELECTRICAL POWER SYSTEMS	166
DISADVANTAGES OF NON-PARALLEL OPERATING DC TO AC ELECTRICAL POWER SYSTEMS (CONT.)	167
ENVIRONMENTAL PERFORMANCE REQUIREMENTS AND TESTING	167
ENVIRONMENTAL PERFORMANCE REQUIREMENTS AND TESTING (CONT.)	168
ENVIRONMENTAL PERFORMANCE REQUIREMENTS AND TESTING (CONT.)	169
ENVIRONMENTAL PERFORMANCE REQUIREMENTS AND TESTING (CONT.)	170
MANUFACTURING	170
STORAGE LIFE	170
OTHER	170
CONDITIONS OF FAULT AND PROTECTION - DC POWER FAILURES - DUAL GENERATORS	171
CONDITIONS OF FAULT AND PROTECTION - DC POWER FAILURES - DUAL GENERATORS (CONT.)	172
CONDITIONS OF FAULT AND PROTECTION - INVERTER FAILURES	172
CONDITIONS OF FAULT AND PROTECTION - INVERTER FAILURES (CONT.)	173
CONDITIONS OF FAULT AND PROTECTION - AC BUS SHORT CIRCUITS	173
CONDITIONS OF FAULT AND PROTECTION - AC BUS SHORT CIRCUITS (CONT.)	174
DESIGN, PERFORMANCE AND RELIABILITY ADVANTAGES	175
DESIGN, PERFORMANCE AND RELIABILITY ADVANTAGES (CONT.)	176
CONCLUSIONS	176



TECHNICAL DATA

STATIC INVERTERS

AC ELECTRICAL POWER SYSTEM COMPONENTS

TECHNICAL APPROACH, RELIABILITY, APPLICATIONS, AND ENVIRONMENTAL TESTING

GENERAL:

Phoenix Aerospace Inc. manufactures 43 separate models of DC to AC Airborne Static Electrical Power Inverters (TRANSVERTERS) in 105 configurations installed as standard equipment in various production aircraft currently manufactured throughout the world. Every individual production unit is operated for 50 continuous hours, tested to rated output performance parameters before shipment, then packaged to the highest commercial and military standards, assuring safe arrival at destination for installation with zero defects. Established MTBF for all models is 10,000 flight hours minimum; TBO is "On Condition" - no preventive maintenance recommended nor required - 5,000 flight hours minimum; useful life is 50,000 flight hours minimum.

PAI AC ELECTRICAL POWER SYSTEM COMPONENT DESIGN CHARACTERISTICS:

The basic design of all PAI TRANSVERTERS, PARALLELING CONTROL BOXES, AUTOFORMERS, and INVERTER WARNING CONTROL BOXES is as follows:

No cooling fans, circuit breakers, laminated transformers, or tuning forks are incorporated. All functions of design, performance, and protection are silicon solid state except for properly-sized PARALLELING CONTROL BOX AC Power Bus Switching Relays. All power transformers, linear inductors, and the stabilized LC oscillator are of toroidal design and are constructed from HAPT (heavily armored polythermaleze) magnet wire. All transistors and diodes are silicon. Capacitors are polycarbonate film, mylar film, mylar foil, tantalum, and extended range aluminum electrolytic that have proven reliable for Static Inverter use.

All additional components are of the highest quality, selected for dependability and long operating life with little or no aging characteristics. Units are all teflon wired. All hardware is stainless steel. Cases are heavy sheet aluminum, black anodized externally and internally. Units are self-cooled by conduction, convection, and radiation and require no external heat sink. Ambient temperature operating range is rated from -85°C to +85°C. Maximum operating altitude is 100,000 feet and beyond. Input and output are above ground, totally isolated from each other, assuring exceptional electrical magnetic interference characteristics and minimizing all conducted and radiated RFI.

Input and output are heavily filtered to provide spike suppression of both long and short duration spikes appearing on the DC and AC Buses, providing complete protection for all equipment being operated. A reverse polarity protection diode and a conservatively designed DC input filter protect against short-term transient voltage on the DC source.



TECHNICAL DATA

STATIC INVERTERS

**PAI AC ELECTRICAL POWER SYSTEM COMPONENT DESIGN CHARACTERISTICS
(CONT.):**

A zener diode sensing circuit inhibits switching during long-duration input overvoltages up to 80 volts. Harmonic content is held to less than 5%, at any power factor from 0.75 lagging to 0.95 leading for input voltage variations of 18 to 30 volts and output power from 0 to full load. Overloads of 150% are tolerated with a small rise in harmonic content. Efficiencies of 75% to 80% are realized.



TECHNICAL DATA

STATIC INVERTERS

PAI TRANSVERTER PERFORMANCE SPECIFICATIONS:

All PAI TRANSVERTERS meet the following basic performance standards:

DC INPUT VOLTAGE:	20- 30 Volts DC (27.5 VDC nominal). No damage 0 to 36 VDC at Full Load.
Input Overvoltage:	130% for 5 minutes (36 VDC). The device automatically turns off above 39-40 VDC.
Transient Protection:	0 Volts for 40 milliseconds, ± 600 Volts for 10 microseconds, random or repetitive. Exceeds MIL-STD-704A requirements.
Reverse Polarity Protection:	Polarity Protection Diode. (Connected in Series with DC Input Line).
Low Input Voltage Operation:	Unit will deliver 100 VAC minimum into 50% Nominal Rated unity p.f. <i>load for</i> the device at 16 VDC input. Electrical operation is maintained down to 10 VDC input.
*AC OUTPUT VOLTAGE:	115/26 VAC $\pm 5\%$ (24 to 30 VDC input), $\pm 10\%$ (20 to 24 VDC input), 0 to full load, over temperature-altitude operating range.
Wave Shape:	Sinusoidal.
Total RMS Harmonic Content:	Less than 5% total (3% typical) of Fundamental.
Individual Harmonic Content:	Less than 3% of Fundamental.
Induced Ripple:	Well within the limits defined in MIL-STD-704A. (Less than 50 millivolts, typical.)

*Ambient Temperature/Altitude of -55°C to $+85^{\circ}\text{C}$ at sea level and varied within the range established by Curve 1 of MS33543. The unit delivers rated power to 100,000 (30,479 meters) feet and beyond. Load power factor varied from 0.75 lagging to 0.95 leading.



TECHNICAL DATA STATIC INVERTERS

PAI TRANSVERTER PERFORMANCE SPECIFICATIONS (CONT.):

*OUTPUT FREQUENCY:	400 Hertz $\pm 1\%$, 0 to full load, over input and temperature-altitude operating range. (Frequency is maintained to less than 10 VDC input).
Frequency Modulation:	Meets DO-160, Figure 16-2.
*AC OUTPUT POWER:	0 to 100% of rated load, continuous duty, over input and temperature-altitude operating range. Refer to individual equipment specifications for complete details.
Power Factor:	0.80 Lagging to 0.95 Leading over full range of input voltage and temperature/altitude range.
Overload Capacity:	150% for 5 minutes (no heat sink), 120% for 2 hours (no heat sink).
SHORT CIRCUIT PROTECTION:	No damage, output shorted for 1 minute. 200% of nominal continuous current with automatic start upon resumption of normal load. (NOTE: An optional short circuit protection circuit is available which automatically senses AC output bus voltage and shuts the unit off after 9 seconds if the bus voltage drops below 55 VAC. The unit automatically restarts upon resumption of normal load.)
EFFICIENCY:	75% Minimum (80% Typical), 100% rated output, unity power factor, 28 VDC input voltage (Defined in MIL-1-85071 (AS) Paragraph 4.7.2.3).
COOLING:	Inverter is self-cooled by natural convection, conduction, and radiation and works properly without an external heat sink.

*Ambient Temperature/Altitude of -55°C to $+85^{\circ}\text{C}$ at sea level and varied within the range established by Curve 1 of MS33543. The unit delivers rated power to 100,000 (30,479 meters) feet and beyond. Load power factor varied from 0.75 lagging to 0.95 leading.



TECHNICAL DATA STATIC INVERTERS

PAI TRANSVERTER PERFORMANCE SPECIFICATIONS (CONT.):

INSTALLATION: Operation of the inverter in any position does not adversely affect power input, heating, or other operating characteristics. Full operating life is attainable in any position.

PHOENIX AEROSPACE INC. BASIC DC TO AC ELECTRICAL POWER SYSTEM DESIGN PHILOSOPHY:

Phoenix Aerospace Inc. recommends the use of **PAI True Parallel Operation DC to AC Static Inverter Systems** for all new designs and retrofit applications.

The advantages of such installations are increased reliability and performance and are described in detail in the AC Power Distribution System books (available on request).

ADVANTAGES OF TRUE PARALLEL OPERATION DC TO AC ELECTRICAL POWER SYSTEMS:

1. EQUAL TRANSVERTER STRESS AND SERVICE LIFE:

PAI recommends a True Parallel Operation AC Bus System utilizing an externally mounted PARALLELING CONTROL BOX. When PAI devices are used, excellent paralleling of the entire AC Power Distribution System is obtained for all load conditions ($\pm 5\%$ of TRANSVERTER Full Load Rating).

This minimizes the stress on all the AC Power Distribution System components, as well as assuring that all TRANSVERTERS give nearly the same service life.

2. EXTERNALLY-MOUNTED 115/26 VAC AUTOFORMERS:

PAI recommends the use of externally-mounted 115/26 VAC Autoformers in lieu of dual output Inverters (with both 115 VAC and 26 VAC Outputs) for the following reasons: The weight and cost is approximately the same; only one output wire (instead of two) per Inverter is susceptible to short circuit; the cost of aircraft wiring is reduced; the voltage loss on the 26 VAC line is minimized; loss of the 26 VAC output line will not cause loss of the 115 VAC line on the Inverter.

3. MAXIMUM FAULT PROTECTION:

The PAI PARALLELING CONTROL BOX provides automatic load sharing, frequency synchronization, phase angle synchronization, DC input sensing, AC output sensing, and automatic FAULT protection for the entire system.



TECHNICAL DATA

STATIC INVERTERS

ADVANTAGES OF TRUE PARALLEL OPERATION DC TO AC ELECTRICAL POWER SYSTEMS (CONT.):

Paralleling:

An AC Electrical Power System is far more difficult to control than a DC Electrical System because the output voltage must be regulated, the frequency must be synchronized, and the phase angles of the output voltages must also be identical (if the Inverters are operated in True Parallel Mode). If any one of these conditions is not met, then one Inverter will assume more than its share of the load. The net result is degraded performance and lower reliability of the entire AC System.

If an attempt is made to use a hard-tie Frequency Synchronization System and a Bus-Tie Circuit Breaker between the Inverter 115 VAC and/or 26 VAC outputs, the result will be that one Inverter will be overloaded while the other one will be virtually un-loaded. The inherent differences between any two Inverters will preclude the regulation of voltage between the two to prevent this from happening during all conditions.

