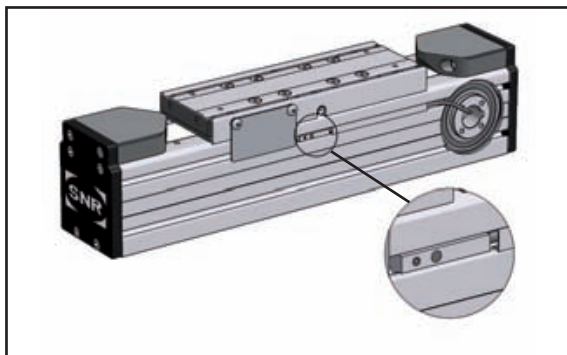
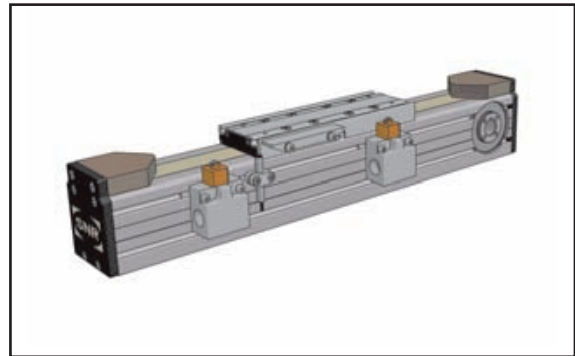


Switches



I Switch add-on on AXC/AXLT/AXDL

Mechanical switches in different protection classes as well as inductive proximity switches with the conventional output circuits are available for position detection depending on requirements. In an emergency, to disconnect the drive before the mechanical stop buffer shock absorber is reached, a mechanically activated switch is usually used. These can also be combined with external inductive proximity switches to set additional switching points for reference runs for example. A set of mechanical limit switches consists of two switches with fastening elements and a cam switch.

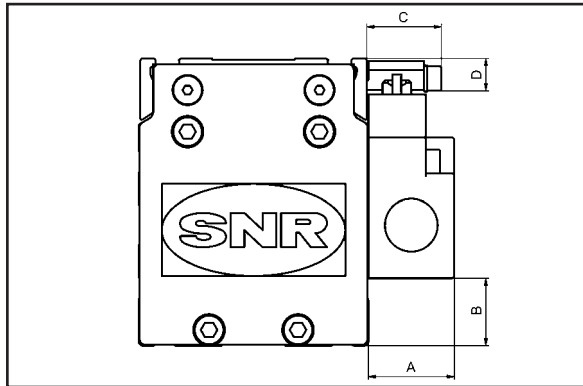


Our inductive proximity switches for groove installation are the most compact variant. They lock flush with the surface of the aluminium profile of the axis and form almost no disruption to the surface. Moreover, a cover profile is attached to the groove to secure the position of the cable in the groove (see page 111). The switches are obtainable as PNP break contacts/make contacts or NPN break contacts. A set of inductive proximity switches consists of two switches with fastening elements and a cam switch. All switches are already factory-installed.

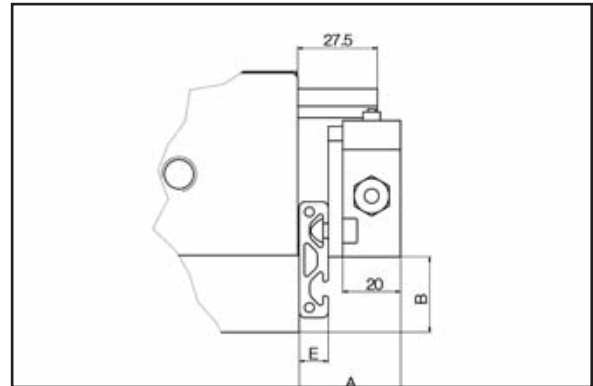
I Cable connections to proximity switches

The cables from the AXC initiators to the drive are set in a groove. The cable length is designed to leave at least 0.5 m free. Should this prove not to be the case with the maximum cable length available, the cable is routed from the opposite side. In the type AXC60 only two AXC initiators can be installed on each side.

