SEI-UPS

SEI Bus Uninterruptable Power Supply

Description:

The **SEI-UPS** is designed to provide battery backup power to an **SEI** device such as an **A2** or **AD5** for up to 40 hours. The **SEI-UPS** contains a six-cell rechargeable nickel cadmium battery pack that provides 0.7 AmpHours of power to an **SEI** device after primary power is lost. DIN rail mounting is available.

Internal charging circuitry automatically keeps the battery pack charged. Maximum battery life is ensured by the internal circuitry that delivers the optimum charge current to the batteries independent of the load. This setting requires 10 hours to fully charge the batteries from a fully discharged state. US Digital ships the units fully charged and ready for service.

Features:

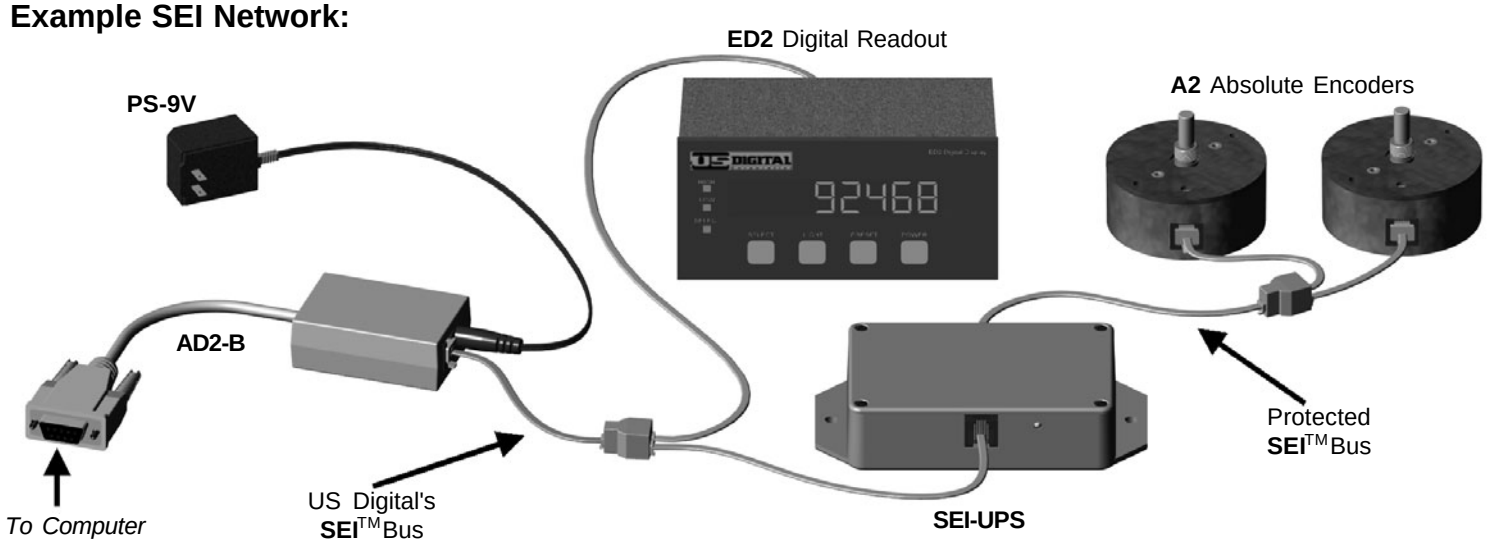
- Up to 40 hours of power backup for an **A2** absolute encoder operating in multiturn mode.
- DIN rail mounting is available.
- Compact and rugged design.
- 0° to 45°C operating temperature.
- 10 hours recharge time from a fully discharged state.
- Output is current limited to 150mA and will not be damaged if shorted.
- Green power indicator LED indicates primary power status
- US Digital warrants its products against defects in materials and workmanship for two years. See complete warranty for details.

Absolute Maximum Ratings:

Parameter	Min.	Max.	Units
Operating Temperature	0	45	°C
Humidity (non-condensing)	0	95	%
Supply Voltage (PWR)	0	16	Volts

- ESD warning: Normal handling precautions should be taken to avoid static discharge.

Example SEI Network:



Ordering Information:

Price:
$99 / 1
$89 / 10
$85 / 50
$79 / 100

Part #:
SEI-UPS - [ ]

R = DIN rail (35mm wide) mounting.

Cost Modifiers:
- Add $10 for **R**-option.

Technical Data, Rev. 04.02.03, April 2003
All information subject to change without notice.

