

Serie KWG 120



- **Programmkanäle** (einstellbar) 3 / 5  
Program channel (free setting)
- **Eingangsübersetzungen** 1:1...2500 : 1  
Input ratios
- **Mikroschalter** 4A 250V AC 1A 60V DC  
Snap action switches
- **Schutzart** IP 64  
Protection

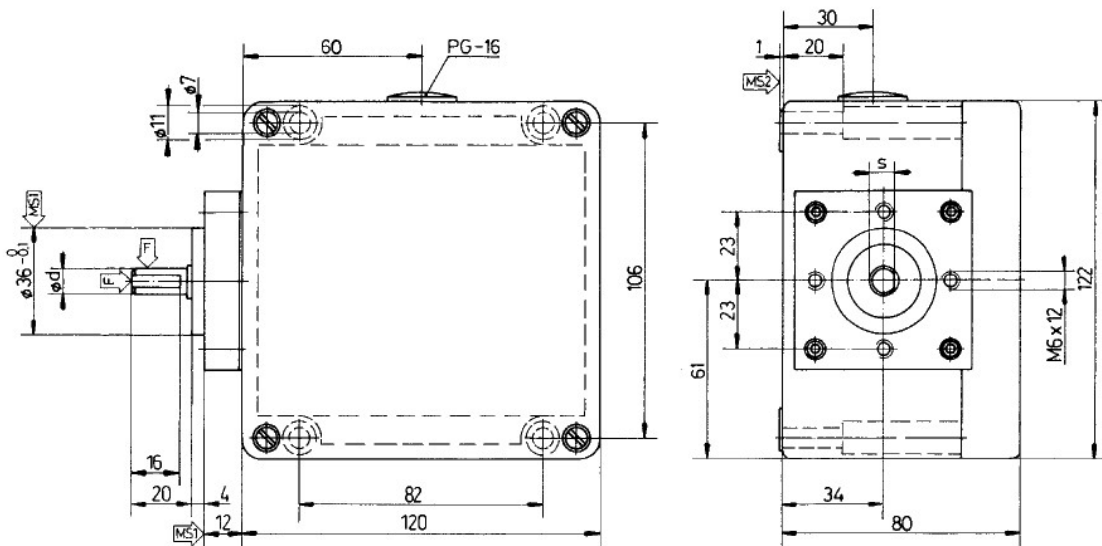
Outline drawing

ød = 9-h8

s = 8,5

F = ⇄40 N ⇄80 N

MS = Montagefläche / Mounting surface



**Serie KWG 120**

**Order key**

**KWG120      3      U1      1**

Alu-diecasting / Colour (RAL 7001 grey)

Switches:

- 3 Switches (KS25B4 or KS26B4)
- 3** = 3 Program channels free setting (NK4201)  
Indicator scale S360 (0° ... 360°)

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- 5 Switches (KS25B4 or KS26B4)
- 5** = 5 Program channels free setting (NK4201)  
Indicator scale S360 (0° ... 360°)

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

<b>U1</b> = 1:1	<b>M1</b> = 12,5:1
<b>U2</b> = 1,25:1	<b>M2</b> = 20:1
<b>U3</b> = 1,5:1	<b>M3</b> = 25:1
<b>U4</b> = 2:1	<b>M4</b> = 37,5:1
<b>U5</b> = 2,6:1	<b>M5</b> = 40:1
<b>U6</b> = 2,75:1	<b>M6</b> = 52,5:1
<b>U7</b> = 3,5:1	<b>M7</b> = 75:1
<b>U8</b> = 4:1	<b>M8</b> = 100:1
<b>U9</b> = 5:1	<b>M9</b> = 200:1
<b>U10</b> = 6,5:1	<b>M10</b> = 300:1
	<b>M11</b> = 420:1
	<b>M12</b> = 600:1
	<b>M13</b> = 750:1
	<b>M14</b> = 1600:1
	<b>M15</b> = 2250:1
	<b>M16</b> = 2500:1