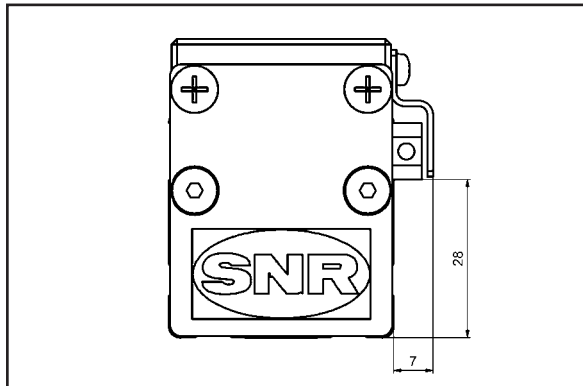
The cables from initiators I2 to the drive are set in a groove, except in the AXC40. The cable length is designed to leave at least 0.5 m free. Should this prove not to be the case with the cable length available, the cable is routed from the opposite side. In type AXDL110Z the cables are always conducted to the deflection side. In type AXLT155 the cables are always conducted to the drive side.



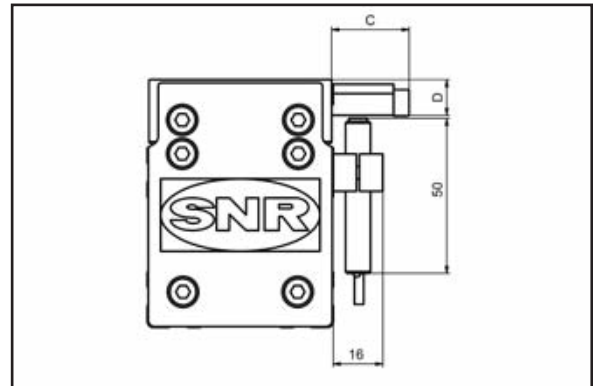
Mounting option 1



Mounting option 2



Mounting option 3



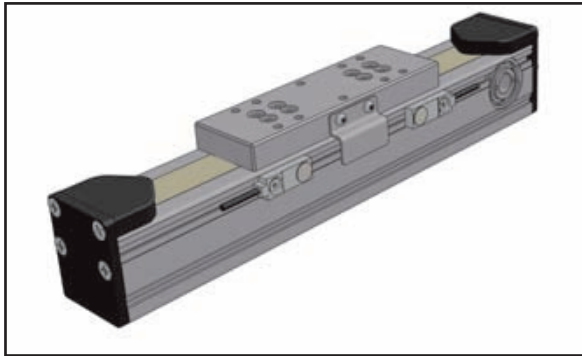
Mounting option 4

Linear axis	Switch	A	B	C	D	E	Mounting option
AXC40	I1	7	28	-	-	-	3
AXC60	M2	22	19,5	25	11,5	-	1
	M3	20	12,5	18	19	-	1
	I2	-	-	like M2 / M3		-	4
AXC60A	M1	30	9,5	18	55	-	1
AXC80	M1	30	25,5	26	11	-	1
	I2	-	-	26	11	-	4
AXC120	M1	30	64,5	26	20	-	1
	I2	-	-	26	11	-	4
AXLT155	M3	25	1	-	-	-	2
AXLT225	M3	25	11	-	-	-	2
AXLT325	M3	35	26	-	-	10	2
AXLT455	M3	34	39,5	-	-	14	2
AXDL110	M2	31	7	24	9,3	10	2
AXDL160	M1	30	9,5	15	8,5	-	1
AXDL240	M1	30	22	15	33	-	1



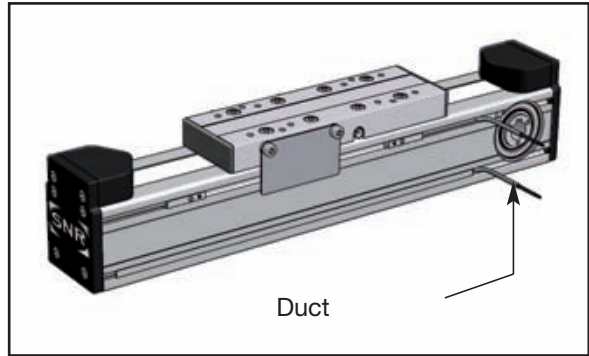
• **AXC 40**

Inductive switches (I1)