NOTE: If this were not so, it would not be necessary to sense the "D" Terminal of DC Starter/Generators (in DC Electrical Power Systems), as well as have an Equalizer Bus between the Voltage Regulators for each Generator to provide Generator Load Equalization.

Frequency Synchronization:

There is no competitive device, to our knowledge, which can offer a single hard-wire tie between two Inverters which will sustain a 115 VAC, 28 VDC, OPEN, or GROUND FAULT on the wiring which will meet FAA redundancy requirements. **It is for this reason that Phoenix Aerospace Inc. does not offer this circuitry as an integral part of each Inverter with a hard-tie wire to perform this function.**

Any competitive Inverter which has a hard-wire tie between Inverters for Frequency Synchronization will compromise the safety and reliability of not only the DC to AC Electrical System, but also the entire Aircraft, its crew, and passengers. All that is necessary to prove this is to hook two competitive Inverters together, as described above, and apply 115 VAC, 28 VDC, OPEN, or GROUND to each wire. Both Inverters will fail for at least one of the above conditions, which is in direct violation of FAA requirements that a Single Fault must not cause the loss of both Inverters.

NOTE: It is the opinion of the Phoenix Aerospace Inc. Engineering Department that a DC to AC Electrical Power System, which Frequency Synchronizes two or more Inverters without utilizing an externally-mounted box, is potentially hazardous. The reason for this is the loss of system redundancy under some FAULT conditions which might occur with a hard-tie wire connection between the Inverters (which would be necessary if an external FREQUENCY SYNCHRONIZATION BOX or PARALLELING CONTROL BOX is not used).



TECHNICAL DATA

STATIC INVERTERS

ADVANTAGES OF TRUE PARALLEL OPERATION DC TO AC ELECTRICAL POWER SYSTEMS (CONT.):

Phase Synchronization:

If the frequency, alone, is synchronized, as is the case in any split or non-parallel AC Bus System, the phase angles will most certainly be different due to the different loads and power factor associated with each independent AC Bus. This phase difference does, and will, cause problems with the aircraft avionics because the equipment is, in many cases, phase sensitive. Is the pilot supposed to believe the No. 1 or the No. 2 RMI in the event they indicate differently by 10 or 15 degrees?

Frequency Synchronization without Phase Synchronization does not solve this problem. Any vendor who claims he can get around this problem should be carefully examined and made to prove his equipment will do what he says it will. A simple way to prove this is to measure the phase angle differences which occur on an aircraft with a True Parallel Operation PAI DC to AC Electrical Power System installed when the AC Bus-Tie Circuit Breaker is opened. The frequency will still be synchronized by the PARALLELING CONTROL BOX, but the phase angles will shift. A flight test with both sets of avionics tuned to the same ADF station will probably show a shift between the RMI's if this test is performed as discussed. This is reason enough, in our opinion, to abandon a non-parallel DC to AC System in favor of the present PAI Parallel System with the PARALLELING CONTROL BOX.

TRANSVERTER Input and Output FAULT Protection:

The use of either DC Load Sensors or DC Thermal Circuit Breakers provides the necessary Inverter Input FAULT protection (PAI DC to AC Electrical Power Systems). The 115 VAC Bus Circuit Breakers (Inverter Output) should be magnetic for the most reliable protection for any Inverter AC output FAULT.

Short Circuit FAULT Protection:

A shorted 115 VAC Output line will cause the DC Input Circuit Breaker to blow, because the PAI TRANSVERTER AC Output Current does not collapse during a FAULT. This provides, by far, the safest method of FAULT Protection when compared to competitive devices which SHUT-DOWN under Short Circuit FAULTS on the Inverter Output.

4. SAFE AND EASY SYSTEM OPERATION:

Hundreds of pilots of C.A.S.A. C-212's, Gates Learjets, de Havilland Twin Turbo Otters, Buffalos, DASH 7's, the new DASH 8, and Sikorsky S-58T's, etc. can attest to the safety and reliability of PAI DC to AC Electrical Power Systems which are operated in a True Parallel Mode. ANY FAULT will give the PILOT an indication which will automatically be cleared by the system and understood by the Pilot or Copilot. Opening of the 115 VAC Bus-Tie Circuit Breaker by the Crew will ALWAYS separate the Left and Right AC Buses, if necessary. However, standard



TECHNICAL DATA

STATIC INVERTERS

ADVANTAGES OF TRUE PARALLEL OPERATION DC TO AC ELECTRICAL POWER SYSTEMS (CONT.):

operational procedure is to check the system during pre-flight by observing Warning Lights, 115 VAC Bus Voltages, and Circuit Breakers. Once this has been done, the operates virtually automatically, allowing the Crew to perform other tasks. If an Auxiliary Inverter is installed, it may be utilized as a redundant power source or used in Parallel on either, but not both, the Left or Right 115 VAC Bus (refer to the enclosed Wiring Diagrams). It will always carry one third of the entire load when it is ON and the 115 VAC Circuit Breakers, including the 115 VAC Bus-Tie Circuit Breaker are CLOSED.

5. MAXIMUM AC ELECTRICAL SYSTEM AND AVIONICS RELIABILITY:

The Aircraft AC Electrical Power System and Avionics Equipment life is enhanced by using PAI TRANSVERTERS, PARALLELING CONTROL BOXES and associated equipment because each system component and load is subjected to the superior voltage regulation and higher reliability of PAI devices.

When a Static Inverter fails, it places more stress on other system components. The net effect is higher maintenance costs for aircraft owners who do not have PAI devices installed on their aircraft. A lower rate of maintenance and replacement of all associated AC powered equipment is experienced because they are operated at their designed input voltages over a greater portion of their useful life with the PAI TRANSVERTERS as their primary power source.

The reliability of PAI devices is unsurpassed and has been proven many times over in the most extreme cold to the hottest tropical environmental conditions. The utilization of all-silicon semiconductors and other high-quality components, coupled with unsurpassed manufacturing techniques, insures the high degree of integrity of PAI TRANSVERTERS and AC Power Loads which they supply.

6. CERTIFICATION:

U.S.A. and Canada:

United States and Canadian Certification is assured because of the well documented and excellent service records of PAI True Parallel Operation DC to AC Power Distribution Systems installed on thousands of Executive Jet Aircraft, Turboprops, Helicopters, etc. manufactured in these countries.

DISADVANTAGES OF NON-PARALLEL OPERATING DC TO AC ELECTRICAL POWER SYSTEMS:

Non-parallel Operating DC to AC Electrical Power Systems have several disadvantages. Among them are the following:



TECHNICAL DATA

STATIC INVERTERS

DISADVANTAGES OF NON-PARALLEL OPERATING DC TO AC ELECTRICAL POWER SYSTEMS (CONT.):

1. Lack of Frequency Synchronization will produce Beat Frequencies which reduces the performance of the aircraft avionics equipment.
2. Frequency Synchronization, alone, will still allow a phase angle differential between the separated AC Buses. This differential may be enough to affect the overall reliability of the avionics systems.
3. Lack of parallel operation and equal load sharing will produce a phase angle shift between the AC Buses and reduces the performance of the Aircraft Avionics.
4. Loss of approximately half the AC powered loads will occur in case an Inverter fails (unless a Standby Inverter is available to assume the load).
5. Reduced overall AC Electrical Power System reliability when compared to the PAI True Parallel Operation AC Electrical Power System.
6. Higher cost per flight hour for the operator due to items 1 through 5, above.

ENVIRONMENTAL PERFORMANCE REQUIREMENTS AND TESTING:

All Phoenix Aerospace Inc. TRANSVERTER (DC to AC Static Electrical Power Inverters), PARALLELING CONTROL BOXES, AUTOFORMERS, INVERTER WARNING CONTROL BOXES, and associated equipment are designed and manufactured to meet or exceed the maximum performance standards and requirements of FAA TSO-C73, Environmental Categories AAAAAAE and RTCA Document Number DO-160, Environmental Categories /A1A2BA2B1C2C3D1D2D3E1 E2/AJEWHDFSZZAZZ, MIL-1-27273A, MIL-E-5400R, MIL-STD-461A, MIL-STD-462, MIL-STD-704A, MIL-E-6051D, etc.

Environmental Test Report No. 9388 applies to qualification testing of Phoenix Aerospace Inc. Part Number DH-I030-115/3-1200-SS Type II AC Power Distribution System - Silicon Solid State - Three Inverter - Three KVA (Nominal) consisting of the following equipment:

- 3 each PAI P/N DH-I030-24-1200-CS Type II TRANSVERTER (1000 VA Nominal);**
- 1 each PAI P/N DH-1030-115/3-1200-SS Type II PARALLELING CONTROL BOX;**
- 2 each PAI P/N DH-I030-115/26-ISO-CS Type II AUTOFORMER;**
- 1 each PAI P/N DH-I030--24-3--CS Type II INVERTER WARNING CONTROL BOX.**

This AC Electrical Power System is identical to the one presently used on the de Havilland DHC-7 Dash 7 STOL Transport (PAI P/N DH-1030-24-1201 Type IIB TRANSVERTER, used on the DHC-7 Dash 7, is identical to PAI P/N DH-1030-24-1200-CS Type 11 TRANSVERTER, the tested device, except for the Electrical Connectors). The devices discussed above all meet the most stringent requirements of RTCA Document DO-160, outlined below.



TECHNICAL DATA

STATIC INVERTERS

ENVIRONMENTAL PERFORMANCE REQUIREMENTS AND TESTING (CONT.):

Environmental Test No. 9388 was completed March 17, 1977 by Environ Laboratories, Inc. (an independent testing laboratory) in compliance with RTCA Document Number DO-160 "Environmental Conditions and Test Procedures for Airborne Electronic/Electrical Equipment and Instruments" dated February 28, 1975 and shows satisfactory results for compliance in all categories as follows:

DO-160 Env. Cat. /A1A2B1B2B3C1C2C3D1 D2D3E1E2/AJEWHD FSZZAZZ.

1. *Temperature-Altitude: RTCA Document Number DO-160, Env. Cat. /A1A2BA2B1C2C3D1D2D3E1E2/, Low Temperature Test, Paragraph 4.4, All Categories, High Temperature Test, Paragraph 4.5, All Categories, Altitude Test, Paragraph 4.6.1, All Categories, Decompression Test, Paragraph 4.6.2, Categories A1 and A2, Overpressure Test, Paragraph 4.6.3, Categories A1 and A2;

*Ambient Temperature/Altitude of -55°C to +85°C at sea level and varied within the range established by Curve 1 of MS33543. The unit delivers rated power to 80,000 feet and beyond.
2. Temperature Variation: RTCA Document Number DO-160, Env. Cat. A, Paragraph 5.2.
3. Humidity: RTCA Document Number DO-160, Env. Cat. A, Paragraph 6.3.1;
4. Shock - 15g's: RTCA Document Number DO- 160, Paragraph 7.0;

(18 impact shocks of 15g acceleration for 11 ±1 milliseconds. Three axes, three shocks in each direction.)
5. Vibration - 10g's: RTCA Document Number DO-160, Paragraph 8.0, Figure 8-2, Curve J;

(Resonance ±10g, Cycling ±10g. Frequency 5.0 to 1000.0 Hertz continuously changing at an applied double amplitude of 0.036 inch along each of three mutually perpendicular axes.)



