

# CASESTUDY

BCI-motors  
Industrial automation  
November 2008

## Compact motors for every season

## Spreader technology for agriculture and winter road service

Robust, maintenance-free small drives are well suited for demanding applications, such as flexible, attachable electrical spreader units for salt, fertilizer, seeds and pellets. High power density, good resistance to environmental influences and tolerance for circuit voltage fluctuations are the qualities needed.



### Technical data

These electrically driven spreaders can be attached to all types of vehicles for a variety of applications in the agricultural and winter road service industries. The only prerequisites are a control cable for the various device functions and a 12V vehicle power supply. Robust, high-performance BCI 63.55 series DC motors are used to drive the spreading disk, the dispenser slide gate, and the homogenizing agitator of the supply reservoir. These allow the simple use of a pulse-width modulation for speed control with an additional switch for reversing the direction of rotation. The 80 W drive motors, designed with IP 54, require 12 V DC at 8.6 A nominal current. They boast an efficiency of 72% and a service life of approximately 3000 h. With various gearbox designs and gear reductions, these drives can be adapted for optimal performance customized to the intended function. A worm gear unit with  $i=55:1$  or a three-stage planetary gear with  $i=236:1$  brings speed and torque up to the necessary operating point. The ruggedly constructed gearboxes have no problem handling the loads placed on the output shafts. Both the motors and the gearboxes are maintenance-free and lubricated for life to ensure reliable operation for many years.