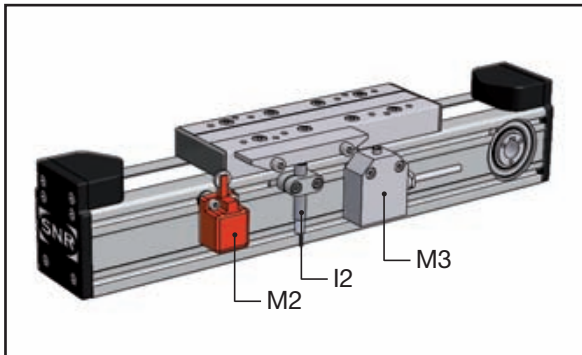
• **AXC60**

Inductive switches (AXC initiator)



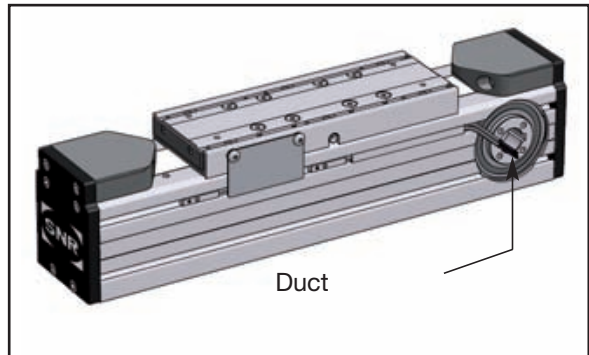
• **AXC60**

Mechanical and inductive switches



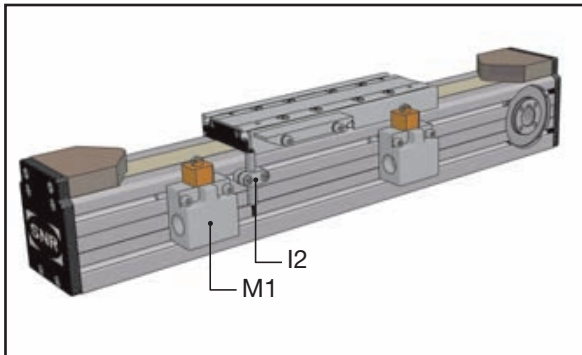
• **AXC80**

Inductive switches (AXC initiator)



