Urgent Fax Message

To ANDY JENKINS From STEVEN LAWSON

Company FEC Company HITEK POWER

Fax 0870 1200 203 Telephone 01243 833666

Date 13/6/01 No. of Pages 4

173-242

With Compliments

Durban Road Bognor Regis West Sussex PO22 9RL Tel +44(0)1243 841888 Fax +44(0)1243 8
Registered in England No 908344

HiTek Power

INSTRUCTION BOOK
For
OPEN FRAME
LINEAR POWER SUPPLY

M-00195

EDITION2, AUG 1998

SECTION 1
INTRODUCTION

Advance Power Linear power Supplies are high quality with fixed output in Open frame construction with industry standard dimensions.

These power supplies are constructed using highly reliable components. Their linear design makes them particularly suitable for applications where the absence of high frequency switching noise is the primary requirement.

Mains supply connections can be made directly onto the transformer. Taps are provided on the transformer for use with universal voltages.

These power supplies are CE marked (EN60950) to the European Low Voltage Directive (LVD) 73/23/EEC amended by 93/68/EEC relating to the Safety of Electrical Equipment.

These power supplies are designed for incorporation within other equipments. For user safety, the equipment enclosure must protect the user against accidental contact with any electrical hazard associated with the power supply.

Please read this Instruction manual before using the power supply.

SECTION 2
SPECIFICATIONS

AC Input	100V-120V, 220V-240VAC +10%, -13%, 47-63Hz. Refer to Table 2 for information on input voltage selection.
Input Fuse	Refer to Table 1.
DC Output	Refer to Table 1 for output ratings. Adjustment range ±5% minimum.
Line Regulation	±0.05% for a 10% change.
Load Regulation	±0.05% for a 50% load change.
Output Ripple	3mVp-p ± 0.05% max.
Transient Response	<50ms for 50% load change.
Short Circuit Protection	Automatic current limit / foldback.
Overvoltage Protection	Built-in on all 5V models, set at 6.2V ±0.4V. Optional on other models.
Remote Sensing	Provided on all models, open sense lead protection built-in.
Stability	±0.05% for 24 hours after warm-up.
Temperature Rating	0 to 50°C full rated. Derate linearly to 40% at 70°C.
Accessory	Instruction Manual, Cover(Optional)
Isolation Test Voltages of Output	In accordance with UL1950/EN60950. Mains input to output: 3000 Vrms Input to earth: 3750Vrms Output to earth: 500Vrms
Dimensions	Refer to Section 5

TABLE 1

ADVANCE PART NO	FARNELL PART NO	CASE TYPE	EXT. FUSE 100/120	EXT. FUSE 220/240	MASS Kg	OUTPUT COVER
1AA05030	183-787	A	1.0A T	0.5A T	1.4	5V/3A
1AB05060	183-799	B	1.5A T	0.75A T	2.9	5V/6A
1AN05090	183-805	N	2.0A T	1.0A T	3.6	5V/9A
1AA12018	183-817	A	1.0A T	0.5A T	1.4	12V/1.8A
1AB12034	183-829	B	1.5A T	0.75A T	2.9	12V/3.4A
1AD12068	183-830	D	2.5A T	1.5A T	3.6	12V/6.8A
1AE12102	183-842	E	3.0A T	1.5A T	4.9	12V/10.2A
1AA24012	183-854	A	1.0A T	0.5A T	1.4	24V/1.2A
1AB24024	183-866	B	1.5A T	0.75A T	2.9	24V/2.4A
1AD24048	183-878	D	2.5A T	1.5A T	3.6	24V/4.8A
1AAA12010	183-880	AA	1.0A T	0.5A T	1.4	±12V/1A
1ABB12018	183-891	BB	1.5A T	0.75A T	2.9	±12V/1.8A
1ACC12034	183-908	CC	2.5A T	1.5A T	3.6	±12V/3.4A
1AACOV	183-910					COVER A
1ABCOV	183-921					COVER B
1ANCOV	183-933					COVER N
1ADCOV	183-945					COVER D
1AECOV	183-957					COVER E
1AAACOV	183-969					COVER AA
1ABBCOV	183-970					COVER BB
1ACCCOV	183-982					COVER CC

Note: T= Time Delay

A solder tag on the transformer is provided for the earth connection.

The output of these power supplies are reliably SELV.

