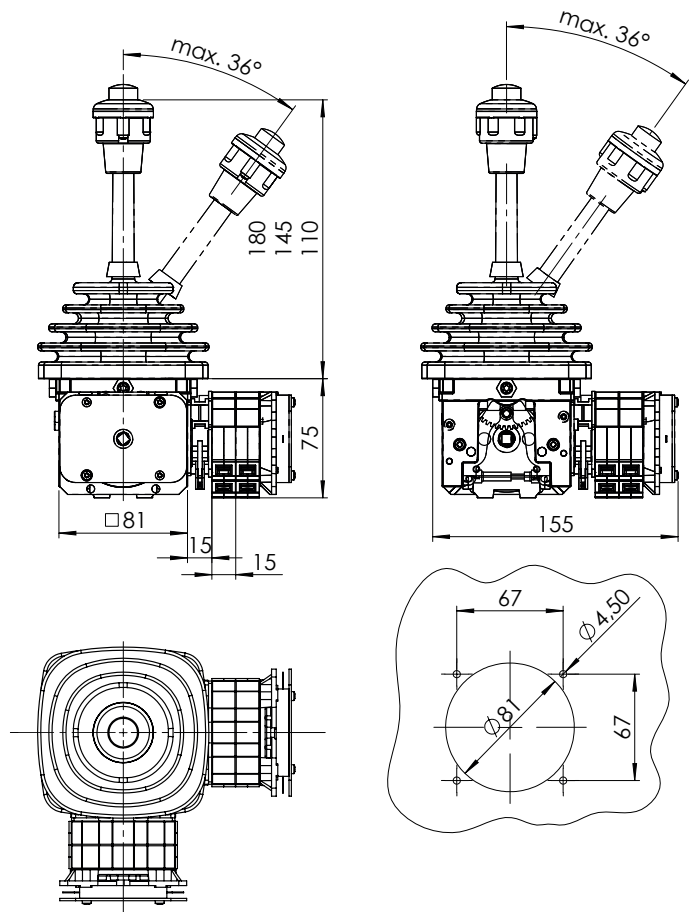
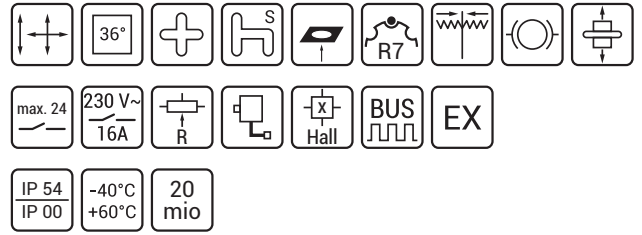


VNS0

The Allrounder.

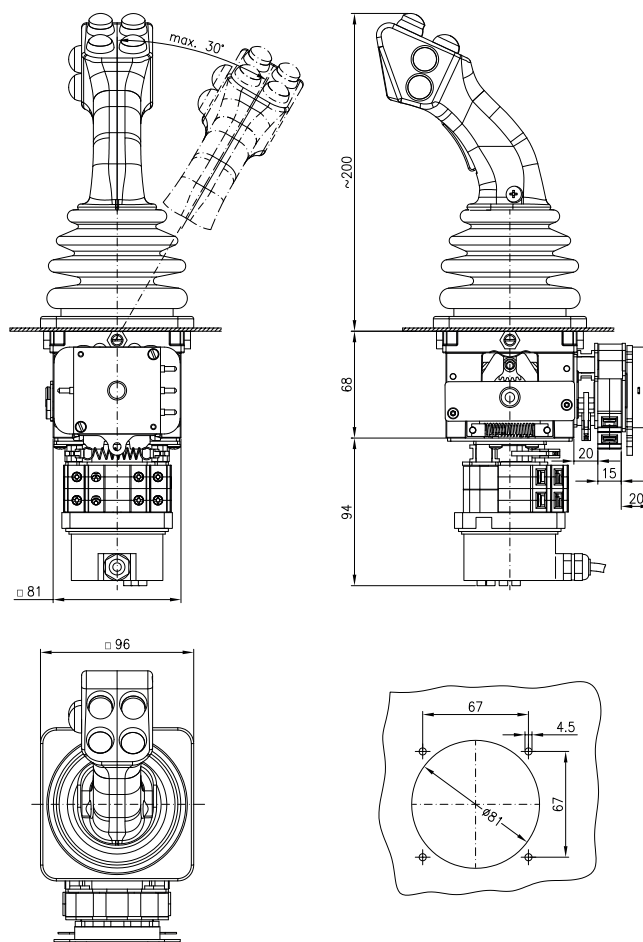
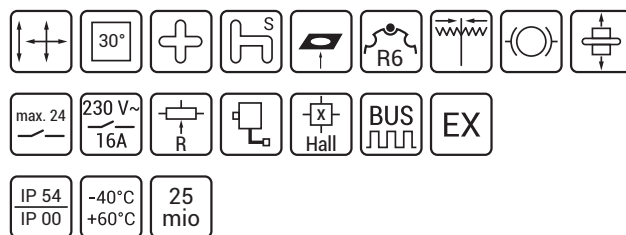


Both the VNS0 and the NNS0 are very robust joysticks with aluminium diecast consoles and metal gears. Their resistance against ozone, UV radiation, oil and maritime climate makes them especially suitable for heavy-duty applications and also in potentially explosive areas. They are available both as single and dual axis drives. The intelligent modular design allows customized solutions for contact elements for up to twelve units, each of them with two switching contacts. Those

may be flanged in the x-y- and z-axis as well as in series. A maximum of nine double contact elements, silver or gold plated, is possible with spring return and notches. A large standard portfolio allows to choose the notching discs as well as the cams. They are also programmable according to client's request.

NNS0

Our special type.



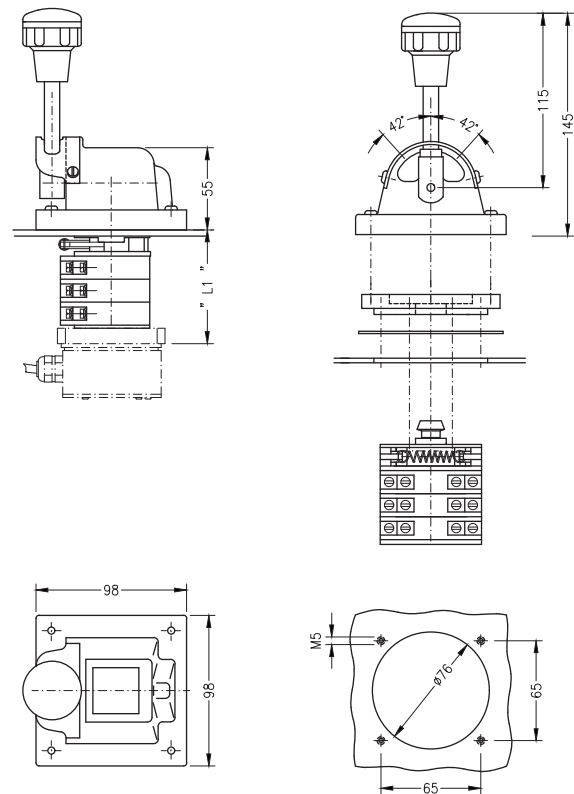
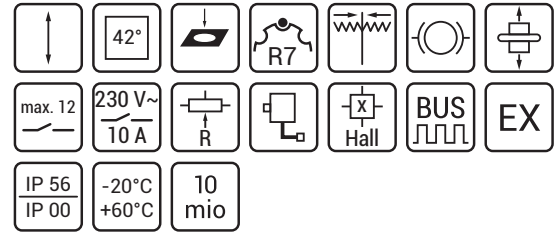
The hollow special-alloy lever (VNS0 8 mm, NNS0 12 mm diameter) allows to mount a variety of handles and the wires can be routed through the shaft of the joystick. Optionally, a rotary module mounted between the joystick and the handle extends the joystick by an additional axis. Due to the special coupling design it is easy to flange potentiometers as well as optoelectronic encoders. Moreover, various bus interfaces are

available in customized system sizes.

As an optical finish, you will get as standard a rubber boot with matching invisible holder or a rubber boot with escutcheon plate of your choice either in transparent plastic with specified engraving or as an engraved aluminium version.

NS0-SFA

For extreme environmental requirements.



The NS0-SFA with a chromated aluminum upper part, lever and drive shaft made of high-quality stainless steel as well as a shaft seal was developed with the demand of permanently ensuring a high front IP protection class.

The modular contact block is equipped with exchangeable double contact elements and allows switching with a maximum of 7-0-7 posi-

tions and the attachment of potentiometers and absolute encoders.

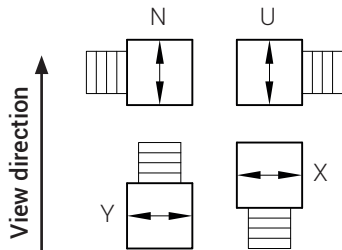
A Gravoply plate that can be engraved can optionally be inserted on the top of the control switch to show the switching function.

These control switches have been showing their reliability and durability under extreme operating conditions on ships, drilling rigs and steel works for years.

