iSBC 660
SYSTEM CHASSIS

Eight-slot cardcage and backplane for iSBC computers and expansion boards

Heavy duty power supply with all standard iSBC voltages

Compatible with all Intel single board computers

Forced air cooling

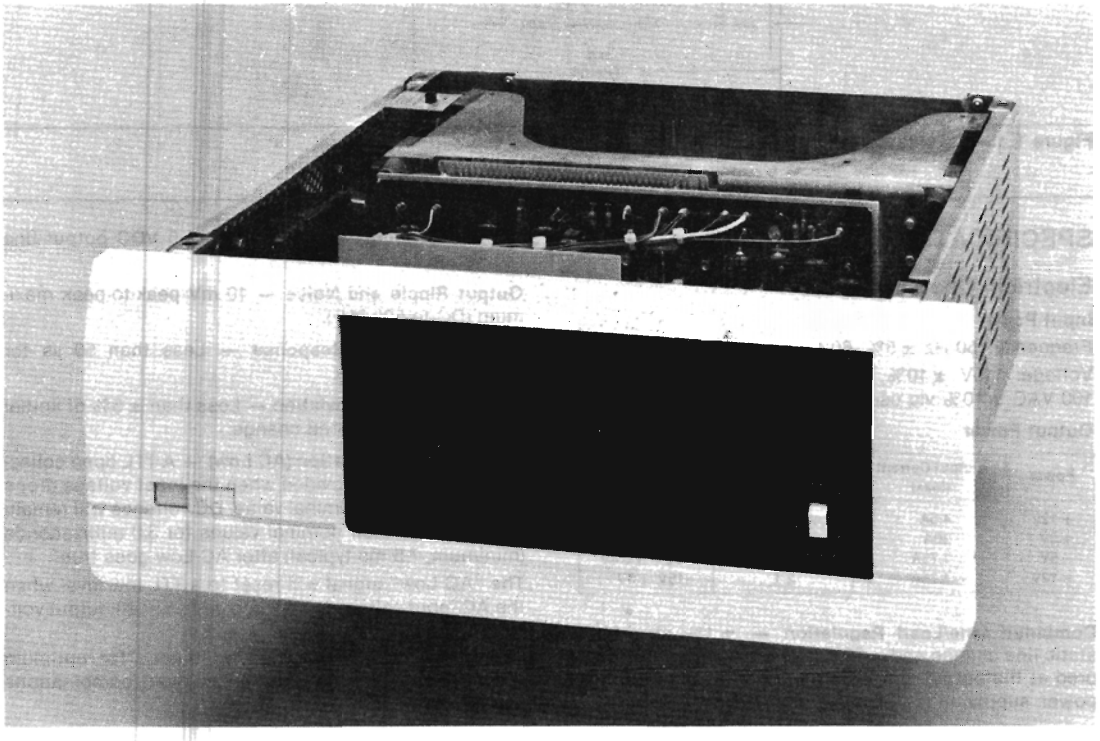
Attractive, versatile pop-off front panel

19-inch wide rack mountable chassis

Horizontal board mounting for compactness

110/220V, 50/60 Hz operation

The iSBC 660 System Chassis is an attractive, 7-inch high system chassis designed for use with Intel OEM computers. It has eight slots for single board computers, memory, I/O, or other expansion modules. The iSBC 660 is ideal for applications requiring multiple board solutions. DC power output is provided at +12V, +5V, −12V, and −5V levels. The current capabilities of each of these output levels have been chosen to provide power over a 0°C to 50°C temperature range for the majority of applications requiring combinations of computers, memories, peripherals, and other I/O capabilities. Current limiting and over-voltage protection is provided at all outputs. Standard logic recognizes a system AC power failure and generates a TTL signal for use in power-down control. For user convenience, a reset switch is provided on the front panel. The reset signal generated and sent to the system bus can be used for external system control.