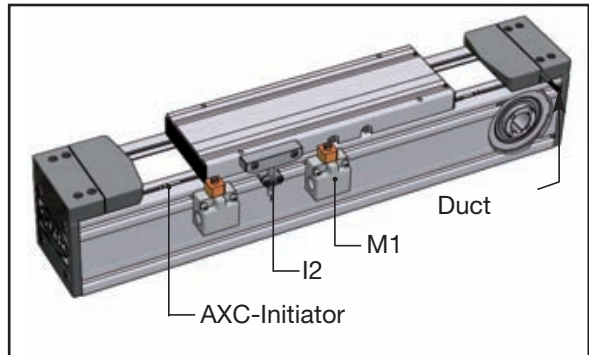
• **AXC80**

Mechanical and inductive switches



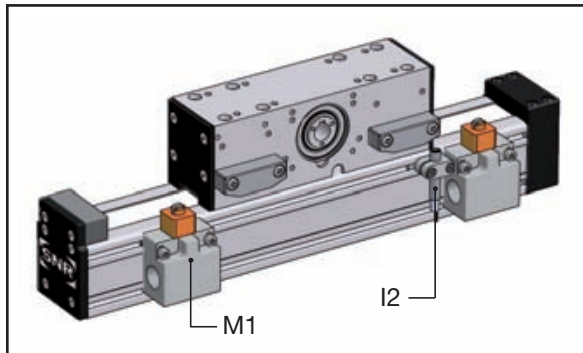
• **AXC120**

Mechanical and/or inductive switches

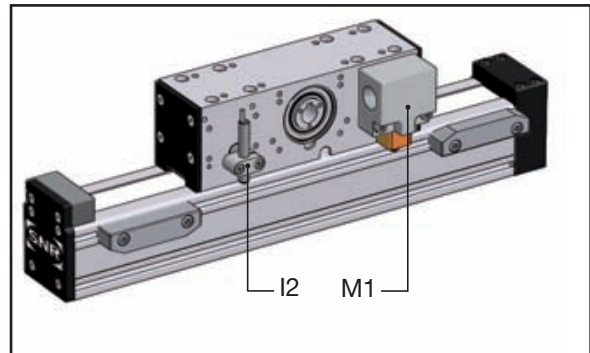


• **AXC_A**

Carriage moves

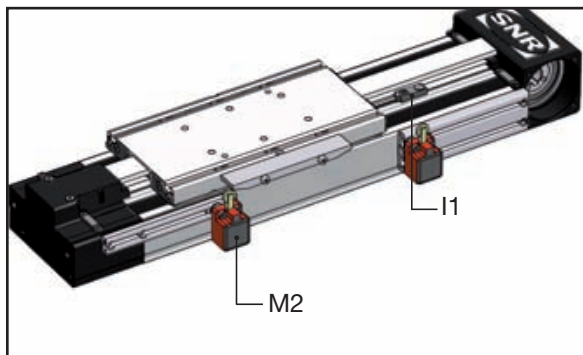


Section moves



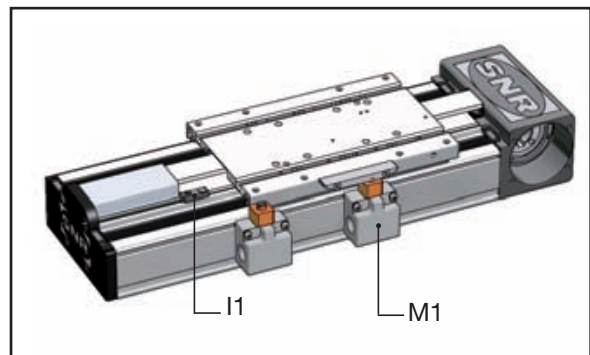
• **AXDL110**

Mechanical and inductive switches



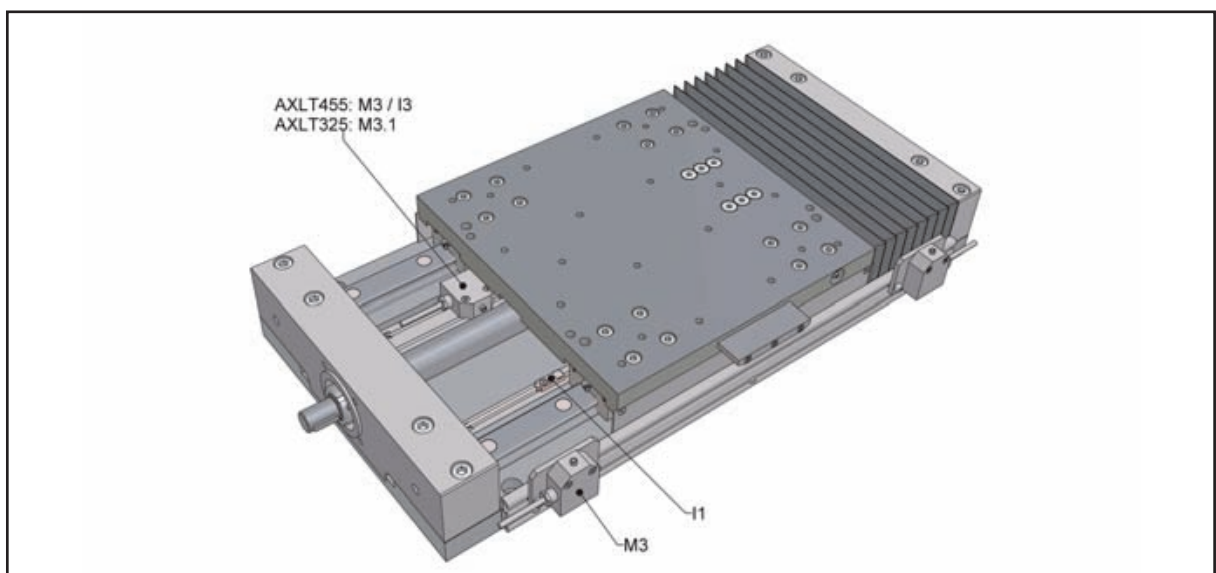
• **AXDL160/240**

