Bodet Aero
A CIRCOR Aerospace Company

DC TORQUE MOTOR

MCC 24

DESCRIPTION

This motor is the actuator of a bus's optical steering system. It is installed directly in the steering column of new generation buses.

When not in operation it does not disrupt the drivers manual operation. As the transmission goes through the motor, the drive shaft is considered to be a vital safety element.

The on board computer drives the motor to automatically control the bus steering in keeping the requested path. The safety aspects of such a system are essential : this motor is torque calibrated in such a way that the driver can turn the steering wheel and disengage the servo device if anything happens.

It also has a very low friction torque so that the system is reversible meaning that the steering wheel naturally returns to its neutral position when coming out of a corner.

The motor has a good protection against flying objects because it is installed under the vehicle.

MAIN CHARACTERISTICS

Continuous torque with locked rotor @ 40°C	6.6	Nm
Nominal current at nominal speed	8	A
Nominal speed at nominal current	205	Tr/mn
Nominal voltage	24	V
Peak torque at 25°C	19.8	Nm
Friction torque	0.4 max	Nm
Inertial moment of the rotor	0.0052	kg.m²
Weight	27	kg
Breaking off shaft torque	675	Nm
Armature resistance at 20°C	0,8	Ohm
Armature inductance at 20°C	4,23	mH
Torque constant at 25°C	0,8	Nm/A
Insulation class	F	
Life time	10 years	

ENVIRONMENT

Operating temperature:	-20 to +80 °C
Protection Index	IP 65
Permissive vibration levels (3 axes during 15h)	+/- 10mm of 5Hz to 16Hz 10g peak of 16Hz to 500Hz

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