

The specified torque loading for the bolts/screws of the end cables and connectors are detailed in the table below:

NexSys® Bloc Type	Standard Terminal	Terminal Torque		Terminal Adapter	Terminal Torque Nm	
		Nm	lbf in		Nm	lbf in
12NXS26 12NXS36 12NXS38 12NXS90 12NXS120	M6 Female	6.8	60	SAE	6.8	60
12NXS61 12NXS85	M6 Female	9.0	80	N/A		
12NXS86	3/8 - 16" Female	6.8	60	SAE	6.8	60
12NXS137 12NXS157	M6 Female	9.0	80	M6 Front Terminal	9.0	80
12NXS166 12NXS186	M8 Female	9.0	80	M6 Front Terminal	9.0	80

2. Operation

The nominal operating temperature is 30°C at C_0/C_0 rate. The optimum lifetime of the bloc depends on the operating conditions (temperature and depth of discharge). The ambient temperature range of use for the bloc is between -5°C and +45°C, any use outside of this range must be approved by an EnerSys® representative. Optimal bloc life is obtained with the bloc at a temperature of 25°C – 30°C. Higher temperatures shorten the life of the bloc, lower temperatures reduce the available capacity. The upper temperature limit is +45°C and blocs should not be operated above this temperature. The capacity of the blocs changes with temperature and falls considerably under +10°C. The optimum lifetime of the bloc depends on the operating conditions (moderate temperature and discharges equal to or lower than 60% of the nominal capacity C_0/C_0). The bloc obtains its full capacity after about 3 charging and discharging cycles.

2.1 Discharging

The valves on the top of the bloc must not be sealed or covered.

Electrical connections (i.e. plugs) must only be made or broken in the open circuit condition. Discharges over 80% of the rated capacity are categorized as deep discharges and are not acceptable as they reduce the life of the bloc. Discharged blocs MUST be recharged immediately and MUST not be left in a discharged condition.

Note: The following statement only applies to partially discharged blocs.

Discharged blocs can freeze. Limit the discharge to a maximum of 80% DOD. The cycle life of the bloc will depend on the DOD, the higher the DOD, the shorter the cycle life.

The following energy cut-off settings must be used :

- 60% DOD set at 1.96 Volts per cell; or
- 80% DOD set at 1.92 Volts per cell; or

when discharged with currents in the range of I_1 to I_6 .

At lower currents please seek advice from an EnerSys® representative.

2.2 Charging

NexSys® blocs MUST be charged using an EnerSys approved specified charger. Failure to do so will affect the performance and life of the bloc and invalidate any warranty. The specific charging profile, with High Charging Rates, developed for recharging the NexSys blocs allows a rapid recharge in 3 hours from 60% DOD and opportunity charging as often as needed without damaging the blocs.

The NexSys blocs have an extremely low gas emission. Nevertheless, provisions must be made for venting of the charging gases. Doors, bloc container, lids and the covers of battery compartments must be opened or removed. With the charger switched off, connect the bloc to the charger, ensuring that the polarity is correct. (Positive to positive, negative to negative). Now switch the charger ON.

2.3 Equalizing Charge

The EnerSys approved charger includes specific features to ensure that the bloc remains charged and equalized.

3. Maintenance

The electrolyte is immobilized. The density of the electrolyte cannot be measured. Never remove the safety valves from the bloc. In case of accidental damage to the valve, contact your EnerSys representative for replacement.

3.1 Daily

- Recharge the bloc after every discharge.
- Check the condition of the plugs, cables and make sure that all insulation covers are in place and are in good condition.

3.2 Weekly

- Allow up to 6 hours for a full charge at least once per week.
- Visually inspect for signs of dirt and mechanical damage to all component parts of the bloc, paying particular attention to the battery charging plugs and cables.

3.3 Quarterly

At the end of the charge, take end of charge voltage readings, measure and record:

- The voltage of the complete bloc
- The voltages of each bloc

If significant changes from earlier measurements or differences between the blocs are found, please contact an EnerSys representative.

If the run time of the bloc is not sufficient, check the following:

- That the required work is compatible with the bloc capacity
- The settings of the charger

3.4 Annually

Internal dust removal from the charger.

Electrical connections: test all connections (sockets, cables, and contacts).

Blocs having terminals with insert: check the torque loading of the bolts/screws. Test the insulation resistance of the bloc. Insulation resistance of the bloc thus determined must not be below a value of 50 Ω. per Volt of nominal voltage. For blocs up to 20 V nominal voltage the minimum value is 1000 Ω.

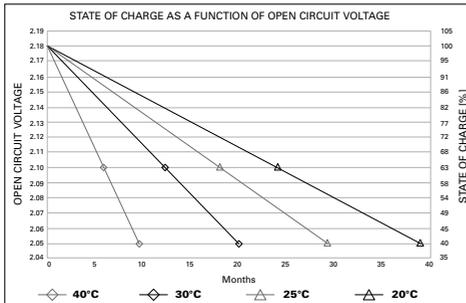
4. Care of the bloc

The bloc should always be kept clean and dry. Any liquid in the bloc tray must be extracted and disposed of in the prescribed manner.

Damage to the insulation of the tray should be repaired after cleaning to prevent corrosion.

5. Storage

Blocs are shipped from the manufacturer fully charged. The state of charge will decrease with storage. All blocs lose their stored energy when allowed to be in open-circuit, due to parasitic chemical reactions. The rate of self-discharge is non-linear and decreases with decreasing state of charge. It is also strongly influenced by temperature. High temperatures greatly reduce storage life. It is recommended that the fully charged bloc should be stored in a cool dry place, ideally below 20°C. The bloc has a maximum inspection-free storage life of 2 years, if stored at or below 20°C, after which a refresh charge should be administered. However, it is advisable to conduct an inspection and open circuit voltage check after 12 months and recharge if the OCV is less than 2.10 Volts per cell. The bloc may be stored for up to 5 years without degradation of performance provided that an open circuit voltage (OCV) check is conducted every 12 months. When stored in temperatures in excess of 30°C, the battery should be OCV checked every 6 months. The graph below shows the relationship of battery state of charge as a function of open circuit voltage.



6. Malfunctions

If malfunctions are found on the bloc or the charger, please contact an EnerSys representative. The measurements taken in paragraph 3.3 will identify problems and help establish a base to correct them.

7. Disposal

NexSys blocs are recyclable. Scrap blocs must be packaged and transported in accordance with prevailing transportation rules and regulations. Scrap blocs must be disposed of in compliance with local and national laws by a licensed or certified lead acid OK recycler.

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Back to the manufacturer!
Batteries with this sign must be recycled.
Batteries which are not returned for the recycling process must be disposed of as hazardous waste!