TECHNICAL DATA
STATIC INVERTERS

ENVIRONMENTAL PERFORMANCE REQUIREMENTS AND TESTING (CONT.)

- | | | |
|-----|--|--|
| 6. | Explosion: | RTCA Document Number DO-160, Env. Cat. E,
Paragraph 9.0; |
| | | (No explosion resulted from the operation of the
Transverter and associated equipment, all tests.) |
| 7. | Waterproofness: | RTCA Document Number DO-160, Env. Cat. W,
Paragraph 10.0. |
| 8. | Hydraulic Fluid: | RTCA Document Number DO-160, Env. Cat. H,
Paragraph 11.0. |
| 9. | Sand and Dust: | RTCA Document Number DO-160, Env. Cat. D,
Paragraph 12.0. |
| 10. | Fungus Resistance: | RTCA Document Number DO-160, Env. Cat. F,
Paragraph 13.4. |
| 11. | Salt Spray: | RTCA Document Number DO-160, Env. Cat. S,
Paragraph 14.3. |
| 12. | Magnetic Effect: | RTCA Document Number DO-160, Env. Cat. Z,
Paragraph 15.2. |
| 13. | Power Input: | RTCA Document Number DO-160, Env. Cat. Z,
Paragraph 16.0. |
| 14. | Voltage Spikes: | RTCA Document Number DO-160, Env. Cat. A,
Paragraph 17.3. |
| 15. | Audio Frequency Magnetic
Field Susceptibility and
Induced Signal Susceptibility: | RTCA Document Number DO-160, Env. Cat. Z,
Paragraph 18.1, Paragraph 19.0; |
| | | (No change in indication, malfunctioning, or
degradation of performance during the specified
tests.) |
| 16. | Radio Frequency
Susceptibility | RTCA Document Number DO-160, Env. Cat. Z,
Paragraph 20.0; |



**TECHNICAL DATA
STATIC INVERTERS**

ENVIRONMENTAL PERFORMANCE REQUIREMENTS AND TESTING (CONT.)

17. Emission of Spurious Radio-Frequency Energy

RTCA Document Number DO-160, Env. Cat. Z, Paragraph 21.0;

(Well within the specified levels of emission, both conducted and radiated, at no load, 50% load, and 100% load during all tests.)

As noted above, all PAI devices have been fully tested environmentally (not just 3 or 4 tests out of 15 categories) and are accepted worldwide as the standard by which all other Static Inverters are measured (reliability, performance, and design).

MANUFACTURING:

All manufacturing techniques utilize the highest degree of care to insure that the most reliable, high-performance equipment reaches the customer.

Final testing is performed by veteran technicians utilizing sophisticated methods and equipment. Complete burn-in is achieved at the factory to eliminate premature or infantile failures. A Test Card accompanies each unit which delineates its performance in the final testing procedure.

STORAGE LIFE:

Every individual production unit is operated for 50 continuous hours, tested to rated output performance parameters before shipment, then packaged to the highest commercial and military standards, assuring safe arrival at destination for installation with zero defects.

OTHER:

Established operational MTBF for all PAI TRANSVERTERS, and associated equipment, is 10,000 flight hours minimum; TBO is "On Condition" - no preventive maintenance recommended nor required - 5,000 flight hours minimum; useful life is 50,000 flight hours (minimum).



TECHNICAL DATA

STATIC INVERTERS

CONDITIONS OF FAULT AND PROTECTION - DC POWER FAILURES - DUAL GENERATORS

(Refer to Typical Block Diagram showing 3 Transverters in Parallel Operation on Page 180 and Typical Wiring Diagram on Page 185)

1. Loss of Left Generator

Left Generator Bus will be supplied from the Battery Charging Bus through a Fusible Link. There will be no change in normal operation of the Inverters unless the Primary Inverter is manually switched OFF or the Left Fusible Link is ruptured.

2. Loss of Right Generator

Right Generator Bus will be supplied from the Battery Charging Bus through a Fusible Link. There will be no change in normal operation of the Inverters unless the Secondary Inverter is manually switched OFF or the Right Fusible Link is ruptured.

3. Loss of Left Generator Bus

- A. Primary Inverter Power Relay will open automatically turning OFF Primary Inverter.
- B. The Primary Inverter Relay in Paralleling Control Box will open automatically interrupting the 115 VAC power to the Left AC Bus.
- C. Primary Inverter Warning Light will illuminate. Left Generator Warning Light will illuminate.
- D. The Left 115 VAC Bus will be supplied from Secondary Inverter and Auxiliary Inverter through AC Bus Circuit Breakers and Bus Tie Circuit Breaker.

4. Loss of Right Generator Bus

- A. Secondary Inverter Power Relay will open automatically turning OFF Secondary Inverter.
- B. The Secondary Inverter Relay in Paralleling Control Box will open interrupting the 115 VAC power to the Right AC Bus.
- C. Secondary Inverter Warning Light will illuminate. Right Generator Warning Light will illuminate.



TECHNICAL DATA

STATIC INVERTERS

CONDITIONS OF FAULT AND PROTECTION - DC POWER FAILURES - DUAL GENERATORS (CONT.)

D. The Right 115 VAC Bus will be supplied from Primary Inverter and Auxiliary Inverter through AC Bus Circuit Breakers and Bus Tie Circuit Breaker.

5. Loss of both Left and Right Generator Buses

- A. Primary Inverter will turn OFF and Primary Inverter Warning Light will illuminate. Left Generator Warning Light will illuminate.
- B. Secondary Inverter will turn OFF and Secondary Inverter Warning Light will illuminate. Right Generator Warning Light will illuminate.
- C. The Left 115 VAC Bus and the Right 115 VAC Bus will be powered from Auxiliary Inverter.
- D. The Auxiliary Inverter AC output can be switched to the Left 115 VAC Bus or the Right 115 VAC Bus.
- E. The Left 115 VAC Bus and/or the Right 115 VAC Bus can be powered by the Auxiliary Inverter. Non-essential equipment on the bus in use should be manually shed. Either bus can be shed by placing the Left Bus/Right Bus switch of the Auxiliary Inverter in the position of the desired bus and opening the Bus Tie Circuit Breaker.

CONDITIONS OF FAULT AND PROTECTION - INVERTER FAILURES

1. Primary Inverter Failure

- A. If Primary Inverter fails during normal operation, manually open Bus Tie Circuit Breaker. The Primary Inverter Relay in Paralleling Control Box will automatically open interrupting the 115 VAC power to the Left AC Bus.
- B. Primary Inverter Warning Light will illuminate.
- C. Manually open Left AC Bus Circuit Breaker.
- D. Manually close Bus Tie Circuit Breaker.
- E. 115 VAC will be furnished to the Left 115 VAC Bus by Secondary Inverter and Auxiliary Inverter through the Bus Tie Circuit Breaker.



TECHNICAL DATA

STATIC INVERTERS

CONDITIONS OF FAULT AND PROTECTION - INVERTER FAILURES (CONT.)

2. Secondary Inverter Failure

- A. If Secondary Inverter fails during normal operation, manually open Bus Tie Circuit Breaker. The Secondary Inverter Relay in Paralleling Control Box will automatically open interrupting the 115 VAC power to the Right AC Bus.
- B. Secondary Inverter Warning Light will illuminate.
- C. Manually open the Right AC Bus Circuit Breaker.
- D. Manually close Bus Tie Circuit Breaker.
- E. 115 VAC power will be furnished to the Right 115 VAC Bus by Primary Inverter and Auxiliary Inverter through the Bus Tie Circuit Breaker.

3. Auxiliary Inverter Failure

- A. If Auxiliary Inverter fails during normal operation, manually open AC Bus Circuit Breakers from the Auxiliary Inverter to the Left and Right AC Bus. The Auxiliary Inverter Relay in Paralleling Control Box will automatically open interrupting the 115 VAC power to the input of AC Bus Circuit Breaker.
- B. Auxiliary Inverter Warning Light will illuminate.
- C. 115 VAC power will be furnished to the Pilot's and Copilot's Buses by Primary Inverter and Secondary Inverter through Circuit Breakers.

CONDITIONS OF FAULT AND PROTECTION - AC BUS SHORT CIRCUITS

1. Left 115 VAC Bus Failure

- A. If the Left 115 VAC Bus shorts to ground, AC Bus Circuit Breaker from Primary Inverter to the Left AC Bus and Bus Tie Circuit Breaker will open.
- B. Primary Inverter Warning Light will illuminate.
- C. 115 VAC power to the Right 115 VAC Bus will not be interrupted.



TECHNICAL DATA

STATIC INVERTERS

CONDITIONS OF FAULT AND PROTECTION - AC BUS SHORT CIRCUITS (CONT.)

2. Right 115 VAC Bus Failure
 - A. If the Right 115 VAC Bus shorts to ground, AC Bus Circuit Breaker from Secondary Inverter to Right AC Bus and AC Bus Tie Circuit breaker will open.
 - B. Secondary Inverter Warning Light will illuminate.
 - C. 115 VAC power to the Left 115 VAC Bus will not be interrupted.



TECHNICAL DATA

STATIC INVERTERS

DESIGN, PERFORMANCE AND RELIABILITY ADVANTAGES:

- * Design Concept: All functions of design, performance, and protection are solid state. All models are explosion proof and absolutely failsafe.
- * Components: Discrete silicon solid state components of the highest caliber, teflon wired throughout, and assembled with stainless steel hardware.
- * Chassis: All cases are fabricated from heavy formed 5052H34 electrical panel sheet aluminum.
- * Cooling: Self-cooled by natural convection, conduction, and radiation. No fans. No perforations. Solid cover is sealed with high temperature silicone grease to prevent contamination from sand, debris and dust, salt spray, hydraulic fluid, gasoline, kerosene, condensation, or other fluid sprays.
- * Low Input Voltage Operation: Unit will deliver 100 VAC minimum into 50% unity p.f. rated load at 16 VDC input. Electrical operation is maintained down to 10 VDC input.
- * Isolation: The DC input and the AC output are above ground and are totally isolated from each other. Spikes appearing on the DC Bus, regardless of duration or magnitude, cannot be imposed on the AC output. Similarly, spikes generated on the AC output cannot be imposed on the DC input; totally and effectively preventing any potential damage to today's very expensive, sensitive, and increasingly sophisticated equipment.
- * Volume/Power Ratio: Designs provide optimum weight, power, and efficiency rating resulting in equipment of the utmost integrity.
- * Ambient Temperature Range: -85°C to +85°C (operating).
- * Temperature Rise: 40°C Maximum (No heat sink).
- * Maximum Operating Altitude: 100,000 feet (30,479 meters) and beyond.



