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### Important Note

The information shown in these documents is for guidance only. No liability is accepted for any errors or omissions. The designer or user is solely responsible for the safe and proper application of the parts, assemblies or equipment described.

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Stoßende und/oder ziehende Ausführung

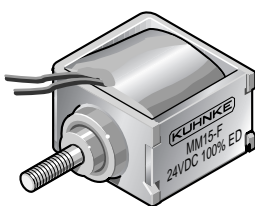
Thrust and/or pull type

Bestellformel	MM	05	- F -	24 V DC	100 % ED	Order specifications
Hubmagnet	MM					Linear solenoid
Bauart						Design type
Kombimagnet <sup>1)</sup>		05				Combination solenoid <sup>1)</sup>
Kombimagnet mit Rückholfeder <sup>1)</sup>		15				Combination solenoid with spring return <sup>1)</sup>
Anschlußart						Coil terminals
Litze (Standardlänge 10 cm)			F			Flying leads (10 cm standard length)
Nennspannung (Standardspannung) <sup>2)</sup>				24		Nominal voltage (standard voltage) <sup>2)</sup>
Zulässige relative Einschaltdauer bei Luftkühlung (LK)					100 % ED	Perm. duty cycle under air cooled conditions (LK)

<sup>1)</sup> Zug- und Stoßmagnet  
<sup>2)</sup> Die Magnete sind auf Anfrage bis 60 V DC lieferbar

<sup>1)</sup> Pull and thrust type  
<sup>2)</sup> Other voltages are available on request up to 60 V DC

Gewicht:  
Magnet: ca. 12,5 g  
  
Anker: ca. 2 g  
Standard:  
Spannung: 24 V DC  
Litze: 10 cm  
Isolierstoffklasse: E (T<sub>grenz</sub> = 120 °C)



Weight:  
Complete solenoid: appr. 12.5 g  
Armature: appr. 2 g  
Standard:  
Voltage: 24 V DC  
Flying leads: 10 cm  
Insulation class: E (max. permissible temperature = 120 °C)  
  
Insulation group according to: VDE 0110  
Test voltage: 800 V (eff)  
Protection: IP 00

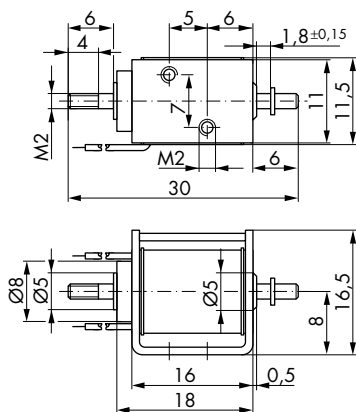
Isolationsgruppe nach: VDE 0110  
Prüfspannung: 800 V (eff)  
Schutzart: IP 00

Wartungsfreie Ankerlagerung (DU-Lager) für höchste Lebensdauer

Service-free armature bearing (DU bearing) for maximum durability

Maße im bestromten Zustand

→  
Hubrichtung



Dimensions given with armature in fully home position  
→  
Direction of stroke

Zul. rel. Einschaltdauer (ED) <sup>3)</sup>	%	100	45	25	15	5	%	Perm. duty cycle (ED) <sup>3)</sup>
Nennaufnahme P 20	W	1,8	3,7	6,8	10,5	26,3	W	Nominal coil power P 20
Anzugszeit (ED)	ms	7				3	ms	Actuation time (ED)

<sup>3)</sup> Bei Montage auf eine Kühlfläche von mindestens 100 cm<sup>2</sup> ist die 1,3fache ED zulässig

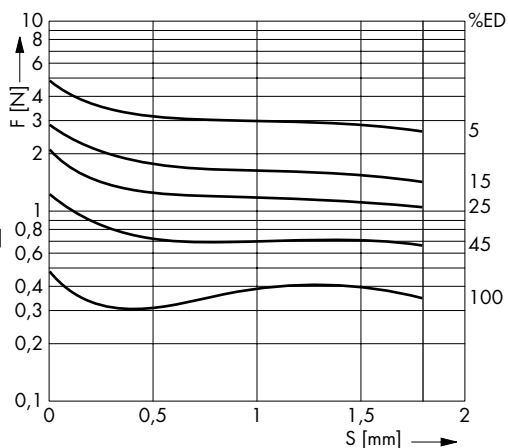
<sup>3)</sup> If solenoid is mounted directly onto a flat metal surface of at least 100 cm<sup>2</sup>, the duty cycle can be extended up to 1.3 x nominal rating

Kraft-Weg-Diagramm F = f (s)

— — — Federkraft 0,06 N auf 0,12 N

Kraft bei waagerechter Bewegungsrichtung und bei 90 % Nennspannung und betriebswarmer Wicklung ohne Rückholfeder

Hub s = 0 entspricht dem angezogenen, bestromten Zustand



Force vs. Stroke diagramm F = f (s)

— — — spring force 0.06 N/0.12 N

Force measured when operating in horizontal position, at 90 % rated voltage and with winding at operating temperature without return spring

stroke s = 0 corresponds to armature in fully home position