Drives 1- and 2-axis:

Drive E

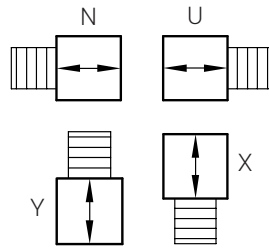
Arrangement N, U, Y, X



VNS0-F E-
N
U
Y
X--AK

Drive G

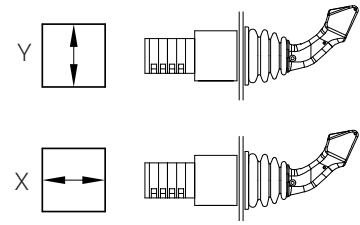
Arrangement N, U, Y, X



VNS0-F G-
N
U
Y
X--AK

Drive A

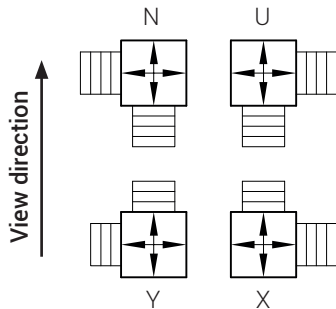
Arrangement Y, X



VNS0-F A-
Y
X--AK

Drive V

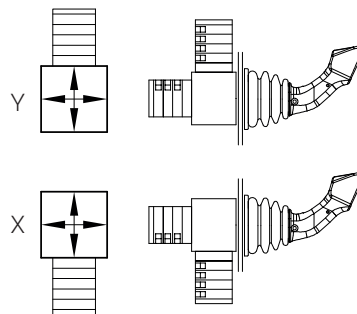
Arrangement N, U, Y, X



VNS0--F V-
N
U
Y
X--AK

Drive EA

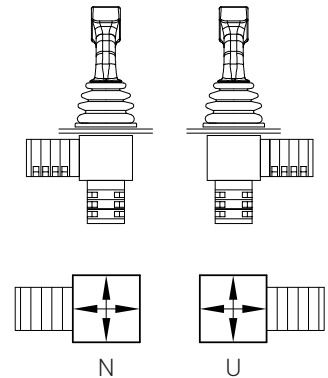
Arrangement Y, X



VNS0--F EA-
Y
X--AK

Drive EA

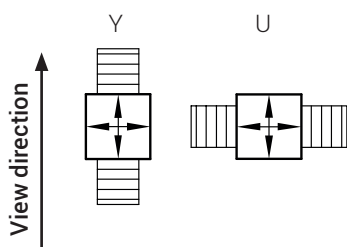
Arrangement N, U



VNS0--F EA-
N
U--AK

Drive M

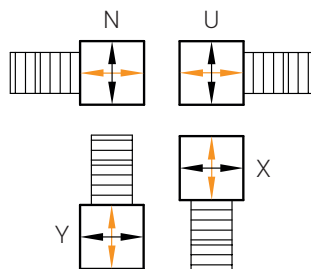
Arrangement Y, U



VNS0--F M-
U
Y--AK

Drive H

Arrangement N, U, Y, X

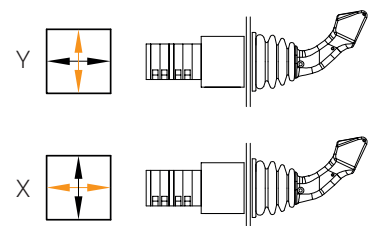


Potentiometer and encoder coupling
only for colour-coded axis

VNS0--F H-
N
U
Y
X--AK

Drive AA

Arrangement Y, X



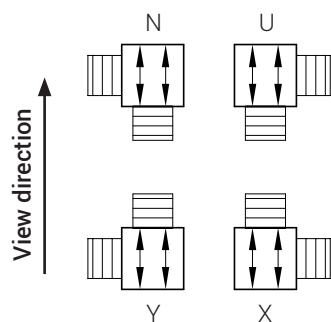
Potentiometer and encoder coupling
only for colour-coded axis

VNS0-F AA-
Y
X--AK

Drives with 2 levers:

Drive GGV

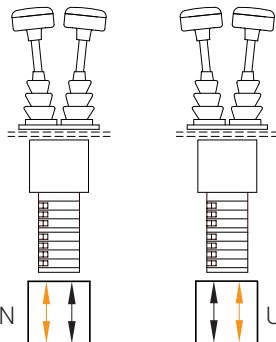
Arrangement N, U, Y, X


VNS0--F GGV-

N
U
Y
X

Drive GGAA

Arrangement N, U

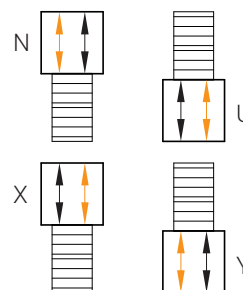

Potentiometer and encoder coupling
only for colourcoded axis

VNS0--F GGAA-

N
U

Drive GGH

Arrangement N, U, Y, X

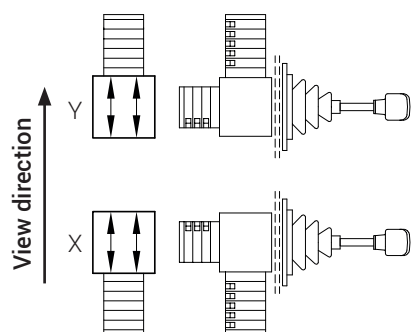

Potentiometer and encoder coupling
only for colourcoded axis

VNS0--F GGH-

N
U
Y
X

Drive GGEA

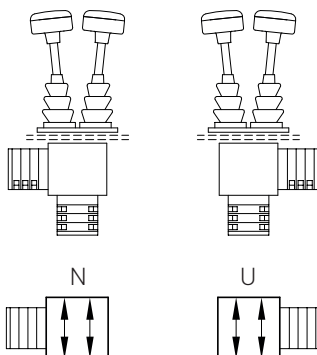
Arrangement Y, X


VNS0--F GGEA-

Y
X

Drive GGEA

Arrangement N, U


VNS0--F GGEA-

N
U

Project planning information:

Standard with black aluminum rosette.

GG drives cannot be combined with mechanical locking (Z).

Handles:

Standard handle G41, only without internals/function

G13-handle: only in combination with lever length 140 mm

UGA-handle without handrest: only in combination with lever length 110 mm

UGALR-handle without handrest: only in combination with lever length 140 mm

G56, G58: not possible in combination with GG-drives

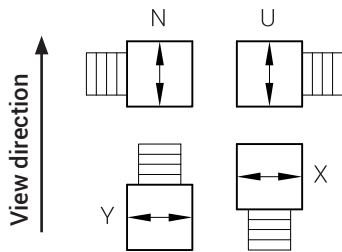
The orientation of the handles is always in the view direction.

The view direction is defined by the drive and the arrangement.

Drives 1- and 2-axis with internal potentiometers:

Drive EPI

Arrangement N, U, Y, X



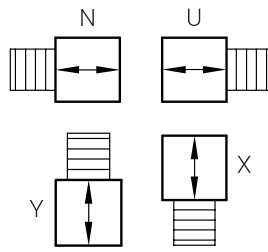
NNS0--F EPI-

N
U
Y
X

 --AK

Drive GPI

Arrangement N, U, Y, X



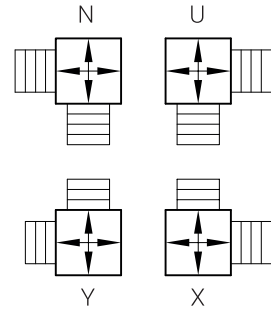
NNS0--F GPI-

N
U
Y
X

 --AK

Drive VPI

Arrangement N, U, Y, X



NNS0--F VPI-

N
U
Y
X

 --AK

Scope of supply for NNS0-EPI, -GPI, -VPI:

- Deflection max. 30° (depending on contact circuit)
- With notch in 0-position
- Limiting gate, symmetrical, 26°
- Lever with 12 mm diameter
- Rubber boot with holder (S3 combination)
- Handle G48

Project planning information:

NNS0-PI: Joystick with Bxx-potentiometer mounted inside the drive block.
 Type code see page J-NS0-8/14

The orientation of the handles is always in the direction of view.
 The view direction is defined by the drive and the arrangement.

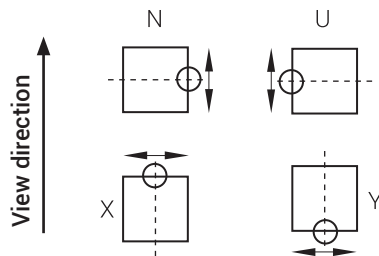
Options for drive arrangement EPI, GPI, VPI:

- Spring return R
- Without zero notching (only in combination with spring return)
- Housing for bus interfaces 1)
- Limiting gate 18° (depending on contact circuit)
- More options
- Contact circuits
- Potentiometer, Encoder, Electronic, Bus-interfaces

1) Housing needed in combination with a bus system integrated in the joystick.