TECHNICAL DATA

STATIC INVERTERS

DESIGN, PERFORMANCE AND RELIABILITY ADVANTAGES (CONT.):

- * EMI and RFI: Virtually immeasurable. Exceeds MIL-STD-461A, MIL-STD-462, and MIL-I-6181 D requirements.
- * Reliability: Designed to operate a minimum of 10,000 Flight Hours without component malfunction. MTBF is 20,000 Hours (minimum) for all DC to AC Static Inverters calculated in accordance with MIL-HDBK-217D.
- * TBO: "On Condition" - no preventive maintenance recommended nor required - 5,000 flight hours (minimum).
- * Useful Life: 50,000 flight hours (minimum).
- * Merit: Standard of the world in DC to AC Static Inverters.

CONCLUSIONS:

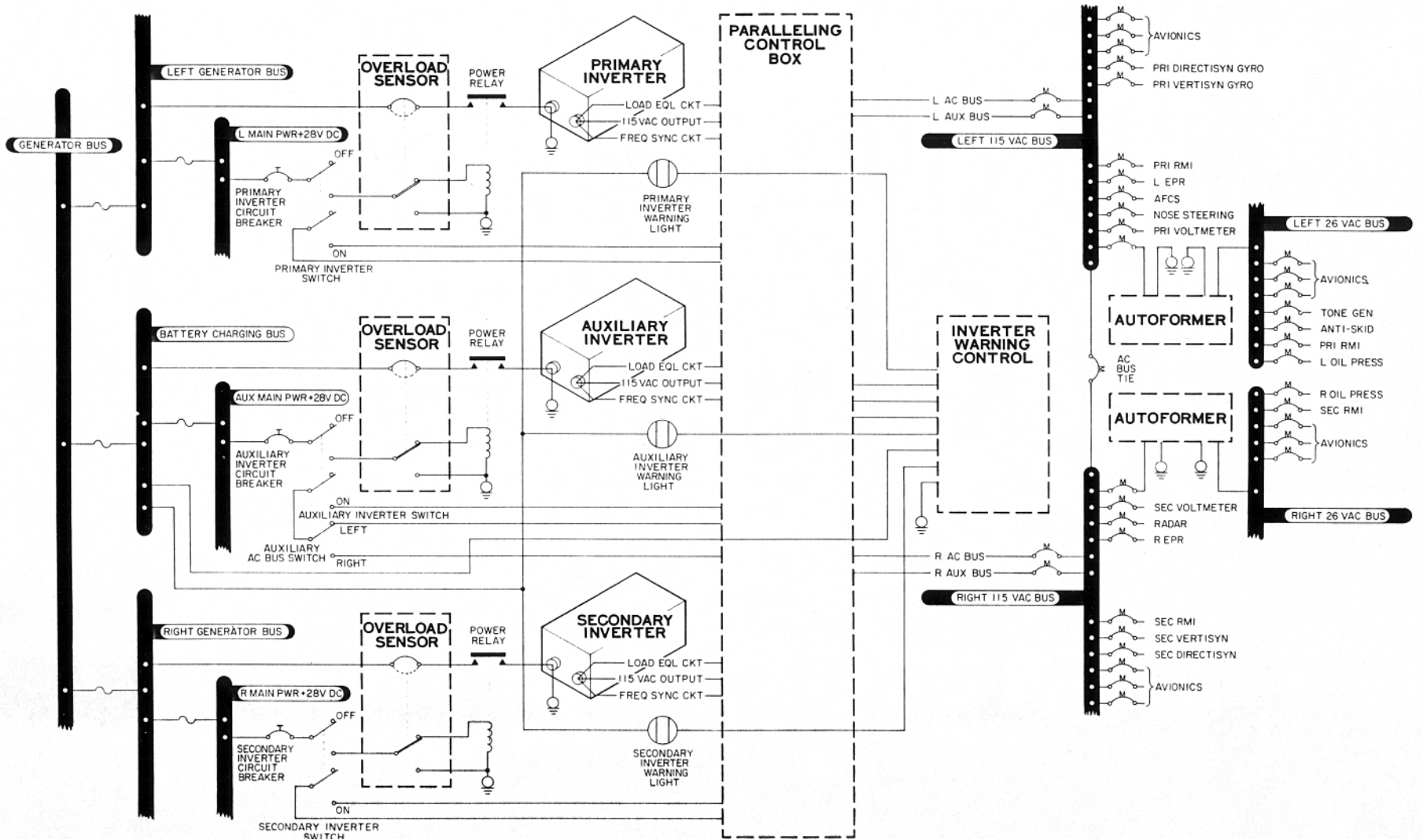
- * Un-surpassed performance of PAI devices.
- * Un-surpassed reliability of PAI devices.
- * Un-surpassed DC Electrical Power System design, maintenance and service record for a quarter of a century.
- * Minimum certification costs to the airframe manufacturer.
- * Minimum pilot training for system operation.
- * Minimum avionics system operational costs.
- * Minimum electrical engineering design costs.
- * Superior cost effective designs resulting in lowest cost of ownership of any equipment manufactured in the world today.
- * Maximum safety.
- * Universal customer acceptance.
- * "Evolution has shown that at any given moment, out of all conceivable constructions, a single one has always proved itself absolutely superior to all the rest."

ALBERT EINSTEIN, Essays in Science



DC TO AC TRUE PARALLEL OPERATION POWER DISTRIBUTION SYSTEMS

Item	Page
DC TO AC TRUE PARALLEL OPERATION POWER DISTRIBUTION SYSTEMS	177
TYPICAL BLOCK DIAGRAM SHOWING 3 TRANSVERTER PARALLEL OPERATION - SINGLE ENGINE - SINGLE GENERATOR	178
750 VA, 3 INVERTER - TRUE PARALLEL OPERATION SYSTEMS	179
900 VA, 3 INVERTER - TRUE PARALLEL OPERATION SYSTEMS	179
TYPICAL BLOCK DIAGRAM SHOWING 3 TRANSVERTER PARALLEL OPERATION - TWIN ENGINE - DUAL GENERATOR	180
1200 VA, 3 INVERTER - TRUE PARALLEL OPERATION SYSTEMS	181
1500 VA, 3 INVERTER - TRUE PARALLEL OPERATION SYSTEMS	182
2400 VA, 3 INVERTER - TRUE PARALLEL OPERATION SYSTEMS	182
2400 VA, 3 INVERTER - TRUE PARALLEL OPERATION SYSTEMS (CONT.)	183
3000 VA, 3 INVERTER - TRUE PARALLEL OPERATION SYSTEMS	183
4800 VA, 3 INVERTER - TRUE PARALLEL OPERATION SYSTEMS	184
TYPICAL WIRING DIAGRAM THREE INVERTER (TRANSVERTER) PARALLEL OPERATION	185



TYPICAL BLOCK DIAGRAM SHOWING 3 TRANSVERTER PARALLEL OPERATION - SINGLE ENGINE - SINGLE GENERATOR



750 VA, 3 INVERTER - TRUE PARALLEL OPERATION SYSTEMS

PAI P/N DH-1030-115/3-375-SS Type I Three-Inverter - 750 VA Nominal Continuous Duty, 1125 VA Intermittent Duty True Parallel Operation Static Inverter System consisting of:

- 3 each PAI P/N DH-1030-24-375-CS Type I Inverters;
- 1 each PAI P/N DH-1030-115/3-1200-SS Type I Paralleling Control Box;
- 1 each PAI P/N DH-1030-24-3-CS Type I Inverter Warning Control Box; and
- 2 each PAI P/N DH-1030-115/26-150-CS Type I 115/26 VAC Autoformer.

Weight: 31.5 lbs. (Max.) Total System

Application: Proposed for new design

PAI P/N DH-1030-115/3-375-SS Type II Three-Inverter - 750 VA Nominal Continuous Duty, 1125 VA Intermittent Duty True Parallel Operation Static Inverter System consisting of:

- 3 each PAI P/N DH-1030-24-375-CS Type II Inverters;
- 1 each PAI P/N DH-1030-115/3-1200-SS Type II Paralleling Control Box;
- 1 each PAI P/N DH-1030-24-3-CS Type II Inverter Warning Control Box; and
- 2 each PAI P/N DH-1030-115/26-150-CS Type II 115/26 VAC Autoformer.

Weight: 31.5 lbs. (Max.) - Total System

Application: Proposed for new design

900 VA, 3 INVERTER - TRUE PARALLEL OPERATION SYSTEMS

PAI P/N DH-1030-115/3-450-SS Type I Three-Inverter - 900 VA Nominal Continuous Duty, 1350 VA Intermittent Duty True Parallel Operation Static Inverter System consisting of:

- 3 each PAI P/N DH-1030-24-450-CS Type I Inverters;
- 1 each PAI P/N DH-1030-115/3-1200-SS Type I Paralleling Control Box;
- 1 each PAI P/N DH-1030-24-3-CS II Inverter Warning Control Box; and
- 2 each PAI P/N DH-1030-115/26-150-CS Type I 115/26 VAC Autoformer.

Weight: 43.2 lbs. (Max.) - Total System

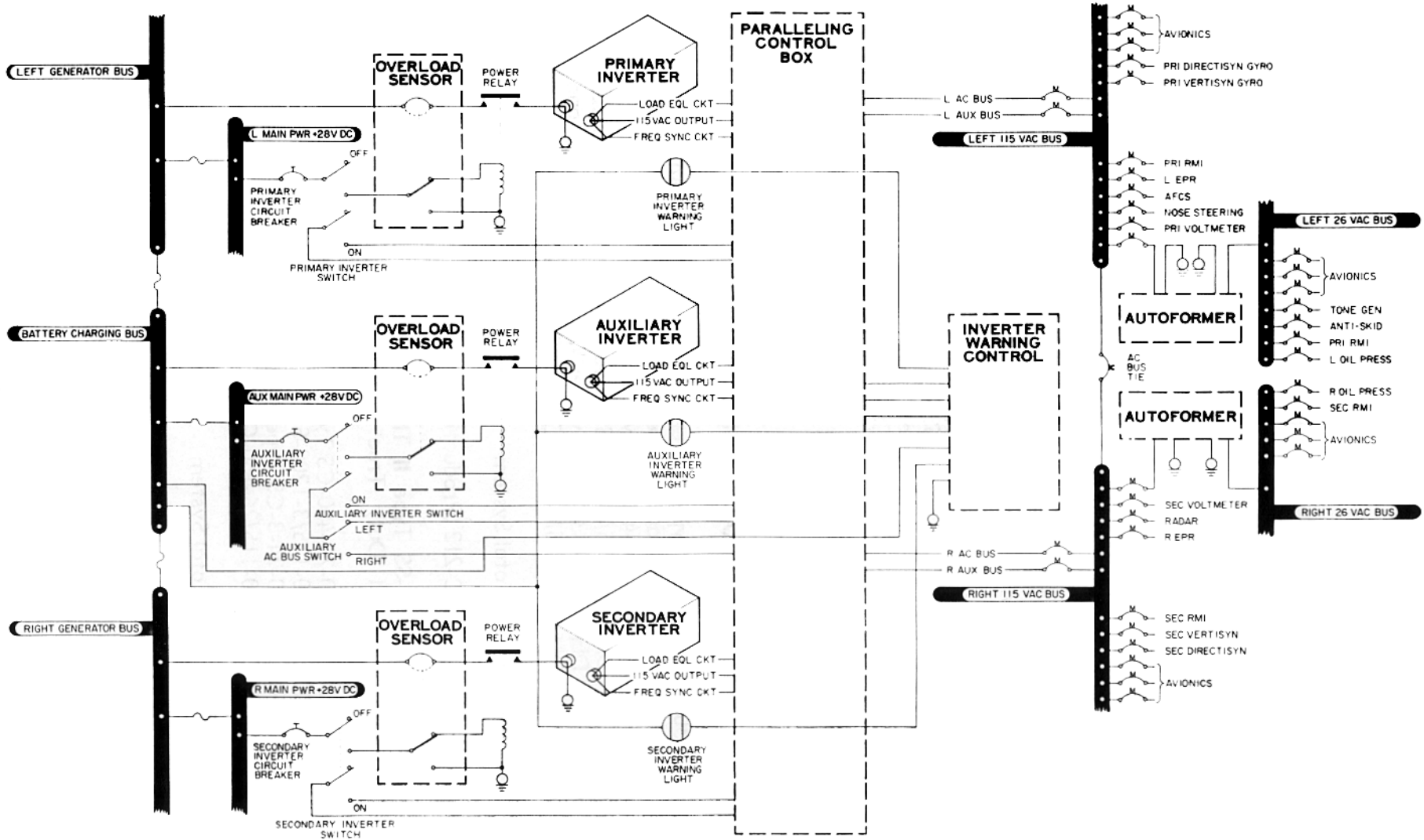
Application: C.A.S.A. C-212 (Production)

