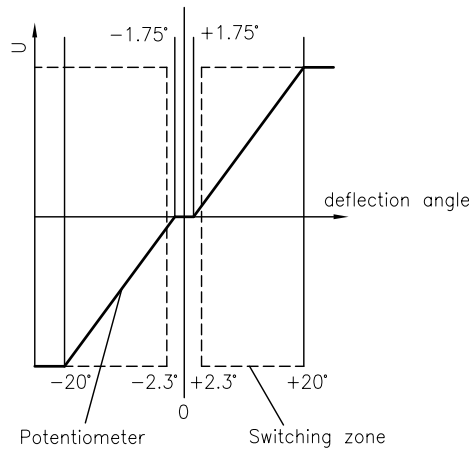


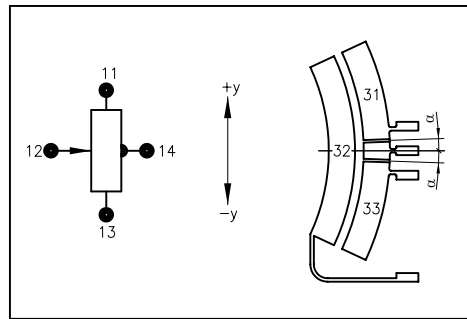
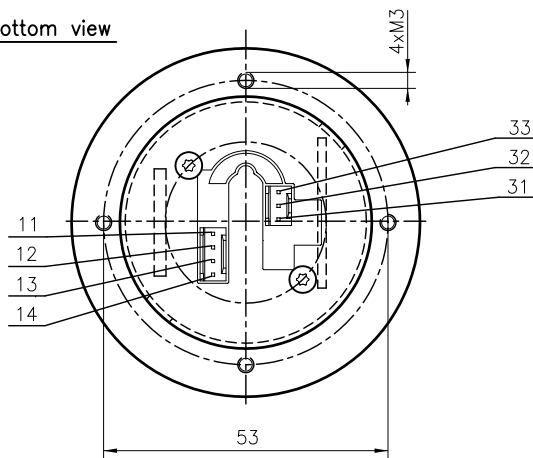
Gate  
(Top view)



Output diagram



Bottom view



Description

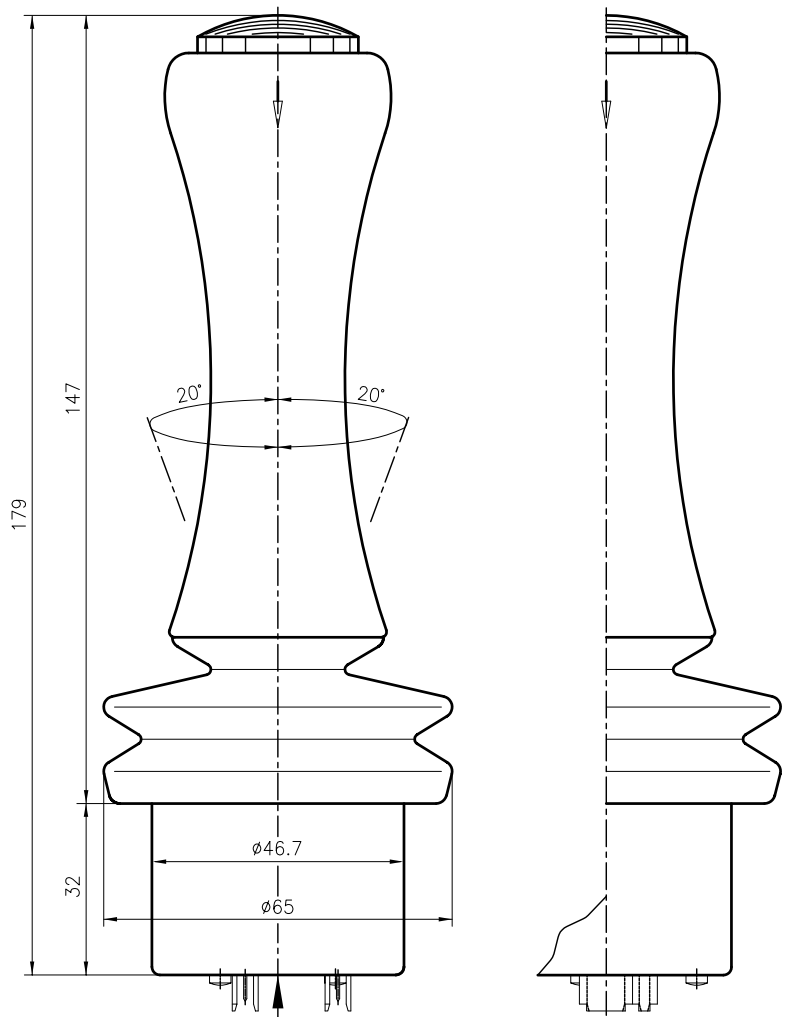
Joystick Type SK 60-0272	
Number of axes	1-axis, y-axis
Operation by	Rubber bellow 48-203 (sealed)
Connector: DUBOX Walled Header	4-poles: 76384-304 3-poles: 76384-303
Mating connector: Dubox Housing anti-rotation locking	4-poles: 65240-004 3-poles: 65240-003
Cross guidance	none
Center tab	±1.75°
Retaining spring	normal Z-Nr. 60-112
Switch funktion	2 switching segments
Switch point α	±2.3°

Electrical characteristics

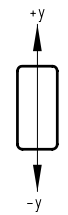
Resistance value	5 kOhm ± 20%
Power dissipation	0.2 Watt at 40°C per axis
Contact rating	Zero potential difference between segments 5 V DC, 5 mA

Axis	Potentiometer	Connector side	
Direction	Colour/ number	Center tab	Joystick in mid-position
x-axis	↑ +x		
	Wiper		
	↓ -x		
y-axis	↑ +y	11 yellow	31 yellow open
	Wiper	12 orange	14 brown 32 green
	↓ -y	13 red	33 blue open

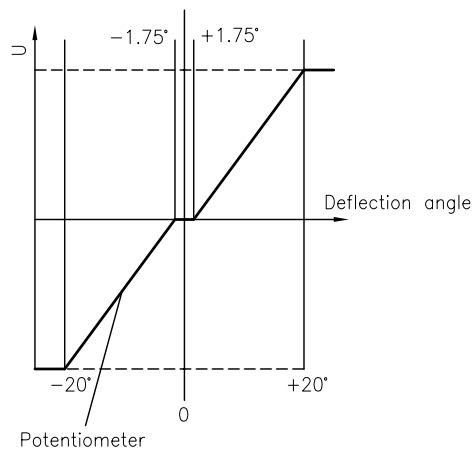
		Oberfläche	Maßstab 1:1	Position	Menge
		Datum	Name	Joystick	
		Bearb. 28.04.99	DM		
		Gepr.			
		Norm			
		<b>GENGE &amp; THOMA AG</b> <small>CH-2543 Lengnau/Blis</small>		60-0272Eb	
b	mit Doppelscheifer	10.11.12	MK		Blatt -
a	neues Layout	19.04.04	TZ		Bl
Zust.	Änderungen	Datum	Name	Dateiname: E:\DWG SK60\60-0272Eb.dwg	



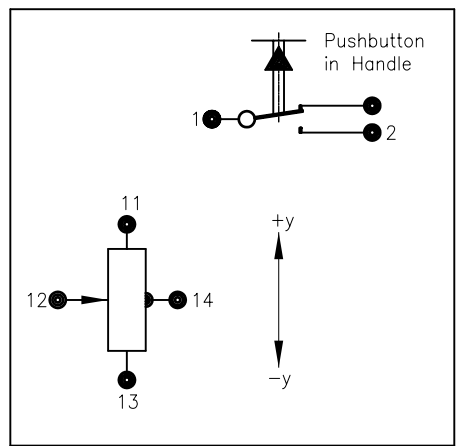
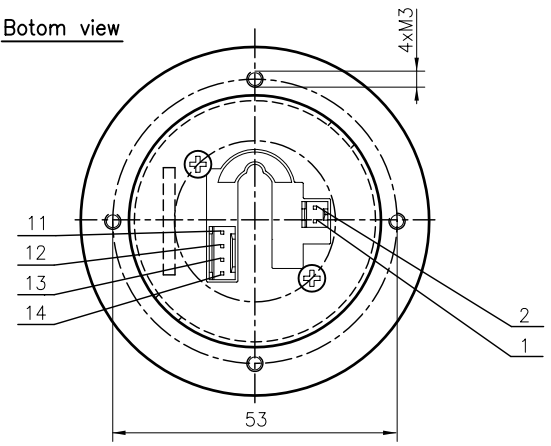
Gate  
(Top view)



