



Safety brakes RD50/70/85-RSV

Light-weight safety brakes with hollow-shaft designed for servo kits ILM

RoboDrive safety brakes RD-RSV allow the design of compact and light-weight actuators and robotic joints. The brakes stop motion and keep position reliable and safe in case of power switch-off or emergency stop events. The hollow-shaft design of the brakes allows to guide signals, media and fluids, rays and cable through the brake.

The spring applied, electromagnetic safety brakes are available in three sizes and two braking torques for each size matching the nominal torque of the corresponding RoboDrive servo kit.

In applications combined with gearheads assured maximal braking torque levels protect gears from overload. The low power consumption and heat dissipation fit perfectly to the motor performance.



Key features:

- Hollow-shaft capability
- Light-weight design
- Low power consumption and heat dissipation
- Fail-safe in case of power loss
- Narrow braking torque tolerances
- Dimensions and braking torques match corresponding RoboDrive servo kits

Basic data

	RD50x08-RSV	RD50x14-RSV	RD70x10-RSV	RD70x18-RSV	RD85x13-RSV	RD85x26-RSV
Nominal braking torque T_{Br}^* [Nm]	0.30	0.60	0.84	1.44	1.68	3.12
Maximum braking torque $T_{B,max}^*$ [Nm]	0.75	1.50	2.10	3.60	4.20	7.80
Maximum rotation speed n_{max} [rpm]	10000	7000	7000	4400	6000	3800
Brake diameter D [mm]	53.4	53.4	72.4	72.4	88.4	88.4
Brake length L [mm]	15.9	15.9	17.9	17.9	17.9	17.9
Weight m [g]	110	110	210	210	300	300
Inertia J [kgmm ²]	2.10	2.10	6.95	6.95	18.6	18.6

* For operational temperature range of +5°C to +80°C. Maximum temperature: 130°C.

Electrical data

	RD50x08-RSV	RD50x14-RSV	RD70x10-RSV	RD70x18-RSV	RD85x13-RSV	RD85x26-RSV
Rated voltage $U_{B,r}^*$ [V]	10	10	10	10	10	10
Rated current $I_{B,r}^*$ [A]	0.26	0.26	0.37	0.37	0.50	0.50
Thermal losses $P_{B,L}$ at $U_{B,r}$ [W]	2.6	2.6	3.7	3.7	5.0	5.0
Overexcitation voltage $U_{B,o}^*$ [V]	30	30	30	30	30	30
Overexcitation current $I_{B,o}^*$ [A]	0.78	0.78	1.11	1.11	1.50	1.50
Thermal losses $P_{B,o}$ at $U_{B,o}$ [W]	23.4	23.4	33.4	33.4	45.0	45.0
Overexcitation time $t_{B,o}$ [ms]	40	40	40	40	40	40
Coil resistance R_B [Ω]	38.70	38.70	26.94	26.94	19.98	19.98

* Adaption of voltage level can be realized on request.

Dimensions

	RD50x08-RSV	RD50x14-RSV	RD70x10-RSV	RD70x18-RSV	RD85x13-RSV	RD85x26-RSV
Brake diameter D [mm]	53.4	53.4	72.4	72.4	88.4	88.4
Brake length L [mm]	15.9	15.9	17.9	17.9	17.9	17.9
Hollow-shaft diameter dw [mm]	20	20	30	30	40	40
Pitch circle diameter LkG/LkB [mm]	49/25	49/25	66/36	66/36	80/46	80/46
Mounting thread G/ Hole B [mm]	M2/2.4	M2/2.4	M2.5/2.9	M2.5/2.9	M2.5/2.9	M2.5/2.9
Cable length K [mm]	250	250	250	250	250	250

