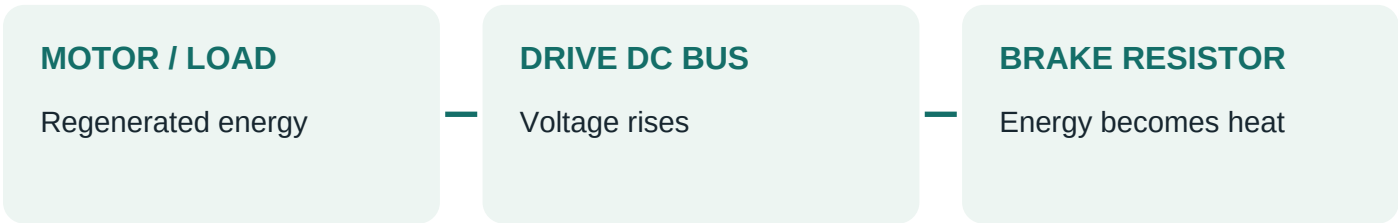


Allen-Bradley 1305-KBA09

Dynamic Brake Assembly

Regeneration is a heat-management task

Allen-Bradley 1305-KBA09 is a dynamic brake assembly for 5 HP, 460 V AC Bulletin 1305 drives, restricted to Series B or later.



HOST SERIES IS A HARD BOUNDARY

Use 1305-KBA09 only with Series B or later 1305 drives. Series A is excluded because an incorrect pairing can damage components or cause drive failure.

5 HP / 460 V AC	Host-drive class, not a separate AC brake input
3.4 kW	Peak brake assembly power for application selection
100% / 20 seconds	Typical braking torque and duration
20% maximum	Duty-cycle limit; not continuous-duty braking

SELECTION BEFORE CONNECTION

Determine motor base speed, maximum and minimum speed, load and motor inertia, gear ratio, cycle time and deceleration time before choosing the braking cycle.

Allen-Bradley 1305-KBA09

Dynamic Brake Assembly

Electrical / environmental specification map

Peak brake assembly power	3.4 kW
Brake power supply	Drive DC bus
Braking torque	100% for 20 seconds, typical
Maximum duty cycle	20%
Operating temperature	0 to 50 C
Relative humidity	0 to 95%, non-condensing
Altitude without derating	0 to 1000 m
Enclosure	IP20
Certifications listed	UL, cUL
Internal fuse	F1, Gould Shawmut A60Q10-2
Fuse rating	10 A, 460 V

DO NOT POWER THE BRAKE AS AN AC LOAD

Brake power comes from the drive DC bus. The 460 V AC value identifies the compatible host-drive class.

LOSS OF BRAKING NEEDS A MACHINE-LEVEL RESPONSE

The thermostat disables the brake when torque, duty cycle or ambient temperature exceeds the permitted operating limits. Auxiliary stopping is required where the resulting reduction in braking creates a personnel hazard.

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Dynamic Brake Assembly

Sizing decisions before energization

Motor torque	$TQM = 5250 \times HP / N \text{ (lb-ft)}$
Reflected inertia	$wk2t = wk2M + wk2L \times GR^2$
Braking torque	$TQB = wk2t \times (N2 - N1) / (308 \times t2)$
Peak braking power	$PM = TQB \times N2 / 7000 \text{ (kW)}$; compare with 3.4 kW
Cycle duty	$DC\% = 100 \times t2 / t1$; compare with 20% maximum

N is motor base speed; N2 and N1 are maximum and minimum speed in rpm. t2 is deceleration time and t1 is total cycle time in seconds. wk2 terms use lb-ft²; GR is the load-to-motor gear ratio.

Below 20% rated torque	Drive inherent braking may be sufficient; assess the application.
At or above 20%	Evaluate a dynamic brake with both peak-power and duty-cycle checks.
Overvoltage while slowing	Longer deceleration or lower reflected inertia reduces peak braking demand.

TERMINALS AND SETUP

Connect brake BRK, GND and +DC to the drive BRK (-DC), ground and +DC terminals. Use 0.75-4 mm² conductors; maximum terminal torque is 1.81 N m. Enable P.011 before the controlled braking test.

Mount vertically with unrestricted airflow. Remove all power and allow at least 60 seconds for DC-bus discharge before wiring or service.

Allen-Bradley 1305-KBA09

Dynamic Brake Assembly

Eight distinct brake-specific decisions

Can 1305-KBA09 be connected to a Series A 1305 drive?

No. This brake is restricted to Series B or later. Connecting it to Series A can damage components or cause drive failure.

When does 1305-KBA09 begin dissipating motor energy?

Regeneration raises the drive DC-bus voltage during deceleration. The brake circuit then connects its resistor across the bus and releases that connection as voltage falls.

Does the 20% duty rating make 1305-KBA09 suitable for continuous braking?

It does not. The maximum duty cycle is 20%; the 100% torque rating is a typical 20-second braking interval, not a continuous operating rating.

What should be reviewed if a 1305-KBA09 application trips on overvoltage while slowing?

Compare calculated peak braking power with the 3.4 kW assembly limit. Increasing deceleration time or reducing reflected inertia can lower the required peak power.

Which 1305 setting activates an installed 1305-KBA09?

Set P.011, DB Enable, to Enable and retain the change in the drive configuration record.

How should repeated F1 fuse failures in 1305-KBA09 be handled?

F1 is specified as Gould Shawmut A60Q10-2, 10 A at 460 V. Repeated failures require brake replacement; the brake assembly is not repairable.

What happens when the 1305-KBA09 thermostat trips?

The brake is disabled to prevent overheating. The machine design needs an auxiliary stopping method if reduced braking torque could create a personnel hazard.

Why must 1305-KBA09 be mounted vertically with unrestricted airflow?

Regenerated energy becomes resistor heat. Mount the brake outside other cabinets in a vertical position, with the clearances required by its installation drawing.

Allen-Bradley 1305-KBA09

Dynamic Brake Assembly

Return-to-service sequence / evidence record

- 01** Confirm the 5 HP, 460 V AC 1305 drive is Series B or later; reject a Series A pairing.
- 02** Place the machine in its approved maintenance state and retain an independent stopping method where required.
- 03** Remove all power and allow at least 60 seconds for the DC bus to discharge before work.
- 04** Mount the brake vertically outside other cabinets with unrestricted cooling airflow.
- 05** Connect BRK, GND and +DC to the corresponding drive terminals using the installation wiring diagram.
- 06** Keep terminal conductors within 0.75 to 4 mm² and do not exceed 1.81 N m terminal torque.
- 07** Set P.011 DB Enable to Enable and check the planned braking cycle against torque and duty limits.
- 08** Investigate thermostat trips or repeated fuse failures before releasing the machine to operation.

1305 Dynamic Brake Installation Instructions

1305-5.11, May 1999 / compatibility, selection, wiring and setup sections.

Related 1305 series / navigation only

The following drive page is a series reference, not a compatible KBA09 host or an interchangeable brake.

[View Allen-Bradley 1305-BA03A page](#)

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1305-KBA09