Output diagram

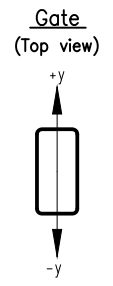
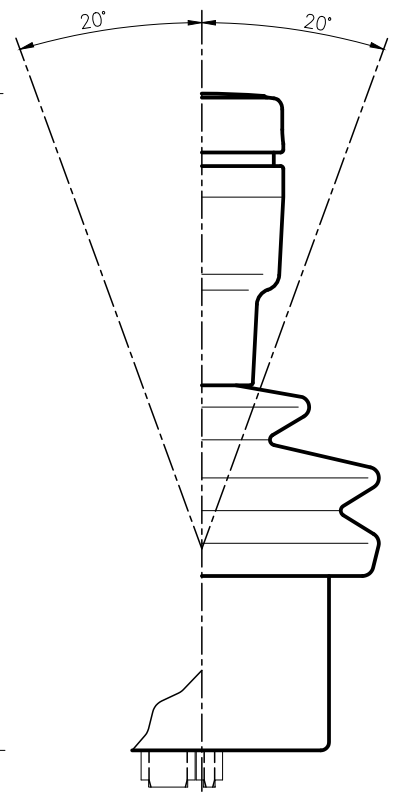
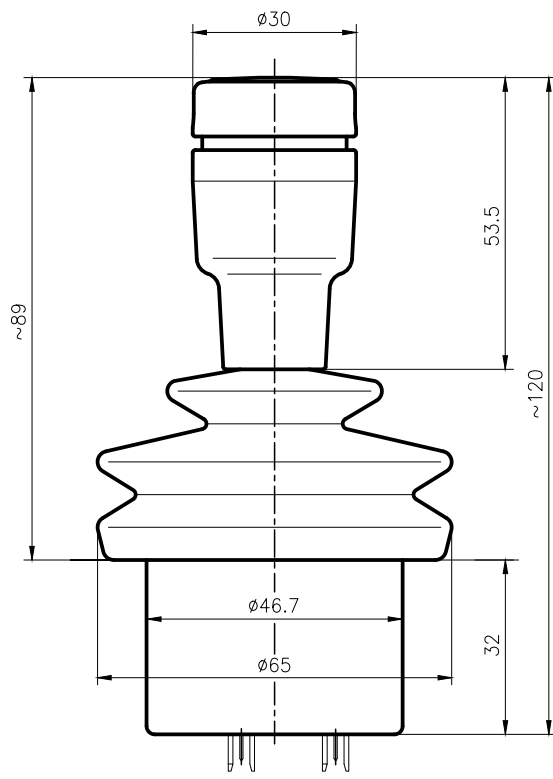


Bottom view

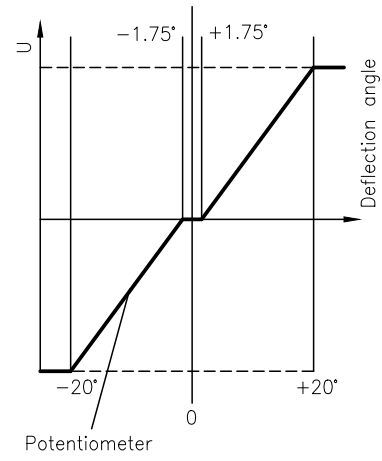


Description			
Joystick Type SK 60-0274			
Number of axes	1-axis, y-axis		
Operation by	Handle with pushbutton		
Connector: DUBOX Walled Header	4-poles: 76384-304 2-poles: 76384-302		
Mating connector: Dubox Housing Anti-rotation locking	4-poles: 65240-004 2-poles: 65240-002		
Cross guidance	none		
Center tab	±1.75°		
Retaining spring	very strong Z-Nr. 60-112.02		
Switch funktion	none		
Switch point α	-		
Electrical characteristics			
Resistance value	5 kOhm ± 20%		
Power dissipation	0.2 Watt at 40°C per axis		
Contact rating	Zero potential difference between segments		
Pushbutton type	Mushroom button 404119 T&H		
Pushbutton voltage	max. 30V DC 250mA/ min. 5V DC /10uA		
Operating voltage	max. 30V DC		
Axes	Potentiometer	Connector side	
Direction	Colour/ number	Center tab	Joystick in mid-position
x-axis	↑ +x		
	Wiper		
	↓ -x		
y-axis	↑ +y	11 yellow	
	Wiper	12 orange	14 brown
	↓ -y	13 red	
Pushbutton in handle			
Switch contact	1	black	
open	2	white	
closed			

		Oberfläche	Maßstab 1:1	Position	Menge
		Datum	Name	Joystick	
		Bearb. 04.05.99	DM		
		Gepr.			
		Norm			
		<b>GENGE &amp; THOMA AG</b> <small>01-2543 Lengnau/Bl</small>		60-0274Ea	Blatt -
a	neues Layout	20.04.04	TZ		Bl
Zust.	Änderungen	Datum	Name	Dateiname: E:\DWG SK60\60-0274Ea.dwg	



Output diagram

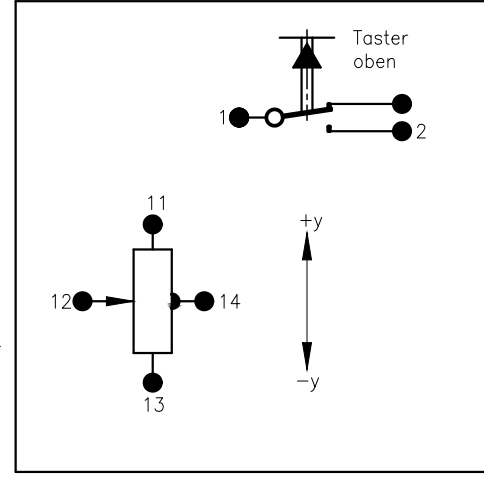
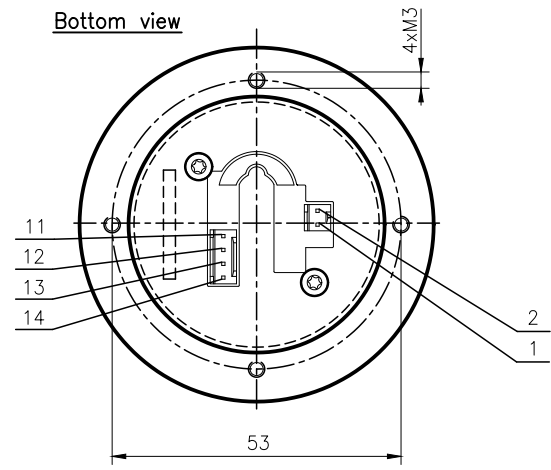


Description	
Joystick type SK 60-0421	
Number of axes	1-axis, y-axis
Operation by	Handle with pushbutton switch pushbutton with rotation lock
Connector:	4-poles: 76384-304 2-poles: 76384-302
Mating connector:	4-poles: 65240-004 2-poles: 65240-002
DUBOX Walled Header Dubox Housing ROTATED NOT INSERTABLE	
Cross guidance	soft
Center tab	±1.75°
Retaining spring	strong Z-Nr. 50-116
Switch function	-
Switchpoint α	-