TABLE 2

Input	Jumper	Apply AC	Input	Jumper	Apply AC
100VAC	1-3, 2-4	1 & 5	220VAC	2-3	1 & 5
120VAC	1-3, 2-4	1 & 4	230VAC	2-3	1 & 4
			240VAC	2-3	1 & 4

INPUT CONNECTIONS

SECTION 3
INSTALLATION

INITIAL INSPECTION

As soon as the power supply unit is unpacked, inspect for any damage that may have occured during transit. Save all packing material until inspection is completed. If any damage is found, notify the carriers immediately. Our authorised representative should also be notified.

PHYSICAL CHECK

This check should confirm that there are no broken parts, that the unit is free of dents and scratches.

ELECTRICAL CHECK

The power supply unit should be checked against its electrical specifications.

INSTALLATION DATA

The power supply unit is basically designed to be installed inside the enclosure of another equipment. The AC input connections should be made directly on top of the transformer.

It is essential to connect an external slow blow(Type T) fuse before applying the AC input to the power supply.

Refer to Table 1 & 2 for information on fuse rating and jumper selection . For mains suppply voltages not shown in Table 2, Connect to the next tapping up(I. e. In case of 115V input, select 120V tap) and suitably derate the output. The power supply unit is naturally cooled. Sufficient space should be kept around the unit while in operation, so that units do not remain in confined space or close to another heating source.

Chassis temperatures of 70°C are not abnormal. Under worst case conditions, i.e., full load and mains +10% and at 50°C ambient, chassis temperatures in excess of 100°C are possible. Although these temperatures are within the ratings of the components, additional cooling will improve life expectancy of the units, e.g., fixing to a large aluminium/metal surface and/or forced air cooling.

Warning: The cases of the power transistor are at unregulated DC voltage and should not be connected or shorted to chassis of another equipment or to earth.

REPACKAGING FOR SHIPMENT

To ensure safe shipment of the power supply unit, it is recommended that the package designed for the unit be used. The original packaging material is reusable. Be sure to attach a tag to the unit specifying the owner, and the fault observed with a brief description.

SECTION 4
OPERATING INSTRUCTIONS

OUTPUT CONNECTIONS

Load connections should be made to the positive (+OUT) and negative (-OUT) output terminals on the power supply. If remote sense mode is not required, the sense terminals (+S and -S) should be shorted to the corresponding output terminals on the unit.

OUTPUT ADJUSTMENT

Output voltage and Foldback limit adjustment is available by on-board potentiometers. Output voltage can be adjusted with the V-ADJ (PR1) potentiometer and foldback current limit can be adjusted with the I-LIM (PR2) potentiometer.

REMOTE SENSING

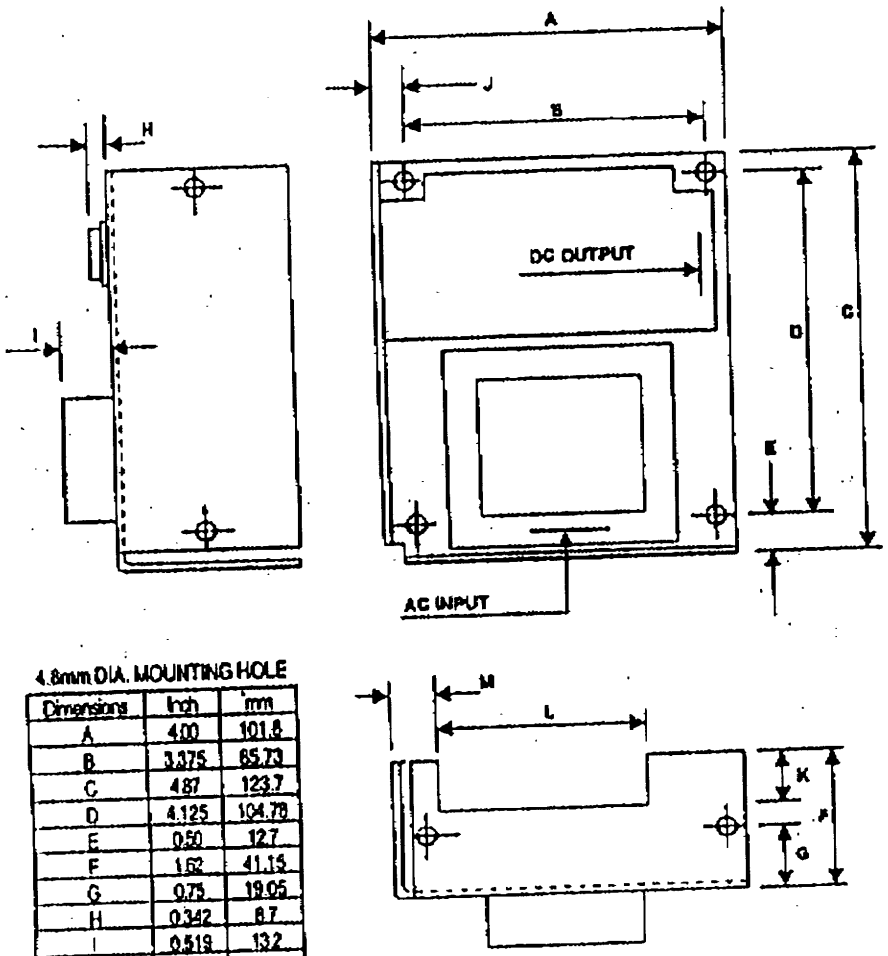
All units are provided with remote sense terminals to correct for resistive voltage drop in the load connecting leads. The maximum permissible voltage drop in each lead is 0.5V.
For remote sensing,the sense terminalsshould be directly connected to the corresponding load terminals.
Care should be taken when operating in the remote sense mode. To avoid instability, each output lead should be twisted with its sense lead. If required, an additional electrolytic capacitor may be connected at the sense terminals.
Do not draw current from the sense terminals.