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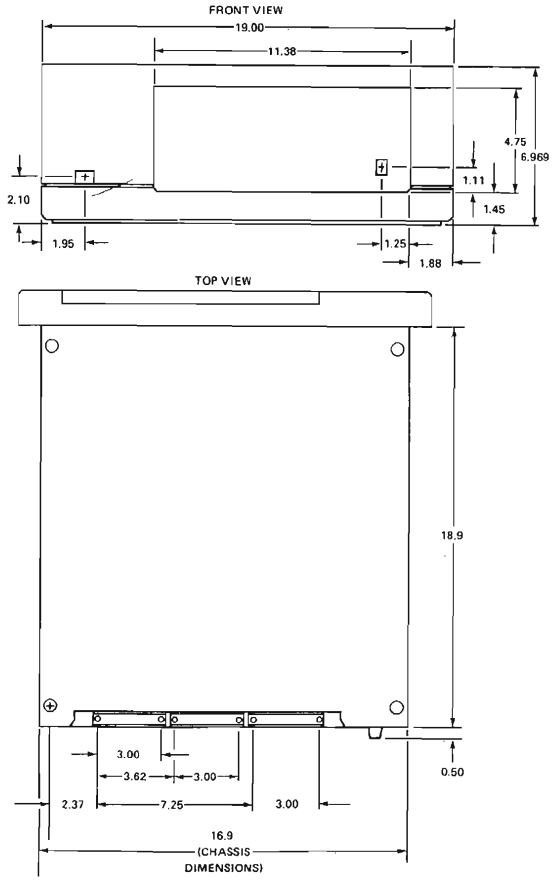


Figure 1. iSBC System Chassis Dimensions

SPECIFICATIONS

Electrical Characteristics

Input Power

Frequency: 50 Hz ± 5%, 60 Hz ± 5%

Voltage: 115V ± 10%, 230V ± 10%, 215 VAC ± 10%, 100 VAC ± 10% via user configured wiring options

Output Power

Power	Output Current (Max)	Current Limit (Amps)	Over-Voltage Protection
+ 12V	4.5A	5.4	15V ± 1V
+ 5V	30A	3.6	6.2V ± 0.4V
- 5V	1.75A	2.1	-6.2V ± 0.4V
- 12V	1.75A	2.1	-15V ± 1V

Combined Line/Load Regulation — ± 1% at ± 10% static line change and ± 50% static load change, measured at the output connector (± 0.2% measured at the power supply under the same conditions).

Remote Sensing — Provided for + 5 VDC output line regulation.

Output Ripple and Noise — 10 mV peak-to-peak maximum (DC to 500 kHz).

Output Transient Response — Less than 50 μs for ± 50% load change.

Output Transient Deviation — Less than ± 5% of linitial voltage for ± 50% load change.

Power Failure Indication (AC Low) — A TTL open collector high signal is provided when the input voltage drops below 90% of its nominal value. DC voltages will remain within 5% of their nominal values for 3.0 milliseconds (minimum, 7.5 ms typical) after AC Low goes true.

The "AC Low" signal will reset to a TTL low level when the AC input voltage is restored and after all output voltages are within specified regulation.

The "AC Low" threshold is adjustable for optimum power-down performance at other input combinations (i.e. 100 VAC, 215 VAC, 50 Hz).

Humidity — Up to 90% relative, non-condensing

Physical Characteristics

Height — 7 in. (17.8 cm)

Width

At Front Panel: 19 in. (48.3 cm)

Behind Front Panel: 17 in. (43.2 cm)

Depth — 20 in. (50.8 cm) with all protrusions

Environmental Characteristics

Temperature

Operating: 0°C to 50°C

Non-Operating: −40°C to +85°C

Equipment Supplied

iSBC 660 System Chassis with iSBC 640 Power Supply, iSBC 604/614 Cardcage/Backplane, dual fans, pop-off front panel

Connector pack with RS232C cable (terminal/modem interface to single board computers), two 50-pin parallel I/O connectors for single board computers

Schematics for cardcage/backplane, chassis

Outline drawing

Reference Manuals

9800505A — iSBC 660 Hardware Reference Manual (NOT SUPPLIED)

9800505 — iSBC 660 System Chassis Hardware Reference Manual (NOT SUPPLIED)

9800803 — iSBC 640 Power Supply Hardware Reference Manual (NOT SUPPLIED)

9800708 — iSBC 604/614 Cardcage Hardware Reference Manual (NOT SUPPLIED)

Reference manuals are shipped with each product only if designated SUPPLIED (see above). Manuals may be ordered from any Intel sales representative, distributor office or from Intel Literature Department, 3065 Bowers Avenue, Santa Clara, California 95051.