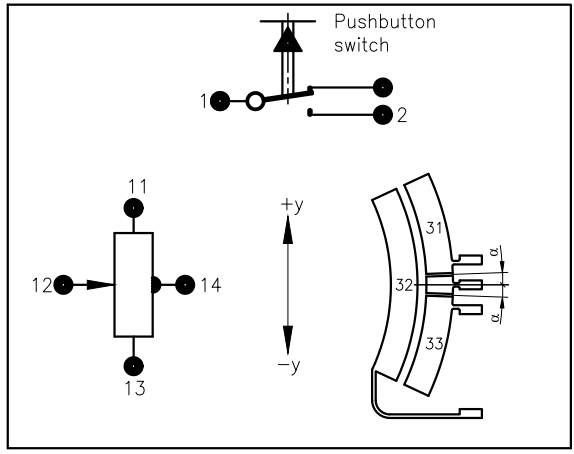
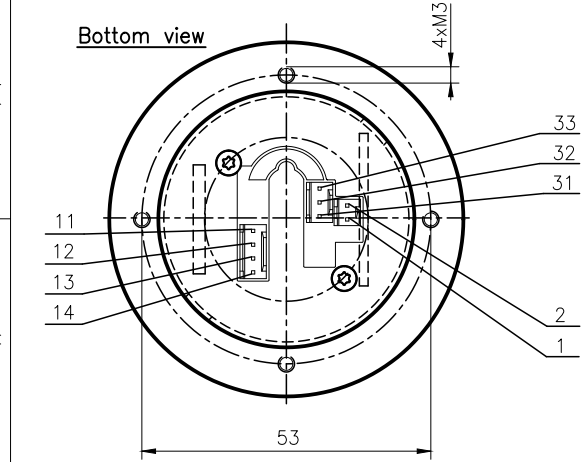
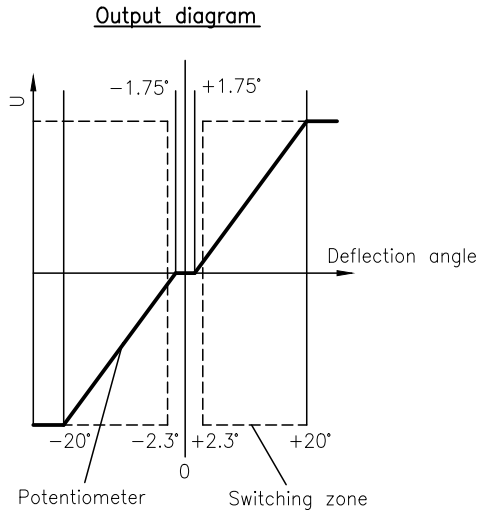
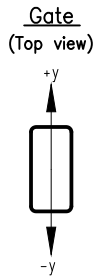
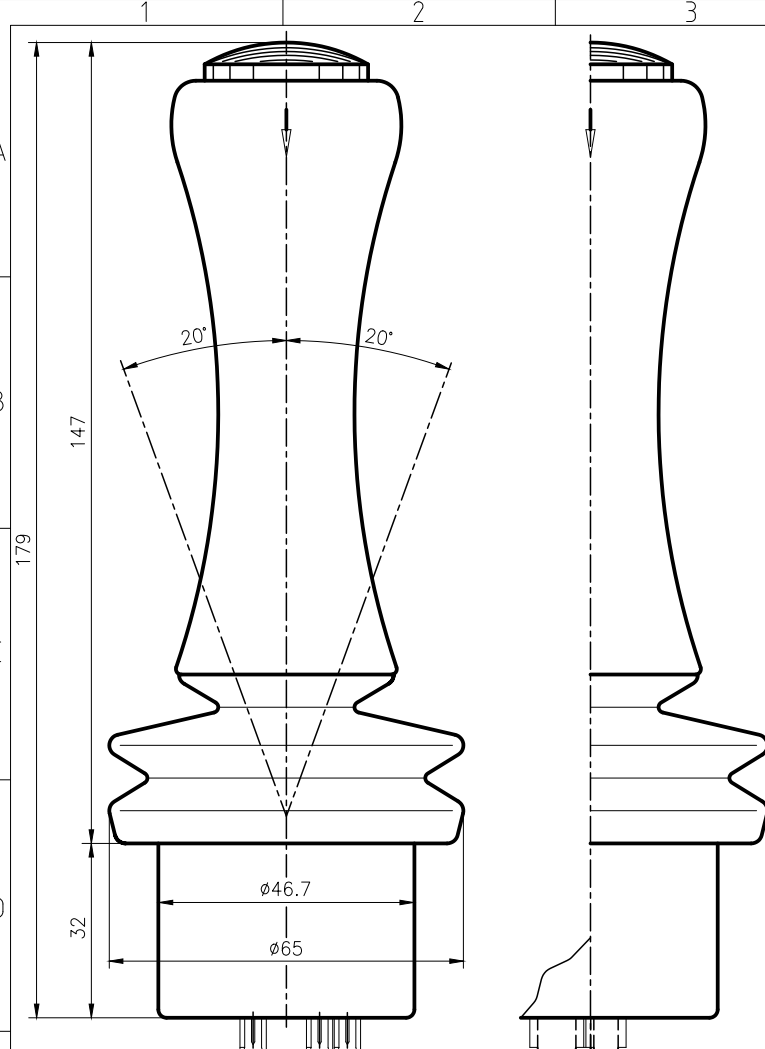
Electrical characteristics	
Resistance value	5 kOhm ± 20%
Power dissipation	0.2 Watt at 40°C
Pushbutton switch	MORS-APEM 13435AD2K
Contact rating	min. 5V DC 10µA / max. 15V DC 0.5A
Operating voltage	30V DC max.

Axes	Potentiometer side		Connector side	
	Direction	Colour/Number	Center tab	Joystick in mid-position
x-Axis	↑ +x			
	Wiper			
	↓ -x			
y-Axis	↑ +y	11 yellow		
	Wiper	12 orange 14 brown		
	↓ -y	13 red		

Handle with pushbutton switch			
Switch contact	1	black	
open	2	white	
closed			



				Oberfläche	Maßstab 1:1	Position	Menge
				Datum	Name	<b>Joystick</b>	
				Bearb. 04.02.02	DM		
				Gepr. 07.03.16	AG		
				Norm			
				<b>GENGE &amp; THOMA AG</b>		<b>60-0421 a</b>	
				OH-2543 Lengnau/Blai			
a	neues Layout	12.05.04	TZ	Dateiname: E:\DW\ag_SK60\60-0421Ea.dwg		Blatt -	Bl
Zust.	Anderungen	Datum	Name				



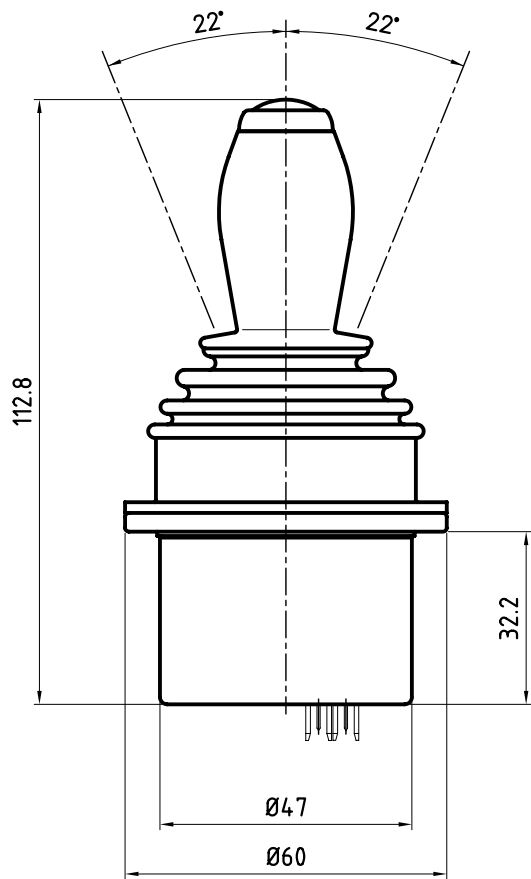
Description	
Joystick Type SK 60-0425E	
Number of axes	1-axis, y-axis
Operation by	Handle with pushbutton switch
Connector: DUBOX Walled Header	4-poles: 76384-304 3-poles: 76384-303 2-poles: 76384-302
Mating connector: Dubox Housing	4-poles: 65240-004 3-poles: 65240-003
Anti-rotation locking	2-poles: 65240-002
Cross guidance	none
Center tab	±1.75°
Retaining spring	very strong Z-Nr. 60-112.02
Switch function	1-0-1
Switchpoint α	±2.3°

Electrical characteristics	
Resistance value	5 kOhm ± 20%
Power dissipation	0.2 Watt at 40°C per axis
Contact rating	Zero potential difference between segments 5 V DC, 5mA
Type of switch	Pushbutton 404119 T&H
Operating voltage	30V DC max.

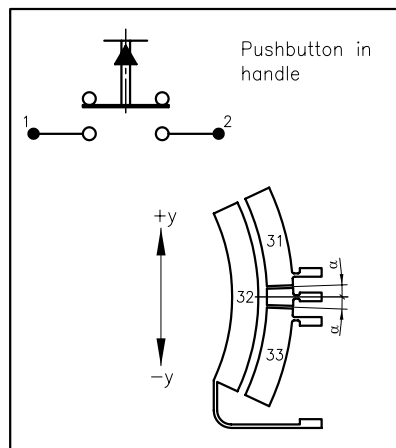
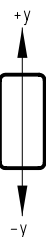
Axes	Potentiometer side		Switch function	
	Direction	Colour/Number	Center tab	Joystick in mid-Position
x-Axis	↑ +x			
	Wiper			
	↓ -x			
y-Axis	↑ +y	11	31	open
	Wiper	12	14	32
	↓ -y	13	33	open

Handle with pushbutton switch		
Switch contact	1	
open	2	
closed		

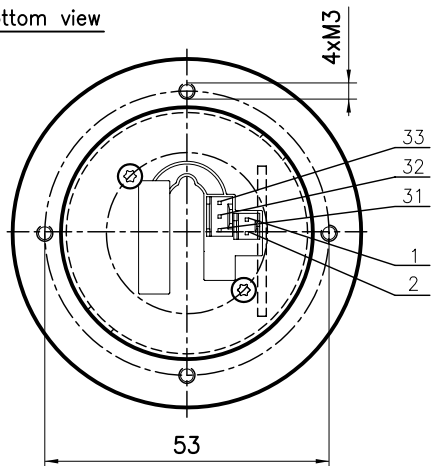
				Oberfläche	Maßstab 1:1	Position	Menge
				Datum	Name	<b>Joystick</b>	
				Bearb. 06.03.00	DM		
				Gepr. 23.11.16	Hess C.		
				Norm			
b	mit Doppelschleifer	14.09.12	MK	<b>GENGE &amp; THOMA AG</b> 01-2543 Lengnau/Blf			
a	neues Layout	24.05.04	TZ				
Zust.	Änderungen	Datum	Name				
				Dateiname	E:\DWG	SK60\60-0425b.dwg	Blatt -
							Bl



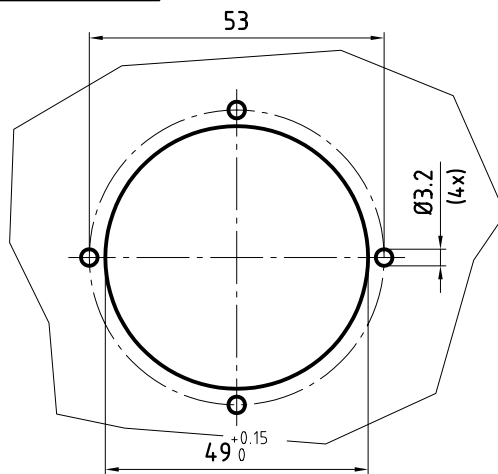
Gate  
(top view)