PREVENTION OF ACCESS

These power supplies are intended to be accessible only to authorized personnel. These units must be installed in another enclosure or similar environment such that user access is prevented. Failure to prevent such user access will invalidate any safety approval given to the unit.

SECTION 5
MECHANICAL DIMENSION

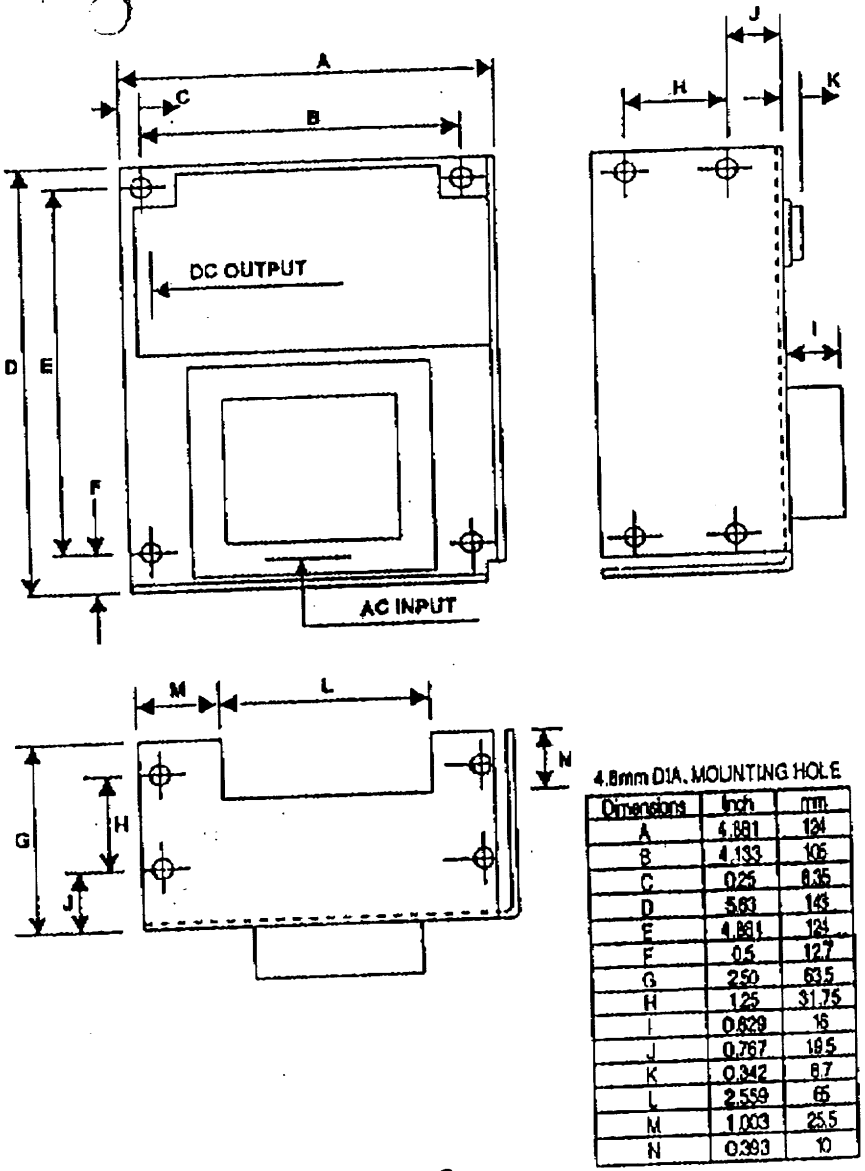
CASE 'A' OUTLINE DRAWING



4.8mm DIA. MOUNTING HOLE

Dimensions	Inch	mm
A	4.00	101.6
