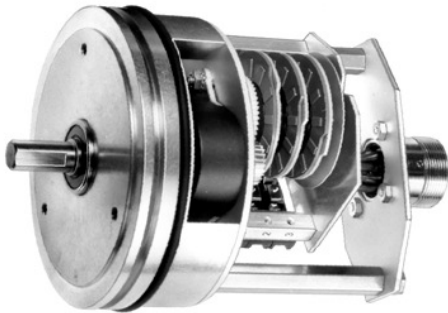


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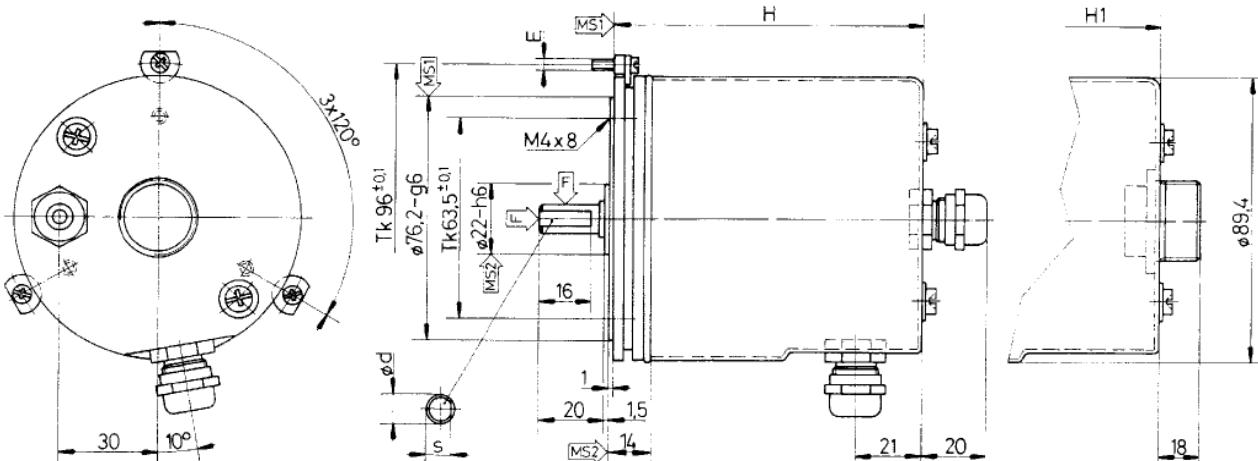
- **Programmkanäle** (einstellbar)
Program channel (free setting) 3...8
- **Mikroschalter**
Snap action switches 4A 250V AC / 1A 60V DC
- **Eingangsübersetzungen**
Input ratios 1:1...1000:1
- **Schutzart**
Protection IP 64

Technical data

<p>Verstellbare Doppelnockenscheibe Programmiermöglichkeiten Anzahl Impulse pro Umdrehung mit Nockenvertiefung 4...180° ≅ 1...50 % mit Nockenerhöhung 4...356° ≅ 1...99 %</p>	<p>Adjustable double cam Programming possibilities Number of pulses per revolution with cam profile valley 4...180° ≅ 1...50 % with cam profile peak 4...356° ≅ 1...99 %</p>	<p>NK4201.180° 1 COM ⁽¹⁾ NC ⁽²⁾ COM ⁽¹⁾ NO ⁽³⁾</p>
<p>Mikroschalter Schaltleistung Kontaktmaterial Übergangswiderstand</p>	<p>Snap action switch Switching power Contact material Contact resistance</p>	<p>KS25B4 4A 250V AC / 1A 60V DC Ag 999 < 25mΩ</p>
<p>Anzeigeskala</p>	<p>Indicator scale</p>	<p>S360 (0°...360°)</p>
<p>Option Einfachnockenscheibe (feinjustierbar) Impulsängen Anzahl Impulse pro Umdrehung mit Nockenvertiefung 4...180° ≅ 1...50 % mit Nockenerhöhung 4...356° ≅ 1...99 %</p>	<p>Option Single cam (fine adjustment) Impulse length Number of pulses per revolution with cam profile valley 4...180° ≅ 1...50 % with cam profile peak 4...356° ≅ 1...99 %</p>	<p>NV4101.20° 6° / 20° / 180° 1 COM ⁽¹⁾ NC ⁽²⁾ COM ⁽¹⁾ NO ⁽³⁾</p>
<p>Mikroschalter Kontaktmaterial Übergangswiderstand</p>	<p>Snap action switch Contact material Contact resistance</p>	<p>KS26B4 Au 4...6 µm < 10mΩ</p>

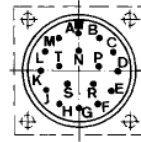
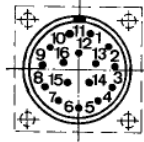
Outline drawing