Drives 1-axis with chromated housing:

Drive SFA
Arrangement N, U, X, Y



NS0-

N
U
X
Y

- SFA

Scope of supply NS0-SFA:

- Standard handle G41
- Chromated housing top
- Lever 8 mm made of stainless steel
- Guide plate for lever
- Lever deflection max. 42° (depending on contact circuit)

Project planning information:

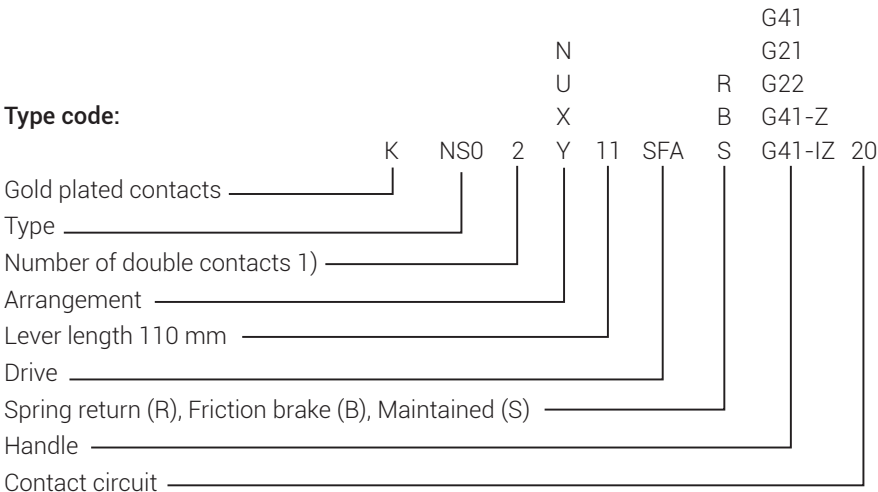
Handles	see G-Ü
Absolute encoder, Potentiometer	see E-Electronic-1,-2
Technical information	see TI-NS0-10/10
Contact circuits	see TI-S-1 ...-4

Maximum 8 single wires through handle shaft possible.
The orientation of the handles is always in the view di-
rection. The view direction is defined by the drive and the
arrangement.

Options:

- Contact circuits
- Spring return R
- Friction brake B
- Special lever deflection
- Special notching disc
- Housing for electronics 2)
- Labelling for one switching direction with max. 14 characters on Gravoply insert plate
- Mechanical locking Z with G41-Z

Type code:



1) Model with friction brake add 1
2) Housing needed in combination with a bus system.

Scope of supply,
type code

Scope of supply for VNS0, NNS0:

- Standard handle G41 for VNS0, G48 for NNS0
- Rubber boot with invisible holder (S3 combination)
- Symmetrical limiting gate (36° for VNS0, 26° for NNS0)

Project planning information:

Suitable handles	G-Ü
Absolute encoder, potentiometer	E-Electronic-1,-2
Contact circuits	TI-S-1,...-4
Further technical information	TI-VNS0-...

Options:

- Version NNS0 for E-, A-, G-drive arrangement (see sheet J-NS0-4/14)
- Version NNS0 for V-, EA-, AA-, M-drive arrangement (see sheet J-NS0-4/14)
- Bracket version of E-, G-, H-, or GGH-drive arrangement (dimensions see TI-VNS0-5/10)
(Included 1x spacer element for mechanical length adaptation)

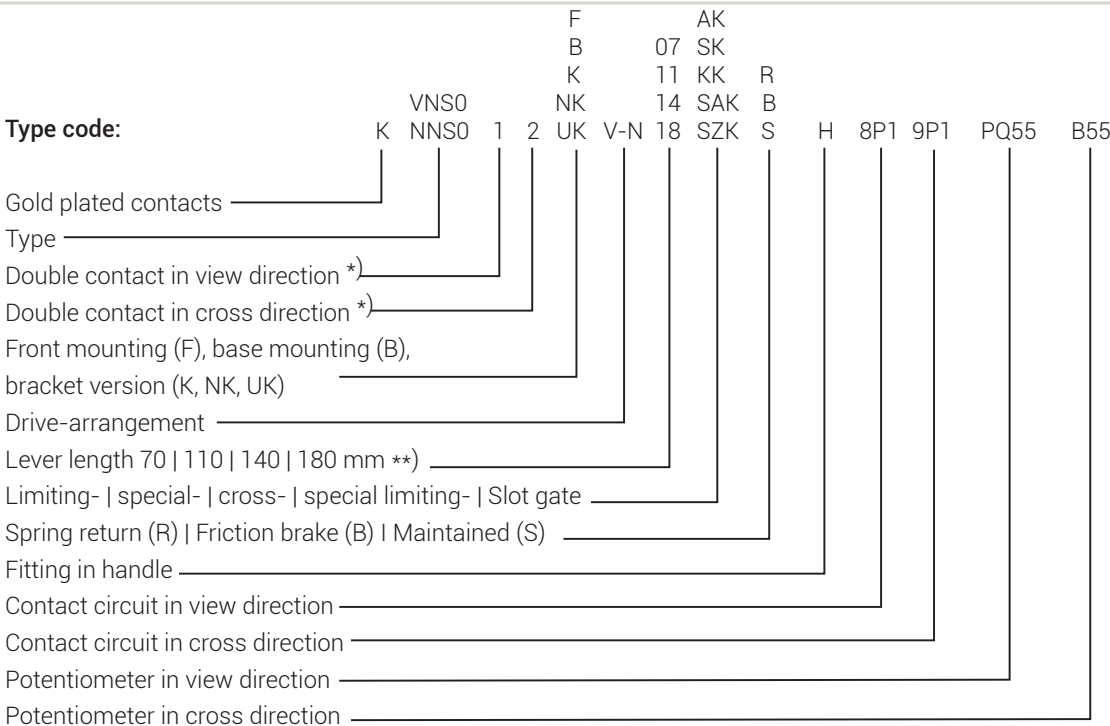
- Contact circuits

- Spring return per axis R
- Friction brake per axis B
- Base mounting (not possible for A, AA, EA, EPI, GPI, VPI)

- Special limiting gate SAK
- Cross gate KK
- Special gate SK
- Slot gate SZK
- Special notching disc
- Lever length 70 mm
- Aluminium escutcheon plate, black, 96x96 mm
- Plastic escutcheon plate, clear, 96x96 mm with foil, foil freely inscribable
- Rubber boot holder V048-100-A1 (Necessary in combination with UGN handle)
- Escutcheon plate V048-100-A2 for Rubber boot holder V048-100-A1

- Labelling per switch direction with max. 14 letters at plastic escutcheon plate, aluminium escutcheon plate black
- Labelling foil for plastic escutcheon plate with symbols see sheet TI-GS, each pair
- Wiring to connection cable or plug

Type code:



*) model with friction brake add 1
**) Lever length 70 only in combination with NNS0 joysticks with G25, G9 handle.
For the total height above the front panel, see technical data sheets or on request.

Contact circuits for VNS0, NNS0, NS0, NS00, NS0-SFA

Standard circuits with steps

	Circuit	Length	Silver con- tact	Gold plated contact
1	1	1		
	10	2		
	2	2		
2	20	2		
	24	2		
	240	3		
	2D0	3		
	3	2		
	30	3		
3	3D0	3		
	4	3		
	40	3		
4	40 + 1DKE	4		
	400	4		
	42	2		
	420	3		
	4D0	4		
	5	3		
	50	4		
5	60	4		
	7	4		
6	70	5		

Special circuits

Contacts	Length	Silver con- tact	Gold plated contact
2	1		
4	2		
6	3		
8	4		
10	5		
12	6		
14	7		
16	8		
18	9		

Standard circuits for potentiometers, encoders

Circuit	Length	Silver con- tact	Gold plated contact
PN	1		
PNS	2		
8P1	1		
8P1S	1		
8P1A	2		
8P2	2		
8P20	3		
9P1	2		
9P1 + 1DKE	3		
9P10	2		
9P1A	2		
9P1S	2		
10P	2		
10P5	2		
4PN	1		
4P	1		
4P0	2		
4P00	2		
4P0E	2		
5PN	1		
5P	1		
5P0	2		
5P00	2		
5P0E	2		
6PN	1		
6P	1		
6P0	2		
6P00	2		
6P0E	2		

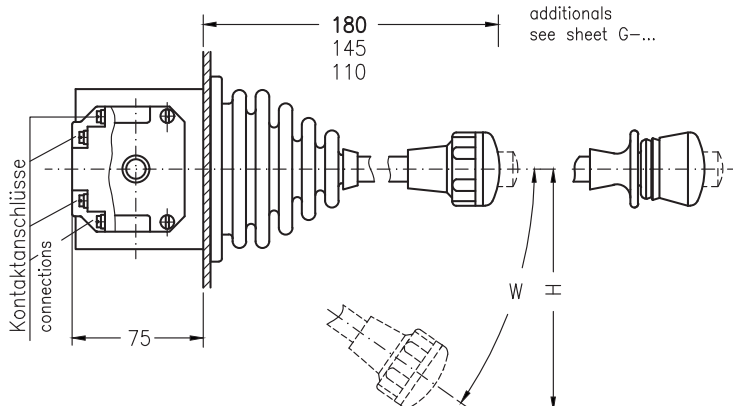
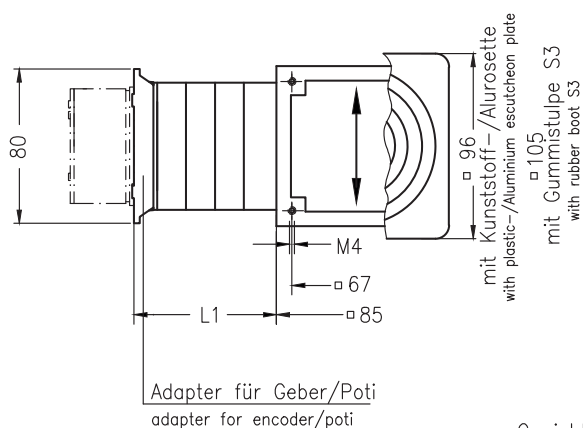
Notes:
For version NNS0 max. 6-0-6 positions possible.
Other contact circuits on request.

Length = number of double contacts
Dimensions see TI-VNS0-...
Circuit diagrams see TI-S-...