Mechanical and inductive switches



• **AXLT**

Mechanical and inductive switches

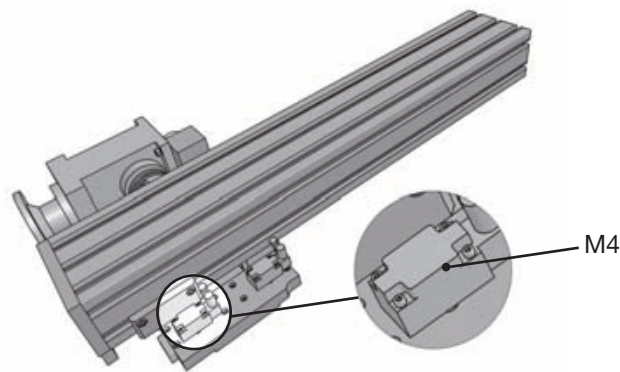




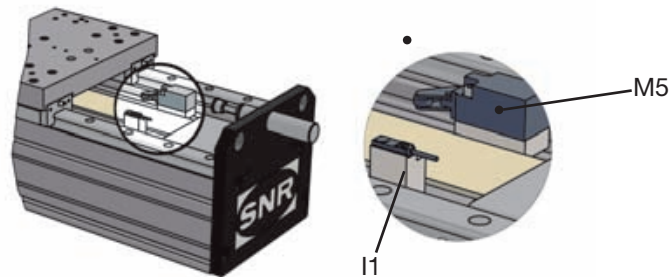
I Fitting of switches to AXS modules

All AXS series linear axes are available with mechanical switches as standard. Inductive proximity switches are also available for the AXS280Z portal axis.

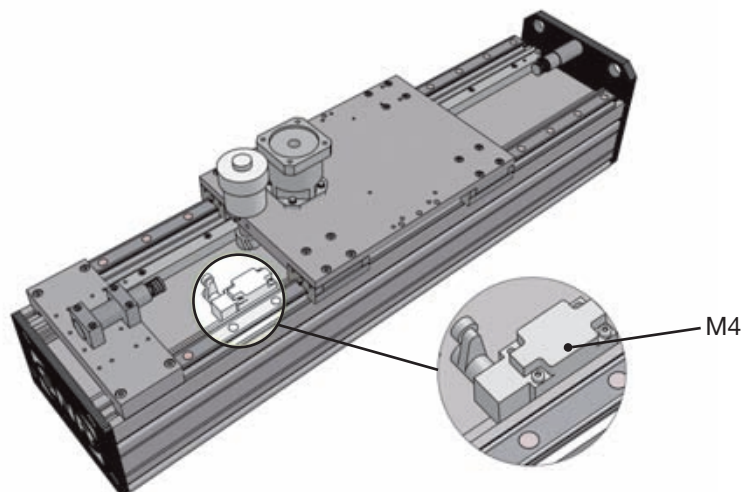
- Lifting axes **AXS200M to AXS280M** and telescopic axis **AXS120**