PAI P/N DH-1030-115/3-450-SS Type II Three-Inverter - 900 VA Nominal Continuous Duty, 1350 VA Intermittent Duty True Parallel Operation Static Inverter System consisting of:

- 3 each PAI P/N DH-1030-24-450-CS Type II Inverters;
- 1 each PAI P/N DH-1030-115/3-1200-SS Type II Paralleling Control Box;
- 1 each PAI P/N DH-1030-24-3-CS Type II Inverter Warning Control Box; and
- 2 each PAI P/N DH-1030-115/26-150-CS Type II 115/26 VAC Autoformer.

Weight: 43.2 lbs. (Max.) - Total System

Application: Proposed for new design



TYPICAL BLOCK DIAGRAM SHOWING 3 TRANSVERTER PARALLEL OPERATION TWIN ENGINE - DUAL GENERATOR



1200 VA, 3 INVERTER - TRUE PARALLEL OPERATION SYSTEMS

PAI P/N DH-1030-115/3-600-SS Type I Three-Inverter - 1200 VA Nominal Continuous Duty, 1800 VA Intermittent Duty True Parallel Operation Static Inverter System consisting of:

- 3 each PAI P/N DH-1030-24-600-CS Type I Inverters;
- 1 each PA I P/N DH-1030-115/3-600-SS Type I Paralleling Control Box;
- 1 each PAI P/N DH-1030-24-3-CS Type I Inverter Warning Control Box; and
- 2 each PAI P/N DH-1030-115/26-150-CS Type I 115/26 VAC Autoformer.

Weight: 49.2 lbs. (Max.) - Total System

Applications: C.A.S.A. C-212 (Production)
C.A.S.A. CN-235 (Proposed)
Nurtanio C-212 (Production)
Nurtanio CN-235 (Proposed)

PAI P/N DH-1030-115/3-600-SS Type II Three-Inverter - 1200 VA Nominal Continuous Duty, 1800 VA Intermittent Duty True Parallel Operation Static inverter System consisting of:

- 3 each PAI P/N DH-1030-24-600-CS Type II Inverters;
- 1 each PAI P/N DH-1030-115/3-1200-SS Type II Paralleling Control Box;
- 1 each PAI P/N DH-1030-24-3-CS Type II inverter Warning Control Box; and
- 2 each PAI P/N DH-1030-115/26-150-CS Type II 115/26 VAC Autoformer.

Weight: 49.2 lbs. (Max.) - Total System

Applications: Canadair CL-215 (Production)
de Havilland DHC-5 (Two-Inverter System - Production)
Mitsubishi MU-2 (Retrofit)
Sikorsky S-58T (Production)

PAI P/N DH-1030-115/3-600-SS Type IIB Three-Inverter - 1200 VA Nominal Continuous Duty, 1800 VA Intermittent Duty True Parallel Operation Static Inverter System consisting of:

- 3 each PAI P/N DH-1030-24-600-CS Type IIB Inverters;
- 1 each PAI P/N DH-1030-115/3-1200-55 Type I ID Paralleling Control Box;
- 1 each PAI P/N DH-1030-24-3-CS Type IID Inverter Warning Control Box.

Weight: 46.9 lbs. (Max.) - Total System

Application: de Havilland DASH 8 (Production)



1500 VA, 3 INVERTER - TRUE PARALLEL OPERATION SYSTEMS

PAI P/N DH-1030-115/3-750-SS Type I Three-Inverter - 1500 VA Nominal Continuous Duty, 2250 VA Intermittent Duty True Parallel Operation Static Inverter System consisting of:

- 3 each PAI P/N DH-1030-24-750-CS Type I Inverters;
- 1 each PAI P/N DH-1030-115/3-1200-SS Type I Paralleling Control Box;
- 1 each PAI P/N DH-1030-24-3-CS Type I Inverter Warning Control Box; and
- 2 each PAI P/N DH-1030-115/26-150-CS Type 115/26 VAC Autoformer.

Weight: 49.2 lbs. (Max.) - Total System

Applications: Aeritalia ATR-42 (Proposed)
C.A.S.A. CN-235 (Proposed)

PAI P/N DH- 1030-115/3-750-SS Type II Three-Inverter - 1500 VA Nominal Continuous Duty, 2250 VA Intermittent Duty True Parallel Operation Static Inverter System consisting of:

- 3 each PAI P/N DH-1030-24-750-CS Type II Inverters;
- 1 each PAI P/N DH-1030-115/3-1200-SS Type II Paralleling Control Box;
- 1 each PAI P/N DH-1030-24-3-CS Type II Inverter Warning Control Box; and
- 2 each PAI P/N DH-1030-115/26-150-CS Type II 115/26 VAC Autoformer.

Weight: 49.2 lbs. (Max.) - Total System

Application: SAAB/Fairchild SF-340 (Proposed)

2400 VA, 3 INVERTER - TRUE PARALLEL OPERATION SYSTEMS

PAI P/N DH-1030-I 15/3-900-SS Type I Three-Inverter - 2400 VA Nominal Continuous Duty, 3600 VA Intermittent Duty True Parallel Operation Static Inverter System consisting of:

- 3 each PAI P/N DH-1030-24-900-CS Type I Inverters;
- 1 each PAI P/N DH-1030-115/3-1200-SS Type I Paralleling Control Box;
- 1 each PAI P/N DH-1030-24-3-CS Type I Inverter Warning Control Box; and
- 2 each PAI P/N DH-1030-115/26-150-CS Type I 115/26 VAC Autoformer.

Weight: 65.7 lbs. (Max.) - Total System

Applications: Aeritalia ATR-42 (Proposed)
C.A.S.A. CN-235 (Proposed)

PAI P/N DH-1030-115/3-900-SS Type II Three-Inverter - 2400 VA Nominal Continuous Duty, 3600 VA Intermittent Duty True Parallel Operation Static Inverter System consisting of:

- 3 each PAI P/N DH-1030-24-900-CS Type II Inverters;
- 1 each PAI P/N DH-1030-115/3-1200-SS Type II Paralleling Control Box;
- 1 each PAI P/N DH-1030-24-3-CS Type II Inverter Warning Control Box; and
- 2 each PAI P/N DH-1030-115/26-150-CS Type II 115/26 VAC Autoformer.

Weight: 65.7 lbs. (Max.) - Total System

Application: SAAB/Fairchild SF-340 (Proposed)



2400 VA, 3 INVERTER - TRUE PARALLEL OPERATION SYSTEMS (CONT.)

PAI P/N DH-1030-115/3-900-SS Type IIB Three-Inverter - 2400 VA Nominal Continuous Duty, 3600 VA Intermittent Duty True-Parallel Operation Static Inverter System consisting of:

- 3 each PAI P/N DH-1030-24-900-CS Type IIB Inverters;
- 1 each PAI P/N DH-1030-115/3-1200-SS Type II Paralleling Control Box;
- 1 each PAI P/N DH-1030-24-3-CS Type II Inverter Warning Control Box; and
- 2 each PAI P/N DH-1030-115/26-150-CS Type I 115/26 VAC Autoformer.

Weight: 65.7 lbs. (Max.) - Total System

Application: Israel Aircraft Industries 1124A (Proposed)

3000 VA, 3 INVERTER - TRUE PARALLEL OPERATION SYSTEMS

PAI P/N DH- 1030-115/3-1200-SS Type I Three-Inverter - 3000 VA Nominal Continuous Duty, 4500 VA Intermittent Duty True-Parallel Operation Static Inverter System consisting of:

- 3 each PAI P/N DH-1030-24-1200-CS Type I Inverters;
- 1 each PAI P/N DH-1030-115/3-1200-SS Type I Paralleling Control Box;
- 1 each PAI P/N DH-1030-24-3-CS Type I Inverter Warning Control Box; and
- 2 each PAI P/N DH-1030-115/26-150-CS Type I 115/26 VAC Autoformer.

Weight: 77.7 lbs. (Max.) - Total System

Applications: Cessna Citation II & III (Retrofit)
Gates Learjet Models 24C, 24D, 24D-A, 24E, 24F, 24F-A,
25C, 25D, 25F, 25G, 28, 29, 35, 35A, 36, 36A, 55, 55ER, 55LR, 55LXR, &
21A (Military) (Production)
Goodyear Aerospace Conversions (Production)
Hawker Siddeley DH-125, -1A, -3A, -3AR, & -400/United
Telephone STC No. SA740CE 20 NOV 70 (Retrofit)

PAI P/N DH-1030-115/3-1200-SS Type IIB Three-Inverter - 3000 VA Nominal Continuous Duty, 4500 VA Intermittent Duty True-Parallel Operation Static Inverter System consisting of:

- 3 each PAI P/N DH-1030-24-1200-CS Type IIB Inverters;
- 1 each PAI P/N DH-1030-115/3- 1200-SS Type II Paralleling Control Box;
- 1 each PAI P/N DH-1030-24-3-CS Type II Inverter Warning Control Box; and
- 2 each PAI P/N DH-1030-115/26-150-CS Type II 115/26 VAC Autoformer.

