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 604/614 Modular Backplane/Cardcage assemblies. 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

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

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 Connectors¹

AC Input

<table>
<thead>
<tr>
<th>Housing</th>
<th>Molex</th>
<th>03-09-2042 or equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin</td>
<td>Molex</td>
<td>02-09-2116 or equivalent (18 to 22 gauge wire)</td>
</tr>
</tbody>
</table>

DC Output²

<table>
<thead>
<tr>
<th>Housing</th>
<th>Molex</th>
<th>26-03-3071</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amp</td>
<td>3-97025-3</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pins</th>
<th>Molex</th>
<th>08-50-0187 or 08-50-0189</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key</td>
<td>Molex</td>
<td>15-04-9209</td>
</tr>
<tr>
<td>Amp</td>
<td>87116-2</td>
<td></td>
</tr>
</tbody>
</table>

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) (NOT 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