ORDERING INFORMATION

Part Number	Description
SBC 660	iSBC 660 system chassis

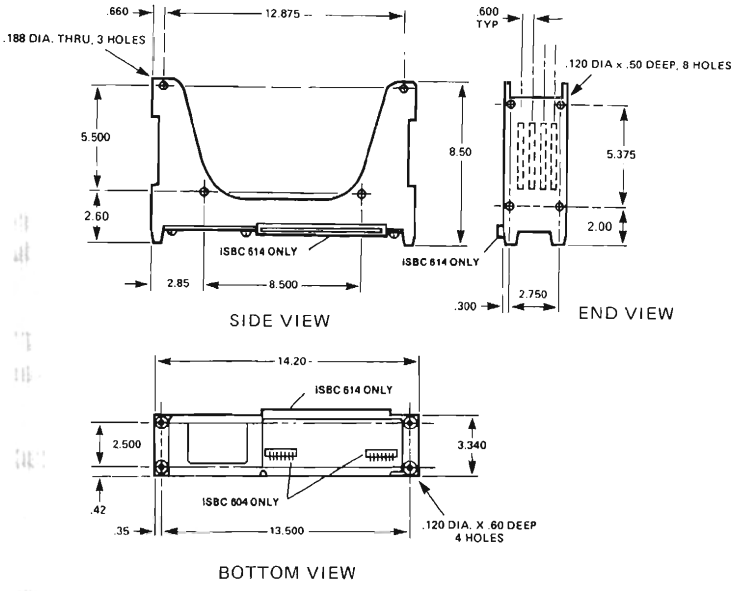


Figure 1. iSBC 604/614 Modular Backplane and Cardcage Dimensions

SPECIFICATIONS

Backplane Characteristics

Bus Lines — All MULTIBUS system bus address, data, and command bus lines are bussed to all four connectors on the printed circuit backplane

Power Connectors — for ground, +5V, −5V, +12V, −12V, −10V power supply lines

iSBC 604 — Bus signal terminators, backplane male PC edge connector only, and power supply headers

iSBC 614 — Backplane male and female connectors

Mating Power Connectors

AMP	Connector	87159-7
	Pin	87023-1
	Polarizing key	87116-2
Molex	Connector	09-50-7071
	Pin	08-50-0106
	Polarizing key	15-04-0219

Note
1. Pins from a given vendor may only be used with connectors from the same vendor.

Physical Dimensions

Height — 8.5 in. (21.59 cm)
Width — 14.2 in. (36.07 cm)
Depth — 3.34 in. (8.48 cm)
Weight — 35 oz (992.23 gm)

Environmental Characteristics

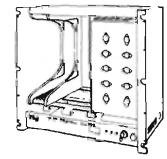
Operating Temperature — 0°C to 55°C

Reference Manual

9800708 — iSBC 604/614 Cardcage Hardware Reference Manual (NOT SUPPLIED)

ORDERING INFORMATION

Part number	Description	Part Number	Description
SBC 604	Modular Cardcage/Backplane (Base Unit)	SBC 614	Modular Cardcage/Backplane (Expansion Unit)



iSBC 635
POWER SUPPLY

Compact single chassis

± 5V and ± 12V iSBC 80 and iSBC 86 system power

Sufficient power for one fully loaded Intel single board computer plus residual power for up to three Intel iSBC expansion boards

Current limiting and overvoltage protection on all outputs

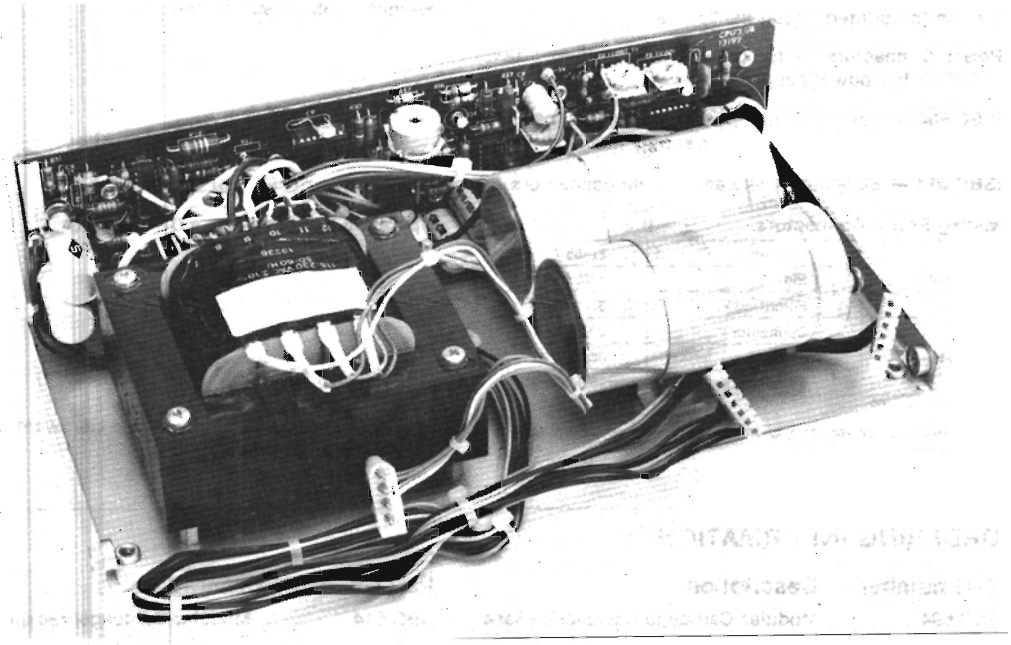
DC power cables and connectors mate directly to iSBC 604 Modular Cardcage/ Backplane assembly

