SWITCH CATALOGUE

SWITCHES FROM 10A UP TO 315A

DISCONNECT SWITCHES / ROTARY CAM SWITCHES

SMD Sälzer Modular Design

Innovation · Technology · Quality

ibemo Kazakhstan - 090301 Republic of Kazakhstan, West Kazakhstan Oblast, Aksai, Pramzone, BKKS office complex
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Switchgear from Salzer: Solutions for the future!

Since 1956 Salzer has specialised in the development, manufacture and sale of low voltage switchgear.

The large selection of types, switching programmes and mounting forms mean that practical reliable solutions can be achieved quickly. Whatever the switch, all individual parts are optimally co-ordinated, easy to assemble and combine.

Whether in switching and automation systems, mechanical engineering and construction, in the heating, climatic and ventilation industry, environmental technology or other areas: Salzer switches provide safety!

Product support, training and service as well as a Certified Quality Management to DIN EN ISO 9001:2000 are an essential part of our daily work. Our switches comply with national and international standards (IEC / UL / CSA) and are suitable for world-wide application.

Special requirements? Call us, we'll help you find an individual solution for your switching needs.

Faster deliveries through SMD!

In order to ensure even greater flexibility for worldwide supply availability within 24h, Salzer Electric has introduced the SMD (Salzer Modular Design) system.

SMD modules are individually prefabricated and tested all-in-one modules which SMD Service holds in stock in sufficient quantities. From basic switch modules, mounting form modules and operator modules, SMD Service can assemble a complete switch requested by the customer and pack it ready for delivery in just a few actions.

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Setup of Switch Catalogue

This catalogue includes a selection of our standard programmes and is divided into the following categories:

If you need assistance in the selection of a product or require additional information on the range of products available from Salzer, please feel free to contact us!

How to order

The 16 digit order code number for complete switches consists of the three ident numbers for type, switching programme and mounting form:

Type - **Switching programme** - **Mounting form**

- the **type** specifies the physical size and power rating of the switches
- the **switching programme** specifies the switching arrangement and the switching angle
- the **mounting form** specifies the mountings, types of handles and optional extras

In addition to the order code number, each complete switch is assigned a machine readable 13 digit EAN Code.

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Rotary Cam Switches

Safe **Switching** and **Controlling**

Rotary Cam Switches from Salzer, are manually operated, independently programmable control switches for main and auxiliary circuits with up to 24 contacts and are offered with switching angles of 30°, 45°, 60° or 90°.
A maximum of 12 switching positions can be provided.

Design and Function

- 30°/ 45°/ 60° or 90° switching angle
- Forced open Contacts
- Terminal screws in open position
- Finger protected
  (degree of protection up to IP20)
- Short-circuit rating
- Fulfils the load break requirements
  up to 690V

Applications

Rotary Cam Switches offer ideal features for their use as:

- ON-OFF Switches
- Changeover Switches
- Multi-step Switches
- Code Switches
- Gang Switches
- Instrument Switches
- Motor Switches

Conformity

Our products are designed, manufactured and tested according to the following standards:

- IEC 60947
- EN 60947
- IEC 60204-1
- EN 60204-1
- UL 508
- CSA 22.2, No. 14

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Mounting Options

Front Mounting

- Two hole mounting
- Single hole mounting
- Four hole mounting
- Wall mounting with plaster depth box

Available as Control Switch, ON-OFF Switch, Multi-step Switch, Changeover Switch, Motor Switch, Main/Emergency-Off Switch or as a Main Switch.

Base Mounting

- Snap on mounting (DIN Rail 35 mm DIN EN 60715)
- Four hole mounting

Available as Control Switch, ON-OFF Switch, Multi-step Switch, Changeover Switch, Motor Switch, Main/Emergency-Off Switch or as a Main Switch.

Enclosed Switches

- Insulated enclosure

Available as Control Switch, ON-OFF Switch, Multi-step Switch, Changeover Switch, Motor Switch, Main/Emergency-Off Switch or as a Main Switch.

Our modular technology allows us to build custom switching solutions for up to 24 poles!

Product lines

	IEC:	UL/ CSA:		
Product line P100				
▪ connection in mounting direction	10A	10A	1 ... 16 contacts	switching angle 30°/45°/60°/90°
Product line P200				
▪ connection in mounting direction	20A - 25A	20A - 25A	1 ... 24 contacts	switching angle 30°/45°/60°/90°
Product line M200				
▪ lateral connection	20A - 25A	20A - 25A	1 ... 24 contacts	switching angle 30°/45°/60°/90°
Product line T200				
▪ lateral connection	32A	35A	1 ... 24 contacts	switching angle 30°/45°/60°/90°
Product line S400				
▪ lateral connection	50A - 63A	55A - 70A	1 ... 24 contacts	switching angle 30°/45°/60°/90°
Product line S600				
▪ lateral connection	80A - 160A	95A - 175A	1 ... 24 contacts	switching angle 30°/45°/60°/90°
Product line S800				
▪ lateral connection	315A	240A	1 ... 24 contacts	switching angle 30°/45°/60°/90°

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Main/Emergency-Off Switches · Main Switches

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Front mounting

Base mounting

Enclosed switches

Technical Information

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Two hole mounting 20 mm

10A

- Control Switch
- ON-OFF Switch
- Multi-step Switch
- Instrument Switch
- Changeover Switch
- Motor Switch

1 ... 16 contacts

IP66 (front)
Two hole mounting 20 mm

Order code structure:
Ordering example: 2 pole ON-OFF Switch 90°, 10A, M-handle:

Type - **Switching programme** - **Mounting form**
P110 - 61192 - 003M1

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Degree of protection Terminals	Terminal accessibility
P110	10	3	2.2	IP20	Terminals accessible from mounting direction

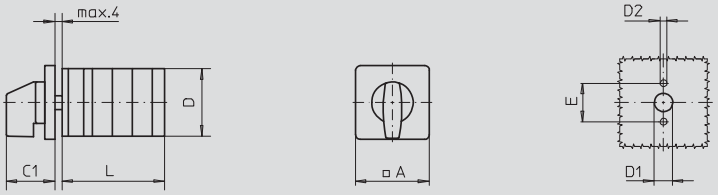
Detailed technical data page 192.

Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61351	1	1	ON-OFF Switch with spring return, 1 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61049	2	3	Multi-step Switch without OFF, 3 steps, 1 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole
61109	1	2	Gang Switch, 2 gangs, 1 pole
61111	3	6	Gang Switch, 2 gangs, 3 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator	
003M1		M-handle silver/black

Dimensions in mm:



Type	A	C1	D	D1	D2	E	L with ... stages (max. 8) 1	2	3	4	5	6	7	8
P110	30	24	29	8	3.2	20	39	51	63	75	87	99	111	123

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10A

Main/Emergency-Off Switch ■
Main Switch ■

1 ... 16 contacts

IP66 (front)
Two hole mounting 20 mm

Order code structure:
Ordering example: 1 pole Main Switch 90°, 10A, M-padlock device:

Type - **Switching programme** - **Mounting form**
P110 - 61191 - 033M1

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Degree of protection Terminals	Terminal accessibility
P110	10	3	2.2	IP20	Terminals accessible from mounting direction

Detailed technical data page 192.

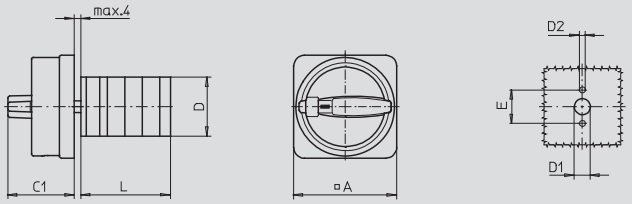
Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61199	2	3	ON-OFF Switch 90°, 3 pole
61194	2	4	ON-OFF Switch 90°, 4 pole, 1 pole early make/late break
61906	3	6	ON-OFF Switch 90°, 6 pole
61919	4	8	ON-OFF Switch 90°, 8 pole, 2 pole early make/late break

Switching diagrams and further switching programmes page 156.

Mounting form	Operator	Main/Emergency-Off Switch
033M4		M-padlock device yellow/red

Mounting form	Operator	Main Switch
033M1		M-padlock device black

Dimensions in mm:



Type	A	C1	D	D1	D2	E	L with ... stages (max. 8) 1	2	3	4	5	6	7	8
P110	48	31	29	8	3.2	20	39	51	63	75	87	99	111	123

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Four hole mounting 36 × 36 mm

20A / 25A / 32A

- Control Switch
- ON-OFF Switch
- Multi-step Switch
- Instrument Switch
- Changeover Switch
- Motor Switch

1 ... 24 contacts

IP66 (front)
Four hole mounting 36 × 36 mm

Order code structure:
Ordering example: 2 pole ON-OFF Switch 60°, 20A, M-handle:

Type - **Switching programme** - **Mounting form**
M220 - 61002 - 003M1

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Degree of protection Terminals	Terminal accessibility	
P220	20	7.5	5.5	IP1B		Terminals accessible from mounting direction
P225	25	11	7.5	IP1B		
M220	20	7.5	5.5	IP20		Terminals accessible laterally
M225	25	11	7.5	IP20		
T225	32	15	11	IP20		Terminals accessible laterally

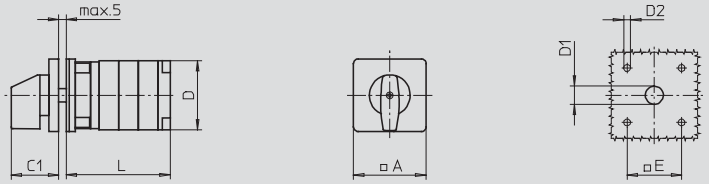
Detailed technical data page 192.

Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61027	3	6	Changeover Switch with centre OFF 60°, 3 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole
61313	3	6	Voltmeter Selector Switch with centre OFF, 3 phase line to line + 3 phase line to N
61325	3	6	Ammeter Selector Switch with centre OFF, 3 transformers, 1 pole
61211	3	5	Motor Reversing Switch, 3 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator	
003M1		M-handle silver/black

Dimensions in mm:



Type	A	C1	D	D1	D2	E	L with ... stages (max. 12) 1	2	3	4	5	6	7	each additional
P220	48	32	44	12	4.5	36	47	60	73	86	99	112	125	13
P225	48	32	46	12	4.5	36	51	66	81	96	111	126	141	15
M220	48	32	46	12	4.5	36	40	50	60	70	80	90	100	10
M225	48	32	48	12	4.5	36	43	56	69	82	95	108	121	13
T225	48	32	50	12	4.5	36	45	60	75	90	105	120	135	15

Four hole mounting 36 × 36 mm

With dust protective cover

20A / 25A / 32A

Instrument Switch ■ **Control Switch** ■
Changeover Switch ■ **ON-OFF Switch** ■
Motor Switch ■ **Multi-step Switch** ■

1 ... max. 8 contacts

IP66
Four hole mounting 36 × 36 mm

Order code structure: **Type** - **Switching programme** - **Mounting form**

Ordering example: 2 pole ON-OFF Switch 60°, 20A, M-handle: **M220 - 61002 - 005M1**

Type	contacts:	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Degree of protection Terminals	Terminal accessibility	
P220	1 ... 6	20	7.5	5.5	IP66		Terminals accessible from mounting direction
P225	1 ... 4	25	11	7.5	IP66		
M220	1 ... 8	20	7.5	5.5	IP66		Terminals accessible laterally
M225	1 ... 6	25	11	7.5	IP66		
T225	1 ... 4	32	15	11	IP66		Terminals accessible laterally

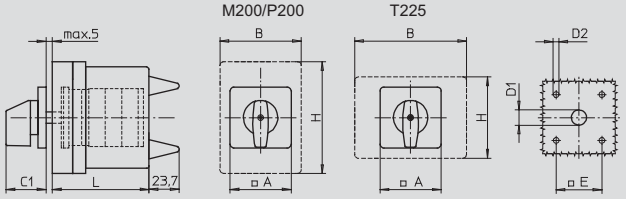
Detailed technical data page 192.

Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61199	2	3	ON-OFF Switch 90°, 3 pole
61194	2	4	ON-OFF Switch 90°, 4 pole, 1 pole early make/late break
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61003	2	3	ON-OFF Switch 60°, 3 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61049	2	3	Multi-step Switch without OFF, 3 steps, 1 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator	
005M1		M-handle silver/black

Dimensions in mm:



Type	A	B	C1	D1	D2	E	H	L with ... stages 1	2	3	4
P220	48	64	32	12	4.5	36	88	80	80	80	—
P225	48	64	32	12	4.5	36	88	80	80	—	—
M220	48	64	32	12	4.5	36	88	80	80	80	80
M225	48	64	32	12	4.5	36	88	80	80	80	—
T225	48	88	32	12	4.5	36	64	80	80	—	—

Four hole mounting 36 × 36 mm

20A / 25A / 32A

- **Main/Emergency-Off Switch**
- **Main Switch**

1 ... 24 contacts

IP66 (front)
Four hole mounting 36 × 36 mm

Order code structure:
Ordering example: 2 pole Main/Emergency-Off Switch 90°, 20A, M-padlock device:

Type - **Switching programme** - **Mounting form**
M220 - 61192 - 033M4

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Degree of protection Terminals	Terminal accessibility	
P220	20	7.5	5.5	IP1B		Terminals accessible from mounting direction
P225	25	11	7.5	IP1B		
M220	20	7.5	5.5	IP20		Terminals accessible laterally
M225	25	11	7.5	IP20		
T225	32	15	11	IP20		Terminals accessible laterally

Detailed technical data page 192.

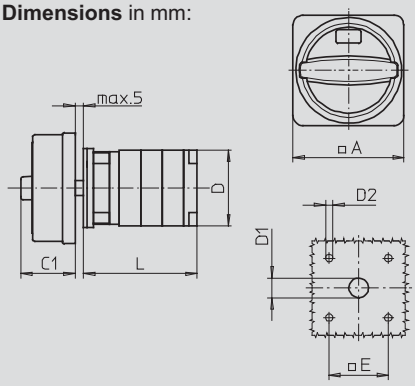
Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61199	2	3	ON-OFF Switch 90°, 3 pole
61194	2	4	ON-OFF Switch 90°, 4 pole, 1 pole early make/late break
61906	3	6	ON-OFF Switch 90°, 6 pole
61919	4	8	ON-OFF Switch 90°, 8 pole, 2 pole early make/late break

Switching diagrams and further switching programmes page 156.

Mounting form	Operator	Main/Emergency-Off Switch
033N4		N-padlock device yellow/red
033M4		M-padlock device yellow/red
033V4		padlockable with V-handle yellow/red

Mounting form	Operator	Main Switch
033N1		N-padlock device black
033M1		M-padlock device black
033V1		padlockable with V-handle silver/black

Dimensions in mm:



Mounting form	A	C1	D	D1	D2	E	L with ... stages (max. 12) 1	2	3	4	5	6	7	each additional
Type P220:														
033N4/033N1	67	33	44	15	4.5	36	47	60	73	86	99	112	125	13
033M4/033M1	67	38	44	15	4.5	36	47	60	73	86	99	112	125	13
033V4/033V1	48	32	44	12	4.5	36	47	60	73	86	99	112	125	13
Type P225:														
033N4/033N1	67	33	46	15	4.5	36	51	66	81	96	111	126	141	15
033M4/033M1	67	38	46	15	4.5	36	51	66	81	96	111	126	141	15
033V4/033V1	48	32	46	12	4.5	36	51	66	81	96	111	126	141	15
Type M220:														
033N4/033N1	67	33	46	15	4.5	36	40	50	60	70	80	90	100	10
033M4/033M1	67	38	46	15	4.5	36	40	50	60	70	80	90	100	10
033V4/033V1	48	32	46	12	4.5	36	40	50	60	70	80	90	100	10
Type M225:														
033N4/033N1	67	33	48	15	4.5	36	43	56	69	82	95	108	121	13
033M4/033M1	67	38	48	15	4.5	36	43	56	69	82	95	108	121	13
033V4/033V1	48	32	48	12	4.5	36	43	56	69	82	95	108	121	13
Type T225:														
033N4/033N1	67	33	50	15	4.5	36	45	60	75	90	105	120	135	15
033M4/033M1	67	38	50	15	4.5	36	45	60	75	90	105	120	135	15
033V4/033V1	48	32	50	12	4.5	36	45	60	75	90	105	120	135	15

50A / 63A

Changeover Switch ■ **ON-OFF Switch** ■
Motor Switch ■ **Multi-step Switch** ■

1 ... 24 contacts

IP55 (front)
Four hole mounting 48 × 48 mm

Order code structure:

Type - Switching programme - Mounting form

Ordering example: 3 pole ON-OFF Switch 60°, 50A, M-handle: **S432 - 61003 - 003M1**

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Terminal accessibility
S432	50	22	22	 Terminals accessible laterally
S440	63	30	30	

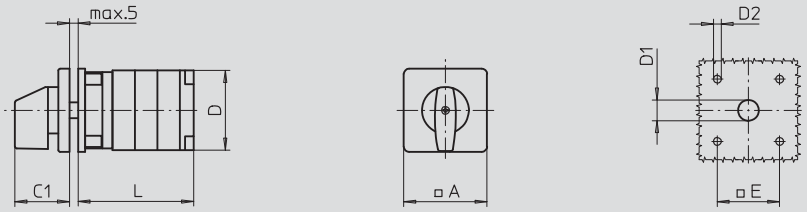
Detailed technical data page 192.

Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61199	2	3	ON-OFF Switch 90°, 3 pole
61194	2	4	ON-OFF Switch 90°, 4 pole, 1 pole early make/late break
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61003	2	3	ON-OFF Switch 60°, 3 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61027	3	6	Changeover Switch with centre OFF 60°, 3 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole
61211	3	5	Motor Reversing Switch, 3 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator	
003M1		M-handle silver/black

Dimensions in mm:



Type	A	C1	D	D1	D2	E	L with ... stages (max. 12) 1	2	3	4	5	6	7	each additional
S432	64	39	65	12	5	48	51	69	87	105	123	141	159	18
S440	64	39	70	12	5	48	56	77	98	119	140	161	182	21

Four hole mounting 68 × 68 mm

80A / 100A / 160A

- **ON-OFF Switch**
- **Changeover Switch**
- **Multi-step Switch**
- **Motor Switch**

1 ... 24 contacts

IP55 (front)
Four hole mounting 68 × 68 mm

Order code structure:
Ordering example: 3 pole ON-OFF Switch 60°, 80A, G-handle:

Type - **Switching programme** - **Mounting form**
S606 - 61003 - 003G1

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Terminal accessibility
S606	80	45	30	Terminals accessible laterally
S608	100	55	37	
S612	160	75	45	

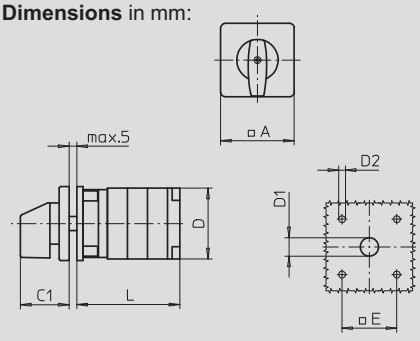
Detailed technical data page 192.

Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61199	2	3	ON-OFF Switch 90°, 3 pole
61194	2	4	ON-OFF Switch 90°, 4 pole, 1 pole early make/late break
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61003	2	3	ON-OFF Switch 60°, 3 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61027	3	6	Changeover Switch with centre OFF 60°, 3 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole
61211	3	5	Motor Reversing Switch, 3 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator	
003M1		M-handle silver/black
003G1		G-handle silver/black

Dimensions in mm:



Mounting form	A	C1	D	D1	D2	E	L with ... stages (max. 12) 1	2	3	4	5	6	7	each additional
Type S606:														
003M1	88	52	84	15	5.5	68	59	81	103	125	147	169	191	22
003G1	88	66	84	15	5.5	68	59	81	103	125	147	169	191	22
Type S608:														
003M1	88	52	88	15	5.5	68	66	92	118	144	170	196	222	26
003G1	88	66	88	15	5.5	68	66	92	118	144	170	196	222	26
Type S612:														
003M1	88	52	88	15	5.5	68	72	104	136	168	200	232	264	32
003G1	88	66	88	15	5.5	68	72	104	136	168	200	232	264	32

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315A

Changeover Switch ■ **ON-OFF Switch** ■
Motor Switch ■ **Multi-step Switch** ■

1 ... 24 contacts

IP55 (front)
Four hole mounting 104 × 104 mm

Order code structure:

Ordering example: 3 pole ON-OFF Switch 60°, 315A, G-handle:

Type - **Switching programme** - **Mounting form**

S825 - 61003 - 003G1

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Terminal accessibility
S825	315	132	55	Terminals accessible laterally

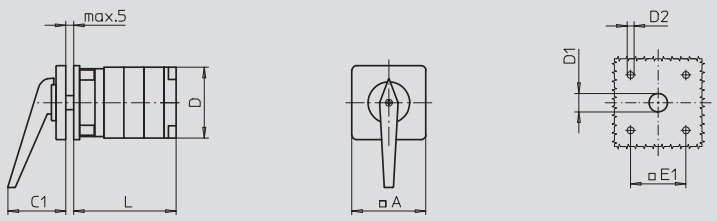
Detailed technical data page 192.

Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61199	2	3	ON-OFF Switch 90°, 3 pole
61194	2	4	ON-OFF Switch 90°, 4 pole, 1 pole early make/late break
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61003	2	3	ON-OFF Switch 60°, 3 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61027	3	6	Changeover Switch with centre OFF 60°, 3 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator
003G1	G-handle silver/black

Dimensions in mm:



Type	A	C1	D*	D1	D2	E	L with ... stages (max. 12) 1	2	3	4	5	6	7	each additional
S825	130	74	210	20	5.5	104	89	125	161	197	233	269	305	36

* terminal lugs included

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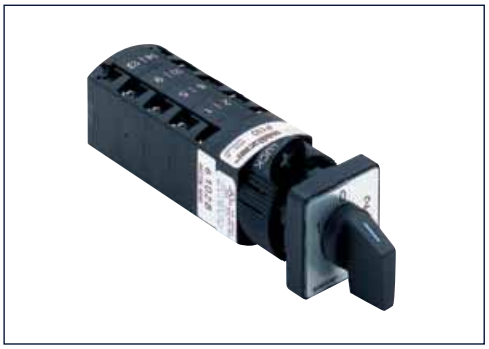
Single hole mounting ∅ 16 mm / 22.5 mm

10A

- Control Switch
- ON-OFF Switch
- Multi-step Switch
- Instrument Switch
- Changeover Switch
- Motor Switch

1 ... 16 contacts



IP66 (front)
Single hole mounting ∅ 16 mm / 22.5 mm

Order code structure: **Type** - **Switching programme** - **Mounting form**

Ordering example: 1 pole Changeover Switch with centre OFF 60°, 10A, M-handle: **P110 - 61025 - 219M1**

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Degree of protection Terminals	Terminal accessibility
P110	10	3	2.2	IP20	Terminals accessible from mounting direction

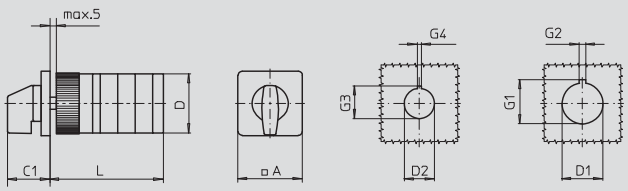
Detailed technical data page 192.

Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61351	1	1	ON-OFF Switch with spring return, 1 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61049	2	3	Multi-step Switch without OFF, 3 steps, 1 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole
61109	1	2	Gang Switch, 2 gangs, 1 pole
61111	3	6	Gang Switch, 2 gangs, 3 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator	
219M1		M-handle silver/black

Dimensions in mm:



Type	A	C1	D	D1	D2	G1	G2	G3	G4	L with ... stages (max. 8) 1	2	3	4	each additional
P110	30	26	29	22.5	16.2	24.2	3.2	17.9	1.7	57	69	81	93	12

Single hole mounting ∅ 16 mm / 22.5 mm

With front ring

10A

Instrument Switch ■ **Control Switch** ■
Changeover Switch ■ **ON-OFF Switch** ■
Motor Switch ■ **Multi-step Switch** ■

1 ... 16 contacts

IP66 (front)
Single hole mounting ∅ 16 mm / 22.5 mm

Order code structure: **Type** - **Switching programme** - **Mounting form**

Ordering example: 1 pole Changeover Switch with centre OFF 60°, 10A, M-handle: **P110 - 61025 - 218M1**

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Degree of protection Terminals	Terminal accessibility
P110	10	3	2.2	IP20	Terminals accessible from mounting direction

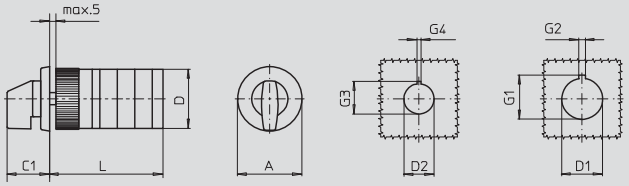
Detailed technical data page 192.

Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61351	1	1	ON-OFF Switch with spring return, 1 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61049	2	3	Multi-step Switch without OFF, 3 steps, 1 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole
61109	1	2	Gang Switch, 2 gangs, 1 pole
61111	3	6	Gang Switch, 2 gangs, 3 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator	
218M1		M-handle with front ring black/black

Dimensions in mm:



Type	A	C1	D	D1	D2	G1	G2	G3	G4	L with ... stages (max. 8) 1	2	3	4	each additional
P110	30	26	29	22.5	16.2	24.2	3.2	17.9	1.7	57	69	81	93	12

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Single hole mounting ∅ 16 mm / 22.5 mm

Key operated

10 A

- Control Switch
- ON-OFF Switch
- Multi-step Switch
- Instrument Switch
- Changeover Switch
- Motor Switch

1 ... 16 contacts

IP40 (front)
Single hole mounting ∅ 16 mm / 22.5 mm

Order code structure:
Ordering example: 1 pole ON-OFF Switch 90°, 10 A, key operated, key removable at 09h:

Type - **Switching programme** - **Mounting form**
P110 - 61191 - S001A

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440 V) AC-23A (kW)	AC-3 (kW)	Degree of protection Terminals	Terminal accessibility
P110	10	3	2.2	IP20	Terminals accessible from mounting direction

Detailed technical data page 192.

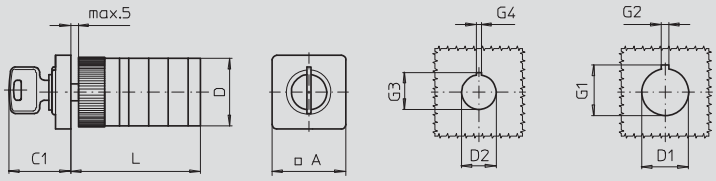
Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61351	1	1	ON-OFF Switch with spring return, 1 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61049	2	3	Multi-step Switch without OFF, 3 steps, 1 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole
61109	1	2	Gang Switch, 2 gangs, 1 pole
61111	3	6	Gang Switch, 2 gangs, 3 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator
S001. *	Key operated silver/metal key Ronis cylinder lock L001, 2 keys (other lock types on request)

* The dot in the order code number must be replaced by the classification letter which identifies the key removable positions, see page 185.

Dimensions in mm:



Type	A	C1	D	D1	D2	G1	G2	G3	G4	L with ... stages (max. 8) 1	2	3	4	each additional
P110	30	26	29	22.5	16.2	24.2	3.2	17.9	1.7	57	69	81	93	12

Single hole mounting ∅ 16 mm / 22.5 mm

Key operated with front ring

10A

Instrument Switch ■ **Control Switch** ■
Changeover Switch ■ **ON-OFF Switch** ■
Motor Switch ■ **Multi-step Switch** ■

1 ... 16 contacts

IP40 (front)
Single hole mounting ∅ 16 mm / 22.5 mm

Order code structure:

Ordering example: 1 pole ON-OFF Switch 90°, 10A, key operated, key removable at 09h:

Type - **Switching programme** - **Mounting form**

P110 - 61191 - R001A

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Degree of protection Terminals	Terminal accessibility
P110	10	3	2.2	IP20	Terminals accessible from mounting direction

Detailed technical data page 192.

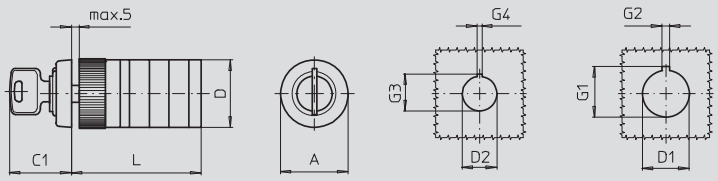
Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61351	1	1	ON-OFF Switch with spring return, 1 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61049	2	3	Multi-step Switch without OFF, 3 steps, 1 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole
61109	1	2	Gang Switch, 2 gangs, 1 pole
61111	3	6	Gang Switch, 2 gangs, 3 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator
R001. *	Key operated with front ring black/metal key Ronis cylinder lock L001, 2 keys (other lock types on request)

* The dot in the order code number must be replaced by the classification letter which identifies the key removable positions, see page 185.

Dimensions in mm:



Type	A	C1	D	D1	D2	G1	G2	G3	G4	L with ... stages (max. 8) 1	2	3	4	each additional
P110	30	26	29	22.5	16.2	24.2	3.2	17.9	1.7	57	69	81	93	12

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Single hole mounting ∅ 22.5 mm

20A / 25A / 32A

- Control Switch
- ON-OFF Switch
- Multi-step Switch
- Instrument Switch
- Changeover Switch
- Motor Switch

1 ... 24 contacts

IP66 (front)
Single hole mounting ∅ 22.5 mm

Order code structure:

Ordering example: 3 pole Changeover Switch with centre OFF 60°, 20A, M-handle:

Type - **Switching programme** - **Mounting form**

M220 - 61027 - 219M1

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Degree of protection Terminals	Terminal accessibility	
P220	20	7.5	5.5	IP1B		Terminals accessible from mounting direction
P225	25	11	7.5	IP1B		
M220	20	7.5	5.5	IP20		Terminals accessible laterally
M225	25	11	7.5	IP20		
T225	32	15	11	IP20		Terminals accessible laterally

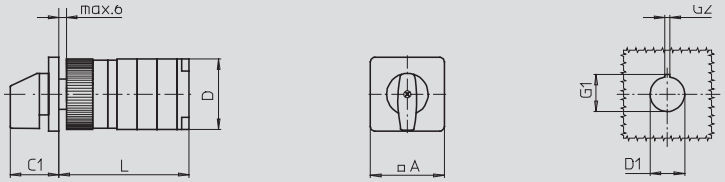
Detailed technical data page 192.

Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61027	3	6	Changeover Switch with centre OFF 60°, 3 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole
61313	3	6	Voltmeter Selector Switch with centre OFF, 3 phase line to line + 3 phase line to N
61325	3	6	Ammeter Selector Switch with centre OFF, 3 transformers, 1 pole
61211	3	5	Motor Reversing Switch, 3 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator	
219M1		M-handle silver/black

Dimensions in mm:



Type	A	C1	D	D1	G1	G2	L with ... stages (max. 12) 1	2	3	4	5	6	7	each additional
P220	48	32	44	22.5	24.2	3.2	66	79	92	105	118	131	144	13
P225	48	32	46	22.5	24.2	3.2	70	85	100	115	130	145	160	15
M220	48	32	46	22.5	24.2	3.2	59	69	79	89	99	109	119	10
M225	48	32	48	22.5	24.2	3.2	62	75	88	101	114	127	140	13
T225	48	32	50	22.5	24.2	3.2	64	79	94	109	124	139	154	15

Single hole mounting ∅ 22.5 mm

With front ring

20A / 25A / 32A

Instrument Switch ■ **Control Switch** ■
Changeover Switch ■ **ON-OFF Switch** ■
Motor Switch ■ **Multi-step Switch** ■

1 ... 24 contacts

IP66 (front)
Single hole mounting ∅ 22.5 mm

Order code structure: **Type** - **Switching programme** - **Mounting form**

Ordering example: 2 pole Changeover Switch with centre OFF 60°, 20A, M-handle: **P220 - 61026 - 218M1**

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Degree of protection Terminals	Terminal accessibility	
P220	20	7.5	5.5	IP1B		Terminals accessible from mounting direction
P225	25	11	7.5	IP1B		
M220	20	7.5	5.5	IP20		Terminals accessible laterally
M225	25	11	7.5	IP20		
T225	32	15	11	IP20		Terminals accessible laterally

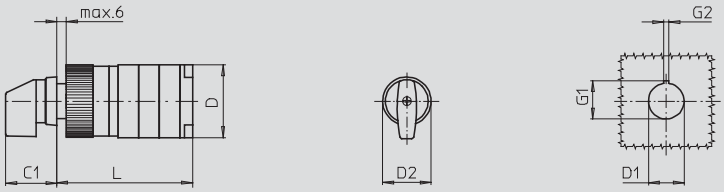
Detailed technical data page 192.

Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61027	3	6	Changeover Switch with centre OFF 60°, 3 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole
61313	3	6	Voltmeter Selector Switch with centre OFF, 3 phase line to line + 3 phase line to N
61325	3	6	Ammeter Selector Switch with centre OFF, 3 transformers, 1 pole
61211	3	5	Motor Reversing Switch, 3 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator	
218M1		M-handle with front ring black/black

Dimensions in mm:



Type	C1	D	D1	D2	G1	G2	L with ... stages (max. 12) 1	2	3	4	5	6	7	each additional
P220	32	44	22.5	30.5	24.2	3.2	66	79	92	105	118	131	144	13
P225	32	46	22.5	30.5	24.2	3.2	70	85	100	115	130	145	160	15
M220	32	46	22.5	30.5	24.2	3.2	59	69	79	89	99	109	119	10
M225	32	48	22.5	30.5	24.2	3.2	62	75	88	101	114	127	140	13
T225	32	50	22.5	30.5	24.2	3.2	64	79	94	109	124	139	154	15

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Single hole mounting ∅ 22.5 mm

Key operated

20 A / 25 A / 32 A

- Control Switch
- ON-OFF Switch
- Multi-step Switch
- Instrument Switch
- Changeover Switch
- Motor Switch

1 ... max. 16 contacts

IP40 (front)
Single hole mounting ∅ 22.5 mm

Order code structure:
Ordering example: 1 pole ON-OFF Switch 90°, 20 A, key operated, key removable at 09h:

Type - Switching programme - Mounting form
M220 - 61191 - S001A

Type	contacts:	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440 V) AC-23A (kW)	AC-3 (kW)	Degree of protection Terminals	Terminal accessibility
P220	1 ... 16	20	7.5	5.5	IP1B	 Terminals accessible from mounting direction
P225	1 ... 16	25	11	7.5	IP1B	
M220	1 ... 16	20	7.5	5.5	IP20	 Terminals accessible laterally
M225	1 ... 16	25	11	7.5	IP20	
T225	1 ... 12	32	15	11	IP20	 Terminals accessible laterally

Detailed technical data page 192.

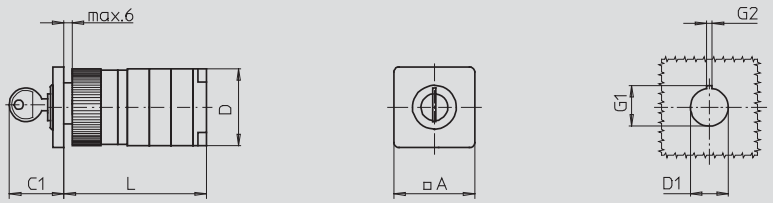
Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61027	3	6	Changeover Switch with centre OFF 60°, 3 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole
61313	3	6	Voltmeter Selector Switch with centre OFF, 3 phase line to line + 3 phase line to N
61325	3	6	Ammeter Selector Switch with centre OFF, 3 transformers, 1 pole
61211	3	5	Motor Reversing Switch, 3 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator
S001. *	Key operated silver/metal key Ronis cylinder lock C001, 2 keys (other lock types on request)

* The dot in the order code number must be replaced by the classification letter which identifies the key removable positions, see page 185.