Bottom view

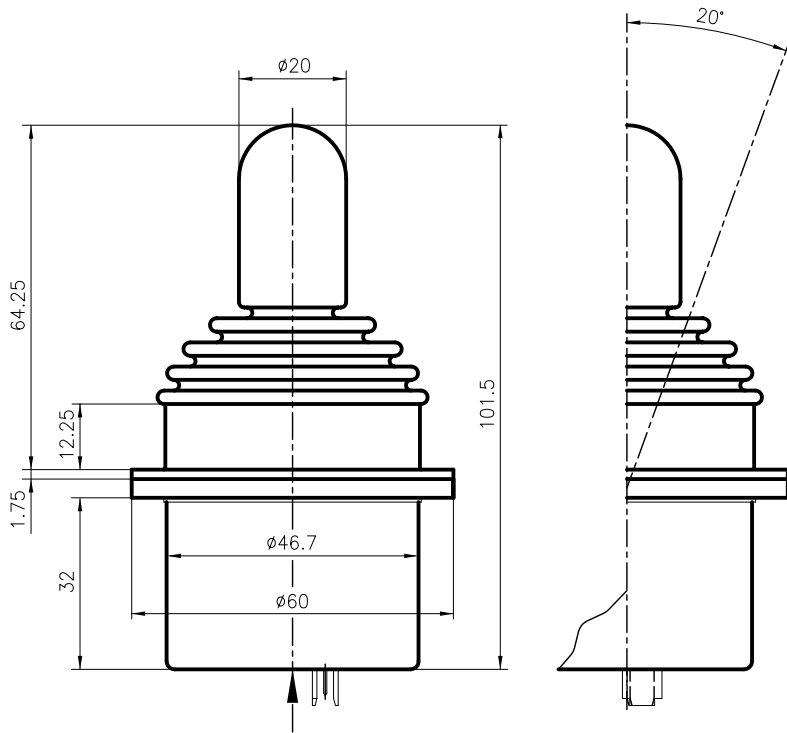


Mounting holes



Description			
Joystick type SK 60-0494			
Number of axes	1-axis, y-axis		
Operation by	Handle with pushbutton		
Connector:	3-poles: 76384-303 2-poles: 76384-302		
Mating connector:	3-poles: 65240-003 2-poles: 65240-002		
Anti-rotation locking			
Cross guidance	none		
Center tab	-		
Switch function	2 shift segments		
Switchpoint $\alpha$	$\pm 2.3^\circ$		
Retaining spring	normal Z-Nr. 60-112		
Electrical characteristics			
Contact rating	Zero potential difference between segments 5 V DC, 5 mA		
Pushbutton type	ITW-Pushbutton Switch blue (Art-Nr. 59-112)		
Pushbutton capacity	30V DC, 400mA		
Axes		Potentiometer	Connector side
Direction		Colour/number	Joystick in mid-position
x-axis	↑ +x		
	Wiper		
	↓ -x		
y-axis	↑ +y		31 yellow open
	Wiper		32 green open
	↓ -y		33 blue open
Pushbutton in handle			
Switch contact	1	white	
open	2	black	

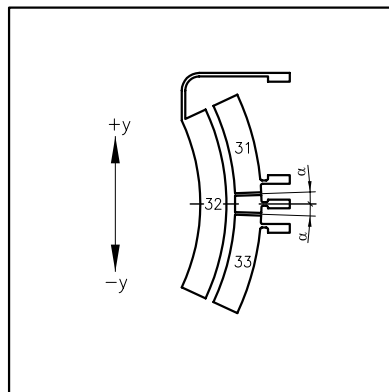
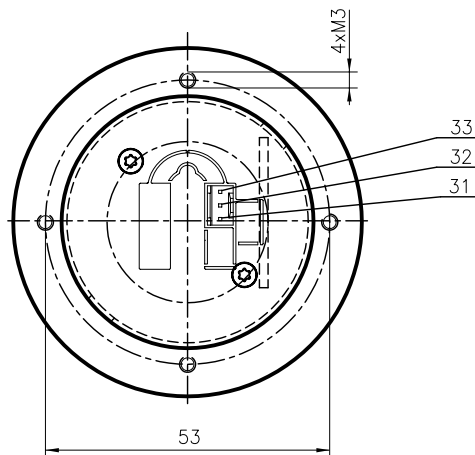
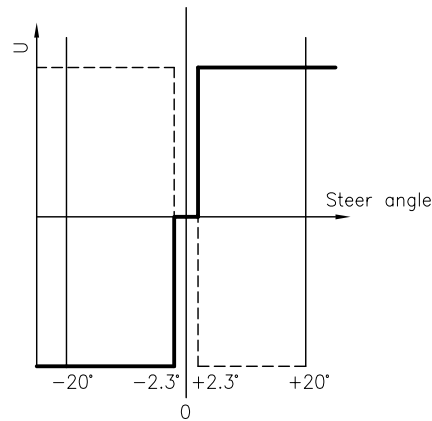
		Oberfläche	Maßstab 1:1	Position	Menge
		Datum	Name	<b>Joystick</b>	
		Bearb. 31.10.07	TZ		
		Gepr.			
		Norm			
		<b>GENGE &amp; THOMA AG</b>		Blatt	
		AG 01-2543 Lengnau/Blot		Bl	
a	Mit Doppelschleifer	16.10.12	MK	<b>60-0494Ea</b>	
Zust.	Änderungen	Datum	Name	Dateiname: E:\DWG SK60\60-0494Ea.dwg	



Gate  
(Top view)



Output diagramm

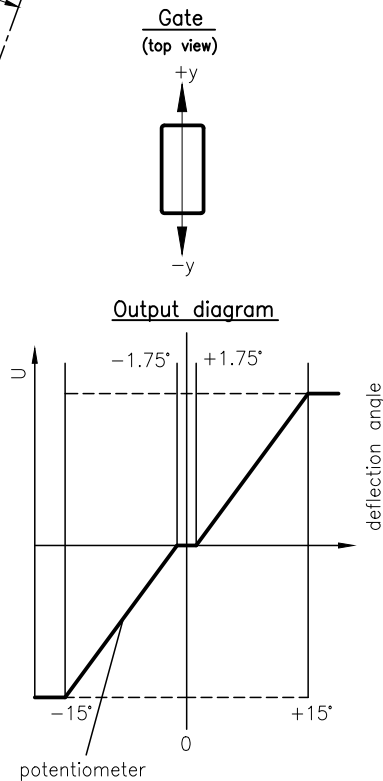
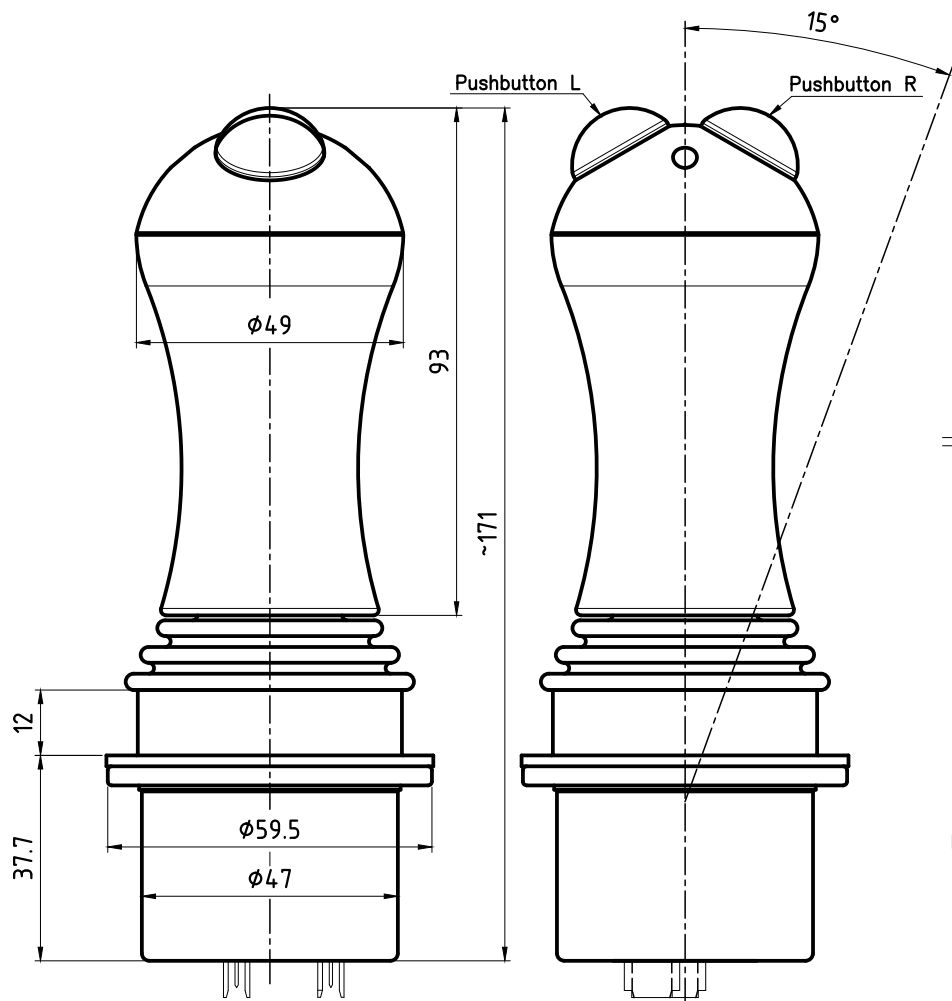