"AC low" power failure TTL Logic level output provided for system power-down control

100V, 115V, 215V, and 230V AC operation

50 Hz or 60 Hz input

The iSBC 635 Power Supply provides low cost, off-the-shelf, single chassis power generation for OEM Products using Intel single board computers. The iSBC 635 supply provides regulated DC output power at + 12V, + 5V, − 5V, and − 12V levels. The current capabilities of each of these output levels have been chosen to provide power over a 0°C to + 55°C temperature range for one Intel single board computer fully loaded with I/O line terminators and drivers and EPROMs, plus residual capability for most combinations of up to three iSBC memory, I/O, or combination expansion boards. Current limiting and overvoltage protection is provided on all outputs. Access for AC input is provided via a standard 4-pin keyed connector. DC output power levels are provided on cables with keyed connectors directly compatible with the iSBC 604 Modular Cardcage/Backplane assembly. The iSBC 635 supply includes logic whose purpose is to sense system AC power failure and generate a TTL signal for clean system power-down control.



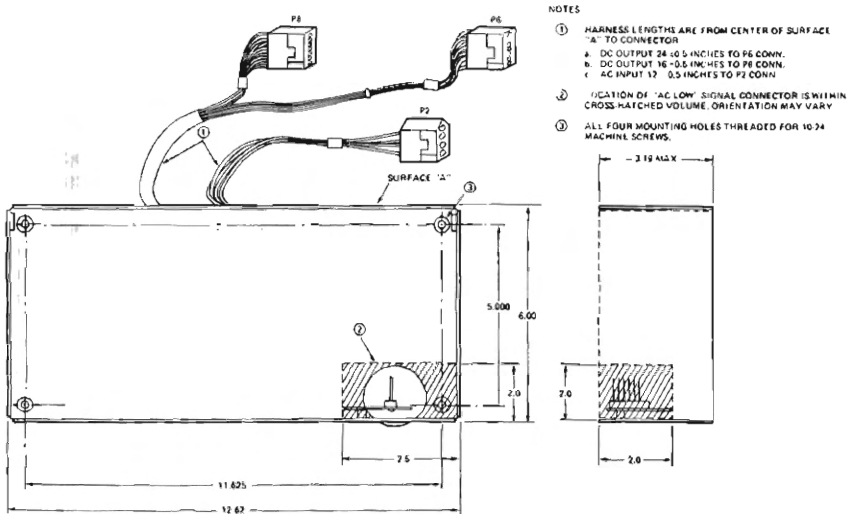


Figure 1. ISBC 635 Mounting Information

SPECIFICATIONS

Mating Connectors[1]

AC Input

Connector	Molex	03-09-1042 or equivalent
Pin	Molex	02-09-1118 or equivalent (18 to 22 gauge wire)

DC Output[2]

Header	Molex	09-66-1071
	AMP	87194-6

"AC Low" Control

Connector	Molex	09-50-7071
	AMP	87159-7
Polarizing key	Molex	15-04-0219
	AMP	87116-2
Pin	Molex	08-50-0106 (18 to 22 gauge wire)
	AMP	87023-1 (18 to 22 gauge wire)

Notes

1. Pins from a given vendor may only be used with connectors from the same vendor.

2. iSBC 635 DC output connectors are directly compatible with power input power connectors on iSBC 604 Modular Cardcage/Backplane assembly. Two connectors are provided.