B	3.375	85.73
C	4.87	123.7
D	4.125	104.78
E	0.50	12.7
F	1.62	41.15
G	0.75	19.05
H	0.342	8.7
I	0.519	13.2
J	0.379	9.65
K	0.287	7.3
L	2.44	62
M	0.862	21.9

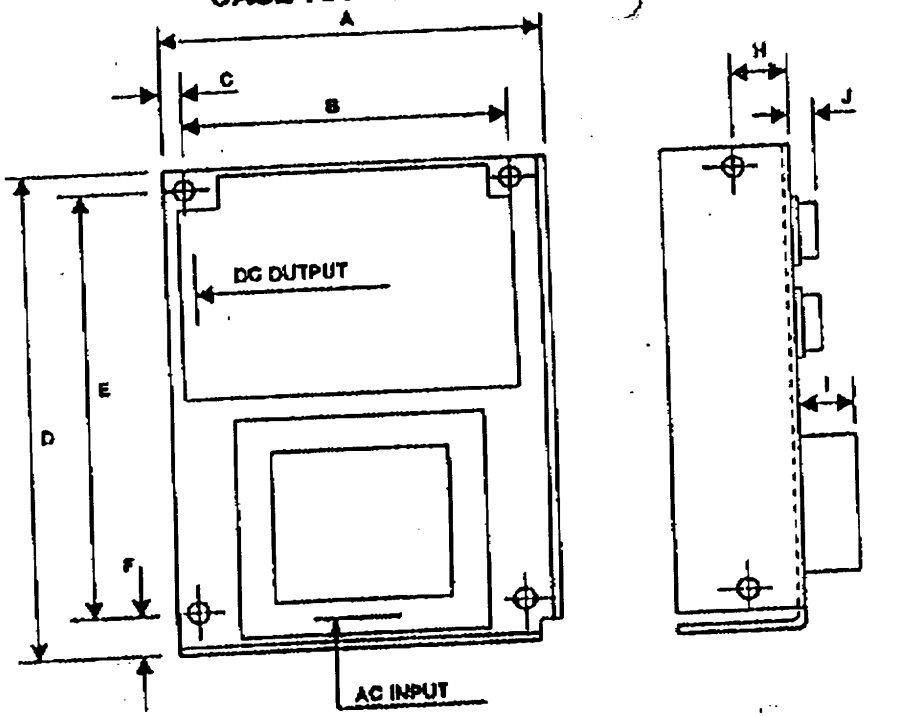
CASE 'B' OUTLINE DRAWING

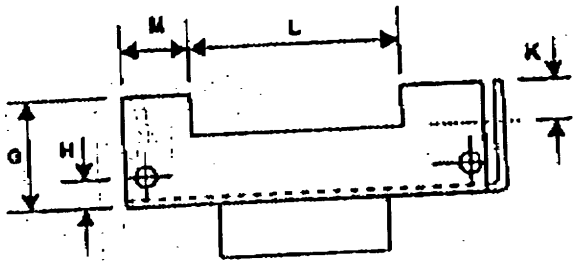


4.8mm DIA. MOUNTING HOLE

Dimensions	Inch	mm
A	4.891	124
B	4.133	105
C	0.25	6.35
D	5.63	143
E	4.881	124
F	0.5	12.7
G	2.50	63.5
H	1.25	31.75
I	0.629	16
J	0.767	19.5
K	0.342	8.7
L	2.559	65
M	1.003	25.5
N	0.393	10