Description	
Joystick Type SK 60-0542	
Number of axis	1-axis, y-axis
Operation by	Gaiter 48-203 (sealed)
Plug: DUBOX Walled Header	3-poles: 76384-303
Counterplug: Dubox Housing	3-poles: 65240-003
Crossguide	none
Center tab	none
Retaining spring	normal Z-Nr. 60-112
Switch function	1-0-1
Switchpoint $\alpha$	$\pm 2.3^\circ$

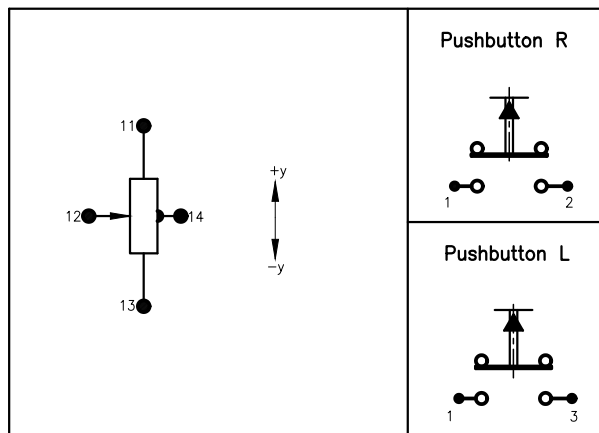
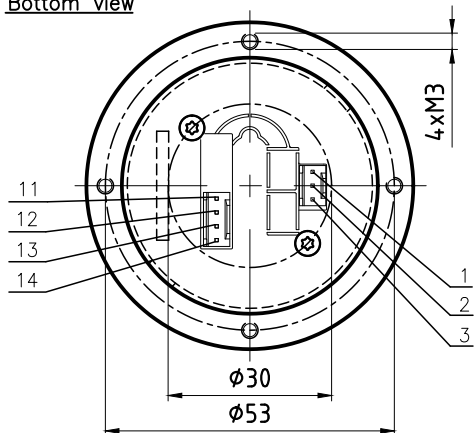
Electrical characteristics	
Resistance value	
Power dissipation	
Contact rating	Zero potential difference between segments 5 V DC, 5 mA
Operating voltage	max. 30V DC

Axis	Direction	Potentiometer side		Connector side	
		Colour/ number	Center tab	Joystick in mid position	
x-axis	↑ +x				
	Wiper				
y-axis	↑ +y			31 yellow	open
	Wiper			32 green	
	↓ -y			33 blue	open

		Oberfläche	Maßstab 1:1	Position	Menge
		Datum	Name	<b>Joystick</b>	
		Bearb. 09.12.08	Kiener M.		
		Gepr.			
		Norm			
		<b>GENGE &amp; THOMA AG</b>		<b>60-0542E a</b>	
		AG 01-2543 Lengnau/Bliz			
a	mit Doppelschleifer	14.04.09	MK	Blatt	
Zust.	Änderungen	Datum	Name	Bl	
		Dateiname: E:\DWG SK60\60-0542Ea.dwg			



Bottom view



Description	
Joystick Type SK 60-0581	
Number of axes	1-axis, y-axis
Operation by	Handle with 2 pushbuttons (anti-twist protection)
Connector: DUBOX Walled Header	4-poles: 76384-304 3-poles: 76384-303
Mating connector: Dubox Housing	Rotated not insertable 4-poles: 65240-004 3-poles: 65240-003
Cross guidance	none
Center tab	±1.75°
Switch point α	-
Retaining spring	strong Z-Nr. 484-243

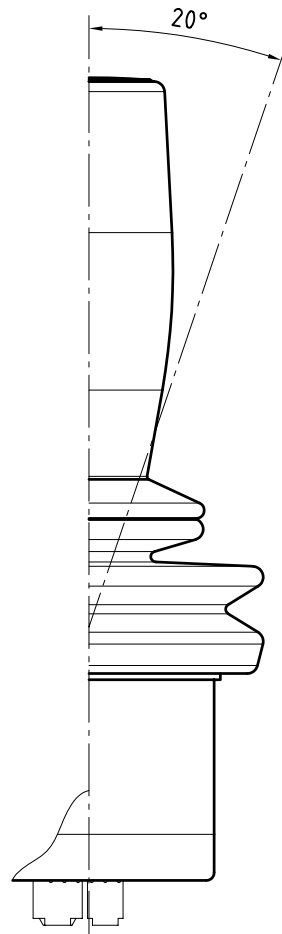
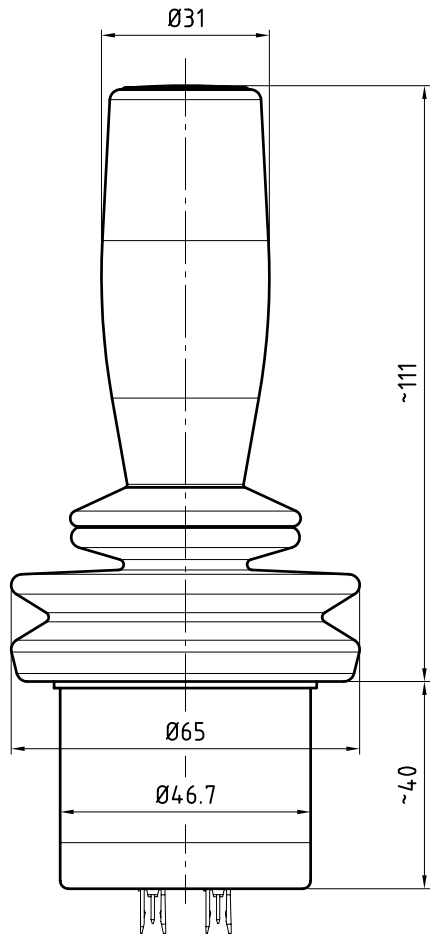
Electrical characteristics	
Resistance value	5 kOhm ± 20%
Power dissipation	0.2 Watt at 40°C
Operating voltage	max. 30V DC
Type of switch	Otto Controls, P9 Pushbutton (IP68)
Switch voltage	30 V DC, 5A (Resistive) / 3A (Inductive)

Axes	Potentiometer	Connector side
Direction	Colour/Number	Center tab
x-axis	↑ +x	
	Wiper	
y-axis	↓ -x	
	↑ +y	11
	Wiper	12
	↓ -y	13

Pushbutton R in handle		
Switch contact	2	orange
open	1	red
Pushbutton L in handle		
contact	3	brown
Switch open	1	red

		Oberfläche	Maßstab 1:1	Position	Menge
	Datum	Name	<b>Joystick</b>		
Bearb.	02.09.08	Kiener M.			
Gepr.					
Norm					
		<b>GENGE &amp; THOMA AG</b>	<b>60-0581E</b>	Blatt	
		<small>OH-2543 Lengnau/Blai</small>		Bl	
Zust.	Änderungen	Datum	Name	Dateiname	E:\Dwg\Qwg_SK60_160-0581E.dwg

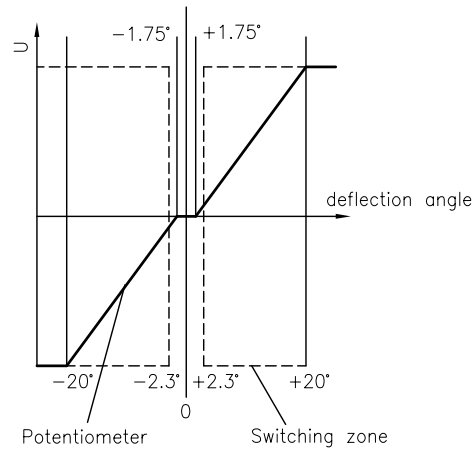




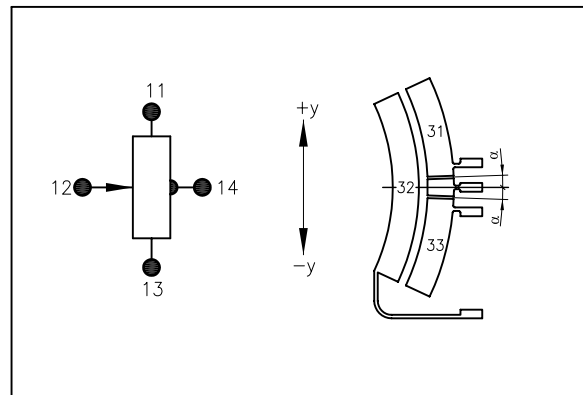
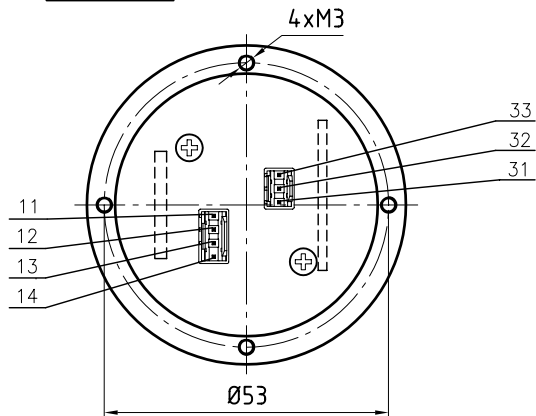
Gate  
(Top view)