Dimensions in mm:



Type	A	C1	D	D1	G1	G2	L with ... stages (max. 8) 1	2	3	4	5	6	7	8
P220	48	33	44	22.5	24.2	3.2	66	79	92	105	118	131	144	157
P225	48	33	46	22.5	24.2	3.2	70	85	100	115	130	145	160	175
M220	48	33	46	22.5	24.2	3.2	59	69	79	89	99	109	119	129
M225	48	33	48	22.5	24.2	3.2	62	75	88	101	114	127	140	153
T225	48	33	50	22.5	24.2	3.2	64	79	94	109	124	139	—	—

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Single hole mounting ∅ 22.5 mm

Key operated with front ring

20A / 25A / 32A

Instrument Switch ■ **Control Switch** ■
Changeover Switch ■ **ON-OFF Switch** ■
Motor Switch ■ **Multi-step Switch** ■

1 ... max. 16 contacts

IP40 (front)
Single hole mounting ∅ 22.5 mm

Order code structure: **Type** - **Switching programme** - **Mounting form**

Ordering example: 1 pole ON-OFF Switch 90°, 20A, key operated, key removable at 09h: **M220 - 61191 - R001A**

Type	contacts:	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Degree of protection Terminals	Terminal accessibility	
P220	1 ... 16	20	7.5	5.5	IP1B		Terminals accessible from mounting direction
P225	1 ... 16	25	11	7.5	IP1B		
M220	1 ... 16	20	7.5	5.5	IP20		Terminals accessible laterally
M225	1 ... 16	25	11	7.5	IP20		
T225	1 ... 12	32	15	11	IP20		Terminals accessible laterally

Detailed technical data page 192.

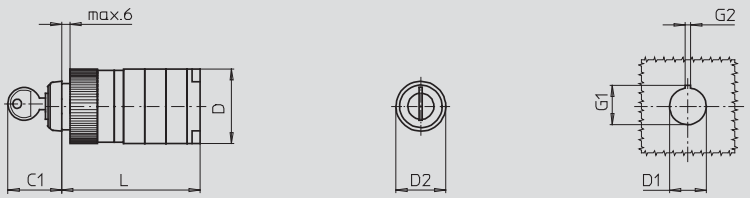
Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61027	3	6	Changeover Switch with centre OFF 60°, 3 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole
61313	3	6	Voltmeter Selector Switch with centre OFF, 3 phase line to line + 3 phase line to N
61325	3	6	Ammeter Selector Switch with centre OFF, 3 transformers, 1 pole
61211	3	5	Motor Reversing Switch, 3 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator	
R001. *		Key operated with front ring black/metal key Ronis cylinder lock C001, 2 keys (other lock types on request)

* The dot in the order code number must be replaced by the classification letter which identifies the key removable positions, see page 185.

Dimensions in mm:



Type	C1	D	D1	D2	G1	G2	L with ... stages (max. 8) 1	2	3	4	5	6	7	8
P220	33	44	22.5	30.5	24.2	3.2	66	79	92	105	118	131	144	157
P225	33	46	22.5	30.5	24.2	3.2	70	85	100	115	130	145	160	175
M220	33	46	22.5	30.5	24.2	3.2	59	69	79	89	99	109	119	129
M225	33	48	22.5	30.5	24.2	3.2	62	75	88	101	114	127	140	153
T225	33	50	22.5	30.5	24.2	3.2	64	79	94	109	124	139	—	—

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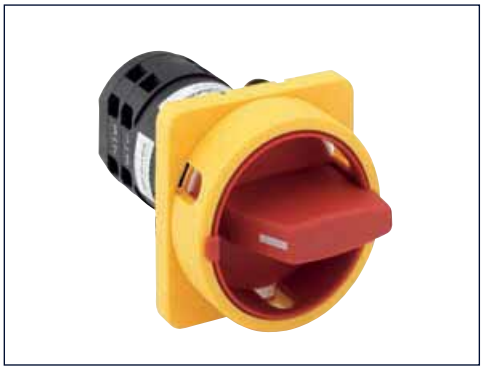
Single hole mounting ∅ 22.5 mm



20 A / 25 A / 32 A

- **Main/Emergency-Off Switch**
- **Main Switch**

1 ... 24 contacts

IP66 (front)
Single hole mounting ∅ 22.5 mm

Order code structure: **Type** - **Switching programme** - **Mounting form**

Ordering example: 3 pole Main/Emergency-Off Switch 90°, 20A, padlockable with V-handle: **M220 - 61199 - 206V4**

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Degree of protection Terminals	Terminal accessibility	
P220	20	7.5	5.5	IP1B		Terminals accessible from mounting direction
P225	25	11	7.5	IP1B		
M220	20	7.5	5.5	IP20		Terminals accessible laterally
M225	25	11	7.5	IP20		
T225	32	15	11	IP20		Terminals accessible laterally

Detailed technical data page 192.

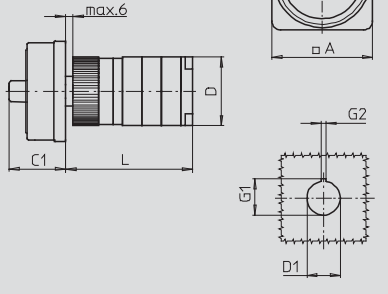
Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61199	2	3	ON-OFF Switch 90°, 3 pole
61194	2	4	ON-OFF Switch 90°, 4 pole, 1 pole early make/late break
61906	3	6	ON-OFF Switch 90°, 6 pole
61919	4	8	ON-OFF Switch 90°, 8 pole, 2 pole early make/late break

Switching diagrams and further switching programmes page 156.

Mounting form	Operator	Main/Emergency-Off Switch
206N4		N-padlock device yellow/red
206M4		M-padlock device yellow/red
206V4		padlockable with V-handle yellow/red

Mounting form	Operator	Main Switch
206N1		N-padlock device black
206M1		M-padlock device black
206V1		padlockable with V-handle silver/black

Dimensions in mm:



Mounting form	A	C1	D	D1	G1	G2	L with ... stages (max. 12) 1	2	3	4	5	6	7	each additional
Type P220:														
206N4/206N1	67	33	44	22.5	24.2	3.2	66	79	92	105	118	131	144	13
206M4/206M1	67	38	44	22.5	24.2	3.2	66	79	92	105	118	131	144	13
206V4/206V1	48	32	44	22.5	24.2	3.2	66	79	92	105	118	131	144	13
Type P225:														
206N4/206N1	67	33	46	22.5	24.2	3.2	70	85	100	115	130	145	160	15
206M4/206M1	67	38	46	22.5	24.2	3.2	70	85	100	115	130	145	160	15
206V4/206V1	48	32	46	22.5	24.2	3.2	70	85	100	115	130	145	160	15
Type M220:														
206N4/206N1	67	33	46	22.5	24.2	3.2	59	69	79	89	99	109	119	10
206M4/206M1	67	38	46	22.5	24.2	3.2	59	69	79	89	99	109	119	10
206V4/206V1	48	32	46	22.5	24.2	3.2	59	69	79	89	99	109	119	10
Type M225:														
206N4/206N1	67	33	48	22.5	24.2	3.2	62	75	88	101	114	127	140	13
206M4/206M1	67	38	48	22.5	24.2	3.2	62	75	88	101	114	127	140	13
206V4/206V1	48	32	48	22.5	24.2	3.2	62	75	88	101	114	127	140	13
Type T225:														
206N4/206N1	67	33	50	22.5	24.2	3.2	64	79	94	109	124	139	154	15
206M4/206M1	67	38	50	22.5	24.2	3.2	64	79	94	109	124	139	154	15
206V4/206V1	48	32	50	22.5	24.2	3.2	64	79	94	109	124	139	154	15

For plaster depth box

20A / 25A

Instrument Switch ■ **Control Switch** ■
Changeover Switch ■ **ON-OFF Switch** ■
Motor Switch ■ **Multi-step Switch** ■

1 ... max. 6 contacts

IP30 (front)

Order code structure:

Ordering example: 1 pole ON-OFF Switch 90°, 20A, N-handle:

Type - **Switching programme** - **Mounting form**

P220 - 61191 - 025N3

Type	contacts:	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Degree of protection Terminals	Terminal accessibility
P220	1 ... 4	20	7.5	5.5	IP1B	 Terminals accessible from mounting direction
P225	1 ... 2	25	11	7.5	IP1B	
M220	1 ... 6	20	7.5	5.5	IP20	 Terminals accessible laterally
M225	1 ... 2	25	11	7.5	IP20	

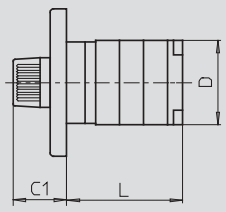
Detailed technical data page 192.

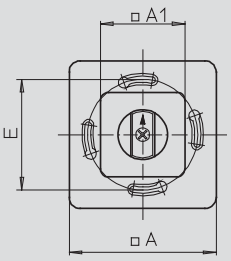
Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61199	2	3	ON-OFF Switch 90°, 3 pole
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61003	2	3	ON-OFF Switch 60°, 3 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61038	2	4	Changeover Switch without OFF 60°, 2 pole
61049	2	3	Multi-step Switch without OFF, 3 steps, 1 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator	
025N3		N-handle silver/white

Dimensions in mm:





Type	A	A1	C1	D	E	L with ... stages 1	2	3
P220	80	46	31	44	60	43	56	—
P225	80	46	31	46	60	47	—	—
M220	80	46	31	46	60	36	46	56
M225	80	46	31	48	60	39	—	—

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20A / 25A / 32A

- Control Switch
- ON-OFF Switch
- Multi-step Switch
- Instrument Switch
- Changeover Switch
- Motor Switch

1 ... 24 contacts

IP66 (front)
Four hole front mounting 36 × 36 mm

Order code structure: Type - Switching programme - Mounting form

Ordering example: 2 pole ON-OFF Switch 60°, 20A, M-handle: **P220 - 61002 - 021M1**

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Degree of protection Terminals	Terminal accessibility	
P220	20	7.5	5.5	IP1B		Terminals accessible from mounting direction
P225	25	11	7.5	IP1B		
M220	20	7.5	5.5	IP20		Terminals accessible laterally
M225	25	11	7.5	IP20		
T225	32	15	11	IP20		Terminals accessible laterally

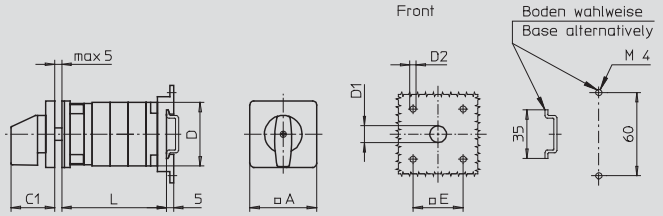
Detailed technical data page 192.

Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61027	3	6	Changeover Switch with centre OFF 60°, 3 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61038	2	4	Changeover Switch without OFF 60°, 2 pole
61049	2	3	Multi-step Switch without OFF, 3 steps, 1 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole
61211	3	5	Motor Reversing Switch, 3 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator	
021M1		M-handle silver/black

Dimensions in mm:



Type	A	C1	D	D1	D2	E	L with ... stages (max. 12) 1	2	3	4	5	6	7	each additional
P220	48	32	44	12	4.5	36	46	59	72	85	98	111	124	13
P225	48	32	46	12	4.5	36	48	63	78	93	108	123	138	15
M220	48	32	46	12	4.5	36	43	53	63	73	83	93	103	10
M225	48	32	48	12	4.5	36	46	59	72	85	98	111	124	13
T225	48	32	50	12	4.5	36	48	63	78	93	108	123	138	15

DIN Rail

20A / 25A / 32A

Instrument Switch ■ **Control Switch** ■
Changeover Switch ■ **ON-OFF Switch** ■
Motor Switch ■ **Multi-step Switch** ■

1 ... 24 contacts

IP40 (front)
Installation mounting for 45 mm aperture in Panel/Distribution boards

Order code structure: **Type** - **Switching programme** - **Mounting form**

Ordering example: 2 pole ON-OFF Switch 60°, 20A, N-handle: **P220 - 61002 - 026N2**

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Degree of protection Terminals	Terminal accessibility
P220	20	7.5	5.5	IP1B	Terminals accessible from mounting direction
P225	25	11	7.5	IP1B	
M220	20	7.5	5.5	IP20	Terminals accessible laterally
M225	25	11	7.5	IP20	
T225	32	15	11	IP20	Terminals accessible laterally

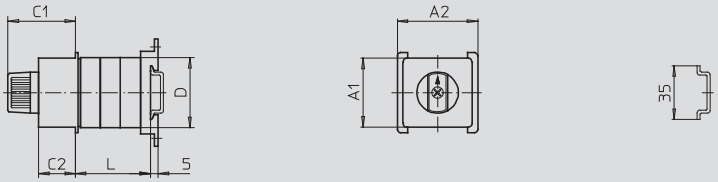
Detailed technical data page 192.

Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61027	3	6	Changeover Switch with centre OFF 60°, 3 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole
61313	3	6	Voltmeter Selector Switch with centre OFF, 3 phase line to line + 3 phase line to N
61325	3	6	Ammeter Selector Switch with centre OFF, 3 transformers, 1 pole
61211	3	5	Motor Reversing Switch, 3 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator
026N2	N-handle silver/grey

Dimensions in mm:



Type	A1	A2	C1	C2	D	L with ... stages (max. 12) 1	2	3	4	5	6	7	each additional
P220	45	52.2	45	24	44	28	41	54	67	80	93	106	13
P225	45	52.2	45	24	46	30	45	60	75	90	105	120	15
M220	45	52.2	45	24	46	25	35	45	55	65	75	85	10
M225	45	52.2	45	24	48	28	41	54	67	80	93	106	13
T225	45	52.2	45	24	50	30	45	60	75	90	105	120	15

Snap on mounting

Door clutch with modular shaft extension

20A / 25A / 32A

- Control Switch
- ON-OFF Switch
- Multi-step Switch
- Instrument Switch
- Changeover Switch
- Motor Switch

1 ... 24 contacts

IP66 (front)
Four hole front mounting 36 × 36 mm

Order code structure:
Ordering example: 2 pole ON-OFF Switch 60°, 20A, N-handle:

Type - Switching programme - Mounting form
M220 - 61002 - 241M1

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Degree of protection Terminals	Terminal accessibility	
P220	20	7.5	5.5	IP1B		Terminals accessible from mounting direction
P225	25	11	7.5	IP1B		
M220	20	7.5	5.5	IP20		Terminals accessible laterally
M225	25	11	7.5	IP20		
T225	32	15	11	IP20		Terminals accessible laterally

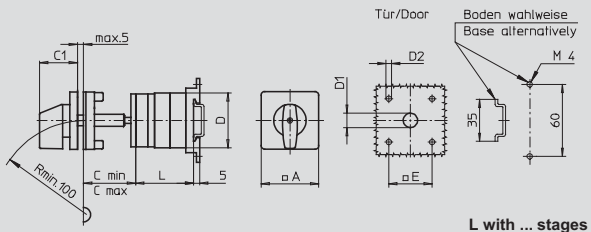
Detailed technical data page 192.

Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61027	3	6	Changeover Switch with centre OFF 60°, 3 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61038	2	4	Changeover Switch without OFF 60°, 2 pole
61049	2	3	Multi-step Switch without OFF, 3 steps, 1 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole
61211	3	5	Motor Reversing Switch, 3 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator	
241M1		M-handle silver/black

Dimensions in mm:



Modular shaft extensions see page 184.

Type	A	C_{min}	C_{max}	C1	D	D1	D2	E	L with ... stages (max. 12) 1	2	3	4	each additional
P220	48	42	59	32	44	12	4.5	36	40	53	66	79	13
P225	48	42	59	32	46	12	4.5	36	42	57	72	87	15
M220	48	42	59	32	46	12	4.5	36	37	47	57	67	10
M225	48	42	59	32	46	12	4.5	36	40	53	66	79	13
T225	48	42	59	32	50	12	4.5	36	42	57	72	87	15

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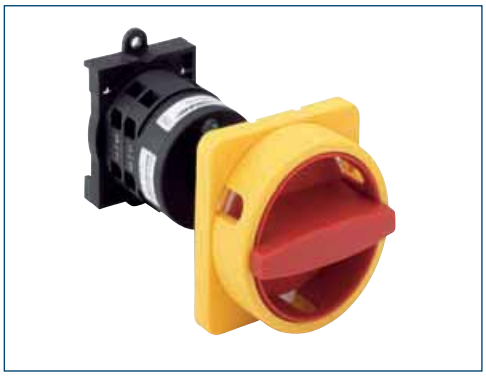


Door clutch with modular shaft extension

20A / 25A / 32A

Main/Emergency-Off Switch
Main Switch

1 ... 24 contacts

IP66 (front)
Four hole front mounting 36 × 36 mm

Order code structure:

Ordering example: 2 pole Main/Emergency-Off Switch 90°, 20A, N-padlock device:

Type - Switching programme - Mounting form

M220 - 61192 - 232N4

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Degree of protection Terminals	Terminal accessibility	
P220	20	7.5	5.5	IP1B		Terminals accessible from mounting direction
P225	25	11	7.5	IP1B		
M220	20	7.5	5.5	IP20		Terminals accessible laterally
M225	25	11	7.5	IP20		
T225	32	15	11	IP20		Terminals accessible laterally

Detailed technical data page 192.

Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61199	2	3	ON-OFF Switch 90°, 3 pole
61194	2	4	ON-OFF Switch 90°, 4 pole, 1 pole early make/late break
61906	3	6	ON-OFF Switch 90°, 6 pole
61919	4	8	ON-OFF Switch 90°, 8 pole, 2 pole early make/late break

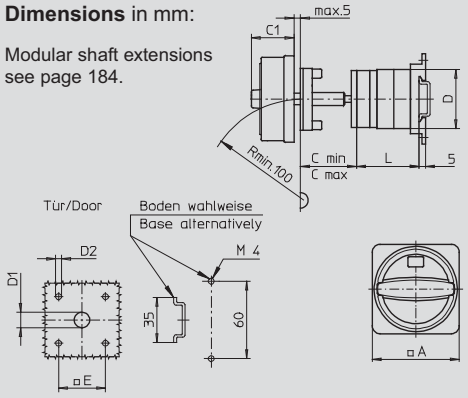
Switching diagrams and further switching programmes page 156.