CASE 'AA' OUTLINE DRAWING

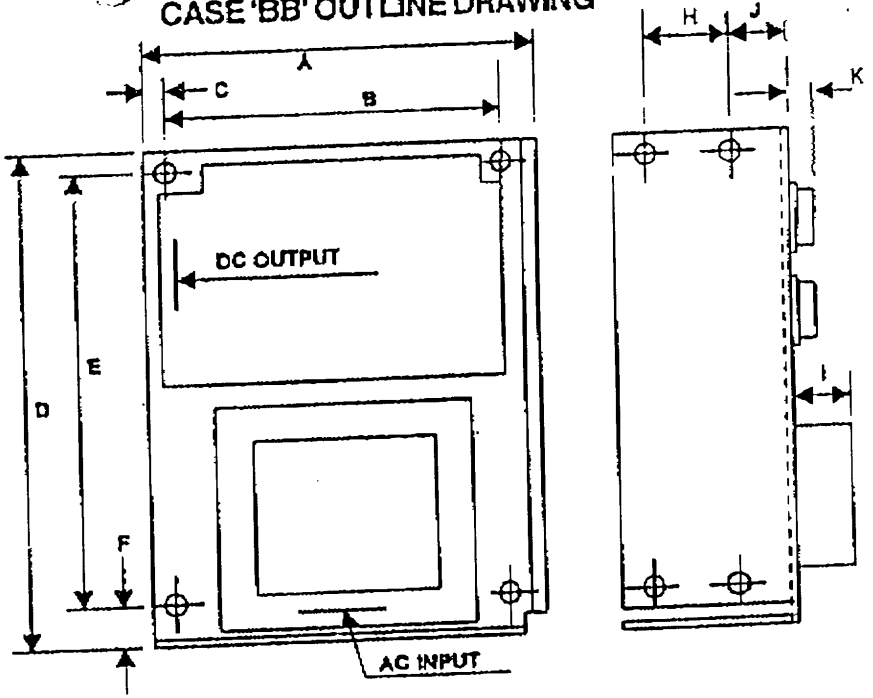


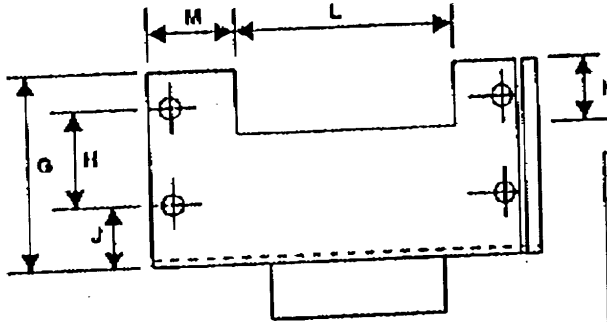


4.8mm DIA. MOUNTING HOLE

Dimensions	Inch	mm
A	4.00	101.6
B	3.386	86
C	0.25	6.35
D	6.49	165
E	5.748	146
F	0.50	13
G	1.614	41
H	0.728	18.5
I	0.629	16
J	0.342	8.7
K	0.334	8.5
L	2.44	62
M	0.755	19.2