Physical Characteristics

Height — 3.19 in. max (8.11 cm)
Width — 6.03 in. max (15.32 cm)
Depth — 12.65 in. max (32.12 cm)
Weight — 13 lb (5.90 kgm)

Electrical Characteristics

Input Power — Frequency: 47 - 63 Hz. Voltage (Nominal) (Single Phase): 100, 115, 215, or 230 VAC +10%

Output Power:

Nominal Voltage	Current (AMPS)(MAX)	Current Limit Range (AMPS)	Max Short Circuit (AMPS)	Over-Voltage Protection
+12	2.0	2.1-3.0	1.0 (Foldback)	+14 to +16 V
+ 5	14.0	14.7-21.0	7.0 (Foldback)	+5.8 to +6.6 V
- 5	0.9	0.9-1.4	1.4	-5.8 to -6.6 V
-12	0.8	0.8-1.2	1.2	-14 to -16V

Combined Line/Load Regulation — ±1% at ±10% static line change and ±50% static load change, measured at the output connector (±0.2% measured at the power supply under the same conditions).

Remote Sensing — Provided for +5VDC output line regulation.

Output Ripple and Noise — 10 mV peak-to-peak maximum (DC to 500 KHz)

Output Transient Response — Less than 50 μsec for ±50% load change

Output Transient Deviation — Less than ±5% of initial voltage for ±50% load change.

Power Failure Indication (AC Low) — A TTL open collector high signal is provided when the input voltage drops below 90% of its nominal value. DC voltages will remain within 5% of their nominal values for 3.0 milliseconds (minimum, 7.5 ms typical) after AC Low goes true.

The "AC Low" signal will reset to a TTL low level when the AC input voltage is restored and after all output voltages are within specified regulation.

The "AC Low" threshold is adjustable for optimum powerdown performance at other input combinations (i.e. 100 VAC, 215 VAC, 50 Hz).

Environmental Characteristics

Operating Temperature — 0°C to +55°C with 35 CFM moving air

Non-Operating — −40°C to +85°C

Equipment Supplied

iSBC 635 Power Supply with AC and DC cables and connectors attached as shown in Figure 1.

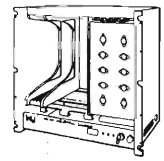
Reference Manual

9800298C — iSBC 635 Power Supply Hardware Reference Manual (includes schematics) (NOT SUPPLIED)

Reference manuals are shipped with each product only if designated SUPPLIED (see above). Manuals may be ordered from any Intel sales representative, distributor office or from Intel Literature Department, 3065 Bowers Avenue, Santa Clara, California 95051.

ORDERING INFORMATION

Part Number	Description
SBC 635	Power supply



iSBC 640
POWER SUPPLY

± 5V and ± 12V iSBC 80/86 power

Sufficient power for 8-12 MULTIBUS computer, memory, and peripheral boards

Current limiting and overvoltage protection on all outputs

"AC low" power failure TTL logic level output provided for system power-down control

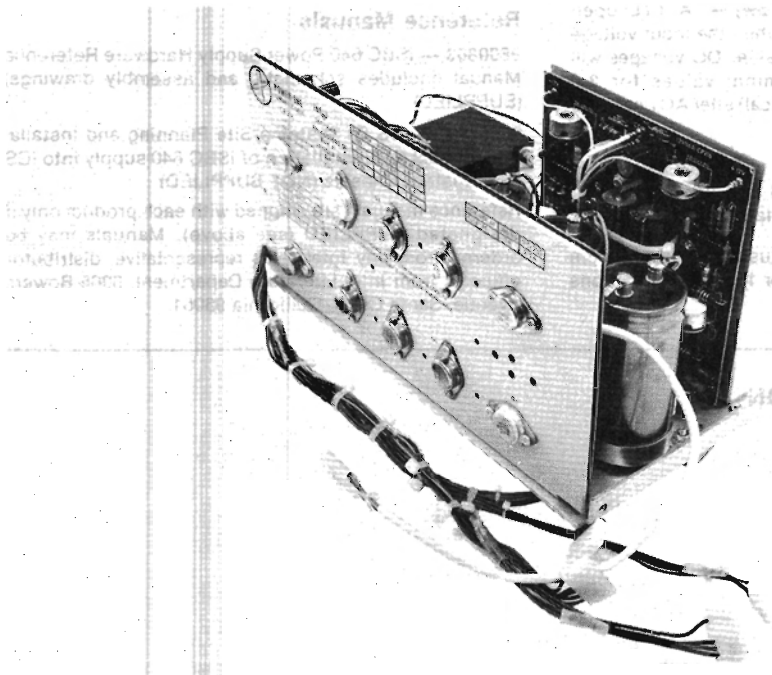
Compact single chassis/slide rail mounts in iCS 80 Industrial Chassis or OEM environments