Mounting form	Operator	Main/Emergency-Off Switch
232N4		N-padlock device yellow/red
232M4		M-padlock device yellow/red
232V4		padlockable with V-handle yellow/red

Mounting form	Operator	Main Switch
232N1		N-padlock device black
232M1		M-padlock device black
232V1		padlockable with V-handle silver/black

Dimensions in mm:

Modular shaft extensions see page 184.



Mounting form	A	C_{min}	C_{max}	C1	D	D1	D2	E	L with ... stages (max. 12) 1	2	3	4	each additional
Type P220:													
232N4/232N1	67	42	59	33	44	15	4.5	36	40	53	66	79	13
232M4/232M1	67	42	59	38	44	15	4.5	36	40	53	66	79	13
232V4/232V1	48	42	59	32	44	12	4.5	36	40	53	66	79	13
Type P225:													
232N4/232N1	67	42	59	33	46	15	4.5	36	42	57	72	87	15
232M4/232M1	67	42	59	38	46	15	4.5	36	42	57	72	87	15
232V4/232V1	48	42	59	32	46	12	4.5	36	42	57	72	87	15
Type M220:													
232N4/232N1	67	42	59	33	46	15	4.5	36	37	47	57	67	10
232M4/232M1	67	42	59	38	46	15	4.5	36	37	47	57	67	10
232V4/232V1	48	42	59	32	46	12	4.5	36	37	47	57	67	10
Type M225:													
232N4/232N1	67	42	59	33	48	15	4.5	36	40	53	66	79	13
232M4/232M1	67	42	59	38	48	15	4.5	36	40	53	66	79	13
232V4/232V1	48	42	59	32	48	12	4.5	36	40	53	66	79	13
Type T225:													
232N4/232N1	67	42	59	33	50	15	4.5	36	42	57	72	87	15
232M4/232M1	67	42	59	38	50	15	4.5	36	42	57	72	87	15

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Snap on mounting

Door interlock with modular shaft extension

With N/PE connection link

20A / 25A / 32A

- **Control Switch**
- **ON-OFF Switch**
- **Multi-step Switch**
- **Instrument Switch**
- **Changeover Switch**
- **Motor Switch**

1 ... 24 contacts

IP66 (front)
Four hole front mounting 36 × 36 mm

Order code structure:
Ordering example: 1 pole ON-OFF Switch 60°, 20A, M-handle:

Type - Switching programme - Mounting form
M220 - 61001 - 242M1

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Degree of protection Terminals	Terminal accessibility	
P220	20	7.5	5.5	IP1B		Terminals accessible from mounting direction
P225	25	11	7.5	IP1B		
M220	20	7.5	5.5	IP20		Terminals accessible laterally
M225	25	11	7.5	IP20		
T225	32	15	11	IP20		Terminals accessible laterally

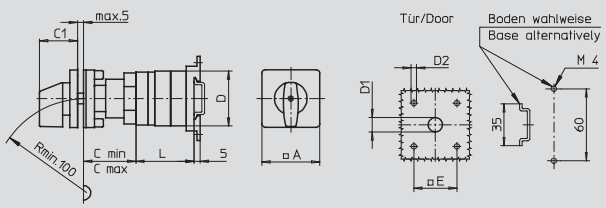
Detailed technical data page 192.

Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61027	3	6	Changeover Switch with centre OFF 60°, 3 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61038	2	4	Changeover Switch without OFF 60°, 2 pole
61049	2	3	Multi-step Switch without OFF, 3 steps, 1 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole
61211	3	5	Motor Reversing Switch, 3 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator	
242M1		M-handle silver/black

Dimensions in mm:



Modular shaft extensions see page 184.

Type	A	C_{min}	C_{max}	C1	D	D1	D2	E	L with ... stages (max. 12) 1	2	3	4	each additional
P220	48	42	57	32	44	12	4.5	36	40	53	66	79	13
P225	48	42	57	32	46	12	4.5	36	42	57	72	87	15
M220	48	42	57	32	46	12	4.5	36	37	47	57	67	10
M225	48	42	57	32	48	12	4.5	36	40	53	66	79	13
T225	48	42	57	32	50	12	4.5	36	42	57	72	87	15

Door interlock with modular shaft extension

With N/PE connection link

20A / 25A / 32A

Main/Emergency-Off Switch
Main Switch

1 ... 24 contacts

IP66 (front)
Four hole front mounting 36 × 36 mm

Order code structure:

Ordering example: 2 pole Main Switch 90°, 20A, padlockable with V-handle:

Type - Switching programme - Mounting form

P220 - 61192 - 234V1

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Degree of protection Terminals	Terminal accessibility	
P220	20	7.5	5.5	IP1B		Terminals accessible from mounting direction
P225	25	11	7.5	IP1B		
M220	20	7.5	5.5	IP20		Terminals accessible laterally
M225	25	11	7.5	IP20		
T225	32	15	11	IP20		Terminals accessible laterally

Detailed technical data page 192.

Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61199	2	3	ON-OFF Switch 90°, 3 pole
61194	2	4	ON-OFF Switch 90°, 4 pole, 1 pole early make/late break
61906	3	6	ON-OFF Switch 90°, 6 pole
61919	4	8	ON-OFF Switch 90°, 8 pole, 2 pole early make/late break

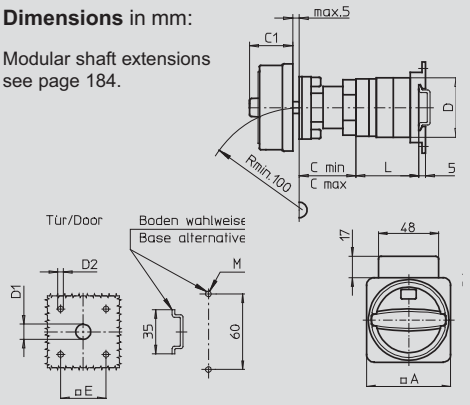
Switching diagrams and further switching programmes page 156.

Mounting form	Operator	Main/Emergency-Off Switch
234N4		N-padlock device yellow/red
234M4		M-padlock device yellow/red
234V4		padlockable with V-handle yellow/red

Mounting form	Operator	Main Switch
234N1		N-padlock device black
234M1		M-padlock device black
234V1		padlockable with V-handle silver/black

Dimensions in mm:

Modular shaft extensions see page 184.



Mounting form	A	C_{min}	C_{max}	C1	D	D1	D2	E	L with ... stages (max. 12) 1	2	3	4	each additional
Type P220:													
234N4/234N1	67	42	57	33	44	15	4.5	36	40	53	66	79	13
234M4/234M1	67	42	57	32	44	15	4.5	36	40	53	66	79	13
234V4/234V1	48	42	57	32	44	12	4.5	36	40	53	66	79	13
Type P225:													
234N4/234N1	67	42	57	33	46	15	4.5	36	42	57	72	87	15
234M4/234M1	67	42	57	32	46	15	4.5	36	42	57	72	87	15
234V4/234V1	48	42	57	32	46	12	4.5	36	42	57	72	87	15
Type M220:													
234N4/234N1	67	42	57	33	46	15	4.5	36	37	47	57	67	10
234M4/234M1	67	42	57	38	46	15	4.5	36	37	47	57	67	10
234V4/234V1	48	42	57	32	46	12	4.5	36	37	47	57	67	10
Type M225:													
234N4/234N1	67	42	57	33	48	15	4.5	36	40	53	66	79	13
234M4/234M1	67	42	57	38	48	15	4.5	36	40	53	66	79	13
234V4/234V1	48	42	57	32	48	12	4.5	36	40	53	66	79	13
Type T225:													
234N4/234N1	67	42	57	33	50	15	4.5	36	42	57	72	87	15
234M4/234M1	67	42	57	38	48	15	4.5	36	42	57	72	87	15
234V4/234V1	48	42	57	32	50	12	4.5	36	42	57	72	87	15

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Four hole mounting 68 × 68 mm

50A / 63A

- **ON-OFF Switch**
- **Changeover Switch**
- **Multi-step Switch**
- **Motor Switch**

1 ... 24 contacts

IP55 (front)
Four hole front mounting 48 × 48 mm

Order code structure:
Ordering example: 3 pole ON-OFF Switch 60°, 50A, M-handle:

Type	-	Switching programme	-	Mounting form
				S432 - 61003 - 002M1

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Terminal accessibility
S432	50	22	22	Terminals accessible laterally
S440	63	30	30	

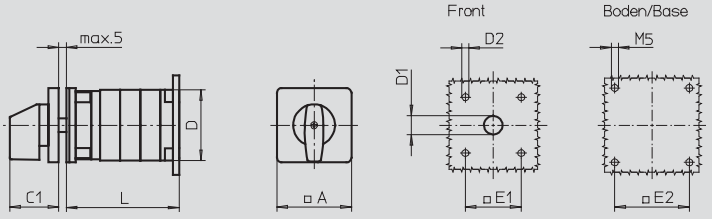
Detailed technical data page 192.

Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61003	2	3	ON-OFF Switch 60°, 3 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61027	3	6	Changeover Switch with centre OFF 60°, 3 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61038	2	4	Changeover Switch without OFF 60°, 2 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole
61211	3	5	Motor Reversing Switch, 3 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator	
002M1		M-handle silver/black

Dimensions in mm:



Type	A	C1	D	D1	D2	E1	E2	L with ... stages (max. 12) 1	2	3	4	5	6	each additional
S432	64	39	65	12	5	48	68	56	74	92	110	128	146	18
S440	64	39	70	12	5	48	68	61	82	103	124	145	166	21

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80A / 100A / 160A

Changeover Switch ■ **ON-OFF Switch** ■
Motor Switch ■ **Multi-step Switch** ■

1 ... 24 contacts

IP55 (front)
Four hole front mounting 68 × 68 mm

Order code structure:

Ordering example: 3 pole ON-OFF Switch 60°, 80A, M-handle:

Type - **Switching programme** - **Mounting form**

S606 - 61003 - 002M1

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Terminal accessibility
S606	80	45	30	Terminals accessible laterally
S608	100	55	37	
S612	160	75	45	

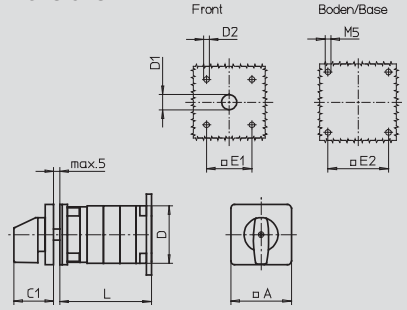
Detailed technical data page 192.

Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61003	2	3	ON-OFF Switch 60°, 3 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61027	3	6	Changeover Switch with centre OFF 60°, 3 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61038	2	4	Changeover Switch without OFF 60°, 2 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole
61211	3	5	Motor Reversing Switch, 3 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator
002M1	M-handle silver/black
002G1	G-handle silver/black

Dimensions in mm:



Mounting form	A	C1	D	D1	D2	E1	E2	L with ... stages (max. 12) 1	2	3	4	5	6	each additional
Type S606:														
002M1	88	52	84	15	5.5	68	68	64	86	108	130	152	174	22
002G1	88	66	84	15	5.5	68	68	64	86	108	130	152	174	22
Type S608:														
002M1	88	52	88	15	5.5	68	68	71	97	123	149	175	201	26
002G1	88	66	88	15	5.5	68	68	71	97	123	149	175	201	26
Type S612:														
002M1	88	52	88	15	5.5	68	68	77	109	141	173	205	237	32
002G1	88	66	88	15	5.5	68	68	77	109	141	173	205	237	32

Four hole mounting 68 × 68 mm

Door clutch

50A / 63A

- **ON-OFF Switch**
- **Changeover Switch**
- **Multi-step Switch**
- **Motor Switch**

1 ... 24 contacts

IP55 (front)
Four hole front mounting 48 × 48 mm

Order code structure:

Ordering example: 3 pole ON-OFF Switch 60°, 50A, M-handle:

Type - Switching programme - Mounting form

S432 - 61003 - 041M1

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Terminal accessibility
S432	50	22	22	Terminals accessible laterally
S440	63	30	30	

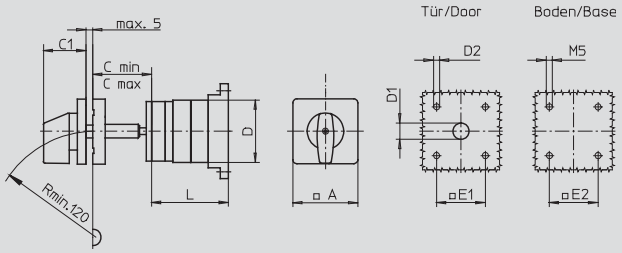
Detailed technical data page 192.

Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61003	2	3	ON-OFF Switch 60°, 3 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61027	3	6	Changeover Switch with centre OFF 60°, 3 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61038	2	4	Changeover Switch without OFF 60°, 2 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole
61211	3	5	Motor Reversing Switch, 3 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator	
041M1		M-handle silver/black

Dimensions in mm:



Type	A	C_{min}	C_{max}	C1	D	D1	D2	E1	E2	L with ... stages (max. 12) 1	2	3	each additional
S432	64	42	56	39	65	15	5	48	68	51	69	87	18
S440	64	42	56	39	70	15	5	48	68	56	77	98	21

Door clutch

80A / 100A / 160A

Changeover Switch ■ **ON-OFF Switch** ■
Motor Switch ■ **Multi-step Switch** ■

1 ... 24 contacts

IP55 (front)
Four hole front mounting 68 × 68 mm

Order code structure: Type - Switching programme - Mounting form

Ordering example: 3 pole ON-OFF Switch 60°, 80A, M-handle: **S606 - 61003 - 041M1**

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Terminal accessibility
S606	80	45	30	Terminals accessible laterally
S608	100	55	37	
S612	160	75	45	

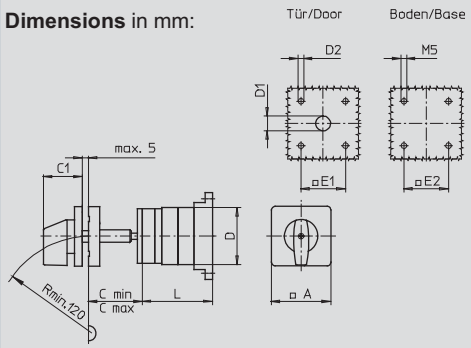
Detailed technical data page 192.

Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61003	2	3	ON-OFF Switch 60°, 3 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61027	3	6	Changeover Switch with centre OFF 60°, 3 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61038	2	4	Changeover Switch without OFF 60°, 2 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole
61211	3	5	Motor Reversing Switch, 3 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator	
041M1		M-handle silver/black
041G1		G-handle silver/black

Dimensions in mm:



Mounting form	A	C_{min}	C_{max}	C1	D	D1	D2	E1	E2	L with ... stages (max. 12) 1	2	3	each additional
Type S606:													
041M1	88	48	60	52	84	18	5.5	68	68	58	80	107	22
041G1	88	48	60	66	84	18	5.5	68	68	58	80	107	22
Type S608:													
041M1	88	48	60	52	88	18	5.5	68	68	65	91	117	26
041G1	88	48	60	66	88	18	5.5	68	68	65	91	117	26
Type S612:													
041M1	88	48	60	52	88	18	5.5	68	68	71	103	135	32
041G1	88	48	60	66	88	18	5.5	68	68	71	103	135	32

Four hole mounting 68 × 68 mm

Door interlock

50A / 63A

- **ON-OFF Switch**
- **Changeover Switch**
- **Multi-step Switch**
- **Motor Switch**

1 ... 24 contacts

IP55 (front)
Four hole front mounting 48 × 48 mm

Order code structure: Type - Switching programme - Mounting form

Ordering example: 3 pole ON-OFF Switch 60°, 50A, M-handle: **S432 - 61003 - 042M1**

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Terminal accessibility
S432	50	22	22	Terminals accessible laterally
S440	63	30	30	

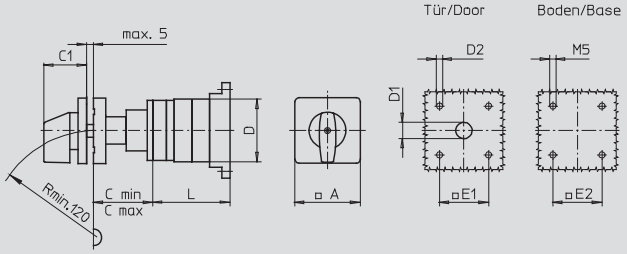
Detailed technical data page 192.

Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61003	2	3	ON-OFF Switch 60°, 3 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61027	3	6	Changeover Switch with centre OFF 60°, 3 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61038	2	4	Changeover Switch without OFF 60°, 2 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole
61211	3	5	Motor Reversing Switch, 3 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator	
042M1		M-handle silver/black

Dimensions in mm:



Type	A	C_{min}	C_{max}	C1	D	D1	D2	E1	E2	L with ... stages (max. 12) 1	2	3	each additional
S432	64	42	56	39	65	15	5	48	68	51	69	87	18
S440	64	42	56	39	70	15	5	48	68	56	77	98	21

Four hole mounting 68 × 68 mm

Door interlock

80 A / 100 A / 160 A

Changeover Switch ■ **ON-OFF Switch** ■
Motor Switch ■ **Multi-step Switch** ■

1 ... 24 contacts

IP55 (front)
Four hole front mounting 68 × 68 mm

Order code structure:

Ordering example: 3 pole ON-OFF Switch 60°, 80A, M-handle:

Type - **Switching programme** - **Mounting form**

S606 - 61003 - 042M1

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Terminal accessibility
S606	80	45	30	Terminals accessible laterally
S608	100	55	37	
S612	160	75	45	

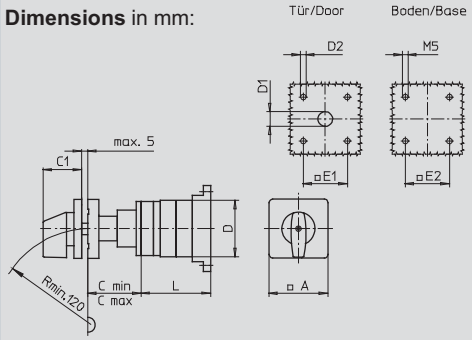
Detailed technical data page 192.

Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61003	2	3	ON-OFF Switch 60°, 3 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61027	3	6	Changeover Switch with centre OFF 60°, 3 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61038	2	4	Changeover Switch without OFF 60°, 2 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole
61211	3	5	Motor Reversing Switch, 3 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator	
042M1		M-handle silver/black
042G1		G-handle silver/black

Dimensions in mm:



Mounting form	A	C_{min}	C_{max}	C1	D	D1	D2	E1	E2	L with ... stages (max. 12) 1	2	3	each additional
Type S606:													
042M1	88	48	60	52	84	18	5.5	68	68	58	80	107	22
042G1	88	48	60	66	84	18	5.5	68	68	58	80	107	22
Type S608:													
042M1	88	48	60	52	88	18	5.5	68	68	65	91	117	26
042G1	88	48	60	66	88	18	5.5	68	68	65	91	117	26
Type S612:													
042M1	88	48	60	52	88	18	5.5	68	68	71	103	135	32
042G1	88	48	60	66	88	18	5.5	68	68	71	103	135	32

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Four hole mounting 104 × 104 mm

315A

- **ON-OFF Switch**
- **Changeover Switch**
- **Multi-step Switch**
- **Motor Switch**

1 ... 24 contacts

IP55 (front)
Four hole front mounting 104 × 104 mm

Order code structure:
Ordering example: 3 pole ON-OFF Switch 60°, 315A, G-handle:

Type - **Switching programme** - **Mounting form**
S825 - 61003 - 002G1

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Terminal accessibility
S825	315	132	55	Terminals accessible laterally

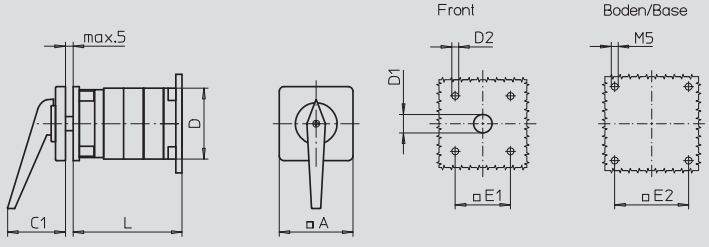
Detailed technical data page 192.

Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61003	2	3	ON-OFF Switch 60°, 3 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61027	3	6	Changeover Switch with centre OFF 60°, 3 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61038	2	4	Changeover Switch without OFF 60°, 2 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator
002G1	G-handle silver/black

Dimensions in mm:



Type	A	C1	D*	D1	D2	E1	E2	L with ... stages (max. 12) 1	2	3	4	5	6	each additional
S825	130	74	210	20	5.5	104	104	96	132	168	204	240	276	36

* terminal lugs included

Four hole mounting 104 × 104 mm

Door clutch

315A

Changeover Switch ■ **ON-OFF Switch** ■
Motor Switch ■ **Multi-step Switch** ■

1 ... 24 contacts

IP55 (front)
Four hole front mounting 104 × 104 mm

Order code structure:

Ordering example: 3 pole ON-OFF Switch 60°, 315A, G-handle:

Type	-	Switching programme	-	Mounting form
S825	-	61003	-	041G1

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Terminal accessibility
S825	315	132	55	Terminals accessible laterally

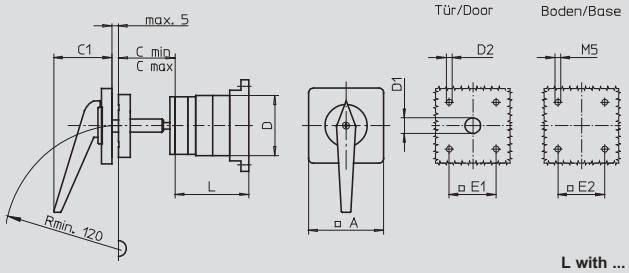
Detailed technical data page 192.

Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61003	2	3	ON-OFF Switch 60°, 3 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61027	3	6	Changeover Switch with centre OFF 60°, 3 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61038	2	4	Changeover Switch without OFF 60°, 2 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator	
041G1		G-handle silver/black

Dimensions in mm:



Type	A	C_{min}	C_{max}	C1	D*	D1	D2	E1	E2	L with ... stages (max. 12) 1	2	3	each additional
S825	130	75	102	74	210	20	5.5	104	104	90	126	162	36

* terminal lugs included

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Four hole mounting 104 × 104 mm

Door interlock

315A

- **ON-OFF Switch**
- **Changeover Switch**
- **Multi-step Switch**
- **Motor Switch**

1 ... 24 contacts

IP55 (front)
Four hole front mounting 104 × 104 mm

Order code structure:
Ordering example: 3 pole ON-OFF Switch 60°, 315A, G-handle:

Type - **Switching programme** - **Mounting form**
S825 - 61003 - 042G1

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Terminal accessibility
S825	315	132	55	Terminals accessible laterally

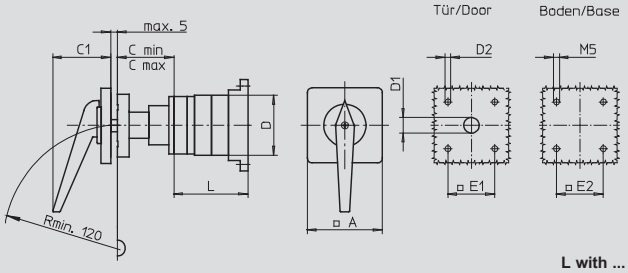
Detailed technical data page 192.

Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61003	2	3	ON-OFF Switch 60°, 3 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61027	3	6	Changeover Switch with centre OFF 60°, 3 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61038	2	4	Changeover Switch without OFF 60°, 2 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator
042G1	G-handle silver/black

Dimensions in mm:



Type	A	C_{min}	C_{max}	C1	D*	D1	D2	E1	E2	L with ... stages (max. 12) 1	2	3	each additional
S825	130	75	102	74	210	20	5.5	104	104	90	126	162	36

* terminal lugs included

68 × 68 × 53 mm

20 A

Instrument Switch ■ **Control Switch** ■
Changeover Switch ■ **ON-OFF Switch** ■
Motor Switch ■ **Multi-step Switch** ■

1 ... 4 contacts

IP65
Insulated polycarbonate enclosure

Order code structure:
Ordering example: 2 pole ON-OFF Switch 60°, 20A, N-handle:

Type - Switching programme - Mounting form
M220 - 61002 - 107M1

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Terminal accessibility
M220	20	7.5	5.5	Terminals accessible laterally

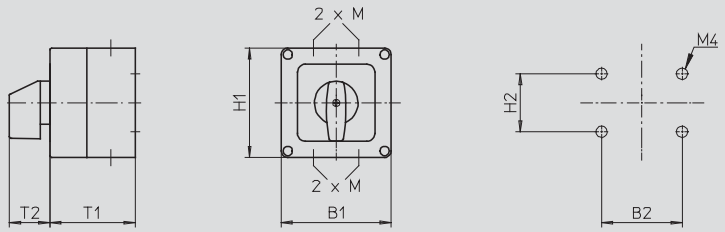
Detailed technical data page 192.

Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61199	2	3	ON-OFF Switch 90°, 3 pole
61194	2	4	ON-OFF Switch 90°, 4 pole, 1 pole early make/late break
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61003	2	3	ON-OFF Switch 60°, 3 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole
61210	2	4	Motor Reversing Switch, 2 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator	
107M1		M-handle silver/black

Dimensions in mm:



Type	H1	B1	T1	T2	2×M	H2	B2
M220	68	68	53	25	16	36	50

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Insulated enclosure

68 × 68 × 53 mm

20 A

- **Main/Emergency-Off Switch**
- **Main Switch**

1 ... 4 contacts

IP65
Insulated polycarbonate enclosure

Order code structure:
Ordering example: 2 pole Main Switch 90°, 20 A, M-handle:

Type - Switching programme - Mounting form
M220 - 61192 - 117M1

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440 V) AC-23A (kW)	AC-3 (kW)	Terminal accessibility
M220	20	7.5	5.5	Terminals accessible laterally

Detailed technical data page 192.

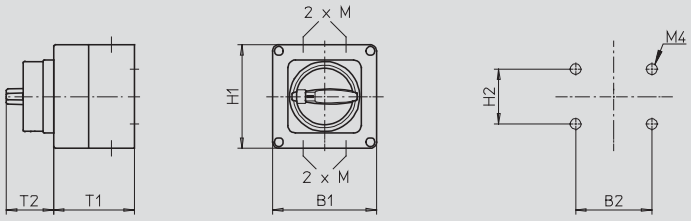
Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61199	2	3	ON-OFF Switch 90°, 3 pole
61194	2	4	ON-OFF Switch 90°, 4 pole, 1 pole early make/late break

Switching diagrams and further switching programmes page 156.

Mounting form	Operator	Main/Emergency-Off Switch
117M4		M-padlock device yellow/red

Mounting form	Operator	Main Switch
117M1		M-padlock device black

Dimensions in mm:



Type	H1	B1	T1	T2	2×M	H2	B2
M220	68	68	53	31	16	36	50

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Insulated enclosure

100 × 80 × 65 mm

20 A

Instrument Switch ■ **Control Switch** ■
Changeover Switch ■ **ON-OFF Switch** ■
Motor Switch ■ **Multi-step Switch** ■

1 ... max. 4 contacts

IP66
Insulated polycarbonate enclosure

Order code structure:
Ordering example: 3 pole ON-OFF Switch 60°, 20 A, M-handle:

Type - Switching programme - Mounting form
M220 - 61003 - 076M1

Type	contacts:	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Terminal accessibility
P220	1 ... 2	20	7.5	5.5	Terminals accessible from mounting direction
M220	1 ... 4	20	7.5	5.5	Terminals accessible laterally

Detailed technical data page 192.

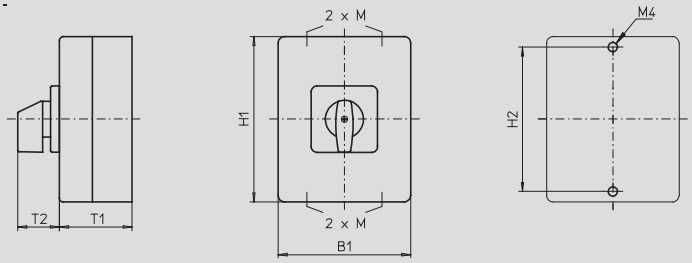
Switching progr. Type P220:	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole

Switching progr. Type M220:	Stages	Contacts	Description
61003	2	3	ON-OFF Switch 60°, 3 pole
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61038	2	4	Changeover Switch without OFF 60°, 2 pole
61049	2	3	Multi-step Switch without OFF, 3 steps, 1 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole
61210	2	4	Motor Reversing Switch, 2 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator	
076M1		M-handle silver/black

Dimensions in mm:



Type	H1	B1	T1	T2	2×M	H2
P220 / M220	100	80	65	32	20	90

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Insulated enclosure

100 × 80 × 65 mm

20 A

- Control Switch
- ON-OFF Switch
- Multi-step Switch
- Instrument Switch
- Changeover Switch
- Motor Switch

1 ... max. 4 contacts

IP66
Insulated polycarbonate enclosure

Order code structure:
Ordering example: 2 pole Changeover Switch 90°, 20A, V-handle:

Type - Switching programme - Mounting form
M220 - 61152 - 076V1

Type	contacts:	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Terminal accessibility
P220	1 ... 2	20	7.5	5.5	Terminals accessible from mounting direction
M220	1 ... 4	20	7.5	5.5	Terminals accessible laterally

Detailed technical data page 192.

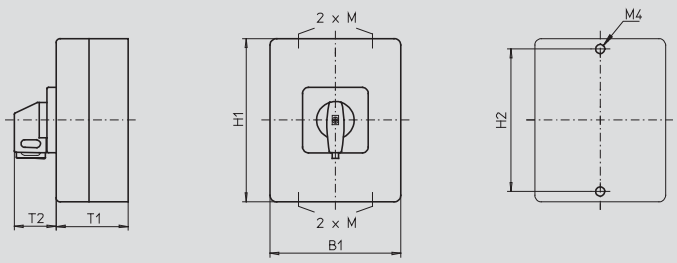
Switching progr. Type P220:	Stages	Contacts	Description
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61151	1	2	Changeover Switch with centre OFF 90°, 1 pole

Switching progr. Type M220:	Stages	Contacts	Description
61003	2	3	ON-OFF Switch 60°, 3 pole
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61151	1	2	Changeover Switch with centre OFF 90°, 1 pole
61152	2	4	Changeover Switch with centre OFF 90°, 2 pole
61210	2	4	Motor Reversing Switch, 2 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator	Padlockable options
076V1	padlockable with V-handle silver/black	padlockable 12h
078V1	padlockable with V-handle silver/black	3 positions padlockable (09h/12h/03h) (only for Changeover Switches with 90° switching angle)

Dimensions in mm:



Type	H1	B1	T1	T2	2×M	H2
P220 / M220	100	80	65	32	20	90

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100 × 80 × 65 mm

20 A

Main/Emergency-Off Switch
Main Switch

1 ... max. 4 contacts

IP66
Insulated polycarbonate enclosure

Order code structure:
Ordering example: 2 pole Main Switch 90°, 20 A, padlockable with V-handle:

Type - Switching programme - Mounting form
P220 - 61192 - 077V1

Type	contacts:	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440 V) AC-23A (kW)	AC-3 (kW)	Terminal accessibility
P220	1 ... 2	20	7.5	5.5	Terminals accessible from mounting direction
M220	1 ... 4	20	7.5	5.5	Terminals accessible laterally

Detailed technical data page 192.

Switching progr.	Stages	Contacts	Description
Type P220:			
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole

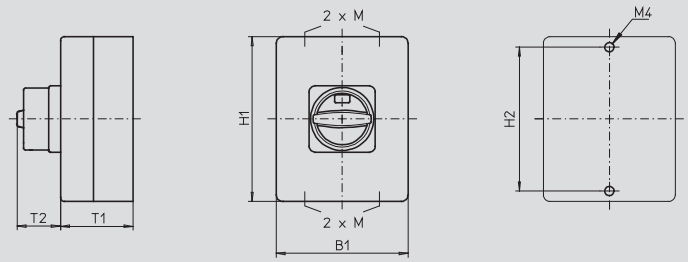
Switching progr.	Stages	Contacts	Description
Type M220:			
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61199	2	3	ON-OFF Switch 90°, 3 pole
61194	2	4	ON-OFF Switch 90°, 4 pole, 1 pole early make/late break

Switching diagrams and further switching programmes page 156.

Mounting form	Operator	Main/Emergency-Off Switch
077N4		N-padlock device yellow/red
077M4		M-padlock device yellow/red
077V4		padlockable with V-handle yellow/red

Mounting form	Operator	Main Switch
077N1		N-padlock device black
077M1		M-padlock device black
077V1		padlockable with V-handle silver/black

Dimensions in mm:



Mounting form	H1	B1	T1	T2	2×M	H2
077N4/077N1	100	80	65	33	20	90
077M4/077M1	100	80	65	38	20	90
077V4/077V1	100	80	65	32	20	90

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Insulated enclosure

100 × 80 × 85 mm

20 A

- Control Switch
- ON-OFF Switch
- Multi-step Switch
- Instrument Switch
- Changeover Switch
- Motor Switch

3 ... max. 8 contacts

IP66
Insulated polycarbonate enclosure

Order code structure:
Ordering example: 3 pole Motor Reversing Switch, 20A, M-handle:

Type - Switching programme - Mounting form
M220 - 61211 - 176M1

Type	contacts:	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Terminal accessibility
P220	3 ... 6	20	7.5	5.5	Terminals accessible from mounting direction
M220	5 ... 8	20	7.5	5.5	Terminals accessible laterally

Detailed technical data page 192.

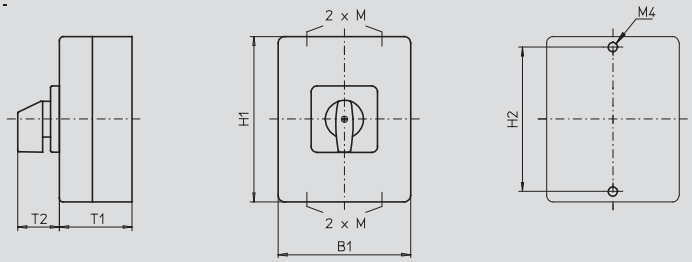
Switching progr. Type P220:	Stages	Contacts	Description
61199	2	3	ON-OFF Switch 90°, 3 pole
61194	2	4	ON-OFF Switch 90°, 4 pole 1 pole early make/late break
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61038	2	4	Changeover Switch without OFF 60°, 2 pole
61049	2	3	Multi-step Switch without OFF, 3 steps, 1 pole
61211	3	5	Motor Reversing Switch, 3 pole

Switching progr. Type M220:	Stages	Contacts	Description
61906	3	6	ON-OFF Switch 90°, 6 pole
61919	4	8	ON-OFF Switch 90°, 8 pole 2 pole early make/late break
61028	4	8	Changeover Switch with centre OFF 60°, 4 pole
61039	3	6	Changeover Switch without OFF 60°, 3 pole
61040	4	8	Changeover Switch without OFF 60°, 4 pole
61211	3	5	Motor Reversing Switch, 3 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator
176M1	M-handle silver/black

Dimensions in mm:



Type	H1	B1	T1	T2	2×M	H2
P220 / M220	100	80	85	32	20	90

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100 × 80 × 85 mm

20 A

Instrument Switch ■ **Control Switch** ■
Changeover Switch ■ **ON-OFF Switch** ■
Motor Switch ■ **Multi-step Switch** ■

3... max. 8 contacts

IP66
Insulated polycarbonate enclosure

Order code structure:
Ordering example: 2 pole Changeover Switch 90°, 20A, V-handle:

Type - Switching programme - Mounting form
P220 - 61152 - 178V1

Type	contacts:	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Terminal accessibility
P220	3 ... 6	20	7.5	5.5	Terminals accessible from mounting direction
M220	5 ... 8	20	7.5	5.5	Terminals accessible laterally

Detailed technical data page 192.