+ 1DKE = 1 double contact element additional,
full cam discs, without programming.

Typ **VNS0-F-E** Antrieb E siehe Kapitel J-NS0
type drive E see chapter J-NS0

Einbauen im Hebel
siehe Seite G-...
additional
see sheet G-...

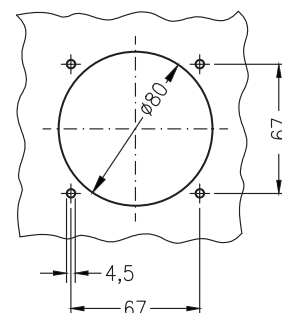


Anordnung
arrangement



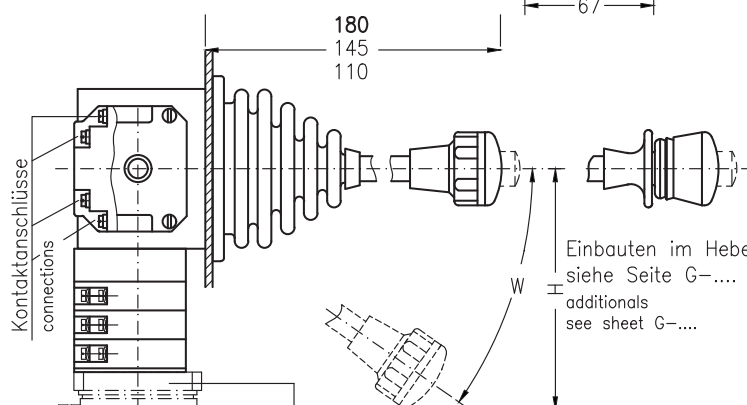
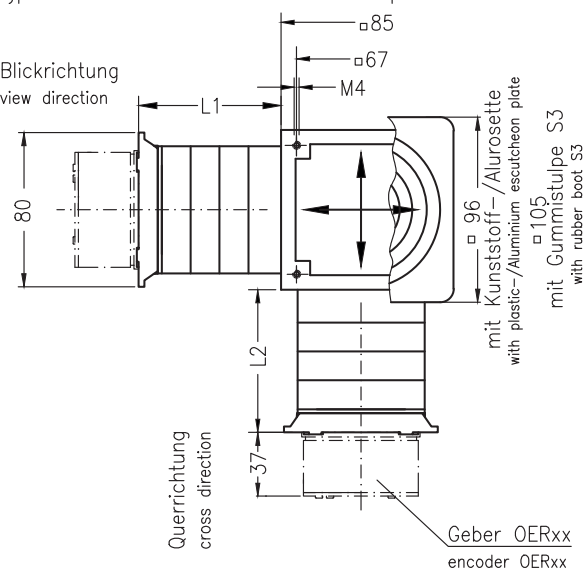
Gewicht:
Antriebsblock ~0,9 kg
je Doppelkontakt ~0,08 kg
weight:
drive ~0,9 kg
each double contact ~0,08 kg

Bohrungen in der
Befestigungswand
mounting pattern



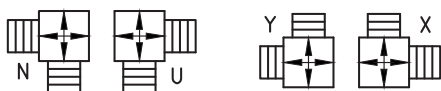
Typ **VNS0-F-V** Antrieb V siehe Kapitel J-NS0
type drive V see chapter J-NS0

Blickrichtung
view direction



Einbauen im Hebel
siehe Seite G-....
additional
see sheet G-....

Anordnung
arrangement

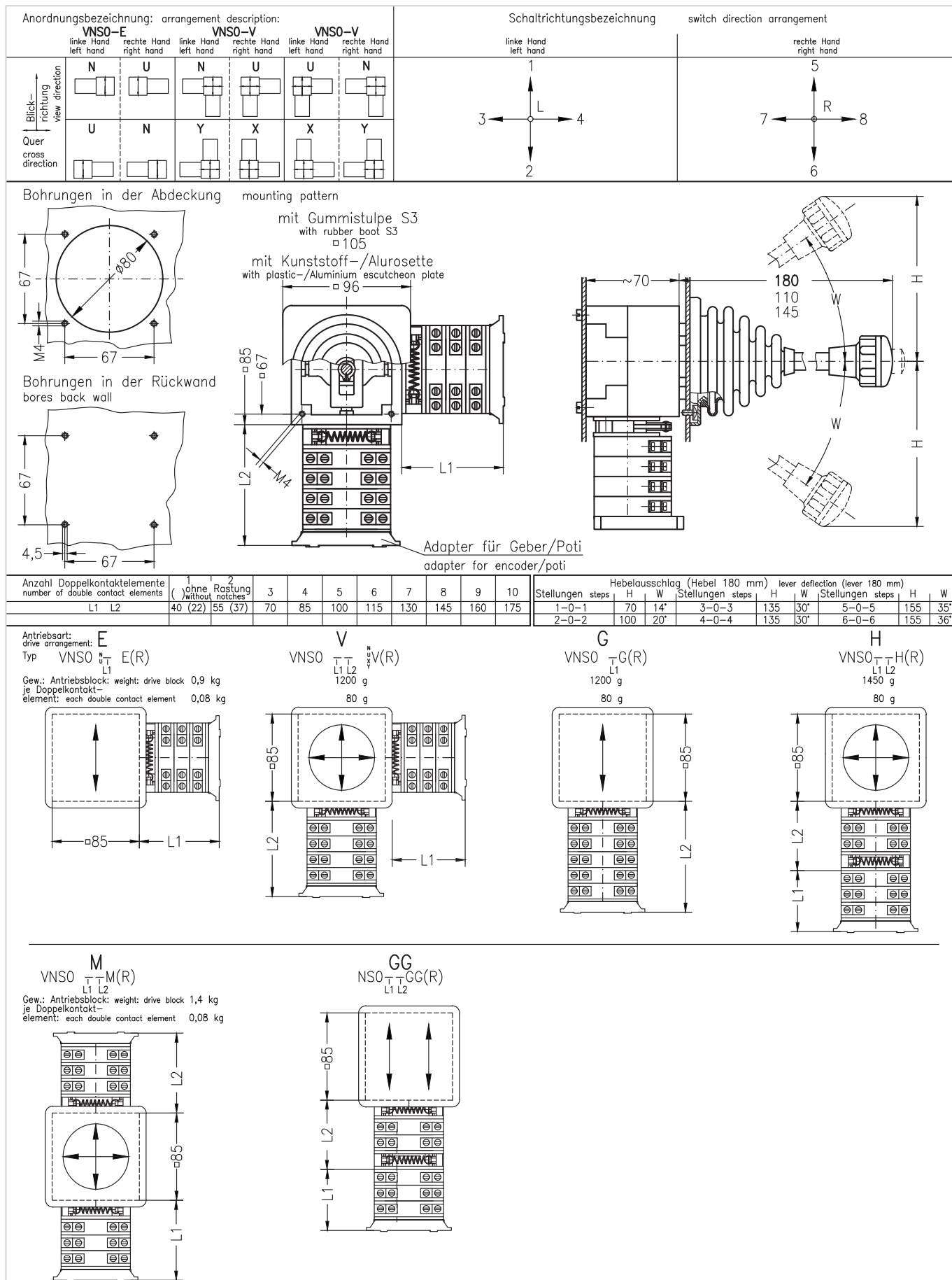


Gewicht:
Antriebsblock ~1,2 kg
je Doppelkontakt ~0,08 kg
weight:
drive ~1,2 kg
each double contact ~0,08 kg

Adapter für Geber /Poti
adapter for encoder/poti

bei 180 mm Hebel by lever 180 mm		
Position	W	~ H mm
1-0-1	14°	70
2-0-2	20°	100
3-0-3	30°	135
4-0-4	30°	135
5-0-5	36°	155
6-0-6	36°	155
7-0-7	30°	135
Poti/ Encoder	36°	155

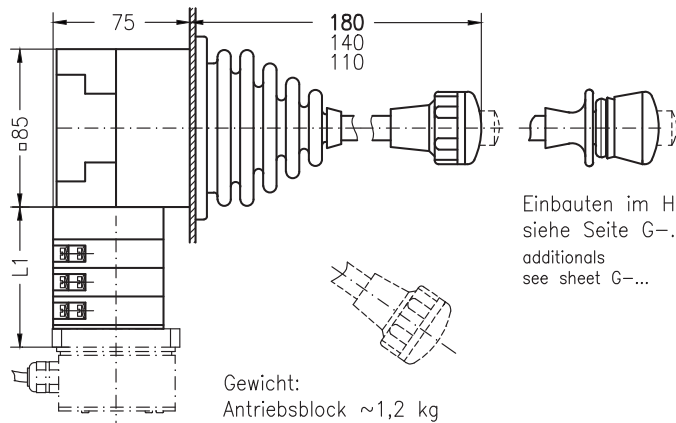
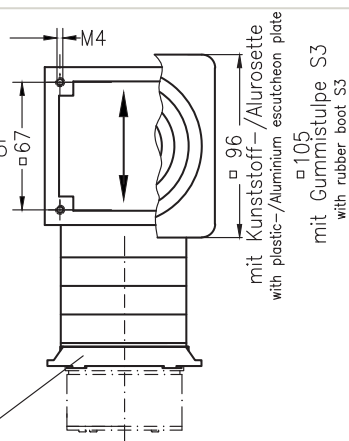
Maß L1 oder L2 (mm) dimension L1 or L2 (mm)	40	55	70	85	100	115	130	145	160	175
Anzahl Doppelkontaktelemente number of double contact elements	1	2	3	4	5	6	7	8	9	10