- Portal axis **AXS280Z**



- Portal axes

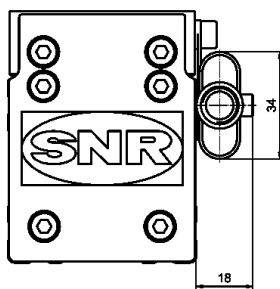


I Sensor box on AXC / AXLT

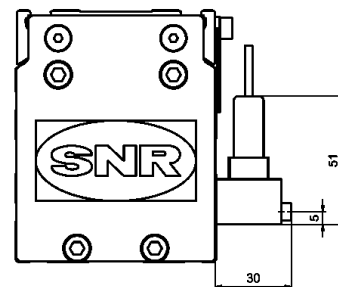
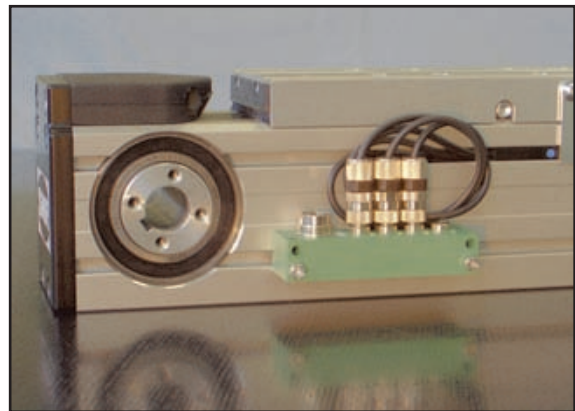
It is easy to connect the cables professionally using sensor boxes, which are available as standard. All switching signals are channeled through here. Connection to the signal-processing control unit is rapidly set up with the help of pre-assembled lines.

Depending on the number of switches required, either a 2x distributor can be used or a sensor box to which four or more switches can be connected. Both designs have an IP67 protection rating and are supplied completely wired, as shown in the picture. An 8-pole plug connection with M12 thread for the sensor box or a 5-pole plug connection with M8 thread for the 2x distributor is available for the connection to the signal-processing control unit.

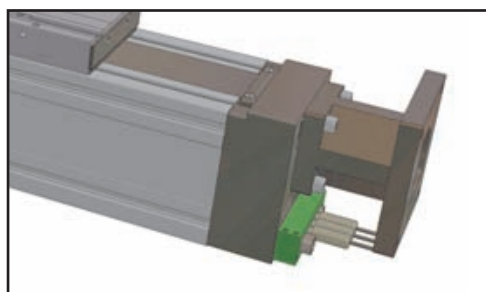
• 2x distributor



• Sensor box for 4 switches



To prevent unwanted projections, the sensor box in type AXC120-S and AXLT325 can also be mounted under the motor adapter as a space-saving measure.





I Technical data of switches

• Mechanical safety limit switch

	Service life	Housing material	Screw fitting	Protection class
Switch M1 / M4 / M5 AXC60A AXC80/120 AXDL160/240 AXS	30x10 ⁶ Contacts	Plastic	M20x1,5 Cross-section area: 0,5...2,5mm ²	IP67
Switch M2 AXC60Z/S AXDL110	30x10 ⁶ Contacts	Plastic	Threaded terminal ends: 4xM3,5 Cross-section area: 0,5...1,5mm ²	IP30
Switch M3 AXC60Z/S AXLT155 - AXLT455	10x10 ⁶ Contacts	Metal	Threaded terminal ends Cross-section area: max. 1,5mm ²	IP67
Switch M3.1 (soldering connection) AXLT325	10x10 ⁶ Contacts	Metal	Soldering connection Cross-section area: max. 1,5mm ²	IP67

Switch element: snap switch (automatic separation)/1x break contact and 1x make contact.