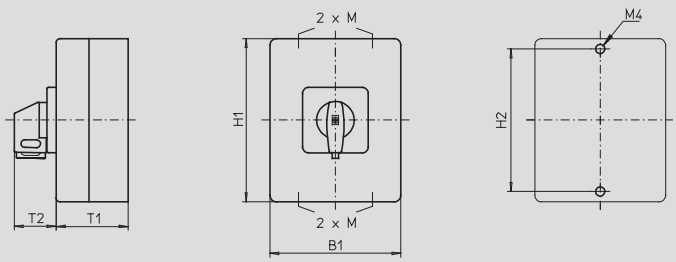
Switching progr. Type P220:	Stages	Contacts	Description
61003	2	3	ON-OFF Switch 60°, 3 pole
61027	3	6	Changeover Switch with centre OFF 60°, 3 pole
61152	2	4	Changeover Switch with centre OFF 90°, 2 pole
61153	3	6	Changeover Switch with centre OFF 90°, 3 pole
61211	3	5	Motor Reversing Switch, 3 pole

Switching progr. Type M220:	Stages	Contacts	Description
61027	3	6	Changeover Switch with centre OFF 60°, 3 pole
61028	4	8	Changeover Switch with centre OFF 60°, 4 pole
61153	3	6	Changeover Switch with centre OFF 90°, 3 pole
61211	3	5	Motor Reversing Switch, 3 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator		Padlockable options
176V1		padlockable with V-handle silver/black	padlockable 12h
178V1		padlockable with V-handle silver/black	3 positions padlockable (09h/12h/03h) (only for Changeover Switches with 90° switching angle)

Dimensions in mm:



Type	H1	B1	T1	T2	2×M	H2
P220 / M220	100	80	85	32	20	90

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Insulated enclosure

100 × 80 × 85 mm
Key operated

20 A

- **Control Switch**
- **ON-OFF Switch**
- **Multi-step Switch**
- **Instrument Switch**
- **Changeover Switch**
- **Motor Switch**

1 ... 6 contacts

IP40
Insulated polycarbonate enclosure

Order code structure: Type - Switching programme - Mounting form

Ordering example: 2 pole ON-OFF Switch 60°, 20 A, key operated, key removable at 12h: **M220 - 61002 - E001B**

Type	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440V) AC-23A (kW)	AC-3 (kW)	Terminal accessibility
M220	20	7.5	5.5	Terminals accessible laterally

Detailed technical data page 192.

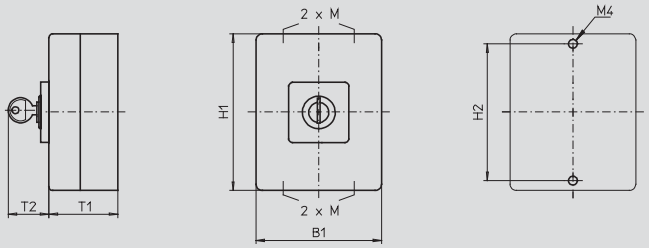
Switching progr.	Stages	Contacts	Description
61191	1	1	ON-OFF Switch 90°, 1 pole
61192	1	2	ON-OFF Switch 90°, 2 pole
61001	1	1	ON-OFF Switch 60°, 1 pole
61002	1	2	ON-OFF Switch 60°, 2 pole
61025	1	2	Changeover Switch with centre OFF 60°, 1 pole
61026	2	4	Changeover Switch with centre OFF 60°, 2 pole
61027	3	6	Changeover Switch with centre OFF 60°, 3 pole
61037	1	2	Changeover Switch without OFF 60°, 1 pole
61038	2	4	Changeover Switch without OFF 60°, 2 pole
61049	2	3	Multi-step Switch without OFF, 3 steps, 1 pole
61050	2	4	Multi-step Switch without OFF, 4 steps, 1 pole
61211	3	5	Motor Reversing Switch, 3 pole

Switching diagrams and further switching programmes page 156.

Mounting form	Operator
E001. *	Key operated silver/metal key Ronis cylinder lock C001, 2 keys (other lock types on request)

* The dot in the order code number must be replaced by the classification letter which identifies the key removable positions, see page 185.

Dimensions in mm:



Type	H1	B1	T1	T2	2×M	H2
M220	100	80	85	33	20	90

100 × 80 × 85 mm

20 A

Main/Emergency-Off Switch
Main Switch

3 ... max. 8 contacts

IP66
Insulated polycarbonate enclosure

Order code structure: Type - Switching programme - Mounting form

Ordering example: 6 pole ON-OFF Switch 90°, 20 A, padlockable with V-handle: **M220 - 61906 - 177V4**

Type	contacts:	Rated data (IEC 60947) Operational current I_e AC-21A (A)	Operational power (at 380–440 V) AC-23A (kW)	AC-3 (kW)	Terminal accessibility
P220	3 ... 6	20	7.5	5.5	Terminals accessible from mounting direction
M220	5 ... 8	20	7.5	5.5	Terminals accessible laterally

Detailed technical data page 192.

Switching progr.	Stages	Contacts	Description
Type P220:			
61199	2	3	ON-OFF Switch 90°, 3 pole
61194	2	4	ON-OFF Switch 90°, 4 pole, 1 pole early make/late break
61906	3	6	ON-OFF Switch 90°, 6 pole

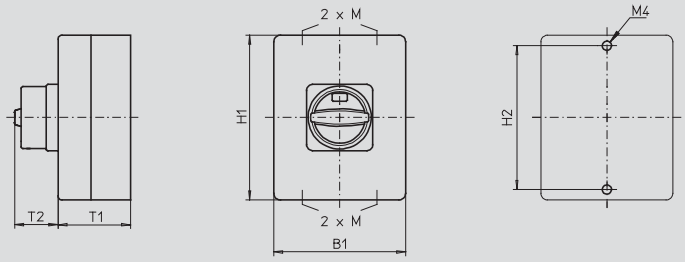
Switching progr.	Stages	Contacts	Description
Type M220:			
61906	3	6	ON-OFF Switch 90°, 6 pole
61919	2	4	ON-OFF Switch 90°, 8 pole, 2 pole early make/late break

Switching diagrams and further switching programmes page 156.

Mounting form	Operator	Main/Emergency-Off Switch
177N4		N-padlock device yellow/red
177M4		M-padlock device yellow/red
177V4		padlockable with V-handle yellow/red

Mounting form	Operator	Main Switch
177N1		N-padlock device black
177M1		M-padlock device black
177V1		padlockable with V-handle silver/black

Dimensions in mm:



Mounting form	H1	B1	T1	T2	2×M	H2
177N4/177N1	100	80	85	33	20	90
177M4/177M1	100	80	85	38	20	90
177V4/177V1	100	80	85	32	20	90

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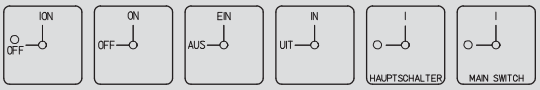
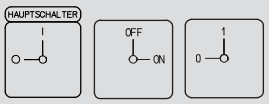
Switching programmes

ON-OFF Switches 90°

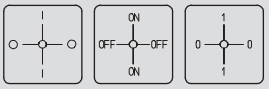
Description	Stages	Contacts	Ident No.	Ident No. with inscription
1 pole	1	1	61191.	
2 pole	1	2	61192.	
3 pole	2	3	61199.	
3 pole with N/PE terminals	2	4	61178.	
3 pole with N terminals	2	4	61908.	
4 pole	2	4	61914.	
4 pole, 1 pole early make/late break	2	4	61194.	
4 pole, 3 pole early make/late break	2	4	61904.	
5 pole, 3 pole early make/late break	3	5	61905.	
6 pole	3	6	61906.	
6 pole, 2 auxiliary contacts	4	8	61907.	
7 pole	4	7	61917.	
8 pole	4	8	61918.	
8 pole, 2 pole early make/late break	4	8	61919	
9 pole	5	9	61909.	
10 pole	5	10	61910.	
12 pole	6	12	61912.	
Complete rotation				
2 pole	1	2	61198.	
3 pole	2	3	61197.	



61...- 61...A 61...B 61...C 61...D 61...E



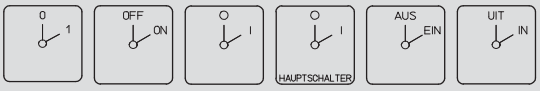
61...F 61...H 61...K



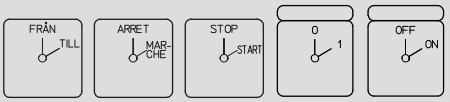
61...- 61...A 61...B

ON-OFF Switches 60°

Description	Stages	Contacts	Ident No.	Ident No. with inscription
1 pole	1	1	61001.	
2 pole	1	2	61002.	
3 pole	2	3	61003.	
4 pole	2	4	61004.	
5 pole	3	5	61005.	
6 pole	3	6	61006.	
7 pole	4	7	61007.	
8 pole	4	8	61008.	
9 pole	5	9	61009.	
10 pole	5	10	61010.	
11 pole	6	11	61011.	
12 pole	6	12	61012.	



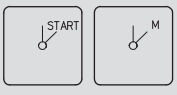
61...- 61...A 61...B 61...C 61...D 61...E



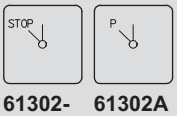
61...F 61...G 61...H 61...K 61...L

ON-OFF Switches with spring return

Description	Stages	Contacts	Ident No.	Ident No. with inscription
Spring return to OFF				
1 pole	1	1	61351.	
2 pole	1	2	61352.	
3 pole	2	3	61353.	
4 pole	2	4	61354.	
Spring return to ON				
1 pole	1	1	61302.	



61...- 61...A

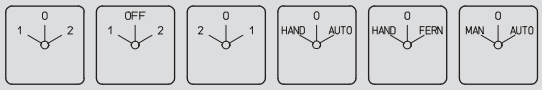


61302- 61302A

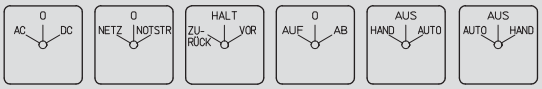
Switching programmes

Changeover Switches with centre OFF, 60°

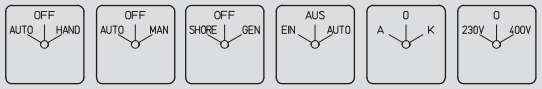
Description	Stages	Contacts	Ident No.	Ident No. with inscription
1 pole	1	2	**61025.**	
2 pole	2	4	**61026.**	
3 pole	3	6	**61027.**	
4 pole	4	8	**61028.**	
5 pole	5	10	**61029.**	
6 pole	6	12	**61030.**	
7 pole	7	14	**61031.**	
8 pole	8	16	**61032.**	
without jumpers				
1 pole	1	2	**61625.**	
2 pole	2	4	**61626.**	
3 pole	3	6	**61627.**	



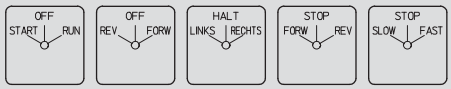
61...- **61...A** **61...B** **61...C** **61...D** **61...E**



61...G **61...H** **61...I** **61...J** **61...K** **61...L**



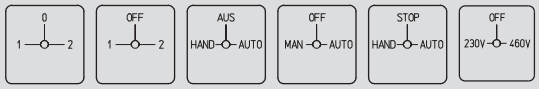
61...M **61...N** **61...O** **61...P** **61...Q** **61...R**



61...S **61...T** **61...U** **61...V** **61...W**

Changeover Switches with centre OFF, 90°

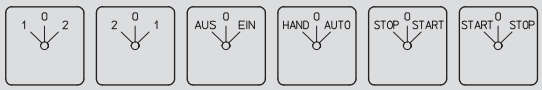
Description	Stages	Contacts	Ident No.	Ident No. with inscription
1 pole	1	2	**61151.**	
2 pole	2	4	**61152.**	
3 pole	3	6	**61153.**	
4 pole	4	8	**61154.**	



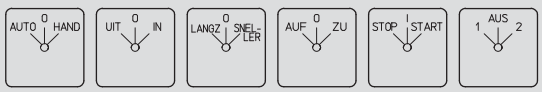
61...- **61...A** **61...B** **61...C** **61...D** **61...E**

Changeover Switches with centre OFF and spring return

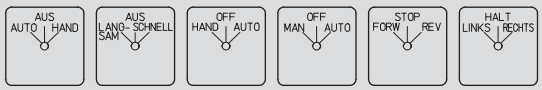
Description	Stages	Contacts	Ident No.	Ident No. with inscription
Spring return to centre				
1 pole	1	2	**61361.**	
2 pole	2	4	**61362.**	
3 pole	3	6	**61363.**	
without jumpers				
1 pole	1	2	**61761.**	
2 pole	2	4	**61762.**	



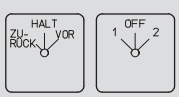
61...- **61...A** **61...B** **61...C** **61...D** **61...E**



61...F **61...G** **61...H** **61...I** **61...J** **61...K**



61...L **61...M** **61...N** **61...P** **61...Q** **61...R**



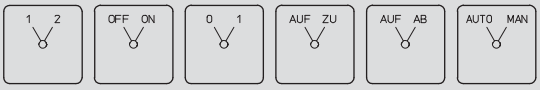
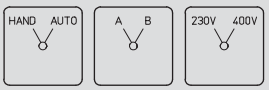
61...S **61...T**

Switching programmes

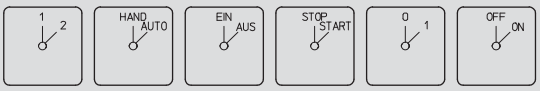
Changeover Switches with centre OFF and spring return

Description	Stages	Contacts	Ident No.	Ident No. with inscription
Spring return from left to centre				
1 pole	1	2	**61364.**	
2 pole	2	4	**61365.**	
3 pole	3	6	**61369.**	
				61...-

Changeover Switches without OFF

Description	Stages	Contacts	Ident No.	Ident No. with inscription
1 pole	1	2	**61037.**	
2 pole	2	4	**61038.**	
3 pole	3	6	**61039.**	
4 pole	4	8	**61040.**	
5 pole	5	10	**61041.**	**61...-** **61...A** **61...B** **61...C** **61...D** **61...E**
6 pole	6	12	**61042.**	
7 pole	7	14	**61043.**	
8 pole	8	16	**61044.**	
9 pole	9	18	**61045.**	
10 pole	10	20	**61046.**	
11 pole	11	22	**61047.**	**61...F** **61...H** **61...I**
12 pole	12	24	**61048.**	
without jumpers				
1 pole	1	2	**61637.**	
2 pole	2	4	**61638.**	
3 pole	3	6	**61639.**	
4 pole	4	8	**61640.**	
overlapping contacts				
1 pole	1	2	**61737.**	
2 pole	2	4	**61738.**	
3 pole	3	6	**61739.**	
4 pole	4	8	**61740.**	

Changeover Switches without OFF with spring return

Description	Stages	Contacts	Ident No.	Ident No. with inscription
Spring return to left				
1 pole	1	2	**61371.**	
2 pole	2	4	**61372.**	
3 pole	3	6	**61373.**	
without jumpers				**61...-** **61...A** **61...B** **61...C** **61...D** **61...E**
1 pole	1	2	**61771.**	

Switching programmes

Multi-step Switches with OFF

Description	Stages	Contacts	Ident No.	Ident No. with inscription
2 steps				
1 pole	1	2	**61059.**	  
2 pole	2	4	**61079.**	
3 pole	3	6	**61099.**	
4 pole	4	8	**61130.**	**61...-** **61...A** **61...B**
5 pole	5	10	**61134.**	
6 pole	6	12	**61137.**	
3 steps				
1 pole	2	3	**61060.**	    
2 pole	3	6	**61080.**	
3 pole	5	9	**61100.**	
4 pole	6	12	**61131.**	**61...-** **61...A** **61...B** **61...C** **61...D**
5 pole	8	15	**61135.**	
4 steps				
1 pole	2	4	**61061.**	 
2 pole	4	8	**61081.**	
3 pole	6	12	**61101.**	
4 pole	8	16	**61132.**	**61...-** **61...A**
5 steps				
1 pole	3	5	**61062.**	 
2 pole	5	10	**61082.**	
3 pole	8	15	**61102.**	**61...-** **61...A**
6 steps				
1 pole	3	6	**61063.**	 
2 pole	6	12	**61083.**	
3 pole	9	18	**61103.**	**61...-** **61...A**
7 steps				
1 pole	4	7	**61064.**	 
2 pole	7	14	**61084.**	**61...-** **61...A**
8 steps				
1 pole	4	8	**61065.**	 
				61065- **61065A**
9 steps				
1 pole	5	9	**61066.**	 
				61066- **61066A**
10 steps				
1 pole	5	10	**61067.**	 
				61067- **61067A**
11 steps				
1 pole	6	11	**61068.**	 
				61068- **61068A**