Output diagram



Bottom view

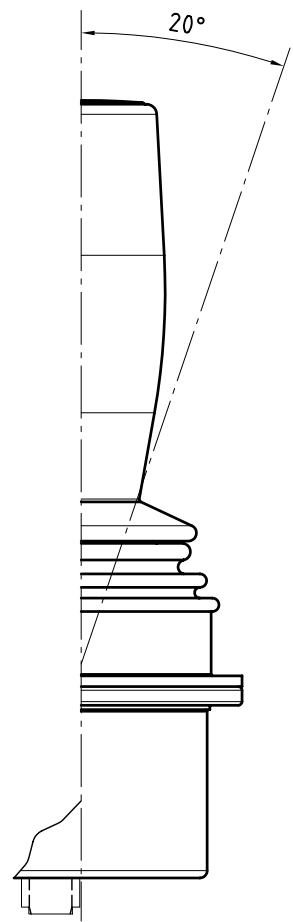
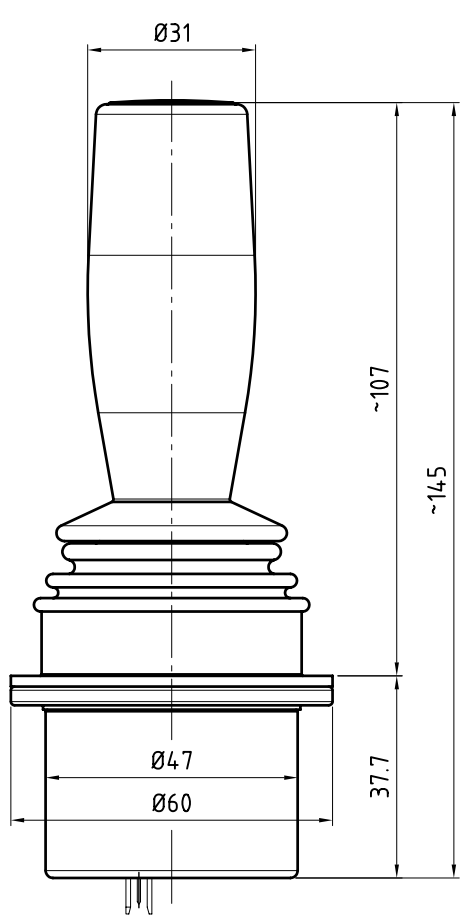


Description	
Joystick Type SK 60-0630	
Number of axes	1-axis, y-axis
Operation by	Handle (60-709)
Connector: DUBOX Walled Header	4-poles: 76384-304 3-poles: 76384-303
Mating connector: Dubox Housing Anti-rotation locking	4-poles: 65240-004 3-poles: 65240-003
Cross guidance	none
Center tab	±1.75°
Retaining spring	strong Z-Nr. 50-116
Switch funktion	1-0-1
Switch point α	±2.3°

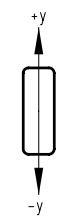
Electrical characteristics	
Resistance value	5 kOhm ± 20%
Power dissipation	0.2 Watt at 40°C per axis
Contact rating	Zero potential difference between segments 5 V DC, 5 mA
Operating voltage	max. 30V DC

Axis	Potentiometer		Connector side	
	Direction	Colour/ number	Center tab	Joystick in mid-position
x-axis	↑ +x			
	Wiper			
	↓ -x			
y-axis	↑ +y	11 yellow	31 yellow	open
	Wiper	12 orange	14 brown	32 green
	↓ -y	13 red		33 blue

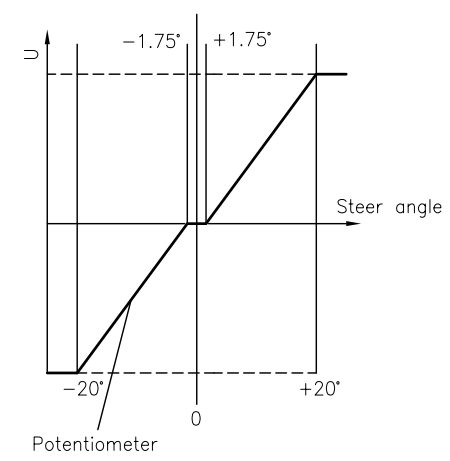
		Oberfläche	Maßstab 1:1	Position	Menge
		Datum	Name	Joystick	
		Bearb. 12.07.09	Kiener M.		
		Gepr.			
		Norm			
		<b>GENGE &amp; THOMA AG</b> <small>CH-2543 Lengnau/Biel</small>		60-0630E	
Zust.	Änderungen	Datum	Name	Dateiname: E:\Dwg\SK60\60-0630E.dwg	Blatt - Bl



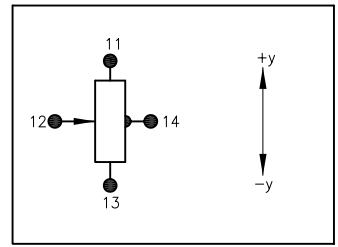
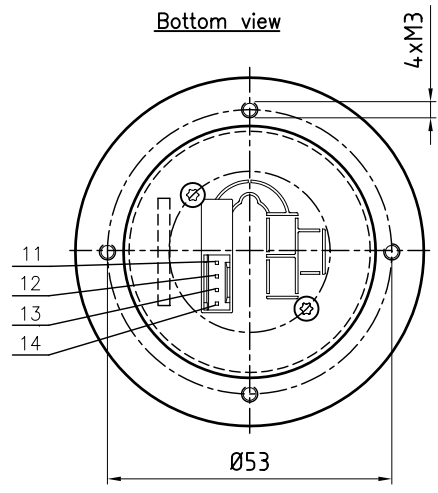
Gate  
(Top view)



Output diagram



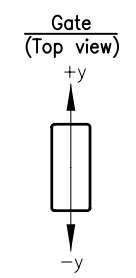
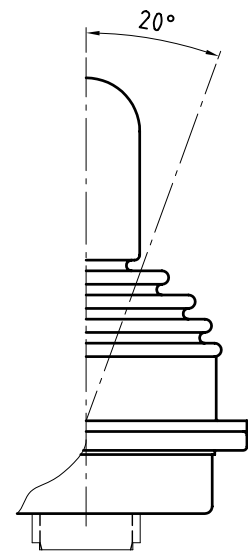
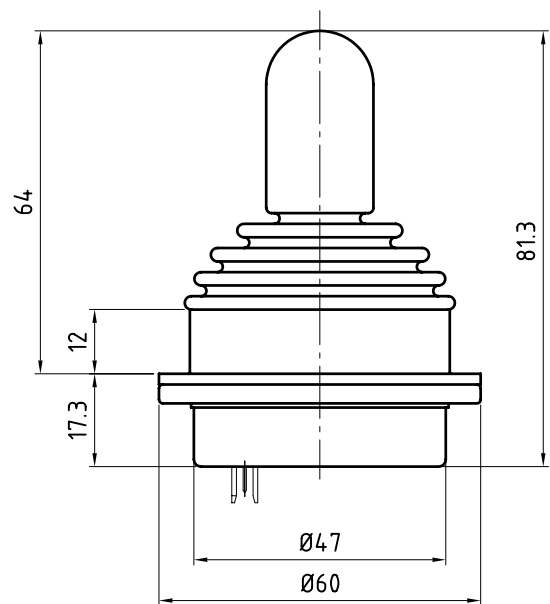
Bottom view



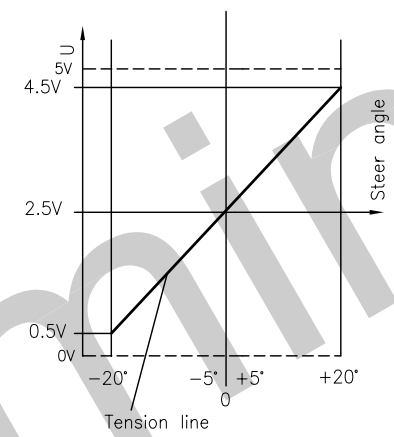
Description			
Joystick Type SK 60-0710			
Number of axis	1-axis, y-axis		
Operation by	Handle (60-709)		
Plug: DUBOX Walled Header	4-poles: 76384-304		
Counter plug: Dubox Housing Rotated not insertable	4-poles: 65240-004		
Cross guide	none		
Center tab	±1.75°		
Retaining spring	strong Z-Nr. 50-116		
Electrical characteristics			
Resistance value	5 kOhm ± 20%		
Power dissipation	0.2 Watt at 40°C		
Operating voltage	max. 30V DC		
Axis	Potentiometer	Connector side	
Direction	Colour/Number	Center tab	Joystick in mid-position
x-axis	↑ +x	14 brown	
	Wiper		
	↓ -x		
y-axis	↑ +y	11 yellow	
	Wiper	12 orange	
	↓ -y	13 red	