Typ VNS0-FG
 type

Antrieb G
 siehe Seite J-NS0-4/5
 drive G
 see sheet J-NS0-4/5

Adapter für Geber/Poti
 adapter for encoder/poti



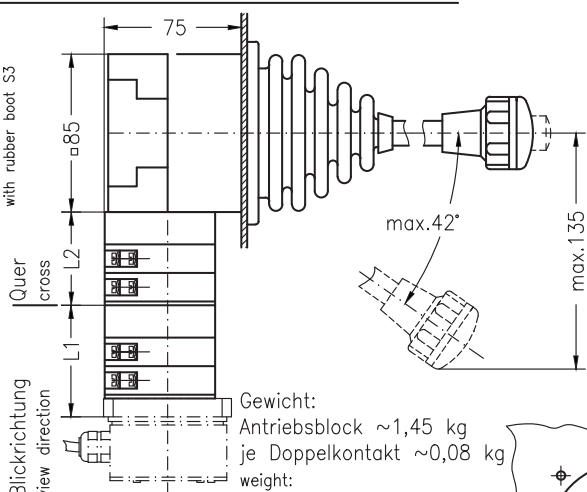
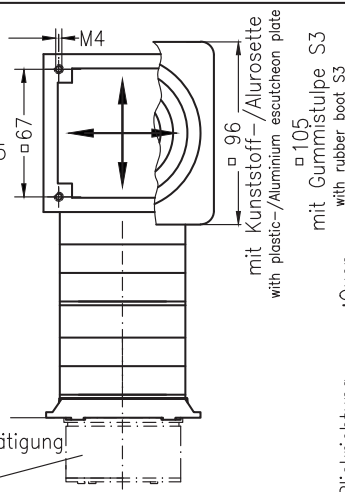
Einbauen im Hebel
 siehe Seite G...
 additional
 see sheet G...

Gewicht:
 Antriebsblock ~1,2 kg
 je Doppelkontakt ~0,08 kg
 weight:
 drive ~1,2 kg
 each double contact ~0,08 kg

Typ VNS0--FH
 type

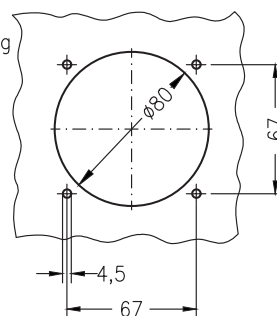
Antrieb H
 siehe Seite J-NS0-4/5
 drive H
 see sheet J-NS0-4/5

Geber/Poti nur für Betätigung
 in Blickrichtung möglich
 encoder/poti
 only in view direction



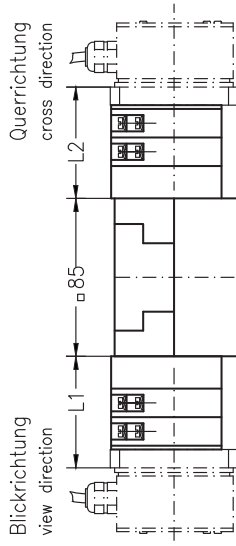
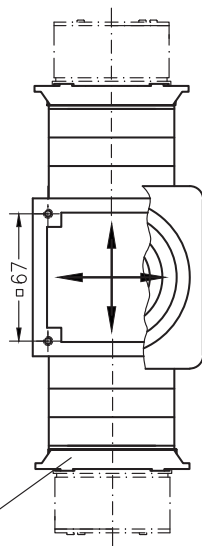
Bohrungen in der
 Befestigungswand
 mounting pattern

Gewicht:
 Antriebsblock ~1,45 kg
 je Doppelkontakt ~0,08 kg
 weight:
 drive ~1,45 kg
 each double contact ~0,08 kg


Typ VNS0--FM
 type

Antrieb M
 siehe Seite J-NS0-3/5
 drive H
 see sheet J-NS0-3/5

Adapter für Geber/Poti
 adapter for encoder/poti



Gewicht:
 Antriebsblock ~1,2 kg
 je Doppelkontakt ~0,08 kg
 weight:
 drive ~1,2 kg
 each double contact ~0,08 kg

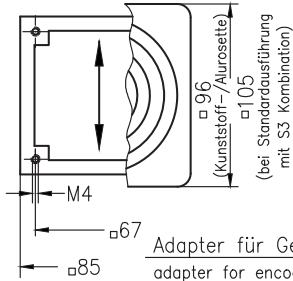
Einbauen im Hebel
 siehe Seite G...
 additional
 see sheet G...

Maß L1 oder L2 (mm) dimension L1 or L2 (mm)	40	55	70	85	100	115	130	145	160	175
Anzahl Doppelkontaktelemente number of double contact elements	1	2	3	4	5	6	7	8	9	10

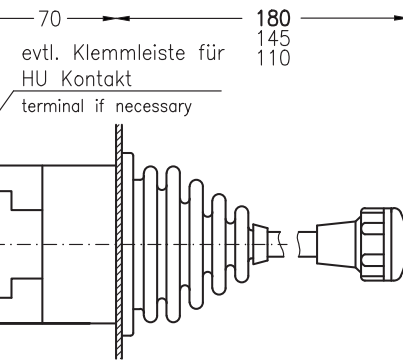
Typ VNS0-A

type
Antrieb A
drive A

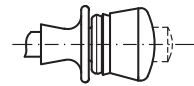
siehe Seite J-NS0-3/5
see sheet J-NS0-3/5



Gewicht:
Antriebsblock ~1,2 kg
je Doppelkontakt ~0,08 kg
weight:
drive ~1,2 kg
each double contact ~0,08 kg



Einbauen im Hebel
siehe Seite G-4/4
additionals
see sheet G-4/4

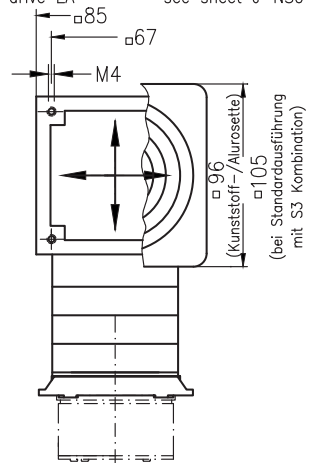


Bohrungen in der
Befestigungswand
mounting pattern

Typ VNS0--EA

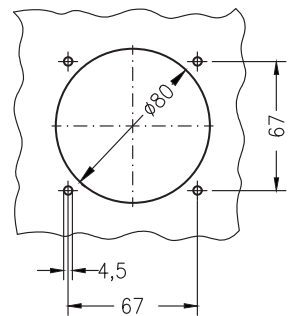
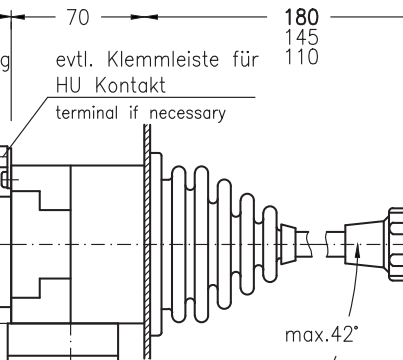
type
Antrieb EA
drive EA

siehe Seite J-NS0-3/5
see sheet J-NS0-3/5



Blickrichtung
view direction

Querrichtung
cross direction

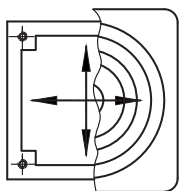


Gewicht:
Antriebsblock ~1,2 kg
je Doppelkontakt ~0,08 kg
weight:
drive ~1,2 kg
each double contact ~0,08 kg

Typ VNS0--AA

type
Antrieb AA
drive AA

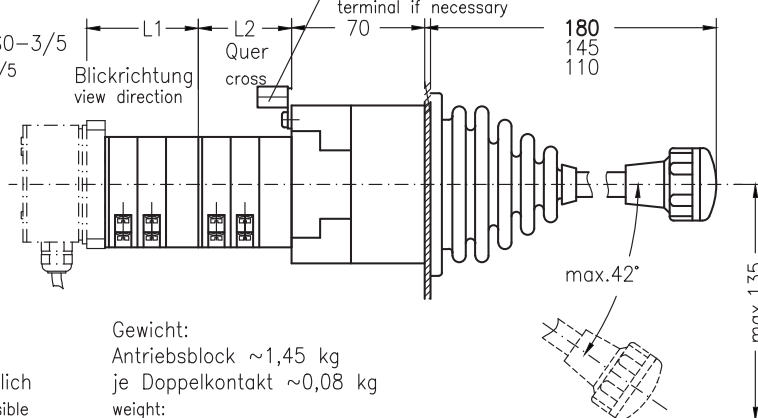
siehe Seite J-NS0-3/5
see sheet J-NS0-3/5



