

Technical Note 005:

NPX/NCX Application Guide

Richard Csuk Customer Service Manager ALLTRAX Inc.

July 14, 2006 (Updated 1/31/2008)

Overview

Ever since Alltrax came out with the AXE family of high performance motors controllers, customers requested a non-programmable, drop-in stock replacement controller. Basically it's a higher quality stock replacement without all the bells and whistles of the AXE and DCX controllers. In February of 2005, Alltrax introduced the NPX family of Series motor controllers. The NPX and 400A versions are available for both Club Car and EZ-GO series vehicles. In February of 2006, the NCX family of *Separately Excited motor* controllers was introduced for the E-Z-Go PDS and DCS cars.



What is an NPX/NCX?

The NPX and NCX are cost effective replacements for rebuilt or OEM stock controllers. They offer the same performance of the stock controller with out the programmability of the AXE and DCX family of controllers. Priced to compete with the rebuilt stock controllers, these are NEW units and offer a 2 year warranty with the same technical support as their programmable counterparts.

- NPX Series Motor Stock Replacement
- AXE High Performance Series controller
- NCX Shunt motor stock replacement
- DCX High Performance Shunt Controller

The non-programmable controllers come from the factory are Pre-programmed to match the stock controller of the vehicle. Once programmed at the factory, they can not be changed like the AXE or DCX controllers. When ordering an NPX or NCX make sure it is the right one for the vehicle. (Note: For the ability to change throttle types or to adjust the performance of the vehicle, use an AXE or DCX controller instead.)

NPX controllers are available for all model years of the Club Car and EZ-GO with series motors in both 300A and 400A. When ordering the NPX, make sure to have the model year and/or throttle type on hand. Once set at the factory, the NPX can not be changed in the field.

NCX controllers are available for EZ-GO PDS and DCS model vehicles and available only as a 300A controller. Currently there are no plans to offer a E-Z-Go 400A NCX, nor the NCX for the G-19, PDPlus or IQ.

When to use a NPX/NCX

NPX/NCX controllers are for stock applications only. In order to work properly, the vehicle must be OEM stock factory parts. Modifications such as lift kits, taller gears, bigger tires or a larger non-stock motor are considered performance upgrades and MUST use the AXE or DCX High Performance Controllers. The 400A controllers in the NPX family have more torque for use in hilly areas or for heavier loads used in the cars with Factory parts.

Both controllers are good for golf courses, residential neighborhoods or light industrial use. A good rule of thumb is, if the stock controller handled the application well, then the NPX/NCX be the right choice.







CLUB-CAR:

<u>1995 and older:</u> (Black stock controller with black and white throttle wires)

-NPX4834 or NPX4844 w/ 0-5k throttle.

1996 and newer: (Silver stock controller with green and yellow throttle wires)

-NPX4834 or NPX4844 w/ 5k-0 3 wire throttle.

EZ-GO:

<u>1994 or older SERIES cart:</u> (Controller mounted in the center of the vehicle)

- NPX4834 or NPX4844 w/ 0-5k throttle.

1995 or newer SERIES cart: (Controller mounted on the passenger side, also known as the "5-pin controller")

-NPX4834EZ or NPX4844EZ

EZ-GO DCS or PDS Models:

- NCX300DCS or NCX300PDS

When not to use a NPX/NCX

As stated above, the NPX/NCX is not for use with non-stock vehicles as these components place an increased load, higher current demand, and increased thermal load. Trying to utilize these controllers on a vehicle with big tires, a lift kit, a non stock motor or taller gears will *void the warranty* of the NPX/NCX.

All of NPX/NCX controllers are marked on the cover with the warning; "For use in Stock OEM vehicles". If planning to upgrade the vehicle in the future, it is advisable to start with the high performance controllers, such as the AXE and DCX.

The NPX/NCX is not meant to be used as a cheap alternative to the AXE or DCX controller. They are designed as BRAND NEW cost effective replacement for stock applications – instead of a rebuilt or refurbished stock controller.



(Courtesy of Po' Boys Golf Carts Haralson, GA)

Conclusion

When looking to match stock performance with a low cost alternative, the Alltrax NPX/NCX is the way to go. The NPX and NCX family of non-programmable controllers are for stock vehicles intended for light duty use. For medium and heavy duty uses, the controller needs to be upgraded to a high performance AXE or DCX controller.

For more information, please see our website at www.alltraxinc.com or contact our customer service department at 541-476-3565 (M-F 8am-5pm Pacific)

ALLTRAX Inc., Company History:

The company founder developed our core technology at the race track for high power electric vehicles. Throughout the 90's, the market demanded robust and high performance electronic controllers. In 2001 ALLTRAX was formed based on the E-race car developed technology.

Today, Power Conversion Engineering (PCE) is the research and development arm for ALLTRAX and provides the industry a powerful and robust controller to meet all your recreational, industrial, and commercial electrical vehicle needs.

For more information please go to http://www.alltraxinc.com



"The company was founded at the track"