

# The Most Versatile Synchronous Servomotor in its Performance Class

## The AKM1 with new options for intelligent solutions

- ▶ **Absolute encoder: Saves time-consuming reference runs**
- ▶ **One-Cable option with digital resolver SFD: Reduces hardware costs, saves time during installation**
- ▶ **Holding brake: Reliably holding position at any time**
- ▶ **ytec® or itec®- Connection technology: Simplest installation for minimal space requirement**

The smallest synchronous servomotor from Kollmorgen now even more flexible: The One-Cable version with digital resolver (SFD) extends the existing range of options with holding brake\*, different feedback systems, including multi-turn absolute value encoders and ytec® connectors. Machine constructors now have at their disposal an extremely compact and integrated solution for sophisticated movement tasks like vertical axes, positioning and also lightweight and space-saving drives. High degree of efficiency, up to 8000 revs per minute and high dynamics are further compelling performance data of this compact power pack.



## Extended Equipment Options and Specifications

- Holding brake with low moment of inertia and high holding torque
- Optionally available with single-turn or multi-turn absolute encoder with HIPERFACE® interface
- Revolutions range up to 8000 rpm @ 0.41 Nm continuous torque
- Itec ®-connector plugs to be used with digital resolver (SFD) option

## Impressive Performance Data

- Highest energy efficiency as per IEC60034-30 Class IE4
- Exceptional dynamics thanks to integrated, highly permeable permanent magnets and correspondingly low moments of inertia
- Excellent silent running thanks to low cogging rates of 1.5 %
- Unsurpassed performance density through design lengths up to 30 % shorter than comparable motors

\* Not available with single-cable option

## Highest Operational Safety

- Robust construction: Flange and motor housing made from one piece
- Reliable and durable spring pressure brake
- Maintenance-free

## Universal Application

- Wide range of feedback systems (encoder, comcoder/resolver, single- and multi-turn absolute encoder)
- High-performance drives in conjunction with servo drives of series AKD or S700.
- Ideal for use in handling systems, print machines, textile machines and optical systems.

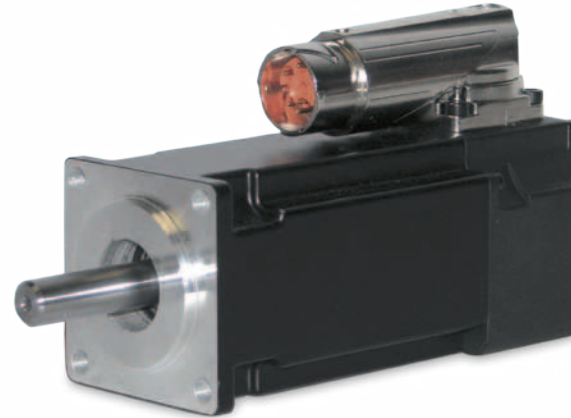
## AKM1 - For Improved Drive Technology

### Multi-turn Absolute Encoders Provide Unambiguous Positioning Data.

The battery-free multi-turn absolute encoder with HIPERFACE®\* interface measures angles and revolutions and thus determines the precise position in the range up to 4096 revolutions. This eliminates time-consuming reference runs, and in operation the drive positions itself faster and more precisely. This saves time and energy and considerably increases machine efficiency.

### Compact Design Makes for Smaller and Lighter Machines.

The AKM1 scores extremely well with its particularly high power density. The build length of the AKM1 including holding brake is shorter than comparable models so volume and weight are lower. The AKM1 represents compact and lightweight drives, uncompromising in reliability and performance data.

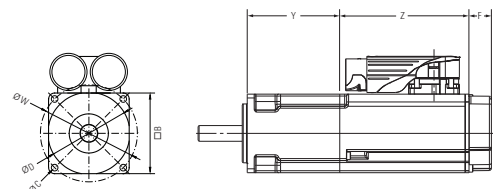


Less hardware cost and even less space: The AKM1 is also available with itec® single-connector option and digital resolver (SFD) for single-cable solutions.

Performance Data	AKM11B	AKM12C	AKM13C
Overall Size [NEMA / mm]	17 / 40		
Recommended Servo Drive	AKD	AKD-P00306	
	S700	S701	
Static Torque [Nm]	0.18	0.31	0.41
Peak Torque [Nm]	0.61	1.08	1.46
Rated Speed [rpm]	8000	8000	8000
Holding Torque of the Optional Brake [Nm]	0.41		
Mass Inertia of Rotor [kg · cm <sup>2</sup> ]	0.01456	0.02856	0.04256
Mass Inertia of Absolute Encoder [kg · cm <sup>2</sup> ]	+0.001		
Mass Inertia of ComCoder [kg · cm <sup>2</sup> ]	+0.0016		
Mass Inertia of Resolver or SFD [kg · cm <sup>2</sup> ]	+0.00244		
Mass Inertia of Brake [kg · cm <sup>2</sup> ]	+0.004		

Dimensions in mm	AKM11	AKM12C	AKM13	
Housing □	B	40		
Pitch circle Ø	W	36		
Assembly drilling Ø	C	4.3		
Adaptor* Ø	D	30		
Shaft diameter Ø	J	8		
Shaft length	K	25		
Base length (with ytec® and resolver)	Y	79	98	117
Base length (with cables and resolver)	Y	70	89	108
Brake	Z	+37		
Encoder, ComCoder, Digital Resolver SFD	F	+9.5		

\* Note: Requires the international fastening type "A". Further fitment forms are available.



\* Not available with single-cable option