Blickrichtung
view direction

Quer
cross

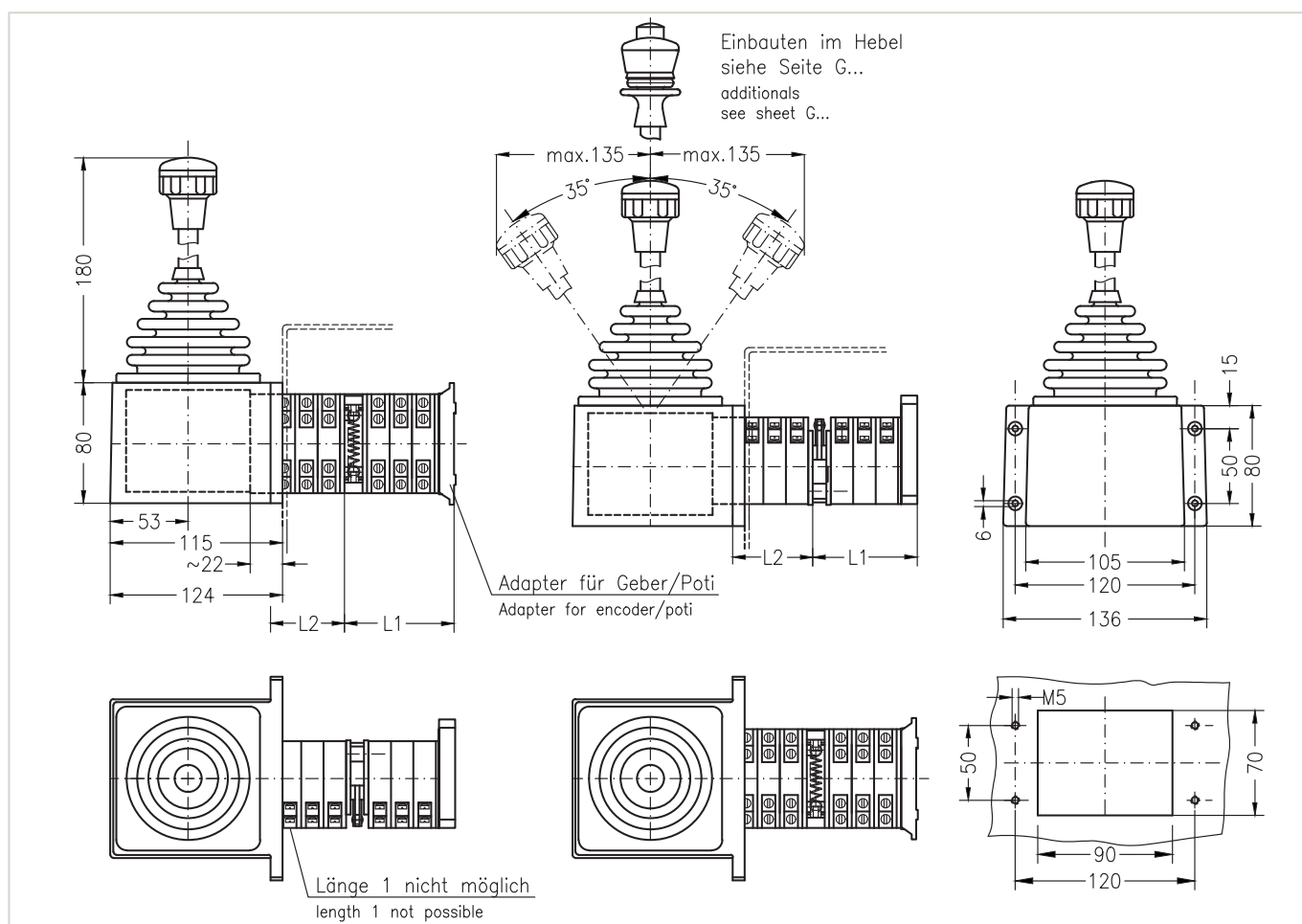
evtl. Klemmleiste
terminal if necessary



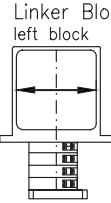
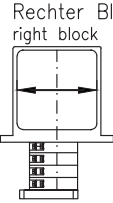
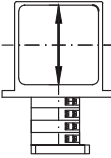
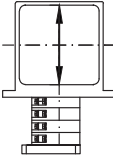
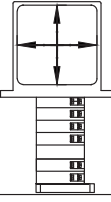
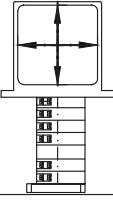
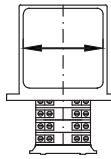
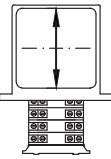
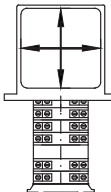
Geber nur in
Blickrichtung möglich
attachment only possible
for view direction

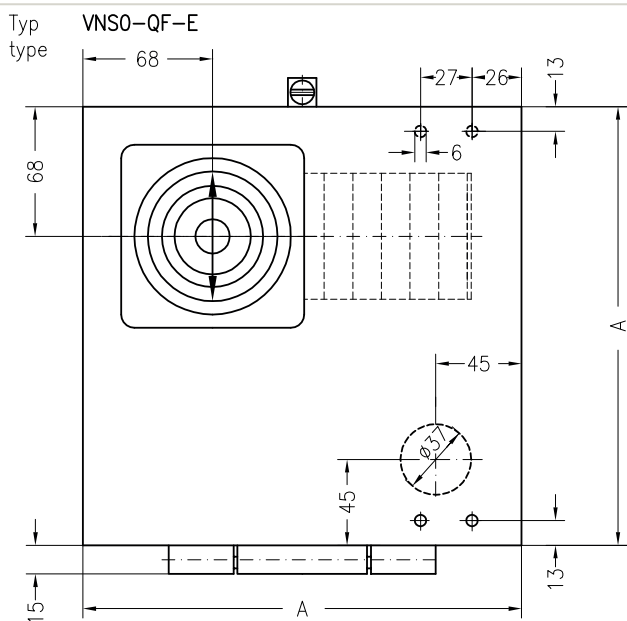
Gewicht:
Antriebsblock ~1,45 kg
je Doppelkontakt ~0,08 kg
weight:
drive ~1,45 kg
each double contact ~0,08 kg

Maß L1 oder L2 (mm) dimension L1 or L2 (mm)	40	55	70	85	100	115	130	145	160	175
Anzahl Doppelkontaktelemente number of double contact elements	1	2	3	4	5	6	7	8	9	10

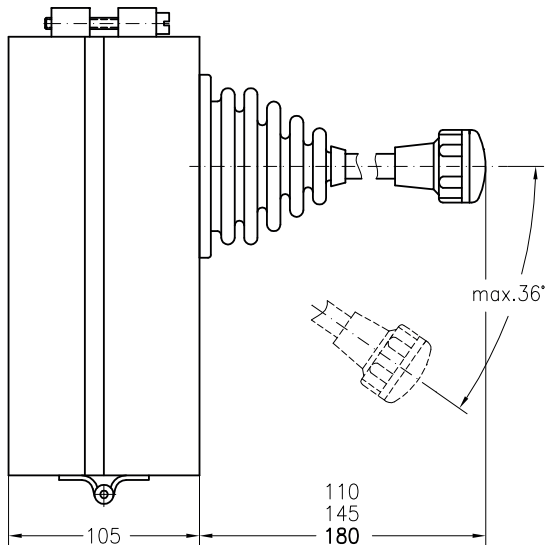


Fabrik Norm	Schalterlänge bei Anzahl Doppelkontaktelemente										number of double contact elements									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VNS0K-E(R) VNS0-KE(R)																				
VNS0K-H(R)	40	55	70	85	100	115	130	145	160	175	190	205	220	235	250	265	280	295	315	330
Gewicht weight ~kg																				

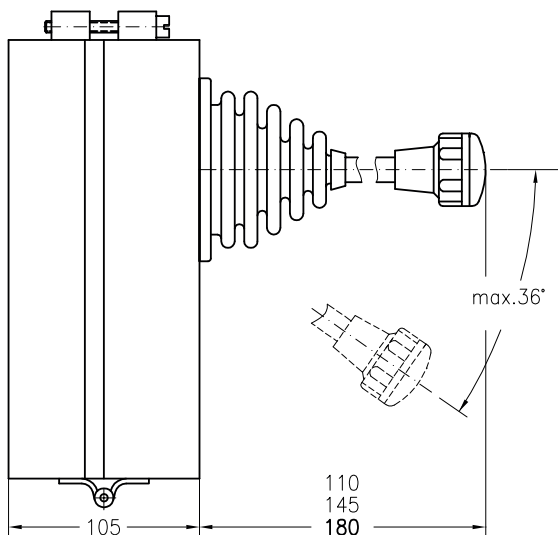
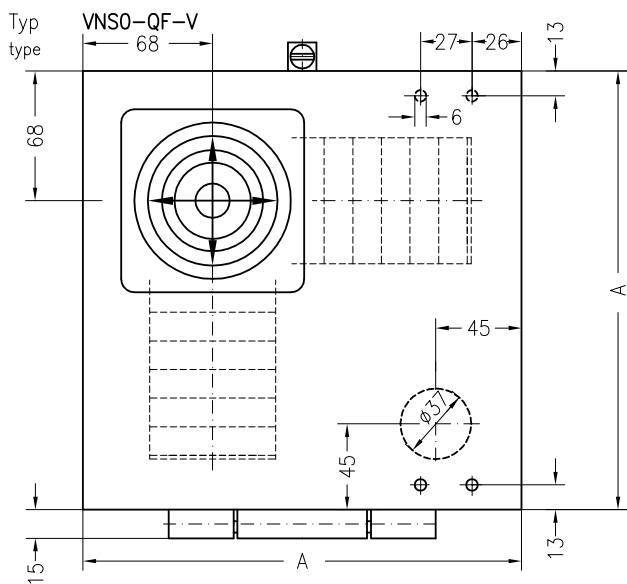
Antriebsart drive arrangement Fabrik Norm	E VNS0-NKE(R) VNS0-UKE(R) Anzahl Doppelkontaktelemente number of double contact elements		G VNS0-NKG(R) VNS0-UKG(R)		H VNS0--NKH(R) VNS0--UKH(R)	
	Linker Block left block	Rechter Block right block				
Kontaktanschlüsse seitlich contacts on side						
Antriebsart drive arrangem. E Fabrik Norm	VNS0-KE(R)		G VNS0-KG(R)		H VNS0--KH(R)	
						