CASE 'BB' OUTLINE DRAWING

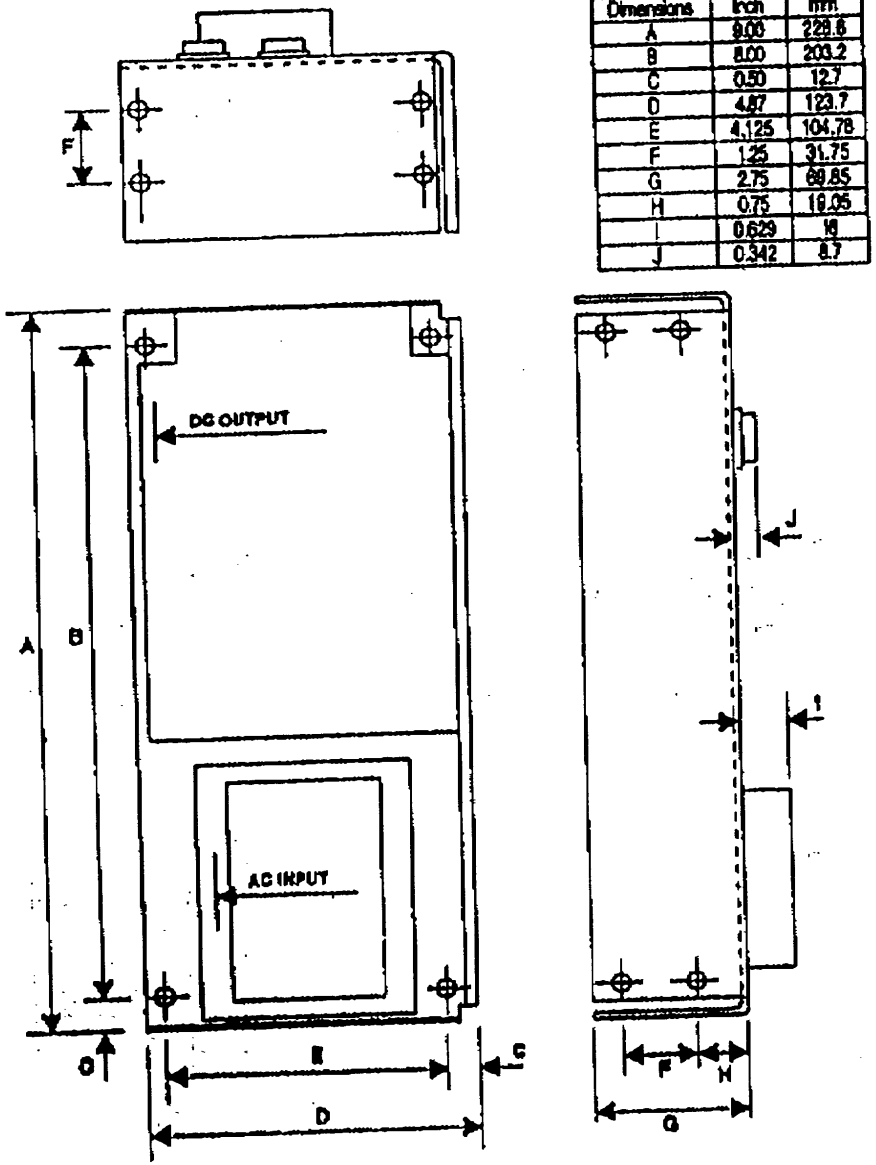




4.8mm DIA. MOUNTING HOLE

Dimensions	Inch	mm
A	4.881	124
B	4.133	105
C	0.25	6.35
D	7.00	178
E	6.25	159
F	0.50	13
G	2.50	63.5
H	1.25	31.75
I	0.629	16
J	0.767	19.5
K	0.342	8.7
L	2.618	66.5
M	1.023	26
N	0.393	10