• Inductive proximity switch

	Connection voltage	Max. load power	Indexing précision	Cable length	Protection class
Switch I1 PNP-NO (make contact) NPN/PNP-NC (break contact) AXC40 AXDL AXLT AXS	10...30 V DC	100 mA	≤ 10% of the switch distance	5m	IP67
AXC- Initiator PNP-NC (B.contact)/NO (M.contact) NPN-NC AXC60 - AXC120	10...30 V DC	100 mA	≤ 2% of the switch distance	10m	IP67
Switch I2 AXC60 - AXC120	12...30 V DC	100 mA	≤ 5% of the switch distance	2m	IP67

• **Combination options for fitting of switches**

Encoding	Number of switches						Mountable on the axis													
	Mechanical switch		Inductive proximity switch			I1 -- I2			AXC60A		AXC80A		AXC120A		AXDL		AXLT		AXS	
			AXC initiator						Carriage moves	Section moves	Carriage moves	Section moves	Carriage moves	Section moves					Portal axes	Lifting axes
	M1, M2, M4, M5	M3, M3.1	PNP-NC 10m cable	PNP-NO 10m cable	NPN-NC 3m cable	AXC40Z AXC40S	AXC60Z AXC60S	AXC80Z AXC80S							AXC120Z AXC120S					
00							X	X	X	X	X	X	X	X	X	X	X	X	X	
01	1						O	X	X	X	X	X	X	X	X	X	O	X	X	
02	2						O	X	X	X ¹⁾	X	X	X	X	X	X	O	X	X	
03	2					1	O	X	X	O	X	X	O	X	X	O	X ²⁾	O	X	O
04	2					1	O	X	X	O	X	X	O	X	X	O	X ²⁾	O	X	O
05		1					O	X	O	O	O	O	O	O	O	O	O	X	O	O
06		2					O	X	O	O	O	O	O	O	O	O	O	X	O	O
07		2				1	O	X	O	O	O	O	O	O	O	O	O	X ³⁾	O	O
08		2				1	O	X	O	O	O	O	O	O	O	O	O	X ³⁾	O	O
12			1				O	X	X	O	X	X	O	X	O	O	O	O	O	O
13			2				O	X	X	O	X	X	O	X	O	O	O	O	O	O
14			3				O	O	O	O	X	X	O	X	O	O	O	O	O	O
18				1			O	X	X	O	X	X	O	X	O	O	O	O	O	O
19				2			O	X	X	O	X	X	O	X	O	O	O	O	O	O
20				3			O	O	O	O	X	X	O	X	O	O	O	O	O	O
21					1		O	X	X	O	X	X	O	X	O	O	O	O	O	O
22					2		O	X	X	O	X	X	O	X	O	O	O	O	O	O
23					3		O	O	O	O	X	X	O	X	O	O	O	O	O	O
24							O	O	O	O	X	X	O	X	O	O	O	O	O	O
25			2	1			O	O	O	O	X	X	O	X	O	O	O	O	O	O
26					1		X	X	X	X	X	X	X	X	X	X	X ²⁾	X ³⁾	X	X
27					2		X	X	X	X	X	X	X	X	X	X	X ²⁾	X ³⁾	X	X
28					3		X	X	X	O	X	X	O	X	X	O	X ²⁾	X ³⁾	X	O
29						1	X	X	X	X	X	X	X	X	X	X	X ²⁾	X ³⁾	X	X
30						2	X	X	X	X	X	X	X	X	X	X	X ²⁾	X ³⁾	X	X
31						3	X	X	X	O	X	X	O	X	X	O	X ²⁾	X ³⁾	X	O
32						1	X	X	X	X	X	X	X	X	X	X	X ²⁾	X ³⁾	X	X
33						2	X	X	X	X	X	X	X	X	X	X	X ²⁾	X ³⁾	X	X
34						3	X	X	X	O	X	X	O	X	X	O	X ²⁾	X ³⁾	X	O
35					2	1	X	X	X	O	X	X	O	X	X	O	X ²⁾	X ³⁾	X	O

* X Possible variants

O Not possible

1) Not possible in connection with the standard connection. Please choose 01 here on both sides (the combinations 01 + 26 / 29 / 32 are also possible).

2) Initiator mounted on the upper right side; in the order description, always take into consideration the "fitting of switches to the left", in position 9.

3) Initiator mounted inwards to the left; in the order description, always take into consideration the "fitting of switches to the left", in position 9.

Other switch combinations are designated in the order description with XX and described in plain language.