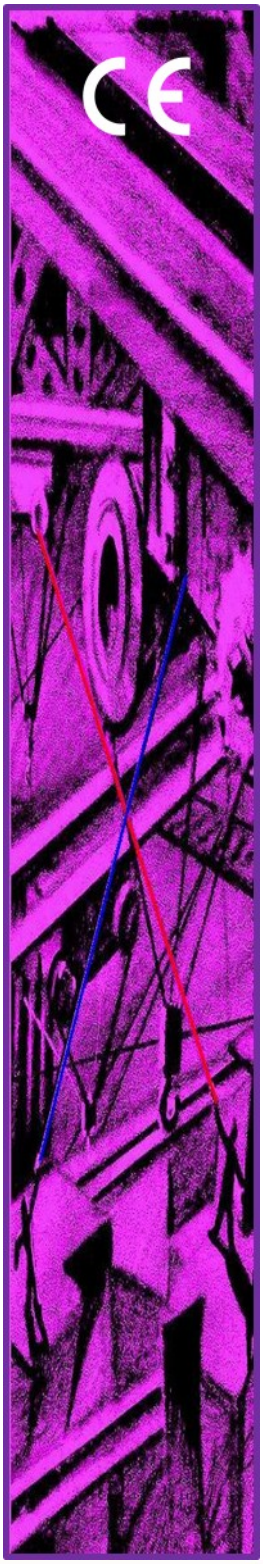
Sales Specification for ComDrive™ Eddy Current Brake Control & Safety System

ComDrive™ 2 CE Unit
(Angled 45° Air Intake)
(End View)

ComDrive™ 2 CE Unit
(Angled 45° Air Intake)
(Side View)

Safety
Reliability
High Efficiency
Low Maintenance
Field Proven System
Nuclear Industry Approved
Power Generation Industry Approved

ComDrive™ 4CE & 2 CE Units
(Vertical Air Intake)



Commander Controls Limited developed this advanced and highly efficient range of high performance **ComDrive™** Eddy Current Brakes for use on high integrity overhead travelling cranes where accurate speed control and load safety is paramount. When used in conjunction with the **Prospeed-II™ Closed Loop Speed Control System** (see brochure), slip-ring wound rotor type electric motor, contactor switch gear and specially graded resistances, the **ComDrive™ Eddy Current Brake System** provides a reliable failsafe speed control solution for both Crane, Hoist & Winch applications. Accurate pre-set speed control up to 5 speeds can be achieved in both directions of movement between 7.5% and 60% of the applied motor rated speed.

ComDrive™ Eddy Current Brake Systems are IP54 rated and are available in 4 sizes from 2.2kW to 150kW. The **ComDrive™** machine is simple and reliable and is similar in construction to a squirrel cage (induction) motor, but has a DC field coil system with a solid steel balanced rotor developed for higher efficiency and reliability as opposed to types using riveted laminations in their construction (these can magnetically oscillate and fatigue, such a method reduces the machine life).

Construction - ComDrive™ Eddy Current Brake Units are constructed to a uniform footprint from high quality tested and Mill certified materials. Cooling is provided by a separately driven forced air cooling fan motor with in-built air flow sensor which is coupled into and monitored by the **Prospeed-II™ Closed Loop Speed Control System**.

Technical Details
ComDrive™ Eddy Current Brake
For AC Slip Ring Wound Motors

Construction (cont'd) - This method of cooling has considerable advantages to performance and efficiency over the entire range of **ComDrive™** Machines. Cooler running means closer tolerances between the rotor and field coil pole pieces can be achieved particularly at low speeds. The monitored cooling fan assembly can be oriented during manufacture if required to suit close (low) headroom installations. One level of Thermistor protection is provided as standard to protect against temperature rise. A **Metrosil™** device is incorporated on all machines to protect against field spikes. Paint finish is Golden Yellow.

Operation - The **Prospeed-II™ Closed Loop Speed Control** provides a varying DC Voltage and Current to the **ComDrive™** field winding producing a magnetic field between the stator and solid moving rotor. The slip ring rotor voltage from the motor is used to represent motor speed and is monitored by the **Prospeed-II™** Unit to vary the applied magnetic field strength in order to achieve the desired pre-set speed. Separate contactor control of rotor resistance switching assists the motor speed torque development.

Maintenance - There is no need for carbon brush gear and very little maintenance is required other than occasional (6 monthly) greasing of rotor shaft bearings via the fitted lubrication system and replacement of the ventilation filter.

Typical Applications (*but not limited to*) -

- High Integrity Steelworks & Heavy Engineering Cranes
- Nuclear Fuel Reprocessing Handling Reactor Refuelling (Charge) Cranes
- High Integrity High Value Aviation Industry product construction
- Deep Space Exploration Satellite Handling Cranes
- Power Station Turbine Hall Cranes
- Heavy Lift Shipbuilding Cranes
- Other Electrically Power Machinery, Plant, Vessel Slip-way Winches etc.

Technical Data

Brake Size	Weight (kg)	Intertia (kgm^2)	Losses (kW @ 1000 RPM)	Average Torque Development
1-CE	169	0.1822	1.2	200
2-CE	321	0.635	1.55	300
3-CE	790	2.700	2.35	700
4-CE	1174	5.964	3.42	1,400
5-CE	tba	tba	tba	tba

Note

To use a **ComDrive™** Eddy Current Brake in an existing application either as a direct replacement of different manufacture or as a replacement for a machine that may be obsolete, please contact us with details of the existing device, size headroom and footprint details, existing mechanical layout drawings would be useful.

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