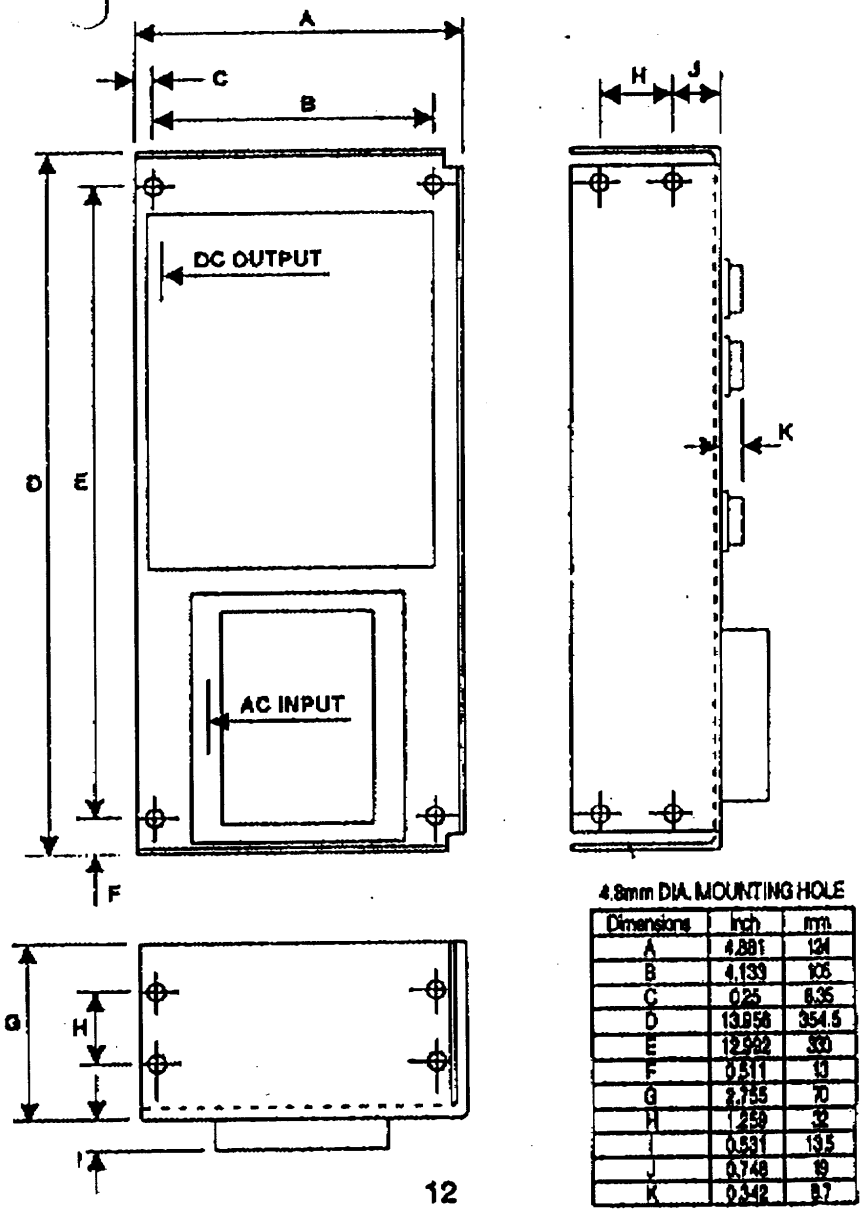
CASE 'D' OUTLINE DRAWING



4.8mm DIA. MOUNTING HOLE

Dimensions	Inch	mm
A	9.00	228.6
B	8.00	203.2
C	0.50	12.7
D	4.87	123.7
E	4.125	104.78
F	1.25	31.75
G	2.75	69.85
H	0.75	19.05
I	0.629	16
J	0.342	8.7