Weight: 77.7 lbs. (Max.) - Total System

Applications: British Aerospace Canberra (Proposed)
Canadair CL-215 Government Model (Production)
De Havilland DASH 7 (Production)
Peoples Republic of China Xian Yun-7 (Retrofit)



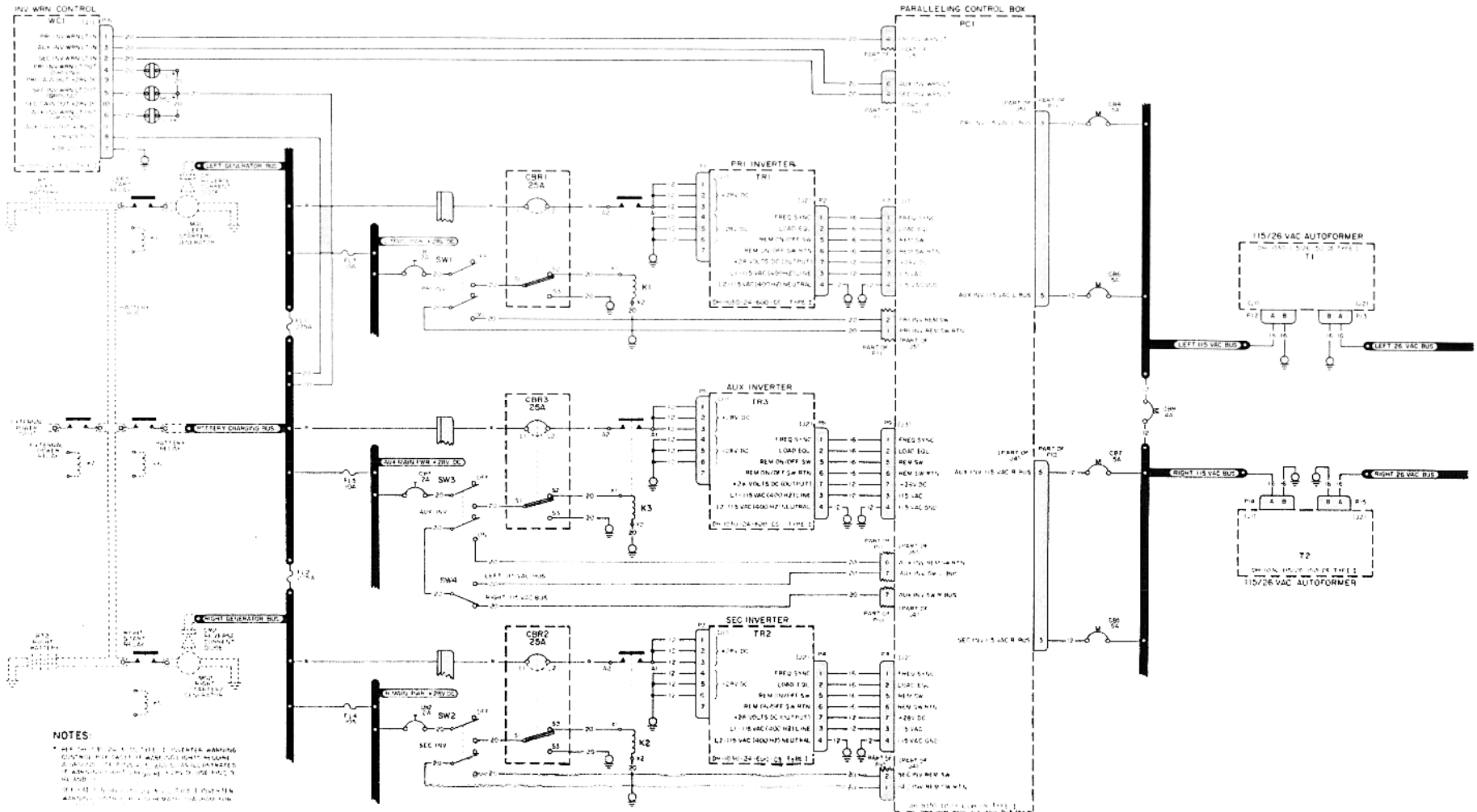
4800 VA, 3 INVERTER - TRUE PARALLEL OPERATION SYSTEMS

PAI P/N DH-1030-115/3-2400-SS Type I Three-Inverter - 4800 VA Nominal Continuous Duty, 7200 VA Intermittent Duty True Parallel Operation Static Inverter System consisting of:

- 3 each PAI P/N DH-1030-24-2400-CS Type I Inverters;
- 1 each PAI P/N DH-1030-115/3-2400-SS Type I Paralleling Control Box;
- 1 each PAI P/N DH-1030-24-3-CS Type I Inverter Warning Control Box; and
- 2 each PAI P/N DH-1030-115/26-150-CS Type 115/26 VAC Autoformer.

Weight: 113.9 lbs. (Max.) - Total System

Application: Proposed for new design



TYPICAL WIRING DIAGRAM THREE INVERTER (TRANSVERTER) PARALLEL OPERATION



PHOENIX AEROSPACE INC. STANDARD WARRANTY

1. Sellers Standard Warranty

(a) Phoenix Aerospace, Inc. herein called Seller, warrants that each unit delivered shall, at the time of delivery thereof to Buyer or Buyer's customers, be free from defects in material and workmanship and from defects or faults in design in view of the state of the art at the time of design thereof. Any defect must have become apparent and Buyer must have notified Seller thereof within twenty-four (24) months after installation in aircraft, not to exceed thirty (30) months after date of manufacture on unit nameplate. The extent of Seller's liability is limited to the repair, replacement, overhaul, or modification of any defective unit.

(b) Seller's obligation hereunder is conditioned upon the return as soon as practicable of the defective unit with all transportation charges prepaid to Seller in Kansas City, Missouri. Returned units must be accompanied by properly authorized Purchase Order, specifying the nature of the defect, if known, and containing reasonable proof to Seller that the defect is due to a matter embraced within Seller's warranty. An allowance will be made for inbound transportation charges in the Continental United States, but inbound transportation charges are the responsibility of Buyer outside the limits of the Continental United States. Overhauled or repaired units will be returned via air, transportation charges prepaid to destination anywhere in the world. Removal of the unit from any aircraft and reinstallation shall be at Buyer's expense.

(c) The warranty hereunder shall not apply to any unit installed in any Aircraft if such Aircraft shall not have been operated in accordance with the Federal Aviation regulations issued by the Federal Aviation Administration, or if such unit shall not have been operated or maintained in accordance with seller's instructions applicable to such unit, or if such unit shall have been repaired, altered or modified without Seller's approval, or operated with an accessory or part not authorized for use therewith, or if such unit shall have been operated subsequent to its involvement in an accident, or if the unit shall have been subject in any way to improper operation, maintenance, repair, alteration or modification.



(d) THE WARRANTY AND THE OBLIGATIONS AND LIABILITIES OF SELLER HEREUNDER ARE EXCLUSIVE AND IN SUBSTITUTION FOR AND BUYER HEREBY WAIVES ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, ARISING BY LAW OR OTHERWISE (INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTY OR MERCHANTABILITY, ANY IMPLIED WARRANTY ARISING FROM COURSE OF PERFORMANCE, COURSE OF DEALING OR USAGE OF TRADE, ANY IMPLIED WARRANTY OF FITNESS, AND ANY OBLIGATION OF SELLER WITH RESPECT TO INCIDENTAL OR CONSEQUENTIAL DAMAGES), AND SHALL NOT BE EXTENDED, ALTERED OR VARIED EXCEPT BY A WRITTEN INSTRUMENT SIGNED BY SELLER AND BUYER.

2. General Instructions

(a) Overhaul, modification or repair of all Phoenix Aerospace units is authorized only at Seller's facility. Any overhaul, repair, alteration or modification without Seller's approval will negate or void the terms of Seller's Standard Warranty stated herein. Units in need of repair should be shipped directly to:

Phoenix Aerospace Inc.
220 West 80th Terrace Kansas City,
Missouri 64114 U.S.A.

Units in warranty are repaired at the factory under the terms and conditions of Seller's Standard Warranty at no charge. There will be a charge imposed for Units returned within the warranty period which are found not to be defective or for a defect found not to be included within Seller's Standard Warranty or which have been removed or returned as a result of any program of preventive maintenance.

(b) Units out of warranty are repaired at the factory at Seller's standard charge in effect at the time of receipt of unit. Inbound and outbound transportation charges are the responsibility of the Buyer.

PHOENIX AEROSPACE INC.



DC VOLTAGE REGULATORS

PAI P/N VR SERIES	EQUIPMENT REPLACED	APPLICATIONS	PAI STC NUMBER	QTY
VR-1010-24-1A	BENDIX 1589-1	AGUSTA/BELL AB-206A & AB-206B	SA2511CE 6-16-89	1
	BENDIX 1589-1	AIR TRACTOR AT-400, AT-400A	SA2853CE 10-7-92	1
	BENDIX 1589-1	AIR TRACTOR 402, AT-402A, AT-502, AT-502A, AT-503	SA2854CE 10-7-92	1
	BENDIX 1589-1	BEECHCRAFT QUEEN AIR A80, B80		2
	*	BEECHCRAFT C-12A & U-21		2
	LELAND CSV1152-10, CSV1105-2, CSV1105-20	BEECHCRAFT KING AIR C90	BEECHCRAFT SER. BUL NO. 076-354, REV.II	2
	*	BEECHCRAFT SUPER KING AIR 200T		2
	BENDIX 1589-1	BELL 206A & 206B	SA2511CE 3-18-91	1
	BENDIX 1589-1	de HAVILLAND DHC-2 BEAVER, DHC-3 OTTER		1
	*	de HAVILLAND DHC-6 100, 200 TWIN TURBO OTTER		2
	BENDIX 1589-1	GULFSTREAM GI, GI-C		2
	BENDIX 1589-1	HILLER FH-1100		1
	LAPEC 51528-00R	LOCKHEED JETSTAR I 1329-6, 1329-8		4
	BENDIX 1589-1	PILATUS PC-6/B-H2 TURBO PORTER		1
	*	SIKORSKY S-61N		2
AGUSTA/SIKORSKY AS-61N1 SILVER			2	
TELEDYNE RYAN BQM34 FIREBEE DRONE			1	
VR-1010-24-1AA	BENDIX 1589-1	AYERS S-2R TURBO THRUSH	PMA DESIGN 9-21-92	1
VR-1010-24-1AS	BENDIX 1589-1	SABRELINER 265-40, 265-60, 265-70		2
	G.E. CR2795B105A1	AERO COMMANDER 1121 JET COMMANDER		2
VR-1010-24-1C	BENDIX 1589-1	LEARJET 23, 24, 24A, 24B, 24B-A, 25		2
VR-1010-24-2A		AEROSPATIALE SNIAS AS332A SUPER PUMA	SH250NE 4-06-84	1
	BENDIX 1589-1	AIR TRACTOR 402, AT-402A, AT-502, AT-502A, AT-503	SA2854CE 10-7-92	1
	BENDIX 1589-1	AIR TRACTOR AT-400, AT-400A	SA2853CE 12-14-92	1
	BENDIX 1589-1	BELL 206A & 206B	SA2511CE 6-16-89	1
		BOEING 707 (APU/PATS) DUAL SYSTEM	SA1168EA 6-29-81	1
		BOEING 707 (APU/PATS) TRIPLE SYS.	SA1240EA 5-19-81	1
	*	CESSNA CITATION III-VII (APU/PATS)	SA289NE 9-5-84	1
	BENDIX 1589-1	CONVAIR CV-580		2
	BENDIX 1589-1	CONVAIR 880 (APU/PATS)	SA1146EA 5-8-79	1
	*	de HAVILLAND DHC-6 SERIES 300 TWIN TURBO OTTER		2
	BENDIX 1589-1	GRUMMAN MALLARD		2
	GENERAL ELECTRIC CR2795B105A1	GULFSTREAM AERO COMMANDER 680T, 680V, 680W 681, 690, 690A (S/N 11100-11226)	SA2705CE 4-16-91	2
	LUCAS-ROTAX U6106	HAWKER SIDDELEY HS-748		2