		Oberfläche	Maßstab 1:1	Position	Menge
		Datum	Name	Joystick	
		Bearb. 15.07.10	Kiener M.		
		Gepr.			
		Norm			
		<b>GENGE &amp; THOMA AG</b> <small>CH-2543 Lengnau/Blis</small>			Blatt
		60-0710E			Bl
Zust.	Änderungen	Datum	Name	Dateiname: E:\Dwg\0Dwg SK60\60-0710E.dwg	

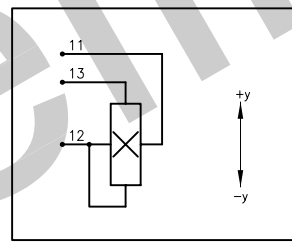
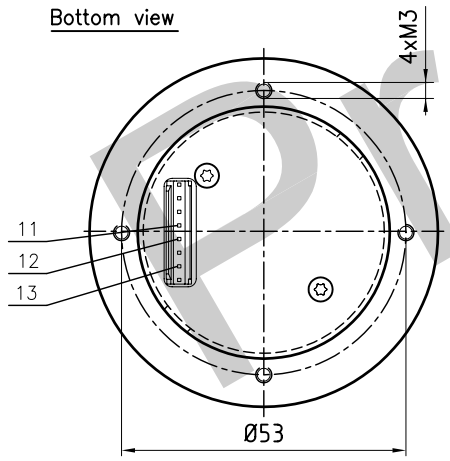




Output diagram

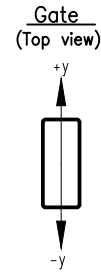
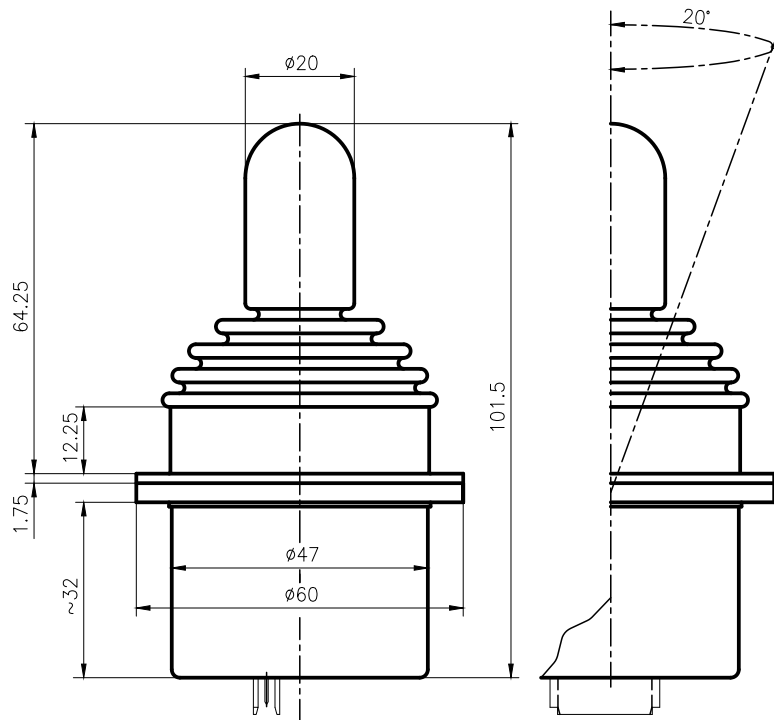


Bottom view

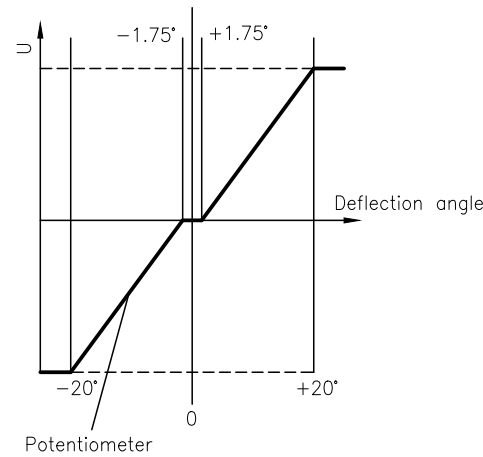


Description	
Joystick Type SK 60-0823	
Number of axes	1-axis, y-axis
Operation by	Rubber bellow 48-203 (sealed)
Cross guidance	none
Switch function	none
Retaining spring	normal, Z-Nr. 60-112
Connector:	8-poles: 76384-308
DUBOX Walled Header	
Mating connector:	8-poles: 65240-008
Dubox Housing	
Anti-rotation locking	
Electrical characteristics	
Operating voltage	5 V DC
Sensor	Hall principle
Pin	
11	Supply voltage
12	Ground
13	y (-y=0.5V, middle=2.5V, +y=4.5V)

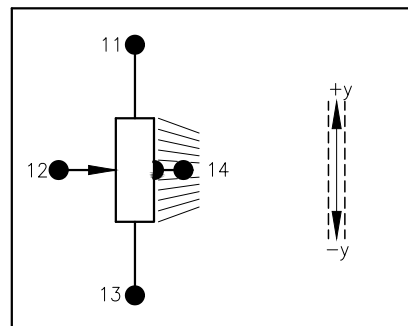
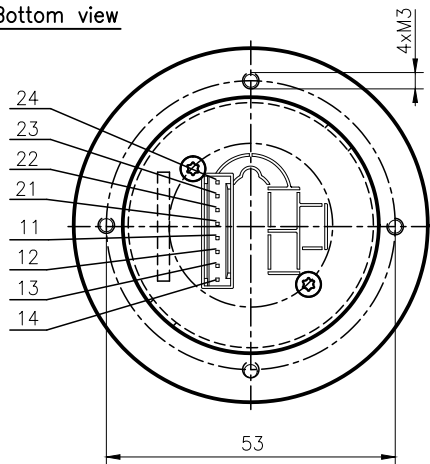
		Oberfläche	Maßstab 1:1	Position	Menge
		Datum	Name	Joystick	
		Bearb. 17.11.11	Kiener M.		
		Gepr.			
		Norm			
		<b>GENGE &amp; THOMA AG</b> <small>01-2543 Lengnau/Biel</small>		60-0823	Blatt
Zust.	Änderungen	Datum	Name	Dateiname: E:\Dwg\LSK_60\LSK60-0823.dwg	Bl



Output diagram



Bottom view



Description

Joystick Type SK 60-0854	
Number of axis	1-axis, y-axis
Operation by	Rubber bellow 48-203 (sealed)
Connector: DUBOX Walled Header	4-poles: 76384-304
Mating connector: Dubox Housing	4-poles: 65240-004
Cross guidance	soft
Center tab	±1.75°
Detents	4-1-4
Retaining spring	strong Z-Nr. 50-116

Electrical characteristics

Resistance value	5 kOhm ± 20%
Power dissipation	0.2 Watt at 40°C
Operating voltage	max. 30V DC

Axis	Potentiometer	Connector side	
Direction	Colour/number	Center tab	
x-axis	↑ +x	Joystick in Mid-position	
	Wiper		
y-axis	↓ -x	Joystick in Mid-position	
	↑ +y		11 yellow
	Wiper		12 orange 14 brown
	↓ -y	13 red	

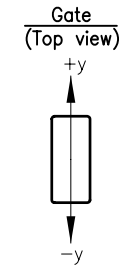
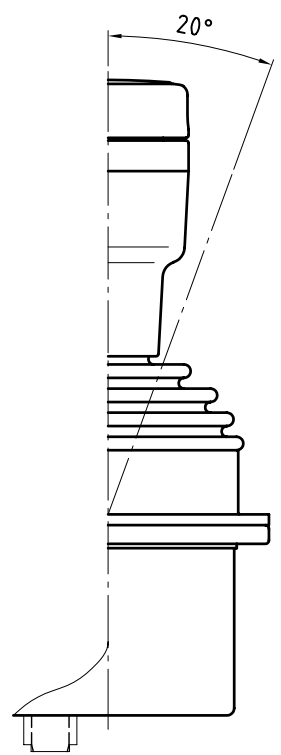
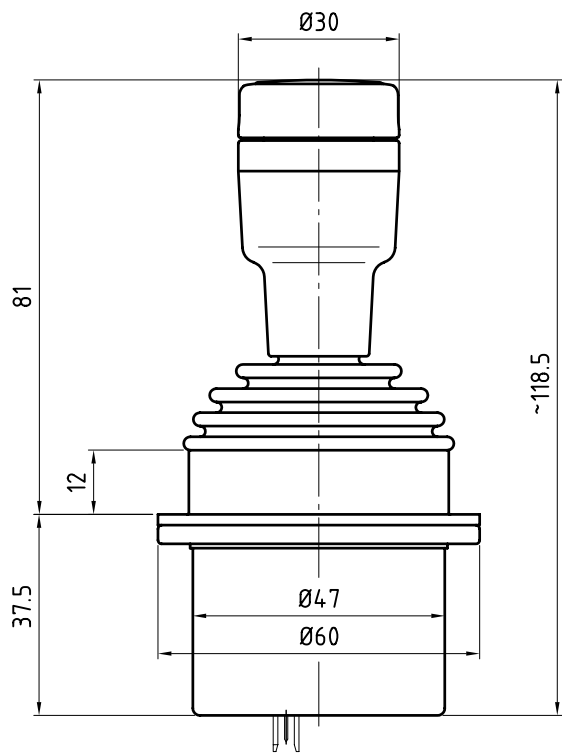
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		Datum	Name	<b>Joystick</b>	
Bearb.	06.06.12	Kiener M.			
Gepr.					
Norm					
		<b>GENGE &amp; THOMA AG</b>		Blatt	
		OH-2543 Lengnau/Biel		60-0854	
		Dateiname: E:\DWG\SK60\60-0854.dwg		Bl.	
Zust.	Anderungen	Datum	Name		