Interface:

- 1** = MR 265

**Bemerkungen**

Standard wiring set (included):

- 3 Switches
- L3** = 6 Screw terminal 2,5 mm<sup>2</sup>  
6 Cable 200 mm x 0,34 mm<sup>2</sup> (AWG 22); incl. 2 x flat connector  
2 Cable 70 mm x 0,34 mm<sup>2</sup> (AWG 22); incl. 2 x flat connector

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- 8 Switches
- L5** = 8 Screw terminal 2,5 mm<sup>2</sup>  
8 Cable 200 mm x 0,34 mm<sup>2</sup> (AWG 22); incl. 2 x flat connector  
3 Cable 70 mm x 0,34 mm<sup>2</sup> (AWG 22); incl. 2 x flat connector



**Serie KWG 160**

**Order key**

**KWG160    7    U1    L7**

Alu-diecasting / Colour (RAL 7001 grey)

Switches:

- 7 Switches (KS25B4 or KS26B4)  
**7** = 7 Program channels free setting (NK4201)  
 Indicator scale S360 (0° ... 360°)
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- 10 Switches (KS25B4 or KS26B4)  
**10** = 10 Program channels free setting (NK4201)  
 Indicator scale S360 (0° ... 360°)


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

<b>U1</b> = 1:1	<b>M1</b> = 12,5:1
<b>U2</b> = 1,25:1	<b>M2</b> = 20:1
<b>U3</b> = 1,5:1	<b>M3</b> = 25:1
<b>U4</b> = 2:1	<b>M4</b> = 37,5:1
<b>U5</b> = 2,6:1	<b>M5</b> = 40:1
<b>U6</b> = 2,75:1	<b>M6</b> = 52,5:1
<b>U7</b> = 3,5:1	<b>M7</b> = 75:1
<b>U8</b> = 4:1	<b>M8</b> = 100:1
<b>U9</b> = 5:1	<b>M9</b> = 200:1
<b>U10</b> = 6,5:1	<b>M10</b> = 300:1
	<b>M11</b> = 420:1
	<b>M12</b> = 600:1
	<b>M13</b> = 750:1
	<b>M14</b> = 1600:1
	<b>M15</b> = 2250:1
	<b>M16</b> = 2500:1



Standard wiring set (included):

- 7 Switches  
**L7** = 12 Screw terminal 2,5 mm<sup>2</sup>  
 12 Cable 200 mm x 0,34 mm<sup>2</sup> (AWG 22); incl. 2 x flat connector  
 5 Cable 70 mm x 0,34 mm<sup>2</sup> (AWG 22); incl. 2 x flat connector
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- 10 Switches  
**L10** = 16 Screw terminal 2,5 mm<sup>2</sup>  
 16 Cable 200 mm x 0,34 mm<sup>2</sup> (AWG 22); incl. 2 x flat connector  
 7 Cable 70 mm x 0,34 mm<sup>2</sup> (AWG 22); incl. 2 x flat connector

GENERIC Wiring and Cam Programming Table (to be filled in by user)

Wiring Block Contact No.	CAM PROGRAM (in Degrees)		SWITCH CONTACT DESIGNATION			Customer Circuit ID	SWITCHING DIAGRAM	
	ON	OFF	COM	NC	NO		0°	360°
1								Denotes Closed Contact
2								
3								
4								
5								
6								
7								
8								

**EXAMPLE:**

Wiring Block Contact No.	CAM PROGRAM (in Degrees)		SWITCH CONTACT DESIGNATION			Customer Circuit ID	SWITCHING DIAGRAM	
	ON	OFF	COM	NC	NO		0°	360°
1	10	90	X			SW1		Denotes Closed Contact
2				X		SW1		
3	45	225	X			SW2		
4					X	SW2		