ø d = 9-h8 s = 8,5 E = M3 (4-40 UNC) F = ⇄40 N ⇄80 N MS = Montagefläche / Mounting surface



Serie FRL 90

Electrical connection



Flanschdose männlich (Ansicht auf Steckerseite)
Connector male (View from face side)

SFP16 (16 Pin) DIN

MS 3102 A20-29P (17 Pin) MIL

Drahtfarbe Wire colour	Schalter Switches	Anschluss Function	Pin-Nr.	Pin-Nr.
Black	1	COM (1)	1	A
		NC (2)		
White		NO (3)	2	B
Black	2	COM	3	C
		NC		
Brown		NO	4	D
Black	3	COM	5	E
		NC		
Green		NO	6	F
Black	4	COM	7	G
		NC		
Yellow		NO	8	H
Black	5	COM	9	J
		NC		
Grey		NO	10	K
Black	6	COM	11	L
		NC		
Pink		NO	12	M
Black	7	COM	13	N
		NC		
Blue		NO	14	P
Black	8	COM	15	R
		NC		
Red		NO	16	S

Anschlüsse mit Stecker / Connection with connector
Signalfarben nach / Cable designation at
Kabelquerschnitt für Schalter / Cable section for switches

COM-NO (2,8 x 0,5 mm)
DIN 47100
0.34 mm² / AWG 22

Zubehör / Accessories
Befestigungsbride / Hold down clamp
Programmierschlüssel / Program key

3 x BMF (M3x12 mm)
PSN

Option
Gegenstecker gerade (weiblich) / Female cable connector straight plug
Gegenstecker gerade (weiblich) / Female cable connector straight plug
Gegenstecker 90° (weiblich) / Female right angle connector 90°

SGS16.PG9 (16 Pin) DIN
MS 3106 A 20-29S (17 Pin) MIL
MS 3108 B 20-29S (17 Pin) MIL

Technische Daten und Zubehör / Technical data and accessories

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Serie FRL 90

Order key

FRL90 **3** **U1** **1** **1** **1**

Dimension:: Ø 3.50 inch

Size (mm) / Number of switches:

3	H = 82 mm; H1 = 106 mm --> Size = 3 Switches (KS25B4 or KS26B4 against surcharge CHF 2.50/piece) 3 Program channels free setting (NK4201) or Single cam (NV4101) Indicator scale S360 (0° ... 360°)
5	H = 98 mm; H1 = 122 mm --> Size = 5 Switches (KS25B4 or KS26B4 against surcharge CHF 2.50/piece) 5 Program channels free setting (NK4201) or Single cam (NV4101) Indicator scale S360 (0° ... 360°)
6	H = 106 mm; H1 = 130 mm --> Size = 6 Switches (KS25B4 or KS26B4 against surcharge CHF 2.50/piece) 6 Program channels free setting (NK4201) or Single cam (NV4101) Indicator scale S360 (0° ... 360°)
8	H = 122 mm; H1 = 146 mm --> Size = 8 Switches (KS25B4 or KS26B4 against surcharge CHF 2.50/piece) 8 Program channels free setting (NK4201) or Single cam (NV4101) Indicator scale S360 (0° ... 360°)

Input ratios (Shaft to switches): --> U = one stage; M = more stage

U1 = 1:1	M1 = 12,5:1
U2 = 1,25:1	M2 = 17,5:1
U3 = 1,66:1	M3 = 20,83:1
U4 = 2:1	M4 = 25:1
U5 = 2,5:1	M5 = 37,5:1
U6 = 3:1	M6 = 50:1
U7 = 3,5:1	M7 = 75:1
U8 = 3,75:1	M8 = 125:1
U9 = 4:1	M9 = 250:1
U10 = 4,5:1	M10 = 500:1
U11 = 5:1	M11 = 750:1
	M12 = 1000:1

Cable outlet

1	= axial (H1)	R
2	= radial (H)	S

Male receptacle:

0	= -
1	= SD12 (12 Pin) DIN
2	= SD16 (16 Pin) DIN
3	= MS3102 A18-1P (10Pin) MIL
4	= MS3102 A20-27P (14Pin) MIL
5	= MS3102 A 20-29P (17Pin) MIL

Cable gland:

0	= -	
1	= Cable gland Stick range Ø 3 ... 6.5 mm	PG7
2	= Cable gland Stick range Ø 4 ... 8 mm	PG9
3	= Cable gland Stick range Ø 5 ... 10 mm	PG11
4	= Cable gland Stick range Ø 6 ... 12 mm	PG13,5

Accessoires: Hold down clamp 3 x BMF (M3x12 mm)
 Program key PSN