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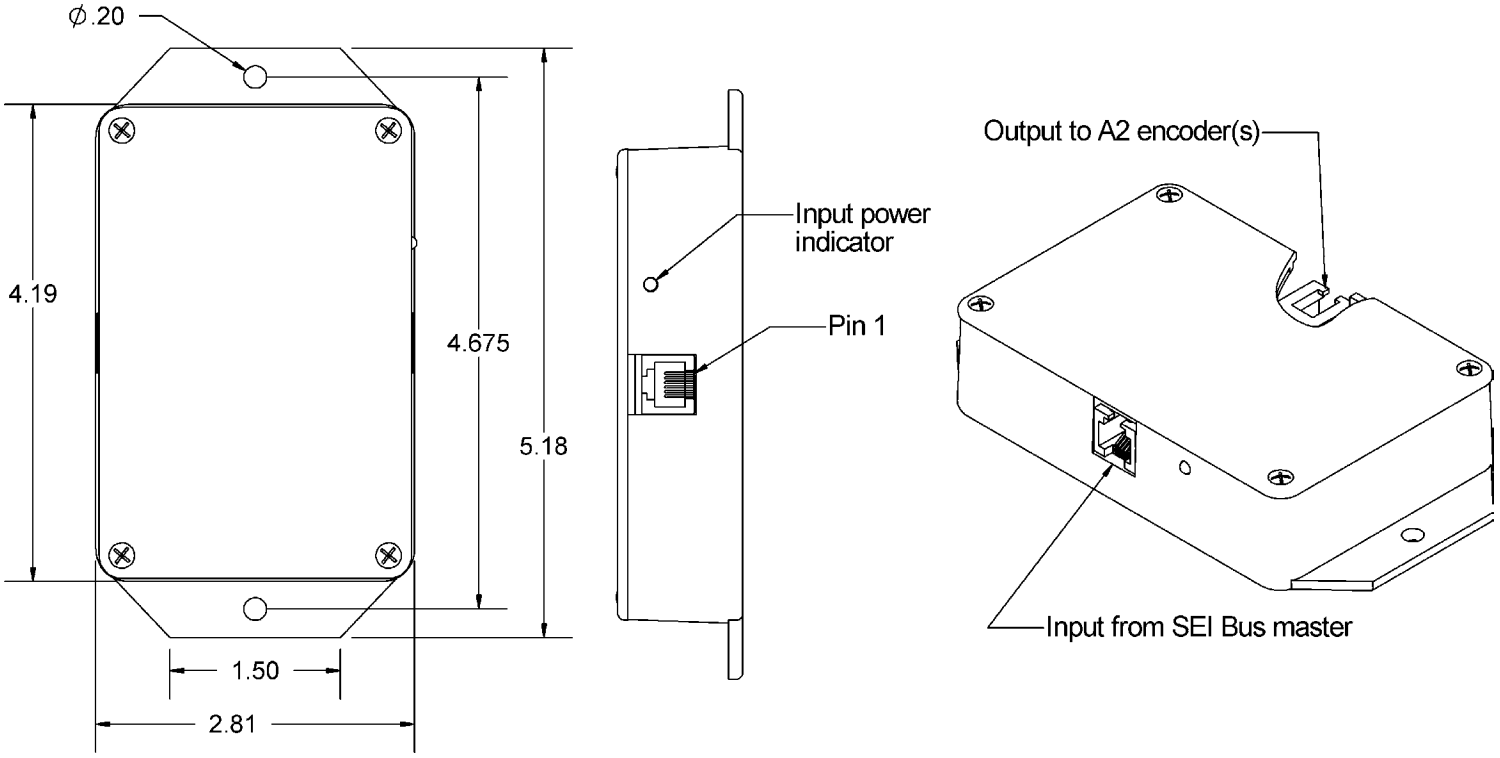
Electrical Characteristics:

Parameter	Min.	Typ.	Max.	Units
Supply Voltage (PWR)	10	12	16	Volts
Supply Current (no encoders)	-	70	-	mA
Output Voltage to Encoders	6.0	7.2	8.6	no supply power
Output Current to All Encoders	-	-	340	mA

➢ Specifications apply over entire operating temperature range.

Mechanical Drawing:



Notes:

The **A2** is a single turn optical shaft encoder that reports the absolute shaft angle even after a power failure. The **A2** can be placed in multi-turn mode which includes the number of full revolutions in the reported position. However, if power is lost, the revolution counter portion of the reported position will be reset and the **A2** will set a flag indicating that a home cycle is needed. A simple way to overcome this inconvenience is to provide uninterrupted power to the **A2** by inserting the **SEI-UPS** in line with the **SEI** cable feeding the **A2**.

The **AD5** is a quadrature encoder to **SEI** bus adapter. It contains four 24-bit counters that track four incremental encoders. If power is lost, the counters reset to zero and a home cycle is needed. Providing an uninterruptable power source to the **AD5** by inserting the **SEI-UPS** in line with the **SEI** cable feeding the **AD5** will solve this inconvenience.

The **SEI-UPS** when fully charged provides 0.7 AmpHours of usable power. To calculate how long the backup will last during an outage, simply divide 0.7AmpHours by the current requirements of the **SEI** device. Since the **A2** requires a maximum of 16mA, the battery pack should last for 0.7AmpHours / 0.016Amps = 43.75 Hours. Two **A2**s would last approximately 22 hours, and so on. The **AD5** requires a maximum of 60mA and a non-index low resolution encoder requires 40mA. To calculate the maximum length of time of a power outage for an **AD5** with one encoder attached divide 0.7AmpHours by 100mA = 7 Hours. If using the **SEI-UPS** to supply power to an **AD5**, do not connect more than one encoder with index or more than two non-index encoders. This will prevent the load from exceeding 150mA.

The internal circuitry also disconnects the load when the batteries have been drained to the point that the average voltage falls below one volt per cell. The **SEI-UPS** current is limited to 150mA and will not be damaged if shorted. The **SEI-UPS** should be located in an indoor environment due to the limited temperature range of Ni-Cad batteries. The system should be wired so that primary power is normally provided full time except during periods of abnormal power outages. These measures should provide seven to ten years of reliable service before replacement is recommended.

Note: As with any Ni-Cad battery, we recommend that you ask your local disposal company for advice on the appropriate disposal instructions.

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