DC power cables and connectors mate directly to iSBC 604 Modular Cardcage/ Backplane assembly

100, 115, 215, and 230V AC operation

50 Hz or 60 Hz input

The iSBC 640 Power Supply provides low cost, off-the-shelf, single chassis power generation for OEM and industrial system products using Intel single board computers. The iSBC 640 supply provides regulated DC output power at +12V, +5V, -5V and -12V levels. The current capabilities of each of these output levels have been chosen to provide power over a 0°C to +55°C temperature range for one fully loaded Intel single board computer, plus residual capability for most combinations of up to eleven iSBC memory, I/O, or combination expansion boards. Current limiting and overvoltage protection is provided on all outputs. Access for AC input is provided via a standard 4-pin keyed connector. DC output power levels are provided on cables with keyed connectors directly compatible with the iSBC 604 Modular Backplane/Cardcage assembly. The iSBC 640 supply includes logic whose purpose is to sense system AC power failure and generate a TTL signal for clean system power-down control.



SPECIFICATIONS

Electrical Characteristics

Input Power

Frequency: 50 Hz ± 5%, 60 Hz ± 5%

Voltage: 115V ± 10%, 230V ± 10%, 215VAC ± 10%, 100VAC ± 10%

Via user configured wiring options

Output Power

Nominal Voltage	Current (Amps) (Max)	Current Limit Range (Amps)	Short Circuit (Amps) (Max)	Overvoltage Protection
+ 12V	4.5A	4.7- 6.8	2.3	15V ± 1V
+ 5V	30A	31.5-45.0	15.0	6.2V ± 0.4V
- 5V	1.75A	1.8- 3.2	0.9	- 6.2V ± 0.4V
- 12V	1.75A	1.8- 3.2	0.9	- 15V ± 1V

Combined Line/Load Regulation — ±1% at ±10% static line change and ±50% static load change, measured at the output connector (±0.2% measured at the power supply under the same conditions).

Remote Sensing — Provided for +5 VDC output line regulation.

Output Ripple and Noise — 10 mV peak-to-peak maximum (DC to 500 KHz)

Output Transient Response — Less than 50 μsec for ±50% load change.

Output Transient Deviation — Less than ± 10% of initial voltage for ± 50% load change.

Power Failure Indication (AC Low) — A TTL open collector high signal is provided when the input voltage drops below 90% of its nominal value. DC voltages will remain within 5% of their nominal values for 3.0 milliseconds (minimum, 7.5 ms typical) after AC Low goes true.

The "AC Low" signal will reset to a TTL low level when the AC input voltage is restored and after all output voltages are within specified regulation.

The "AC Low" threshold is adjustable for optimum powerdown performance at other input combinations (i.e. 100 VAC, 215 VAC, 50 Hz).

Mating Connectors[1]

AC Input

Connector	Molex	03-09-1042 or equivalent
Pin	Molex	02-09-1118 or equivalent (18 to 22 gauge wire)

DC Output[2]

Header	Molex	09-66-1071
	AMP	87194-6

Notes

1. Pins from given vendor may only be used with connectors from the same vendor.
2. iSBC 640 DC output connectors are directly compatible with input power connectors on iSBC 604 Modular Cardcage/Backplane assembly. Four connectors are provided.

Physical Characteristics

Height — 6.66 in. max. (16.92 cm)
Width — 8.19 in. max. (20.80 cm)
Depth — 12.65 in. max. (32.12 cm)
Weight — 30 lbs. max (13.63 kg)

Environmental Characteristics

Temperature — 0°C to 55°C with 55 CFM moving air
Non-Operating — - 40°C to + 85°C

Equipment Supplied

iSBC 640 Power Supply with AC and DC cables with keyed connectors.

Reference Manuals

9800803 — iSBC 640 Power Supply Hardware Reference Manual (includes schematic and assembly drawings) (SUPPLIED)

9800798 — iCS 80 Systems Site Planning and Installation Manual (for installation of iSBC 640 supply into iCS 80 Industrial Chassis (NOT SUPPLIED)

Reference manuals are shipped with each product only if designated SUPPLIED (see above). Manuals may be ordered from any Intel sales representative, distributor office or from Intel Literature Department, 3065 Bowers Avenue, Santa Clara, California 95051.

ORDERING INFORMATION

Part Number	Description
SBC 640	Power Supply