**Description**

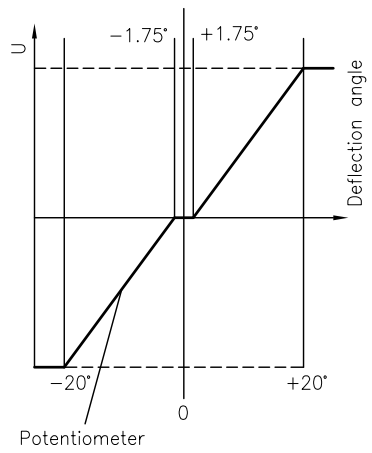
Joystick type SK 60-0910	
Number of axes	1-axis, y-axis
Operation by	Goblet handle
Connector: DUBOX Walled Header	4-poles: 76384-304
Mating connector: Dubox Housing Anti-rotation locking	4-poles: 65240-04
Cross guidance	none
Center tab	±1.75°
Switch point α	-
Retaining spring	normal Z-Nr. 60-112

<b>Electrical characteristics</b>	
Resistance value	5 kOhm ± 20%
Power dissipation	0.2 Watt at 40°C per axis
Operating voltage	max. 30V DC

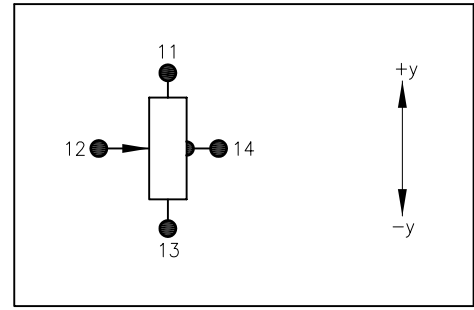
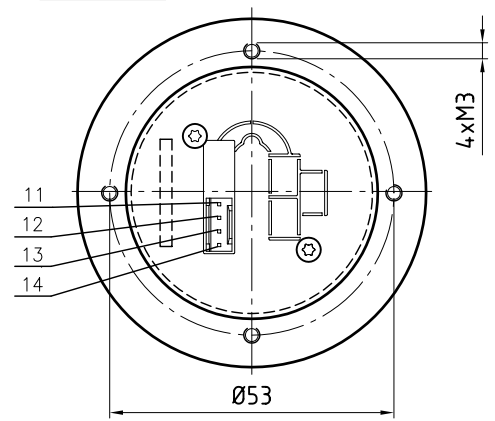
Axes	Potentiometer		Connector side	
	Direction	Colour/ number	Center tab	Joystick in mid-position
x-axis	↑ +x			
	Wiper			
	↓ -x			
y-axis	↑ +y	11 yellow		
	Wiper	12 orange	14 brown	
	↓ -y	13 red		



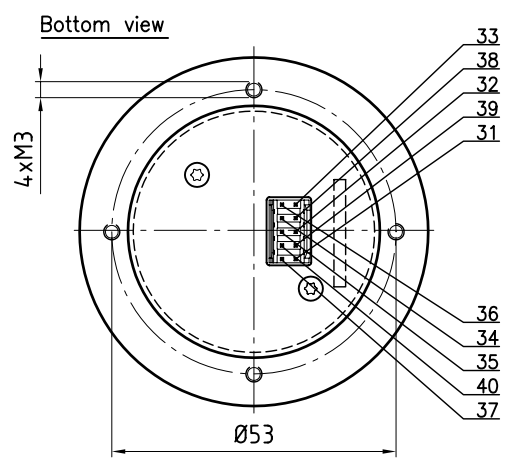
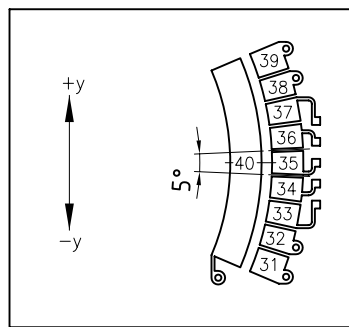
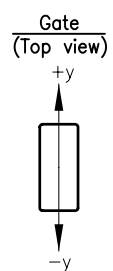
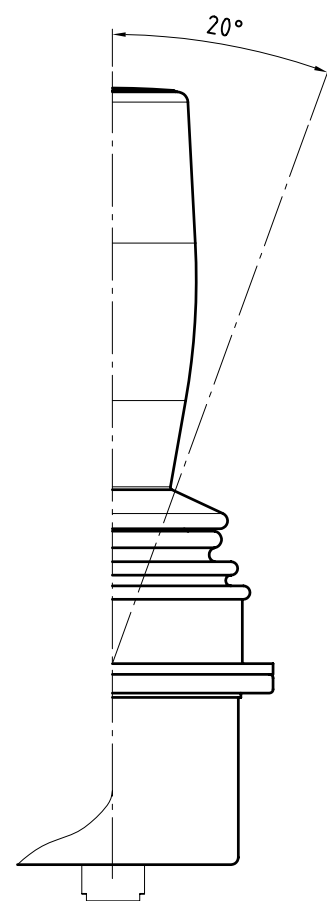
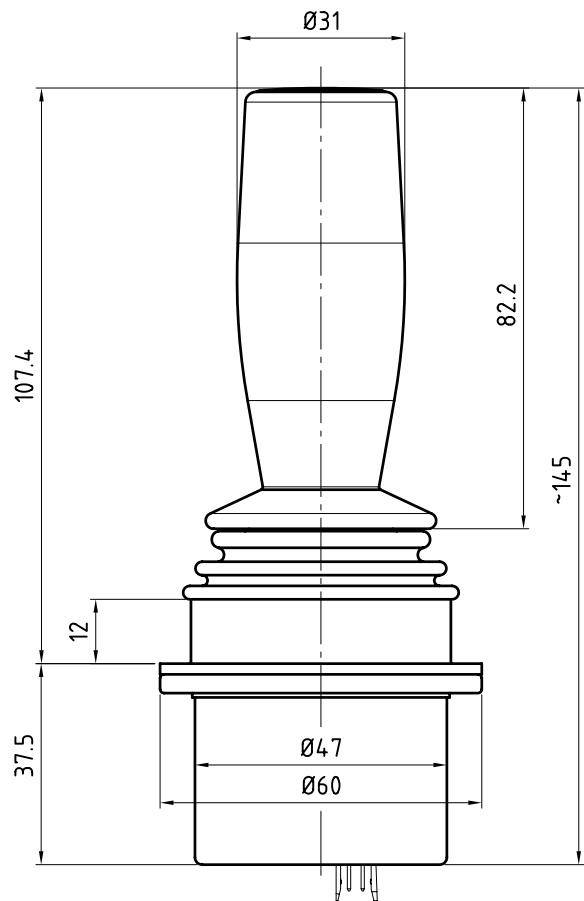
**Output diagram**



**Bottom view**



		Oberfläche	Maßstab 1:1	Position	Menge
		Datum	Joystick		
		Name			
		Bearb. 14.01.13			
		Gepr.			
		Norm			
		<b>GENGE &amp; THOMA AG</b> <small>OT-2543 Lengnau/Bludenz</small>			Blatt
		Dateiname: E:\DWG\SK 60\1\SK60-0910.dwg			Bl
Zust.	Änderungen	Datum	Name		



Description	
Joystick type SK 60-0925	
Number of axes	1-axis, y-axis
Operation by	Sleek handle
Connector:	
DUBOX Walled Header	10-poles: 76385-305
Mating connector:	
Dubox Housing	10-poles: 65239-005
Anti-rotation locking	
Cross guidance	none
Detents	4-1-4
Switch function	9 shift segments
Retaining spring	normal Z-Nr. 60-112

Electrical characteristics	
Contact rating	Zero potential difference between segments 5 V DC, 5 mA

Axes	Potentiometer		Connector side	
	Direction	Colour/number	Center tab	Joystick in mid-position
x-axis	+x			
	-x			
y-axis	+y		39	open
	Wiper		38	"
			37	"
		36	40	35 closed
		34	34	open
		33	33	"
	-y		32	"
			31	"

		Oberfläche	Maßstab 1:1	Position	Menge	
		Datum	Name	Joystick		
		Bearb. 17.01.13	Kiener M.			
		Gepr.				
		Norm				
		<b>GENGE &amp; THOMA AG</b> <small>OT-2543 Lengnau/Bliz</small>			Blatt	
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Zust.	Änderungen	Datum	Name			