Kontaktanschlüsse oben contacts on top						



Pulverbeschichtet in RAL 7032 kieselgrau
powder coated RAL 7032 pebble grey



Typ type	Maß A dimension A	Gewicht weight	Anordnung arrangement		Schaltrichtung switching direction	
VNS03QF-E	180	3-6 kg	linke Hand left hand	rechte Hand right hand	linke Hand left hand	rechte Hand right hand
VNS06QF-E	230				1 L 2	5 R 6
VNS09QF-E	280					

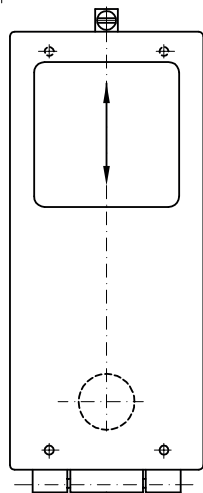


Typ type	Maß A dimension A	Gewicht weight	Anordnung arrangement		Schaltrichtung switching direction	
VNS03QF-V	180	4-8 kg	linke Hand left hand	rechte Hand right hand	linke Hand left hand	rechte Hand right hand
VNS06QF-V	230				1 L 2	5 R 6
VNS09QF-V	280					

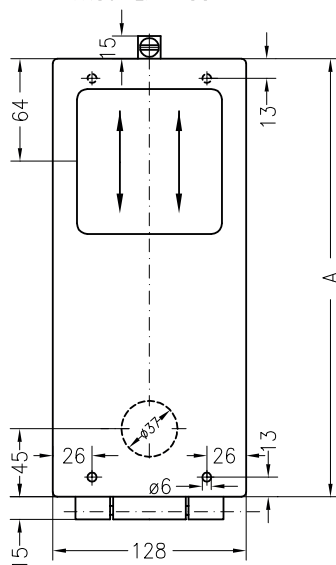
TI-VNS0-7/10

Joystick VNS0, steel encapsulated IP54, with hinged cover

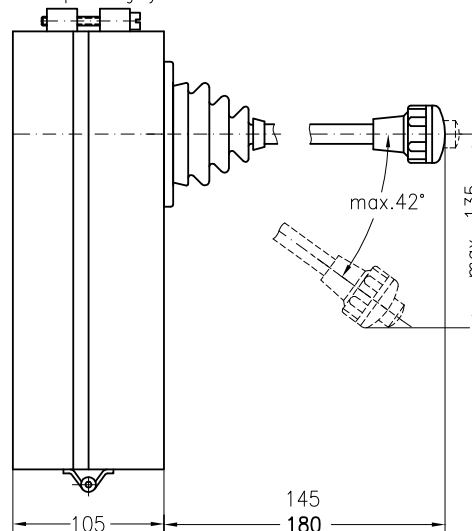
TI-VNS0-7/10

Type VNS0-LF-G
type

VNSO-LF--GG

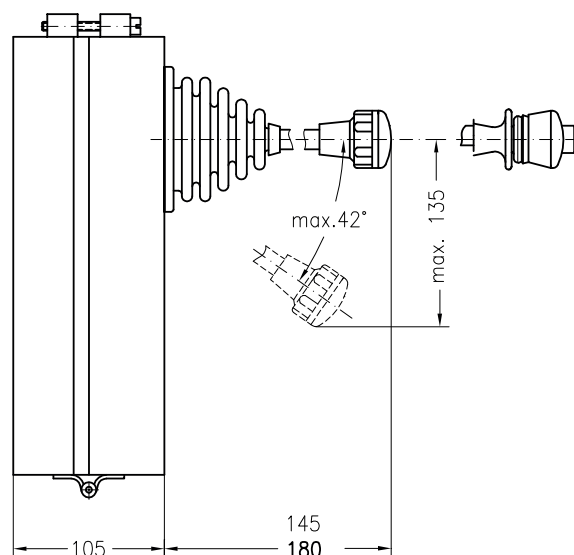
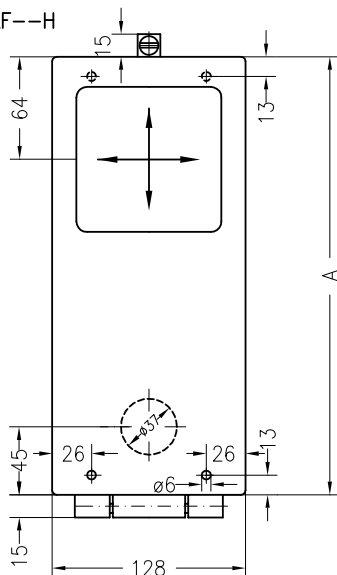


Lackierung RAL 7032 kieselgrau
color RAL 7032 pebble grey



Typ type		Maß A dimension A	Gewicht weight	Schaltstellungsbezeichnung circuit direction and engraving code			
				linke Hand left	rechte Hand right	linke Hand left	rechte Hand right
VNS04 LF-G		195	3-6 kg				
VNS06 LF-G	VNS06 LF--GG	290					
VNS09 LF-G	VNS09 LF--GG	350					

Typ VNS0-LF--H
type

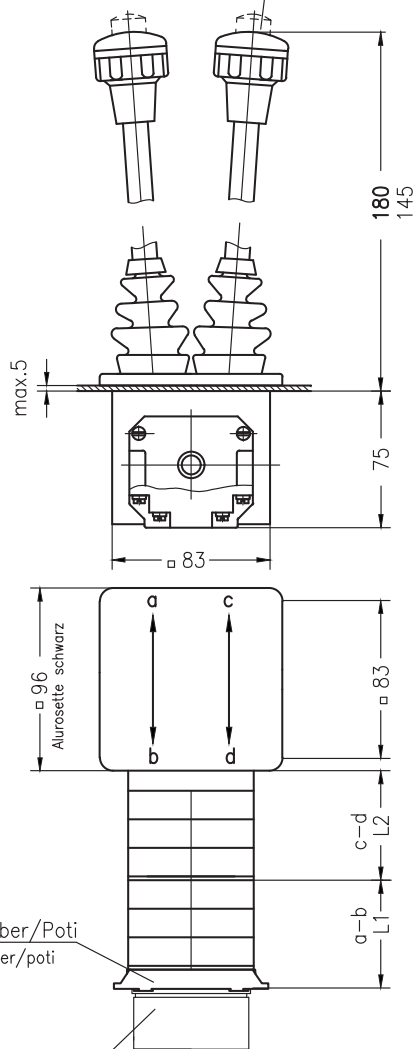


Typ type		Maß A dimension A	Gewicht weight	Schaltrichtsbezeichnung linke Hand rechte Hand left right
VNS04 LF--H		195	3-6 kg	
VNS06 LF--H		290		
VNS09 LF--H		350		

Typ **NS0--FGGH**
type

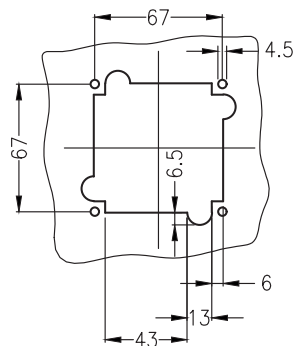
Antrieb GGH
siehe Seite 9/5
drive GGH
see sheet 9/5

Einbauen im Hebel
siehe Seite 2/1...
additional
see sheet 2/1...



Geber nur für
einen Hebel möglich
attachment for encoder
only for one handle

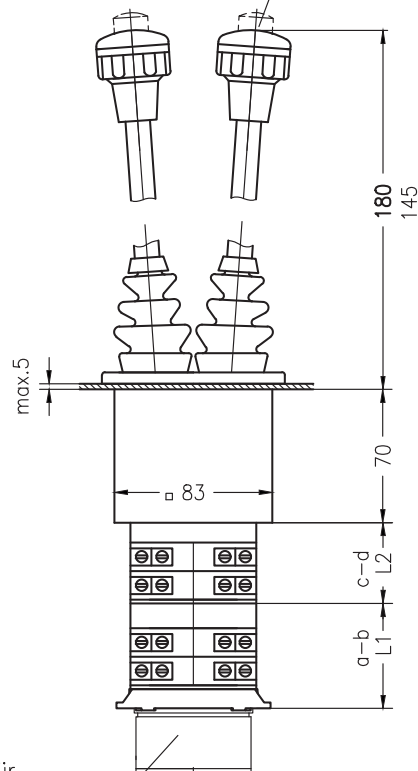
Gewicht:
Antriebsblock ~1,6 kg
je Doppelkontakt ~0,08 kg
weight:
drive ~1,6 kg
each double contact ~0,08 kg



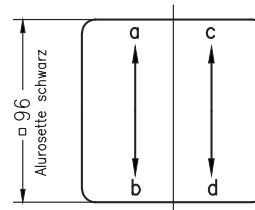
Typ **NS0--FGGAA**
type

Antrieb GGAA
siehe Seite 9/5
drive GGAA
see sheet 9/5

Einbauen im Hebel
siehe Seite 2/1...
additional
see sheet 2/1...