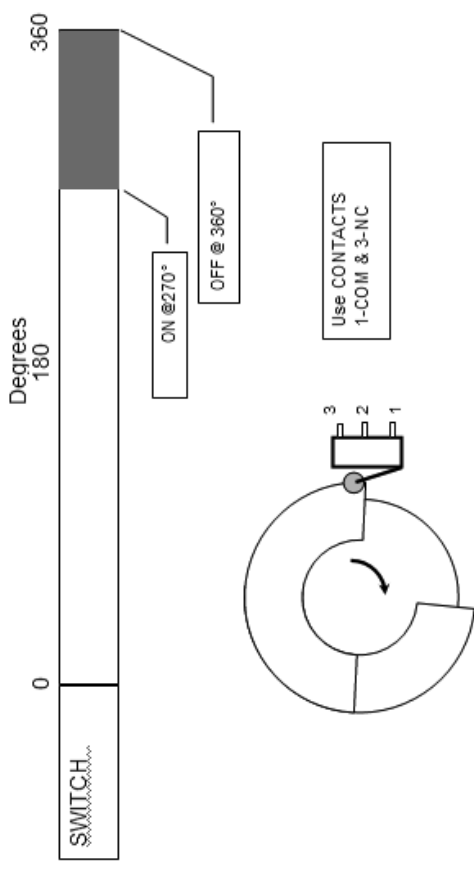
## Cam Programming (General Guidance)

Single cams can produce only a fixed single pulse (20° wide) if switch channel uses standard NV4101.20 single cams.

NK4101.20  
Single Cam



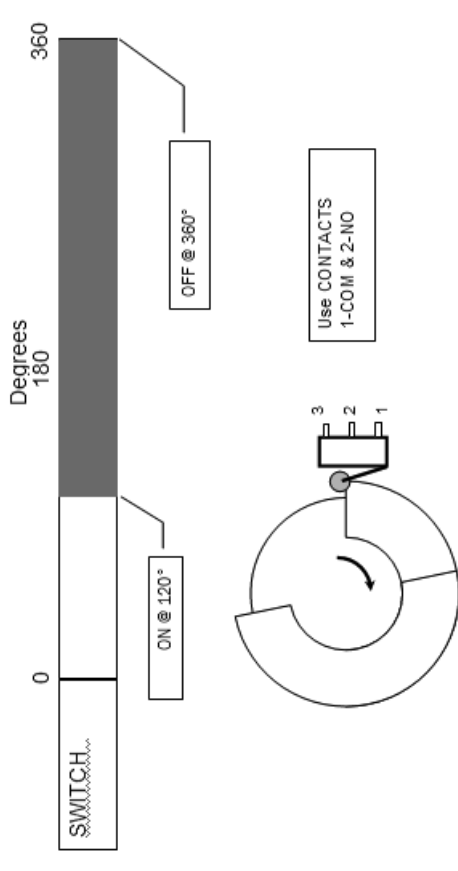
NK4201.180  
Double Cam



Double cams (NK4201.180) can be programmed for a switching profile of 4° to 356°. Due to the design of the cam, switches cannot be disengaged for more than 180°.

If the system requires that the switch does not make contact for more than 180°, the normally closed (NC) contact must be wired. For programs greater than 180°, the NO contact is used.

The right-hand illustrations depict these two cam programming cases. It is always helpful to diagram the desired switch settings before wiring and programming the cams.



## Cam Programming (NK Series with PSN Black key)

Programming the switching profile is done with the PSN (black) cam programming tool. The general technique is shown in the diagram to the right.

**Step 1** Insert PSN key into unit, as shown in right-hand figure, with the numbered side away from the cam and the notched side towards the cam.

**Step 2** While gently applying pressure against the cam with the key,; rotate the cam to the desired position.

**Step 3** For double cams (NK4201), adjust the other side of the cam by flipping over the key and repeating steps 1 and 2 on the other side of the cam.

**Step 4** Test the unit to confirm that the switch engages and disengages at the selected positions.