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Switching programmes

Multi-step Switches without OFF

Description	Stages	Contacts	Ident No.	Ident No. with inscription
3 steps				
1 pole	2	3	**61049.**	 
2 pole	3	6	**61069.**	
3 pole	5	9	**61089.**	
4 pole	6	12	**61120.**	**61...-** **61...A**
5 pole	8	15	**61124.**	
6 pole	9	18	**61126.**	
without jumpers				
1 pole	2	3	**61649.**	
2 pole	3	6	**61669.**	
4 steps				
1 pole	2	4	**61050.**	 
2 pole	4	8	**61070.**	
3 pole	6	12	**61090.**	
4 pole	8	16	**61121.**	**61...-** **61...A**
5 pole	10	20	**61125.**	
6 pole	12	24	**61127.**	
without jumpers				
1 pole	2	4	**61650.**	
2 pole	4	8	**61670.**	
5 steps				
1 pole	3	5	**61051.**	 
2 pole	5	10	**61071.**	
3 pole	8	15	**61091.**	
4 pole	10	20	**61122.**	**61...-** **61...A**
6 steps				
1 pole	3	6	**61052.**	 
2 pole	6	12	**61072.**	
3 pole	9	18	**61092.**	**61...-** **61...A**
7 steps				
1 pole	4	7	**61053.**	
2 pole	7	14	**61073.**	
3 pole	11	21	**61093.**	**61...-**
8 steps				
1 pole	4	8	**61054.**	
2 pole	8	16	**61074.**	
3 pole	12	24	**61094.**	**61...-**
9 steps				
1 pole	5	9	**61055.**	
				61055-
10 steps				
1 pole	5	10	**61056.**	
				61056-
11 steps				
1 pole	6	11	**61057.**	
				61057-
12 steps				
1 pole	6	12	**61058.**	
				61058-

Switching programmes

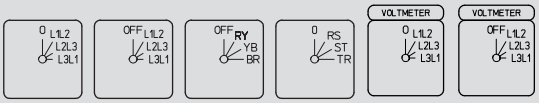
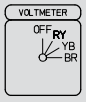
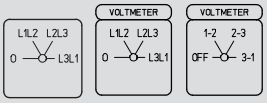
Code Switches

Description	Stages	Contacts	Ident No.	Ident No. with inscription
Binary code				
0 - 7	2	3	**61920.**	 **61...-**
0 - 7 complement	2	3	**61921.**	
0 - 7 + complement	3	6	**61922.**	
0 - 11	2	4	**61923.**	 **61...-**
0 - 11 + complement	4	8	**61924.**	
BCD Code				
0 - 9	2	4	**61930.**	 **61...-**
0 - 9 complement	2	4	**61931.**	
0 - 9 + complement	4	8	**61932.**	

Gang Switches

Description	Stages	Contacts	Ident No.	Ident No. with inscription
2 gangs				
1 pole	1	2	**61109.**	  **61...-** **61...A**
2 pole	2	4	**61117.**	
3 pole	3	6	**61111.**	
3 gangs				
1 pole	2	3	**61110.**	  **61...-** **61...A**
2 pole	3	6	**61118.**	
3 pole	5	9	**61112.**	
Series-gang Switches				
2 gangs				
1 pole	1	2	**61113.**	
2 pole	2	4	**61115.**	
3 pole	3	6	**61114.**	
Series-parallel Switches				
2 gangs				
2 pole	2	4	**61116.**	

Voltmeter Selector Switches with OFF

Description	Stages	Contacts	Ident No.	Ident No. with inscription
3 phase line to line, 30°	2	4	**61312.**	 **61312-** **61312A** **61312B** **61312C** **61312D** **61312E**  **61312F**
3 phase line to line, 60°	2	4	**61485.**	 **61485-** **61485A** **6485B**

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Switching programmes

Voltmeter Selector Switches with OFF

Description	Stages	Contacts	Ident No.	Ident No. with inscription
3 phase line to N	2	4	**61311.**	**61311-** **61311A** **61311B** **61311C** **61311D** **61311E**
3 phase line to line + 3 phase line to N	3	6	**61313.**	**61313-** **61313A** **61313B** **61313C** **61313D** **61313E** **61313F** **61313G**
3 phase line to line + 1 phase line to N	3	5	**61317.**	**61317-** **61317A** **61317B** **61317C** **61317D** **61317E**
3 phase line to line for 2 sources	4	8	**61318.**	**61318-** **61318A** **61318B** **61318C** **61318D** **61318E** **61318F** **61318G**
2 pole, 1 phase	1	2	**61198.**	**61198-** **61198A** **61198B** **61198C**

Voltmeter Selector Switches without OFF

Description	Stages	Contacts	Ident No.	Ident No. with inscription
3 phase line to line	2	4	**61319.**	**61319-** **61319A** **61319B**
3 phase line to line + 3 phase line to N	3	6	**61314.**	**61314-** **61314A** **61314B**

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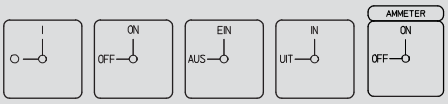
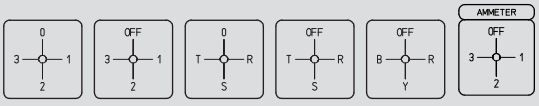
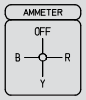
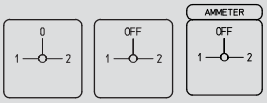
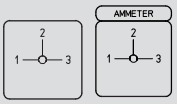
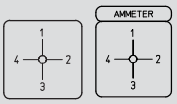
Switching programmes

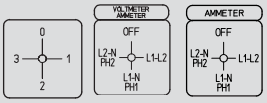
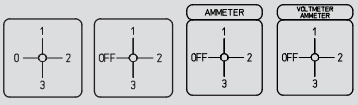
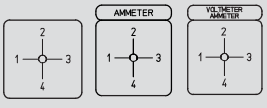
Ammeter Selector Switches with OFF

Description	Stages	Contacts	Ident No.	Ident No. with inscription
1 transformer, 1 pole	1	2	**61321.**	 **61321-** **61321A** **61321B** **61321C** **61321G**
2 transformers, 1 pole (3 phase)	2	4	**61331.**	 **61...-** **61...A** **61...B** **61...C** **61...D** **61...E**
3 transformers, 1 pole	3	6	**61325.**	
3 transformers, 2 pole	5	9	**61328.**	 **61...F**
2 transformers, 2 pole	3	6	**61327.**	 **61327-** **61327A** **61327E**

Ammeter Selector Switches without OFF

Description	Stages	Contacts	Ident No.	Ident No. with inscription
3 transformers, 1 pole	3	6	**61384.**	 **61...-** **61...A**
3 transformers, 2 pole	5	9	**61329.**	
4 transformers, 1 pole	4	8	**61326.**	 **61...-** **61...A**
4 transformers, 2 pole	6	12	**61330.**	

Volt-Ammeter Selector Switches

Description	Stages	Contacts	Ident No.	Ident No. with inscription
1 phase line to line, 2 phase voltages L-N, 2 currents	4	8	**61334.**	 **61334-** **61334A** **61334B**
3 voltages L-L, 3 currents	5	10	**61336.**	 **61...-** **61...A** **61...B** **61...C**
3 phase voltages L-N, 3 currents	5	9	**61338.**	
4 voltages, 3 currents	6	11	**61337.**	 **61337-** **61337A** **61337B**

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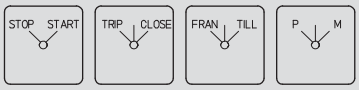
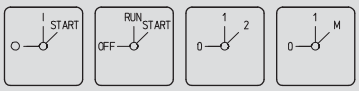
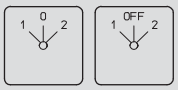
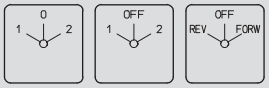
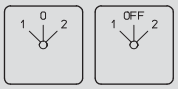
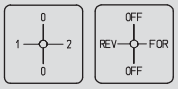
Switching programmes

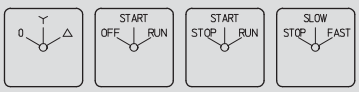
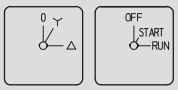
Control Switches with spring return

Description	Stages	Contacts	Ident No.	Ident No. with inscription
Control Switches				
1 pole	1	2	**61300.**	
2 pole	2	4	**61388.**	
without jumpers				
1 pole	1	2	**61700.**	**61...-** **61...A** **61...B** **61...C**
Control Switches with position indication				
1 pole	1	2	**61301.**	
without jumpers				
1 pole	1	2	**61701.**	**61...-** **61...A** **61...B** **61...C**
Controlling two contactors				
Standard	2	3	**61307.**	
without jumpers	2	3	**61707.**	**61...-** **61...A** **61...B**
With spring return				
4 auxiliary contacts	2	4	**61366.**	
Motor voltage control switch	2	3	**61271.**	
single winding contactor	4	8	**61272.**	**61...-** **61...T**

Motor Reversing Switches

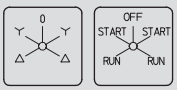
Description	Stages	Contacts	Ident No.	Ident No. with inscription
2 pole	2	4	**61210.**	
3 pole	3	5	**61211.**	
				61...- **61...A** **61...B**
3 pole with spring return	3	5	**61253.**	
				61253- **61253T**
3 pole, complete rotation	3	5	**61214.**	
				61214- **61214A**

Star-Delta Switches

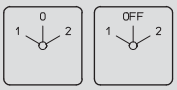
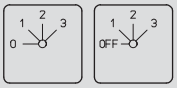
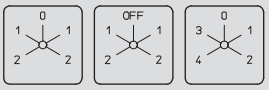
Description	Stages	Contacts	Ident No.	Ident No. with inscription
Standard	4	8	**61200.**	
Contact closed in “OFF”/“STOP”	5	9	**61239.**	
				61...- **61...A** **61...B** **61...C**
Spring return from START to “OFF”	4	8	**61201.**	
				61201- **61201A**

Switching programmes

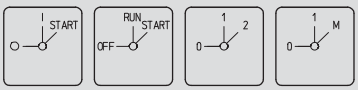
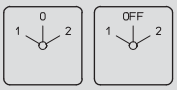
Star-Delta Switches

Description	Stages	Contacts	Ident No.	Ident No. with inscription
for use with contactor	4	7	**61240.**	 **61240-** **61240A** **61240B**
Reversing Star-Delta Switches				
Standard	5	10	**61203.**	 **61203-** **61203A**

Multi-Speed Switches

Description	Stages	Contacts	Ident No.	Ident No. with inscription
2 speeds				
single winding	4	8	**61212.**	 **61...-** **61...A**
single winding - contactor control	5	10	**61215.**	
2 separate windings	3	6	**61219.**	
2 speeds				
single winding	4	8	**61213.**	 **61213-** **61213A**
3 speeds				
speed 1+3 Dahlander	6	11	**61226.**	 **61...-** **61...A**
speed 2+3 Dahlander	6	11	**61243.**	
Reversing Multi-Speed Switches				
2 speeds, single winding	6	12	**61217.**	 **61217-** **61217A** **61217B**

Auxiliary Phase Switches

Description	Stages	Contacts	Ident No.	Ident No. with inscription
Standard	2	3	**61208.**	 **61208-** **61208A** **61208B** **61208C**
2 directions	3	6	**61209.**	 **61209-** **61209A** **61209B**
2 directions phase continuously under load	3	6	**61270.**	 **61270-** **61270A**

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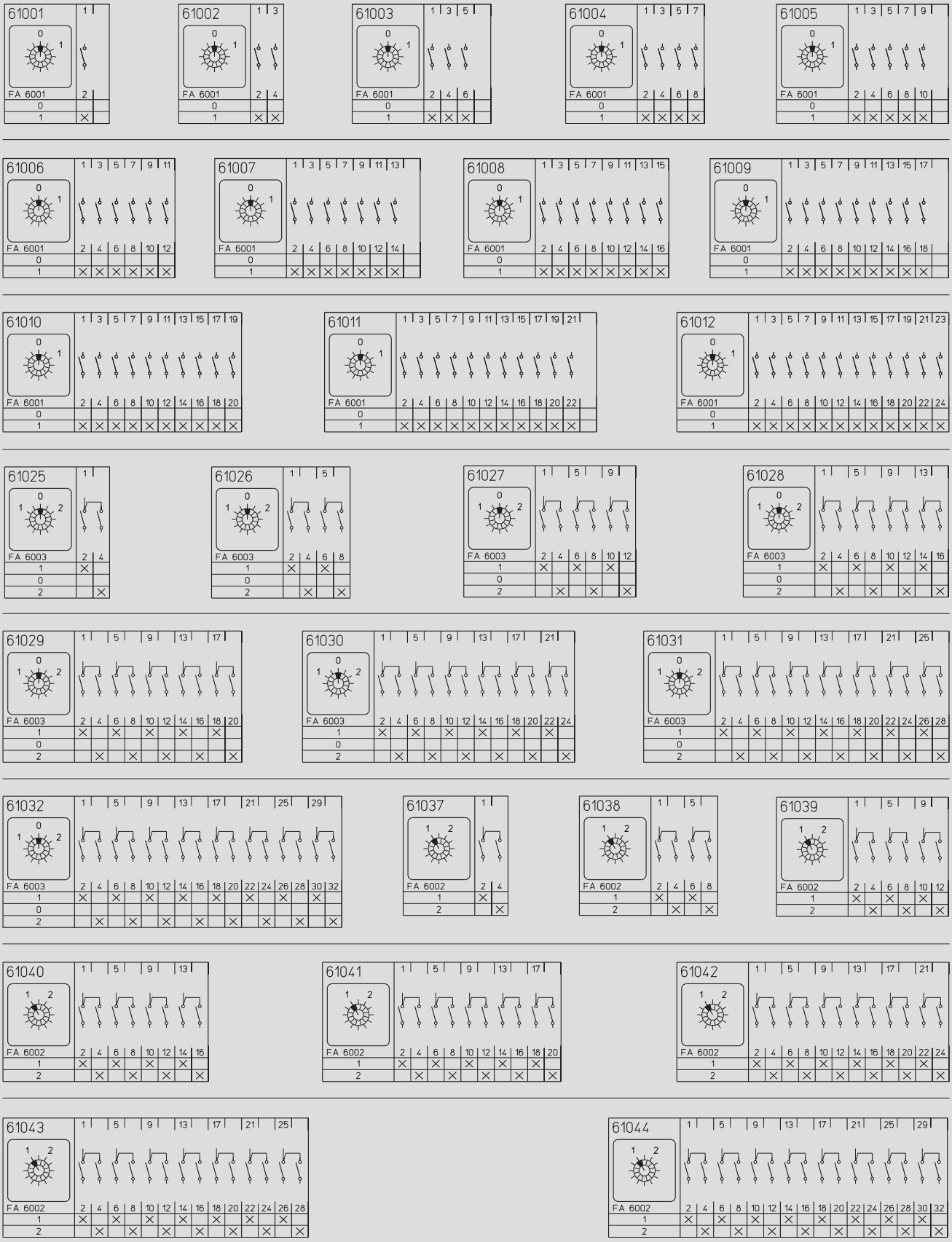
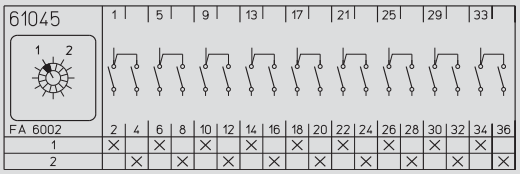
Switching diagrams 61001 – 61044



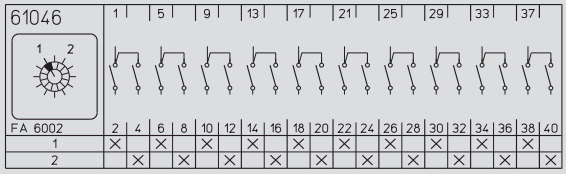
Switching diagrams 61045–61062

61045



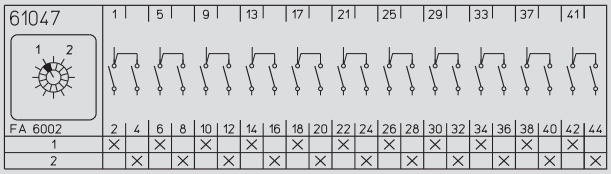
FA 6002	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
1	×		×		×		×		×		×		×		×		×	
2		×		×		×		×		×		×		×		×		×

61046



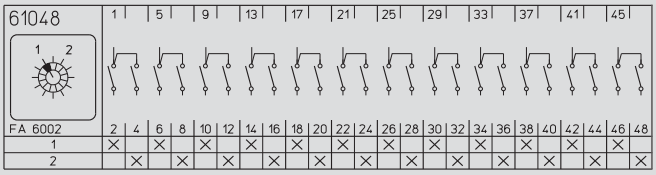
FA 6002	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
1	×		×		×		×		×		×		×		×		×		×	
2		×		×		×		×		×		×		×		×		×		×

61047



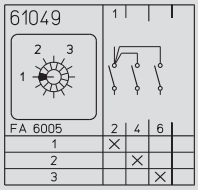
FA 6002	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44
1	×		×		×		×		×		×		×		×		×		×		×	
2		×		×		×		×		×		×		×		×		×		×		×

61048



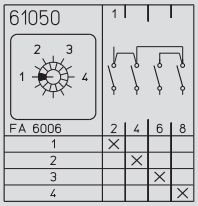
FA 6002	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48
1	×		×		×		×		×		×		×		×		×		×		×		×	
2		×		×		×		×		×		×		×		×		×		×		×		×

61049



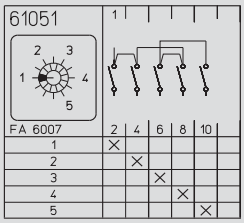
FA 6005	2	4	6
1	×		
2		×	
3			×

61050



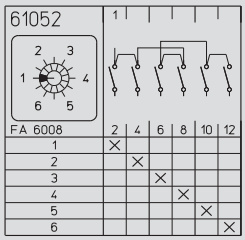
FA 6006	2	4	6	8
1	×			
2		×		
3			×	
4				×

61051



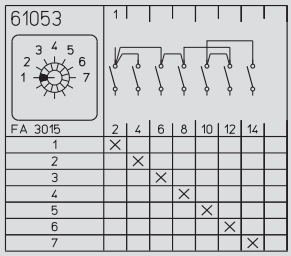
FA 6007	2	4	6	8	10
1	×				
2		×			
3			×		
4				×	
5					×

61052



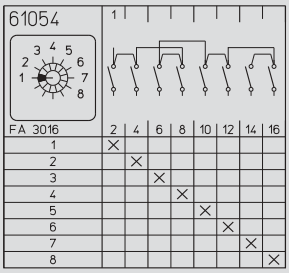
FA 6008	2	4	6	8	10	12
1	×					
2		×				
3			×			
4				×		
5					×	
6						×