Geber nur für
einen Hebel möglich
attachment for encoder
only for one handle



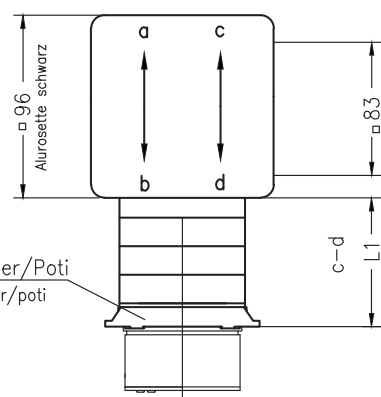
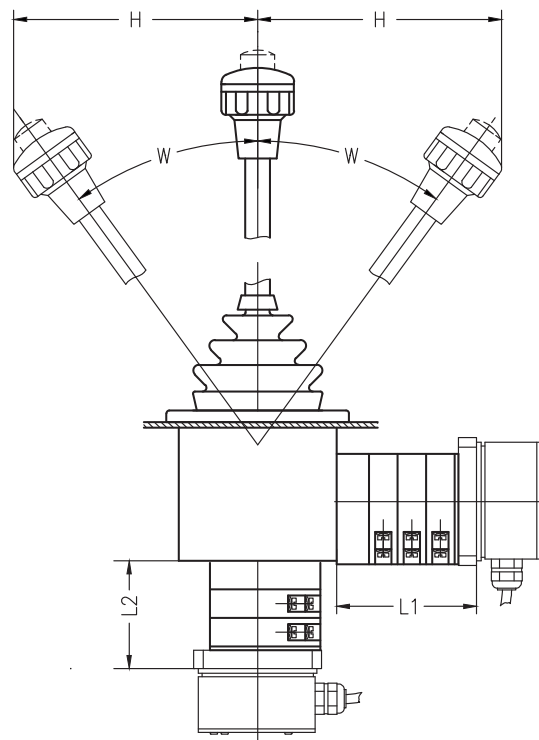
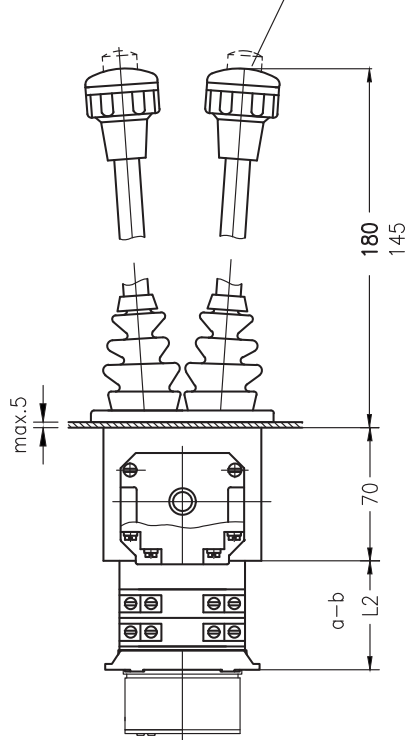
Bohrungen in der
Befestigungswand
mounting pattern

Maß L1 oder L2 (mm) dimension L1 or L2 (mm)	40	55	70	85	100	115	130	145	160	175
Anzahl Doppelkontaktelemente number of double contact elements	1	2	3	4	5	6	7	8	9	10

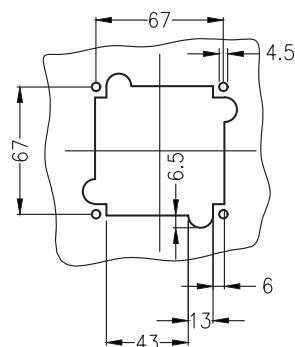
Typ NS0--FGGEA
type

Antrieb GGEA
siehe Seite 9/5
drive GGEA
see sheet 9/5

Einbauen im Hebel
siehe Seite 2/1...
additional
see sheet 2/1...



Adapter für Geber/Poti
adapter for encoder/poti



Bohrungen in der
Befestigungswand
mounting pattern

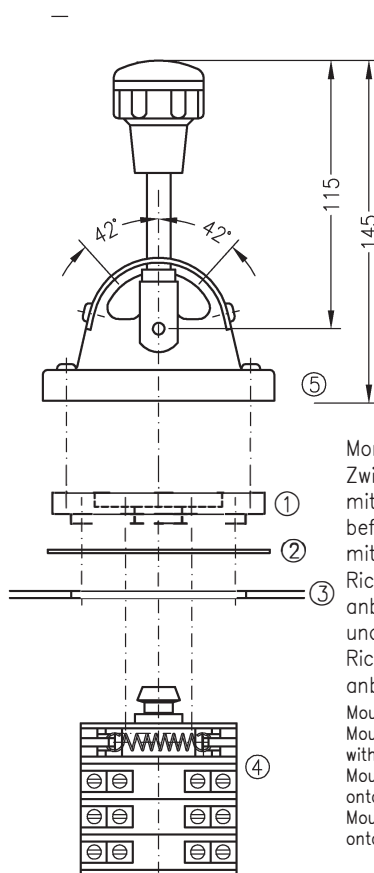
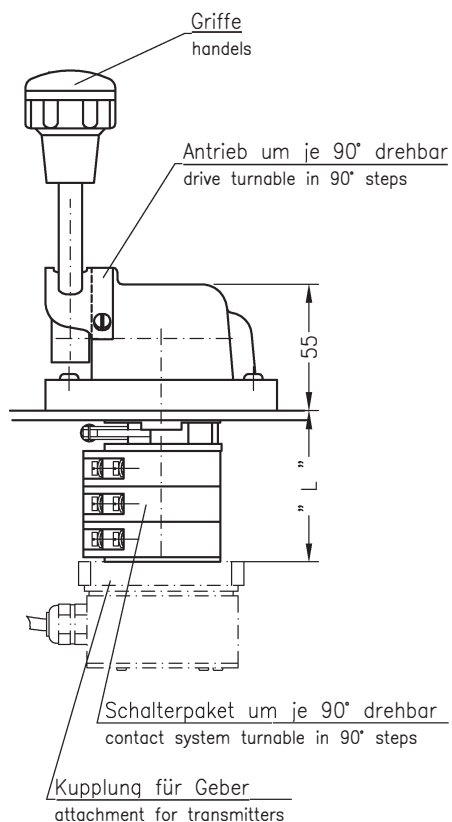
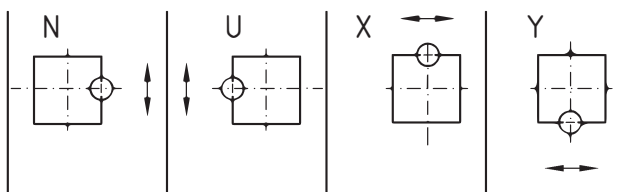
Gewicht:
Antriebsblock ~1,6 kg
je Doppelkontakt ~0,08 kg
weight:
drive ~1,6 kg
each double contact ~0,08 kg

bei 180 mm Hebel by lever 180 mm		
Position	W	$\sim H$ mm
1-0-1	14°	70
2-0-2	20°	100
3-0-3	30°	135
4-0-4	30°	135
5-0-5	36°	155
6-0-6	36°	155
7-0-7	30°	135
Poti/ Encoder	36°	155

Maß L1 oder L2 (mm) dimension L1 or L2 (mm)	40	55	70	85	100	115	130	145	160	175
Anzahl Doppelkontaktelemente number of double contact elements	1	2	3	4	5	6	7	8	9	10

Typ NS0--SFA R
type

Anordnung – nur erforderlich bei unsymmetrischer Abwicklung
arrangement – important if the circuit isn't symmetrical



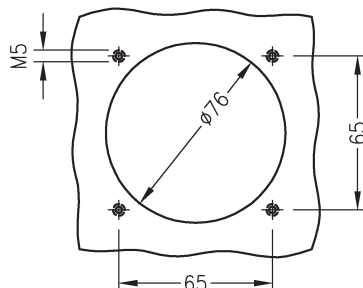
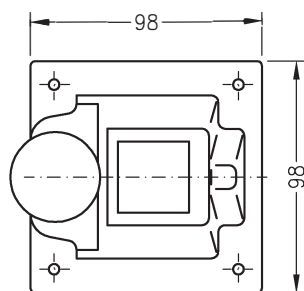
Schutzart IP56 frontseitig
degree of protection IP56

Montage:

Zwischenplatte ① und Dichtung ② mit 4 Schrauben M5 am Gehäuse ③ befestigen, Schalterpaket ④ mit 4 Schrauben in der gewünschten Richtung an der Zwischenplatte ① anbauen. Antrieb ⑤ mit 4 Schrauben und Dichtungen in gewünschter Richtung an Zwischenplatte ① anbauen.

Mounting:

Mount attachment plate ① and sealing ② with 4 screws M5 at the housing ③. Mount the contact system ④ with 4 screws onto the attachment plate ①. Mount the drive ⑤ with 4 screws and seals in desired direction onto the attachment plate ①.



Gewicht:

Antriebsblock ~1,2 kg
je Doppelkontakt ~0,1 kg
weight:
drive ~1,2 kg
each double contact ~0,1 kg

Anzahl Doppelkontaktelemente numbers of double contact blocks	1	2	3	4	5	6	7	8	9	10
Länge length	40	55	70	85	100	115	130	145	160	175