* = PHOENIX AEROSPACE INC. STANDARD PRODUCTION EQUIPMENT ABOARD AIRCRAFT



DC VOLTAGE REGULATORS

PAI P/N VR SERIES Cont.	EQUIPMENT REPLACED	APPLICATIONS	PAI STC NUMBER	QTY
VR-1010-24-2AD	LUCAS-ROTAX U6818 OR U6820	HAWKER SIDDELEY DH-125-1A, -1A/522, -1A/R-522, -3A, -3A/R, -1A/S-522, -3A/RA, -400A, -600A	SA1466CE 12-22-78	2
VR-1010-24-2B	*	BEECHCRAFT B99 AIRLINER & BARON		2
VR-1010-24-2BE	LAPEC 51565-000, -000R	AEROSPATIALE AS355E TWINSTAR, AS355F, & AS355F-1 ECUREUIL 2	SH7005SW-D 3-19-86	2
	LAPEC 51565-000, -000R	MBB B0-105		2
	LAPEC 51565-000	NURTANIO NBO 105		2
	LAPEC 51565-000, -000R	MU-2, MARQUISE & SOLITAIRE	mitsubishi ser. bul. SR024/24-001 REV. A	2
	LAPEC 51565-000	N24A NOMAD (AUSTRALIA)		2
VR-1010-24-2C LJ P/N 6608090-1	*	LEARJET 24C, 24D, 24D-A, 24E, 24F, 24F-A, 25C, 25D, 25F, 28, 29		2
SB-1010-24-2E	*	SHORTS SC.7 Srs 3 SKYVAN		2
	*	SCHWEIZER SUPER AG-CAT		1
VR-1010-24-2GA	BENDIX 25B12-1-A	GULFSTREAM GII (G-1159)	SA5489NM 10-30-91	2
VR-1010-24-4A MS18071-1A	BENDIX 25B23-4B			
	LELAND CSV 1152-1AB			
VR-1010-24-4B MS18071-2	BENDIX 25B23-1B			
	LELAND CSV 1152-2AB			
VR-1010-24-4C MS18071-11	BENDIX 25B23-16	BELL UH-1N		2
	LELAND CSV 1152-11AB			
VR-1010-24-4D MS18071-12	BENDIX 25B23-9A	BELL UH-1D, UH-1F, UN-1H, UH-1N, UH-1P		2
	LELAND CSV 1152-12AB			
	BENDIX 25B23-9A	CESSNA T-37B		2
	LELAND CSV 1152-12AB			
VR-1010-24-6E HH-423-035 SC 700-1052-1	AA&E 650692C	BREDANARDI NH-500D		1
	ELECTRO-DELTA VR1000	HUGHES 500, 500C, 500D, 500E, 530E, 500M		
	HH 369A4652, HH-423-035	KAWASAKI 500D		
	LSI 39-371-105-000			
	*	CESSNA TU AND U206G SOLOY CORP. BEECHCRAFT BONANZA A36 w/ALLISON 1B17F/450 HP TRADEWIND TURBINES	SA2353NM 3-13-85	1
BG-1010-24-7A	BENDIX 25B18-4E	LEARJET 35, 35A, 36, 36A, 21A w/BENDIX P/N 30B107-19A 400 AMP BRUSHLESS GENERATOR	STC PENDING	2

* = PHOENIX AEROSPACE INC. STANDARD PRODUCTION EQUIPMENT ABOARD AIRCRAFT



GENERATOR CONTROL UNITS

PAI P/N GCU's	EQUIPMENT REPLACED	APPLICATIONS	PAI STC NUMBER	QTY
GC-1010-24-3B	LAPEC 51509-002	AEROSPATIALE MAGISTER CM.170		2
	LAPEC 51509-002R	AGUSTA A109A		2
	LAPEC 51509-002R	AGUSTA BELL AB-212, AB-412		2
	LAPEC 51509-002R	AHRENS AR404		4
	LAPEC 51509-002A,-002R	C.A.S.A. C-212, -100, -200, -300	SA2570CE 1-18-90	2
	LAPEC 51509-002	DORNIER 228-100, -200		2
	LAPEC 51509-002B,-002R	FAIRCHILD SA227-AC, SA227-TT METRO III AIRLINERS		2
	LAPEC 51509-002A,-002R	LOCKHEED 1329-23 JETSTAR II	SA1596CE 6-6-80	4
	LAPEC 51509-002R	MBB/KAWASAKI BK117		2
	LAPEC 51509-002, -002R	NURTANIO NC-212		2
GC-1010-24-3B I	LAPEC 51530-007B	GULFSTREAM AERO COMMANDER 690A, 690B, 690C, 690D, 695, 695A	SA2704CE 4-16-91	2
GC-1010-24-5B	LAPEC 51509-006BR	CESSNA CITATION I		2
	LAPEC 51509-006BR	CESSNA CITATION II		2
	LAPEC 51509-006	DORNIER DO34 KIEB.		1
GC-1010-24-5C	LAPEC 51509-006C	HAWKER SIDDELEY DH-125-700		2
	LAPEC 51509-006C	C.A.S.A. C-101 AVIOJET		1
	*	CONAIR TURBO FIRECAT		2
	LAPEC 51509-006C	SABRELINER 65		2
GC-1010-24-5D III	LAPEC 51539-008D	de HAVILLAND DASH 8		2
GC-1010-24-6A	BELL 214-075-187-003	BELL 206L, L-1, L-3, L-4	SR00061WI 5-10-93 (MAIN WITH IFR)	1
	TEMPO 97499			
	LAPEC 51530-006, -006A			
GC-1010-24-6B II	*	BELL 206L-4 TWINRANGER SOLOY CORP.		2
GC-1010-24-6C	LAPEC 51530-008	AEROSPATIALE AS-355		2
GC-1010-24-6D	BELL 206-075-447-007	BELL 206L, L-1, L-3, L-4	SR00061WI 5-10-93 (AUX. WITH IFR)	1
	AMF CSV 1829-7			
	LELAND CSV 2508-1			
	PACIFIC EL. 473-1, 475-1		SR00083WI 7-20-93 (MAIN WITHOUT IFR)	
	TEMPO 94123-7			
	G.E. 3S2060DC168C1B			
LAPEC 51509-006				
GC-1010-24-9A	*	AEROSPATIALE SA-366G U.S.C.G. HH-65A DOLPHIN	TC H10EU 7-26-83	1

* = PHOENIX AEROSPACE INC. STANDARD PRODUCTION EQUIPMENT ABOARD AIRCRAFT



AIRCRAFT INDEX

A

A-37 Cessna Jet Trainer **3**
A80 Beech King Air **3**
A90 Beech King Air **3**
A100 Beech King Air **3**
A 109/Commercial Agusta **67, 78**
A 109/Tow Missile Agusta **38, 74, 78, 79**
109/ECM Agusta **40, 74, 78, 79**
A 129 Agusta **19, 38, 82, 126**
AB 205 Agusta/Bell **126**
AB 206 Agusta/Bell **3, 30**
AB 212 Agusta/Bell Twin Pack **59, 106**
AB 212ASW Agusta/Bell Twin Pack **102, 129**
AB 412 Agusta/Bell **17, 106**
AC-130H Lockheed Hercules **26B**
ATR-42 Aeritalia **90, 93, 98**
AG-CAT Grumman Gulfstream **12**
AH-1G Bell HueyCobra **6, 29, 30, 61, 62**
APS-128 Eaton Radar **42**
AR-404 Ahrens **17**
AS-61 N1 Agusta/Sikorsky Silver **3, 38**
AS355E Aerospatiale TwinStar; AS355F &
AS355F-1 Aerospatiale Ecureuil 2 **10**
Aeritalia ATR-42 **90, 93, 98**
Aero Commander
560 Commander **3**
680FL Grand Commander **3**
680 T,V,W Turbo Commander **3, 55**
690, 690A Turbo Commander **3, 54**
690A, 690B, 690C, 695, 695A **54**
1121 Jet Commander **4, 62, 107, 122**
126, 132
Aerospatiale
AS355E TwinStar; AS355F & AS355F-1
Ecureuil 2 **10**
SA-366G - U.S. Coast Guard HH-65A Dolphin **21**
SNIAS AS332A Super Puma **7**
Agusta A 109/Commercial **67, 74**
A 109/Hughes Tow Missile **38, 78, 79**
A 109/ECM Agusta **38, 78, 79**
A 129/Hughes Tow Missile **19, 38, 82, 126**
Agusta/Bell
AB 205A, A1 **126**
AB 206A **3, 7, 30**
AB 212 **59, 106**
AB 212ASW **102, 129**
AB 412 **17, 106**
Agusta/Sikorsky
AS-61N1 Silver **3, 38**
SH-3D **38, 102, 129**

Ahrens AR-404 **17**
Air Tractor AT-400, AT-400A **3**
Air Tractor AT-402, AT-402A, AT-502,
AT-502A, 503A **3**
Alinavi Hydrofoil/Montedel/ Elder **40**
Alpha Jet **36**
Apollo Lunar Landing Module **58, 59**
Ares, Inc./Sperry Ordinance **94**
Attitude Gyro Power Supply **29**
Ayres S2R Turbo-Thrush **3**

B

B18 Beechcraft **30**
B80 Beechcraft King Air **3**
B90 Beechcraft King Air **3, 29**
B99 Beechcraft Airliner **9**
B100 Beechcraft King Air **3**
BH-500 Hughes **15, 33**
BN-500H Hughes **33, 47**
BK-117 MBB **25**
Baron Beechcraft **9**
Battery Emergency Systems **87**
Beechcraft
Beech 18E **31, 55**
B99 Airliner **9**
Baron **9**
C-12A **3**
King Air A90, B90, C90, E90, H90 **3, 29**
King Air 100, A100, B100 **3, 29**
Queen Air A80 & B80 **3, 29**
Super King Air Model 200T **3**
T-42 **35**
U-21 **3**
Bell
205 Iroquois **6**
206A JetRanger **3, 7, 56**
206A/CH136 Kiowa **58**
206B JetRanger II **3, 7**
206L, 206L-1, 206L-3, 206L-4 LongRanger
20A, 20B
206L-4 TwinRanger (Soloy/Tridair) **20A,**
20A, 20B
212 **17, 22, 25, 31**
412 **17, 22, 25, 31**
AH-1G HueyCobra **6, 25, 29, 30, 34, 35, 61, 62**
OH-6 **56**
OH-58A LOH **56, 58**
UH-1D **14, 30, 34, 35**
UH-1F, UH-1H, -1P **14**
UH-1N **14, 14A**
Bendix Fuel Flow Indicator **54**