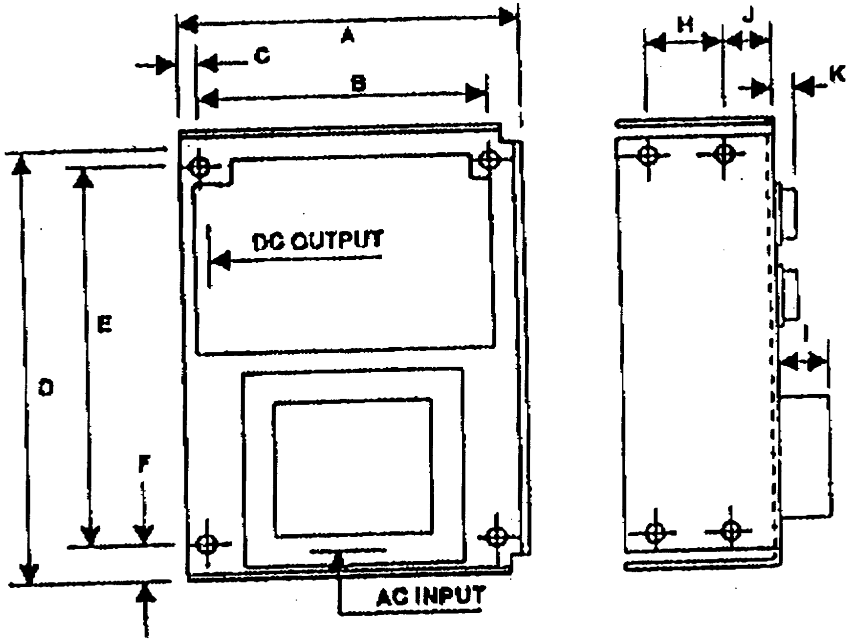
CASE 'E' OUTLINE DRAWING

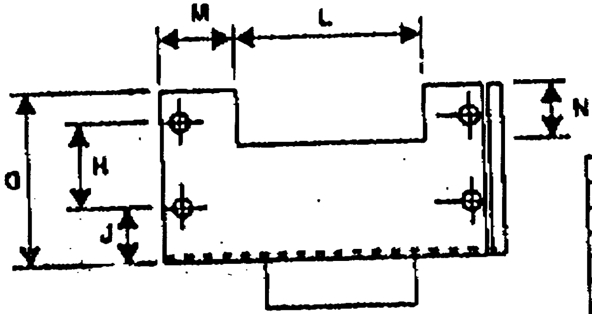


4.8mm DIA. MOUNTING HOLE

Dimensions	Inch	mm
A	4.881	124
B	4.133	105
C	0.25	6.35
D	13.956	354.5
E	12.992	330
F	0.511	13
G	2.755	70
H	1.259	32
I	0.531	13.5
J	0.748	19
K	0.342	8.7

CASE 'N' OUTLINE DRAWING

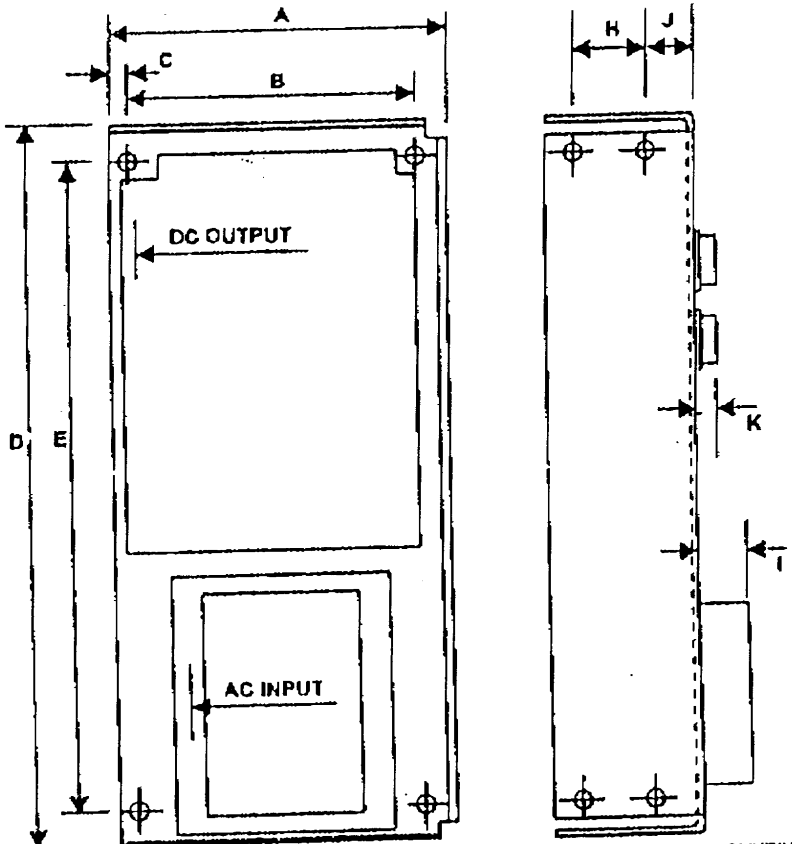


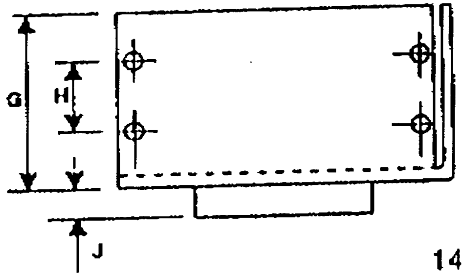


4.8mm DIA. MOUNTING HOLE

Dimensions	Inch	mm
A	4.881	124
B	4.133	105
C	0.25	6.35
D	7.00	178
E	6.25	159
F	[illegible]	9.4
G	2.756	70
H	1.25	31.75
I	0.629	16
J	[illegible]	19.5
K	0.341	8.7
L	2.618	[illegible]
M	1.003	[illegible]
N	[illegible]	10

CASE 'CC' OUTLINE DRAWING





4.8mm DIA. MOUNTING HOLE

Dimensions	Inch	mm
A	4.881	124
B	4.133	105
C	0.25	6.35
D	9.37	238
E	8.346	212
F	0.5	12.7
G	2.75	69.85
H	1.25	31.75
I	0.629	16
J	0.767	19.5
K	0.342	8.7