

Lineare DC-Servomotoren

mit analogen Hall Sensoren

9,2 N

LM 2070 ... 11

| Werte bei 22°C | | LM 2070 ... 11 | | |
|------------------------------------|-------------------------|---------------------------------|--|---------------|
| Dauerkraft | $F_{e \max.}$ | 9,2 | | N |
| Spitzenkraft | $F_{p \max.}$ | 27,6 | | N |
| Dauerstrom | $I_{e \max.}$ | 0,79 | | A |
| Spitzenstrom | $I_{p \max.}$ | 2,4 | | A |
| Generator-Spannungskonstante | k_E | 9,5 | | V/m/s |
| Kraftkonstante | k_F | 11,64 | | N/A |
| Anschlusswiderstand, Phase-Phase | R | 10,83 | | Ω |
| Anschlussinduktivität, Phase-Phase | L | 1 125 | | μH |
| Wärmewiderstände | R_{th1} / R_{th2} | 3,1 / 9,3 | | K/W |
| Thermische Zeitkonstante | τ_{w1} / τ_{w2} | 30 / 1 200 | | s |
| Betriebstemperaturbereich | | -20 ... +125 | | °C |
| Magnetischer Polabstand | τ_m | 24 | | mm |
| Läuferstab Lager | | Polymer Hülse | | |
| Gehäusematerial | | Metall, antimagnetisch | | |
| Bewegungsrichtung | | reversibel, ansteuerungsbedingt | | |

| | LM 2070- | 040-11 | 080-11 | 120-11 | 160-11 | 220-11 | |
|----------------------|---------------|--------|--------|--------|--------|--------|----------------|
| Hublänge | $S_{\max.}$ | 40 | 80 | 120 | 160 | 220 | mm |
| Wiederholgenauigkeit | σ_r | 60 | 60 | 60 | 60 | 80 | μm |
| Genauigkeit | σ_a | 200 | 300 | 400 | 500 | 600 | μm |
| Beschleunigung | $a_{e \max.}$ | 83,7 | 61,3 | 51,1 | 43,8 | 35,4 | m/s^2 |
| Geschwindigkeit | $v_{e \max.}$ | 1,8 | 2,2 | 2,6 | 2,6 | 2,8 | m/s |
| Läuferstablänge | $L1$ | 134 | 182 | 218 | 254 | 314 | mm |
| Läuferstabmasse | m_m | 110 | 150 | 180 | 210 | 260 | g |
| Gesamtmasse | m_t | 248 | 288 | 318 | 348 | 398 | g |

Hinweis: Diese Motoren sind für den Betrieb mit Spannung < 75 V DC ausgelegt.. Die angegebenen Werte gelten für freistehende Motoren. Andere Läuferstablängen auf Anfrage erhältlich.

Motorkennlinien

Trapezoides Bewegungsprofil ($t_1 = t_2 = t_3$)

Bewegungsdistanz: 40 mm
 Reibungskoeffizient: 0,2
 Neigungswinkel: 0°
 Ruhezeit: 0,1 s

Last:

Die zulässige maximale Last für eine bestimmte Geschwindigkeit bei einer externen Kraft von 0 N.

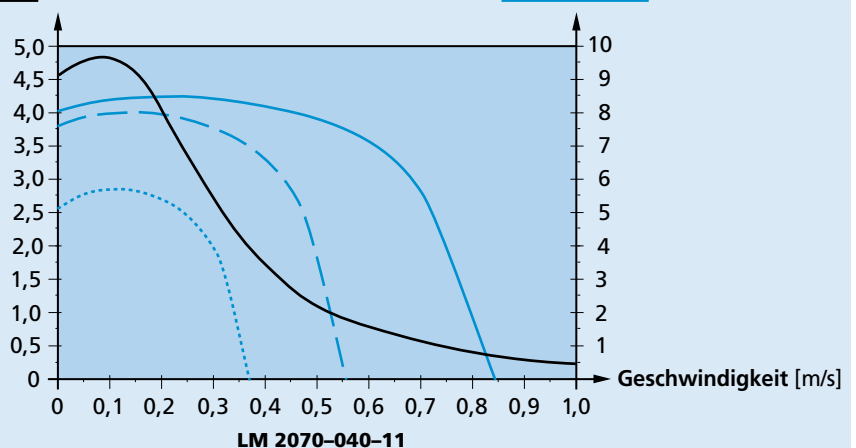
Externe Kraft:

Die zulässige maximale externe Kraft für eine gegebene Geschwindigkeit bei einer Last von:

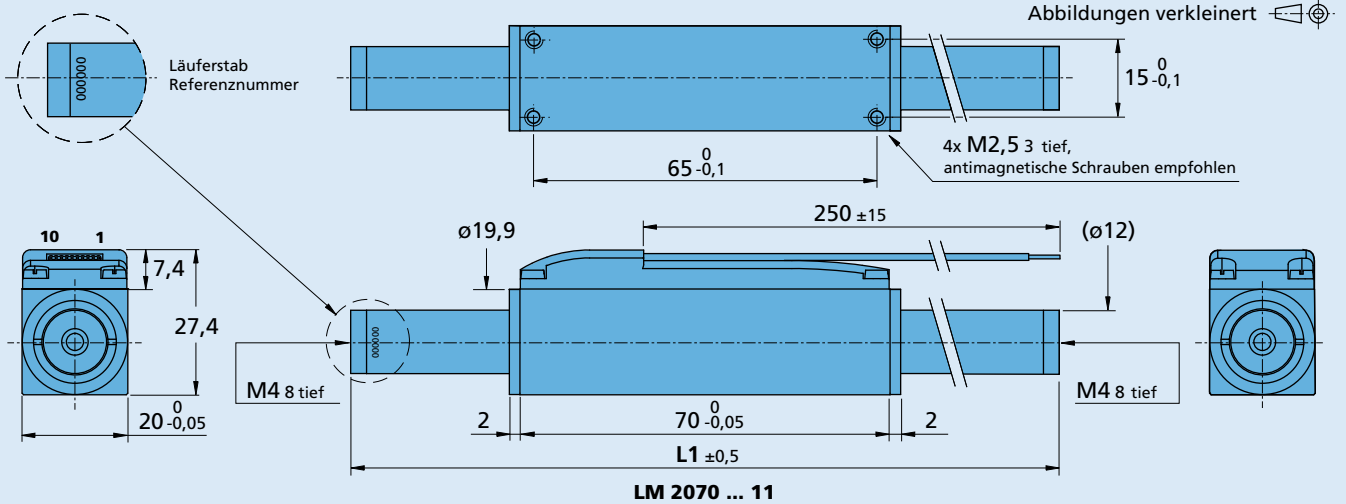
- 0,5 kg —————
- 1,0 kg - - - - -
- 2,0 kg

Last (inkl. Läuferstab) [kg]

Externe Kraft [N]



Maßzeichnung



Optionen, Kabel- und Anschlussinformationen

Beispiel zur Produktkennzeichnung: **LM2070-040-11**

| Option | Ausführung | Beschreibung | Anschlüsse | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------|-----------------------|---|--|-----|----------|---|---------|---|---------|---|---------|---|-----|---|-----------------------|---|--------------|---|--------------|---|--------------|---|------|----|------|--|-----|----------|-------|---|---------|------|---|--------------|------|---|-----------------------|-----|---|-----|---------|---|--------------|------|---|--------------|------|---|---------|--------|---|---------|-------|---|------|-------|----|------|---------|
| | | | -11/-11C | -01 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -11C | Stecker | PVC-Flachbandkabel, 10-adrig, AWG 28 mit Stecker A05a - TCO, Rastermaß 2 mm | <table border="1"> <thead> <tr> <th>Nr.</th> <th>Funktion</th> </tr> </thead> <tbody> <tr><td>1</td><td>Phase C</td></tr> <tr><td>2</td><td>Phase B</td></tr> <tr><td>3</td><td>Phase A</td></tr> <tr><td>4</td><td>GND</td></tr> <tr><td>5</td><td>U_{DD} (+5V)</td></tr> <tr><td>6</td><td>Hallsensor C</td></tr> <tr><td>7</td><td>Hallsensor B</td></tr> <tr><td>8</td><td>Hallsensor A</td></tr> <tr><td>9</td><td>N.C.</td></tr> <tr><td>10</td><td>N.C.</td></tr> </tbody> </table> | Nr. | Funktion | 1 | Phase C | 2 | Phase B | 3 | Phase A | 4 | GND | 5 | U _{DD} (+5V) | 6 | Hallsensor C | 7 | Hallsensor B | 8 | Hallsensor A | 9 | N.C. | 10 | N.C. | <table border="1"> <thead> <tr> <th>Nr.</th> <th>Funktion</th> <th>Farbe</th> </tr> </thead> <tbody> <tr><td>1</td><td>Phase C</td><td>gelb</td></tr> <tr><td>2</td><td>Hallsensor A</td><td>grün</td></tr> <tr><td>3</td><td>U_{DD} (+5V)</td><td>rot</td></tr> <tr><td>4</td><td>GND</td><td>schwarz</td></tr> <tr><td>5</td><td>Hallsensor B</td><td>blau</td></tr> <tr><td>6</td><td>Hallsensor C</td><td>grau</td></tr> <tr><td>7</td><td>Phase B</td><td>orange</td></tr> <tr><td>8</td><td>Phase A</td><td>braun</td></tr> <tr><td>9</td><td>N.C.</td><td>weiss</td></tr> <tr><td>10</td><td>N.C.</td><td>violett</td></tr> </tbody> </table> | Nr. | Funktion | Farbe | 1 | Phase C | gelb | 2 | Hallsensor A | grün | 3 | U _{DD} (+5V) | rot | 4 | GND | schwarz | 5 | Hallsensor B | blau | 6 | Hallsensor C | grau | 7 | Phase B | orange | 8 | Phase A | braun | 9 | N.C. | weiss | 10 | N.C. | violett |
| Nr. | Funktion | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Phase C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Phase B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Phase A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | GND | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | U _{DD} (+5V) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Hallsensor C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Hallsensor B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Hallsensor A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | N.C. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | N.C. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nr. | Funktion | Farbe | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Phase C | gelb | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Hallsensor A | grün | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | U _{DD} (+5V) | rot | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | GND | schwarz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Hallsensor B | blau | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Hallsensor C | grau | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Phase B | orange | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Phase A | braun | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | N.C. | weiss | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | N.C. | violett | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -01 | Einzellitzen | Einzellitzen in PVC, 10 Litzen, AWG 28, Passender Stecker: Molex - Nr. 51110-1060 | <p>Standard Kabel</p> <p>PVC-Flachbandkabel, 10-adrig, AWG 28, Rastermaß 1 mm</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Kombinatorik

| Steuerungen | Leitungen / Zubehör |
|---|--|
| MCLM 3003 P MCLM 3006 S MC 5004 P MC 5004 P STO MC 5005 S | Unser umfangreiches Zubehöriteilangebot entnehmen Sie bitte dem Kapitel "Zubehör". |