Boeing 707 **7**
Beda Nardi/Hughes
NH-500 **15, 34, 49**
NH-500H **15, 34, 49**
British Aerospace Canberra **104**

C

C 12A Beechcraft **3**
C90 Beechcraft King Air **3**
C-101 C.A.S.A. **19**
C-212 C.A.S.A. **17, 42, 70, 77, 82, 117, 125, 131**
C-212 Nurtanio **82, 117, 125, 131**
C-119 Fairchild **52**
C-130 Lockheed **26, 26A, 26B**
C-131 Convair Turbo Goose **38**
CL-44 Canadair **30**
CL-215 **84, 102, 119, 126, 132**
CN-235 C.A.S.A. **19, 82, 90, 93, 117, 125, 131**
CN-235 Nurtanio **82, 117, 125, 131**
CV-580 Convair **104**
Canadair CL-44 **30**
Canadair CL-215 **84, 102, 119, 126, 132**
Canberra-British Aerospace **104**
C.A.S.A.
C-101 **19**
C-212 **17, 42, 70, 77, 82, 117, 125, 131**
C-212/Powers Eaton APS-128 Radar **42**
CN-235 **19, 82, 90, 93, 117, 125, 131**
Cessna
Jet Trainer USAF A-37 **3**
TU **15**
T-37B **14**
Citation I **18**
Citation II **18, 100, 118**
Citation III **7, 100, 118**
U206G **15**
Chrysler
M60 Tank **40**
Electric Tank **60**
Conair
S2F Tracker/Firecat Water Bomber **19**
Convair
C-131 Turbo Goose **38**
CV-580 **104**
880 **7**
CT4 Airtrainer **31**

D

DASH 7 de Havilland **104, 133, 144**
DASH 8 de Havilland **20, 22, 24, 86, 121, 133, 134**

DC-3 Douglas **3**
DH-125-1A,-3A, -3AR,-400, -600A Hawker Siddeley
8, 82, 100, 118, 131
DH-125-700 Hawker Siddeley **19, 58**
DHC-2 Beaver **52**
DHC-3 Otter **3**
DHC-4 Caribou **104**
DHC-5 Buffalo **59, 84, 121, 132**
DHC-6 Twin Turbo Otter **3, 7, 56, 80, 102**
DHC-7 DASH 7 **104, 121, 132**
DHC-8 DASH 8 **20, 22, 24, 86, 121, 133, 134**
de Havilland
DHC-2 Beaver **52**
DHC-3 Otter **3**
DHC-4 Caribou **104**
DHC-5 Buffalo **59, 84, 121, 132**
DHC-6 Twin Turbo Otter **3, 7, 56, 80, 102**
DASH 7 **104, 121, 132**
DASH 8 **20, 22, 24, 86, 121, 133, 134**
Dornier GMBH/Fuerza Argentina 1A-63 **19, 36, 75, 76, 92, 115**
Douglas DC-3 **3**

E

Eaton APS 128 Radar **42**
EH-101 S.M.A. Radar **38**
Embraer AM-X **66**
Emergency Systems (Battery) **87**

F

Fairchild C-119 **52**
Flitronics PC-450 **88**
Frakes Aviation **7**

G

G-1 Gulfstream Aerospace **3**
G-II Gulfstream Aerospace **13**
Goodyear Aerospace Conversions **100**
Govt. Aircraft Factories N22B, N24A
(Australia) **10**
RAAF A 10 Basic Trainer **19, 66, 74**
Grumman
Mallard **3, 7**
S2F Tracker/Conair Firecat Water Bomber
19
Gulfstream American Super AG-CAT **12**
Gulfstream Aerospace
GI **3**
GII **13**



H

H-600 Helio Stallion **84**
HC-130 Lockheed Hercules **26B**
HH-65A Aerospatiale Dolphin **21**
HS-748 Hawker Siddeley **7, 40, 44, 49, 82**
Hawker Siddeley
DH-125-1A,-3A,-400,-600A **8**
DH-125-1,-3A,-3AR & -400 **8, 82, 100, 118, 131**
DH-125-700 **19, 58**
HS-748 **7, 40, 44, 49, 82**
Helio H-600 **84**
Hindustani Aircraft **53**
Howell Instruments
"MEAT" Wagon (Mobile Engine Analyzer Tester) Naval Air Test Center **40**
Northrop T-38 Hot Section Tester **58**
NASA Apollo Lunar Landing Module **58, 59**
Hughes
500, 5000, 500D, 500E, 530E, 500M **15**

I

1A-63 Dornier GMBH/Fuerza Argentina **19, 36, 75, 76, 92, 115**
Israel Aircraft Ind. 1124A **95**

J

JetStar **3**
JetStar II **17**

K

Kawasaki V-107 **56**
King Radio Gold Crown Line **53**

L

Laboratory Power Supplies **55, 60**
Learavia Lear Fan 2100 **64**
Learjet
21A Military **100, 118, 125**
23 5, 29
23, 24, 24A, 24B, 24B-A, 25 **5**
24C, D, D-A, E, F, F-A **11, 100, 118, 125**
25C, D, F **11, 100, 118, 125**
25G **100, 118, 125**
28 **11, 100, 118, 125**
29 **11, 100, 118, 125**
35, 35A, 36, 36A **16, 100, 118, 125**
55, ER, LR, LXR **100, 118, 125**

Lockheed Fleets - C-130 **26, 26A**
AC-130H, HC-130, MC-130E **26B**
1329-6, 1329-8 JetStar I **3**
1329-23 JetStar II **17**
Lunar Landing Module **58, 59**

M

M60 Chrysler Tank **40**
MB-326 Messerschmitt-Boelkow-Blohm **60**
MBB BO-105 **10**
MBB BK-117 **25**
MC-130E Lockheed Hercules **26B**
MU-2 Mitsubishi **10**
MU-300 Mitsubishi **84, 118, 131**
Merlin II Swearingen **3, 30**
Messerschmitt-Boelkow-Blohm
MB-326 **60**
BO-105 **10**
BK-117 **25**
Mitsubishi
MU-2 **10**
MU-300 Diamond **84, 118, 131**
Mobile Engine Analyzer Tester ("MEAT" Wagon) - Naval Air Test Center **40**

N

N22B, N24A Govt. Aircraft Factories (Australia) **10**
NASA Apollo Lunar Landing Module **58, 59**
NAVSTAR-Global Positioning Satellite **72**
North American Rockwell
265-40,-60,-70 Sabreliner **4, 14B, 29**
65 Sabreliner **19**
Northrop T-38 Hot Section Tester **58, 59**
Nurtanio C-212 **17, 82, 117, 125, 131**
CN-235 **82, 117, 125, 131**

O

OH-6 Bell **56**
OH-58A LOH **56, 58**
OMAC 1 **21**

P

PC-6/B-H2 Pilatus Porter **3, 52**
PC-450 Flitetronics **88**
PD-808 Piaggio **110**
Peoples Republic of China
Xi'an Yun-7 **98, 104, 120, 126, 132**



Piaggio PD-808 **110**
Pilatus PC-6/B-H2 Porter **3, 52**
Piper/Electrospace **23**
Power Supply (Attitude Gyro) **29**

R

RAAF A-10 **19, 66**
RAAF CT4 Airtrainer **31**
Rockwell Intl.-Collins Defense Comm.
NAVSTAR **72**
Royal Netherlands Flying School/FAA
Aircraft **28**

S

S2F Tracker/Conair Firecat Water Bomber **19**
S2R Ayres Turbo Thrush **3**
S-58T Sikorsky **34, 35, 84, 126**
S-61N Sikorsky **3, 38**
S-211 Siai Marchetti **67, 74**
SA-366G Aerospatiale Dolphin **21**
SF-260 Siai Marchetti **30, 53, 82, 124**
SF-340 SAAB/Fairchild **19, 91, 94**
SH-3D Sikorsky **38, 102, 129**
SM-1019 Siai Marchetti **30**
SNIAS AS-332A Super Puma Aerospatiale **7**
SAAB/Fairchild SF-340 **19, 91, 94**
Sabreliner
265-40,-60,-70 **4, 14B, 29**
65 **19**
Schweizer Super Ag-Cat **12**
Shorts Seacat Missile **82**
Short Brothers
SC.7 Srs 3 Skyvan **12**
APS-128 Radar **42**
Siai Marchetti
S-211 **67, 74**
SF-260 **30, 53, 82, 124**
SM-1019 **30**
Sikorsky
S-58T **34, 35, 84, 119, 126**
S-61N **3, 38**
Skyvan **12, 42**
S.M.A. EH-101 Radar **38**
Solar Turbine Titan APU/PATS **19**
Swearingen Merlin II **3, 30**

T

T-37B **14**

T-38 Hot Section **58, 59**
Teledyne Ryan BQM-34 Firebee Drone **3**
TU Cessna **15**
TwinStar Aerospatiale **10**

U

U206G Cessna **15**
U-21 Beechcraft **3**
UH-1D Bell **14, 30, 34, 35**
UH-1F,-1H,-1P Bell **14**
UH-1N Bell **14, 14A**
U.S. Coast Guard HH-65A Dolphin **21**

X

XM 16 Jet Exhaust Decon **12**
Xian Yun-7 **98, 104, 120, 126, 132**

NUMERIC

100 King Air Beechcraft **3**
200T Super King Air Beechcraft **3**
204 Bell **3**
205 Bell **6**
206A Bell **3, 7, 30, 56, 58**
206A/CH136 Bell Kiowa **58**
206B Bell JetRanger **3**
206L Bell LongRanger **3, 7**
206L-1 Bell LongRanger **20A, 20B**
206L-3 Bell LongRanger **20A, 20B**
206L-4 Bell LongRanger **20A, 20B**
206L-4 BELL TwinRanger **20A, 20B**
212 Bell Twin Pack **25, 30, 59**
265-40,-60,-70 Sabreliner **4, 14B, 29**
500,C,D,E,M (Hughes) **15**
560 Aero Commander **3**
65 Sabreliner **19**
680F Aero Commander **3**
680FL Grand Commander **3**
680 T,V,W Turbo Commander **3, 55**
690 Turbo Commander **3, 54**
707 Boeing **7**
880 Convair **7**
1121 Jet Commander **4, 62, 107, 122, 126, 132**
1124A Israeli Aircraft Westwind **95**
1329-6 Lockheed JetStar I **3**
1329-8 Lockheed JetStar I **3**
1329-23 Lockheed JetStar II **17**



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