61053



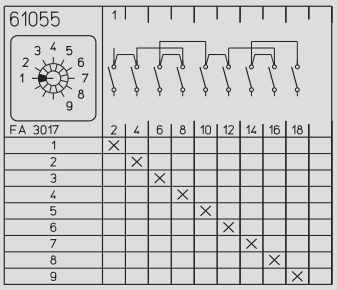
FA 3015	2	4	6	8	10	12	14
1	×						
2		×					
3			×				
4				×			
5					×		
6						×	
7							×

61054



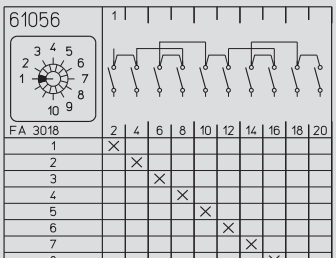
FA 3016	2	4	6	8	10	12	14	16
1	×							
2		×						
3			×					
4				×				
5					×			
6						×		
7							×	
8								×

61055



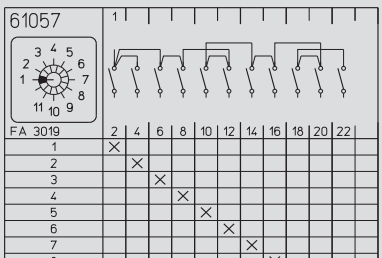
FA 3017	2	4	6	8	10	12	14	16	18
1	×								
2		×							
3			×						
4				×					
5					×				
6						×			
7							×		
8								×	
9									×

61056



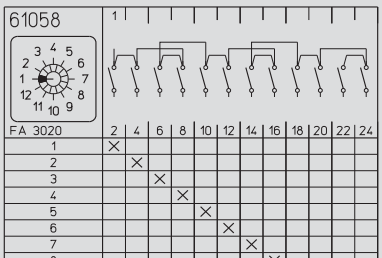
FA 3018	2	4	6	8	10	12	14	16	18	20
1	×									
2		×								
3			×							
4				×						
5					×					
6						×				
7							×			
8								×		
9									×	
10										×

61057



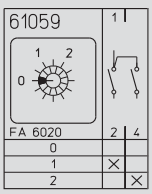
FA 3019	2	4	6	8	10	12	14	16	18	20	22
1	×										
2		×									
3			×								
4				×							
5					×						
6						×					
7							×				
8								×			
9									×		
10										×	
11											×

61058



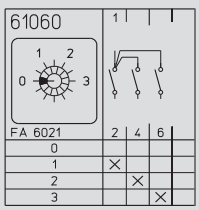
FA 3020	2	4	6	8	10	12	14	16	18	20	22	24
1	×											
2		×										
3			×									
4				×								
5					×							
6						×						
7							×					
8								×				
9									×			
10										×		
11											×	
12												×

61059



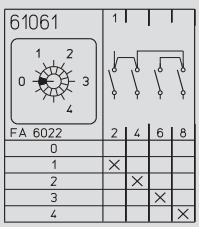
FA 6020	2	4
0		
1	×	
2		×

61060



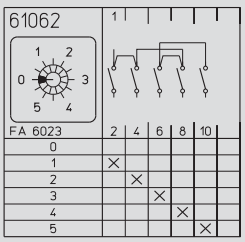
FA 6021	2	4	6
0			
1	×		
2		×	
3			×

61061



FA 6022	2	4	6	8
0				
1	×			
2		×		
3			×	
4				×

61062



FA 6023	2	4	6	8	10
0					
1	×				
2		×			
3			×		
4				×	
5					×

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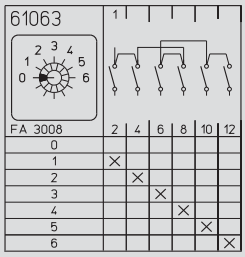
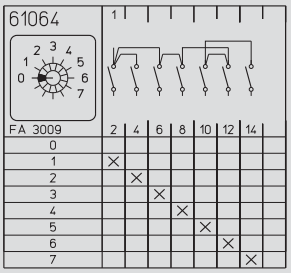
Switching diagrams 61063–61082

61063



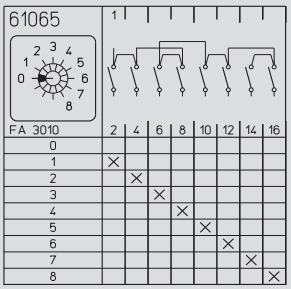
FA 3008	2	4	6	8	10	12
0						
1	×					
2		×				
3			×			
4				×		
5					×	
6						×

61064



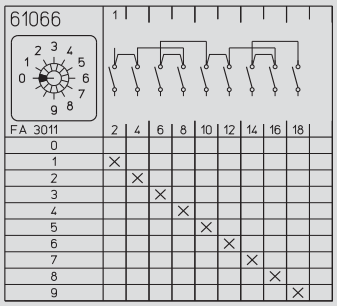
FA 3009	2	4	6	8	10	12	14
0							
1	×						
2		×					
3			×				
4				×			
5					×		
6						×	
7							×

61065



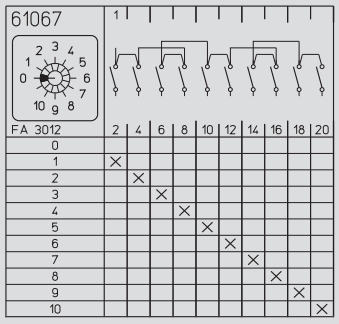
FA 3010	2	4	6	8	10	12	14	16
0								
1	×							
2		×						
3			×					
4				×				
5					×			
6						×		
7							×	
8								×

61066



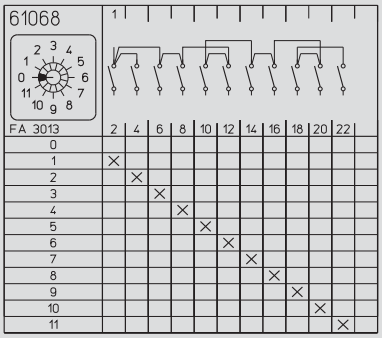
FA 3011	2	4	6	8	10	12	14	16	18
0									
1	×								
2		×							
3			×						
4				×					
5					×				
6						×			
7							×		
8								×	
9									×

61067



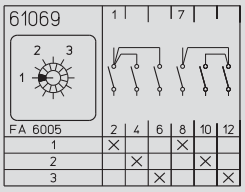
FA 3012	2	4	6	8	10	12	14	16	18	20
0										
1	×									
2		×								
3			×							
4				×						
5					×					
6						×				
7							×			
8								×		
9									×	
10										×

61068



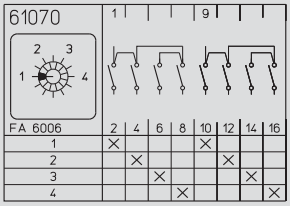
FA 3013	2	4	6	8	10	12	14	16	18	20	22
0											
1	×										
2		×									
3			×								
4				×							
5					×						
6						×					
7							×				
8								×			
9									×		
10										×	
11											×

61069



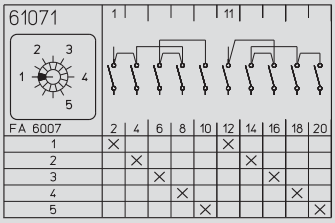
FA 6005	2	4	6	8	10	12
1	×			×		
2		×			×	
3			×			×

61070



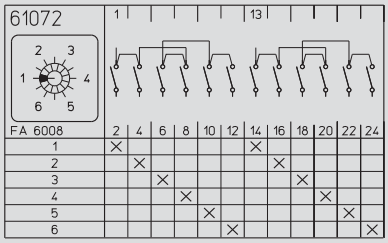
FA 6006	2	4	6	8	10	12	14	16
1	×				×			
2		×				×		
3			×				×	
4				×				×

61071



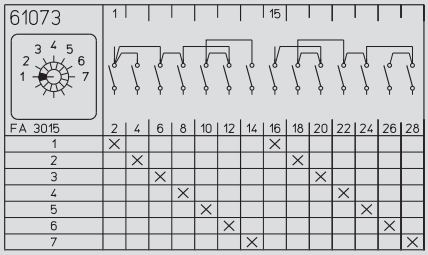
FA 6007	2	4	6	8	10	12	14	16	18	20
1	×					×				
2		×					×			
3			×					×		
4				×					×	
5					×					×

61072



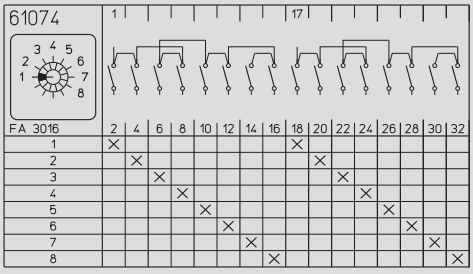
FA 6008	2	4	6	8	10	12	14	16	18	20	22	24
1	×						×					
2		×						×				
3			×						×			
4				×						×		
5					×						×	
6						×						×

61073



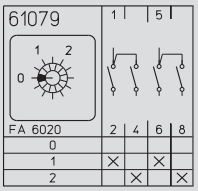
FA 3015	2	4	6	8	10	12	14	16	18	20	22	24	26	28
1	×							×						
2		×							×					
3			×							×				
4				×							×			
5					×							×		
6						×							×	
7							×							×

61074



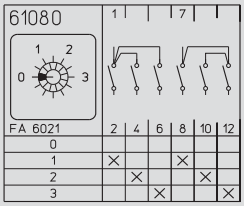
FA 3016	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32
1	×								×							
2		×								×						
3			×								×					
4				×								×				
5					×								×			
6						×								×		
7							×								×	
8								×								×

61079



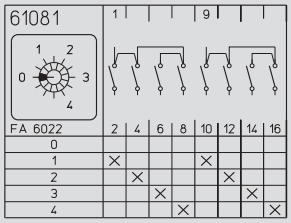
FA 6020	2	4	6	8
0				
1	×		×	
2		×		×

61080



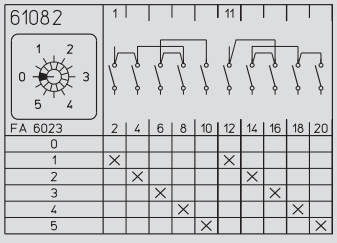
FA 6021	2	4	6	8	10	12
0						
1	×			×		
2		×			×	
3			×			×

61081



FA 6022	2	4	6	8	10	12	14	16
0								
1	×				×			
2		×				×		
3			×				×	
4				×				×

61082



FA 6023	2	4	6	8	10	12	14	16	18	20
0										
1	×					×				
2		×					×			
3			×					×		
4				×					×	
5					×					×

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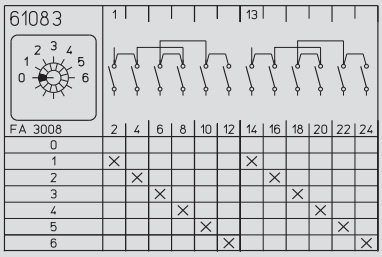
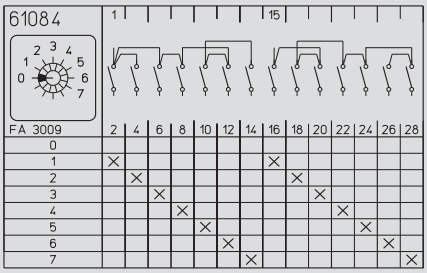
Switching diagrams 61083 – 61111

61083



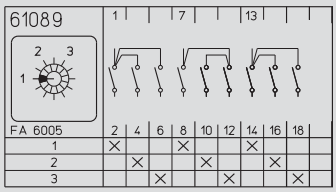
FA 3008	2	4	6	8	10	12	14	16	18	20	22	24
0												
1	×						×					
2		×						×				
3			×						×			
4				×						×		
5					×						×	
6						×						×

61084



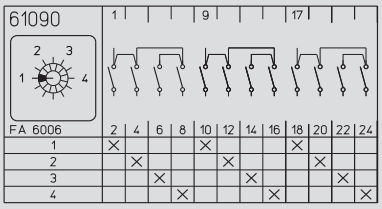
FA 3009	2	4	6	8	10	12	14	16	18	20	22	24	26	28
0														
1	×						×							
2		×						×						
3			×						×					
4				×						×				
5					×						×			
6						×						×		
7							×						×	

61089



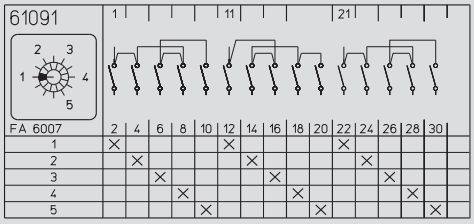
FA 6005	2	4	6	8	10	12	14	16	18
1	×		×			×			
2		×			×			×	
3			×			×			×

61090



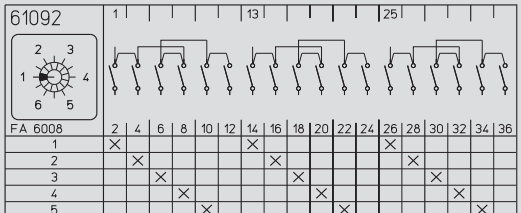
FA 6006	2	4	6	8	10	12	14	16	18	20	22	24
1	×				×				×			
2		×				×				×		
3			×				×				×	
4				×				×				×

61091



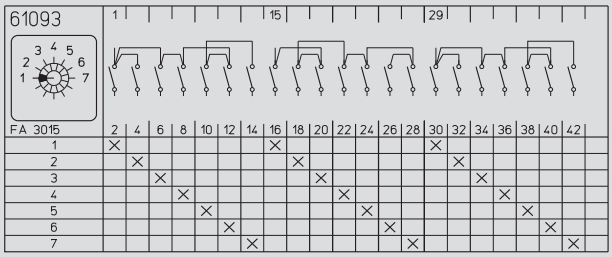
FA 6007	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30
1	×					×					×				
2		×					×					×			
3			×					×					×		
4				×					×					×	
5					×					×					×

61092



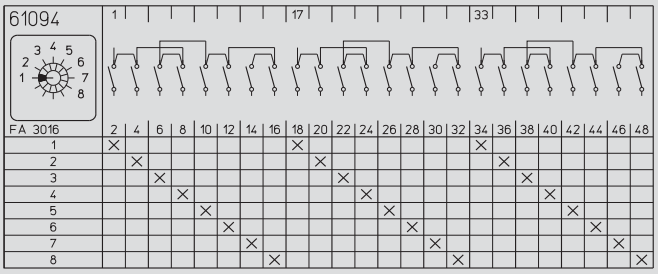
FA 6008	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
1	×						×						×					
2		×						×						×				
3			×						×						×			
4				×						×						×		
5					×						×						×	
6						×						×						×

61093



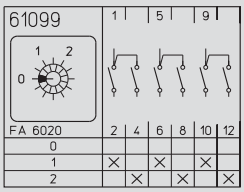
FA 3015	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42
1	×							×							×						
2		×							×							×					
3			×							×							×				
4				×							×							×			
5					×							×							×		
6						×							×							×	
7							×							×							×

61094



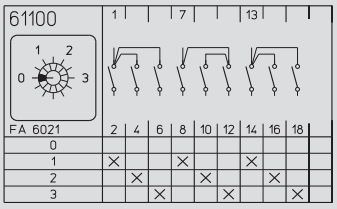
FA 3016	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48
1	×								×								×							
2		×								×								×						
3			×								×								×					
4				×								×								×				
5					×								×								×			
6						×								×								×		
7							×								×								×	
8								×								×								×

61099



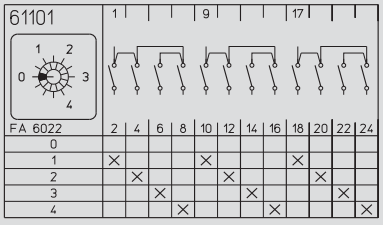
FA 6020	2	4	6	8	10	12
0						
1	×		×		×	
2		×		×		×

61100



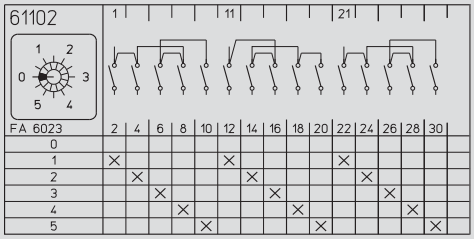
FA 6021	2	4	6	8	10	12	14	16	18
0									
1	×			×			×		
2		×			×			×	
3			×			×			×

61101



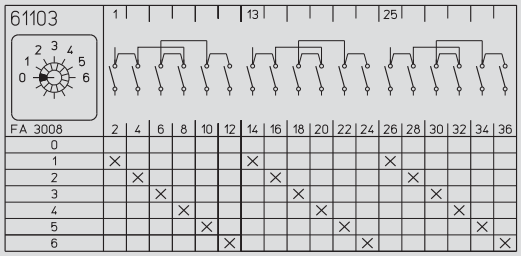
FA 6022	2	4	6	8	10	12	14	16	18	20	22	24
0												
1	×				×				×			
2		×				×				×		
3			×				×				×	
4				×				×				×

61102



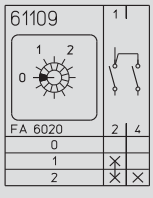
FA 6023	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30
0															
1	×					×					×				
2		×					×					×			
3			×					×					×		
4				×					×					×	
5					×					×					×

61103



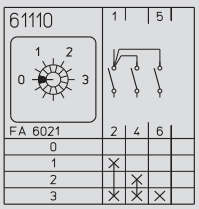
FA 3008	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
0																		
1	×						×						×					
2		×						×						×				
3			×						×						×			
4				×						×						×		
5					×						×						×	
6						×						×						×

61109



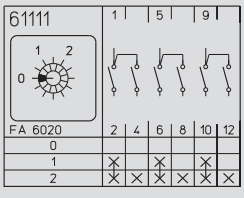
FA 6020	2	4
0		
1	×	
2	×	×

61110



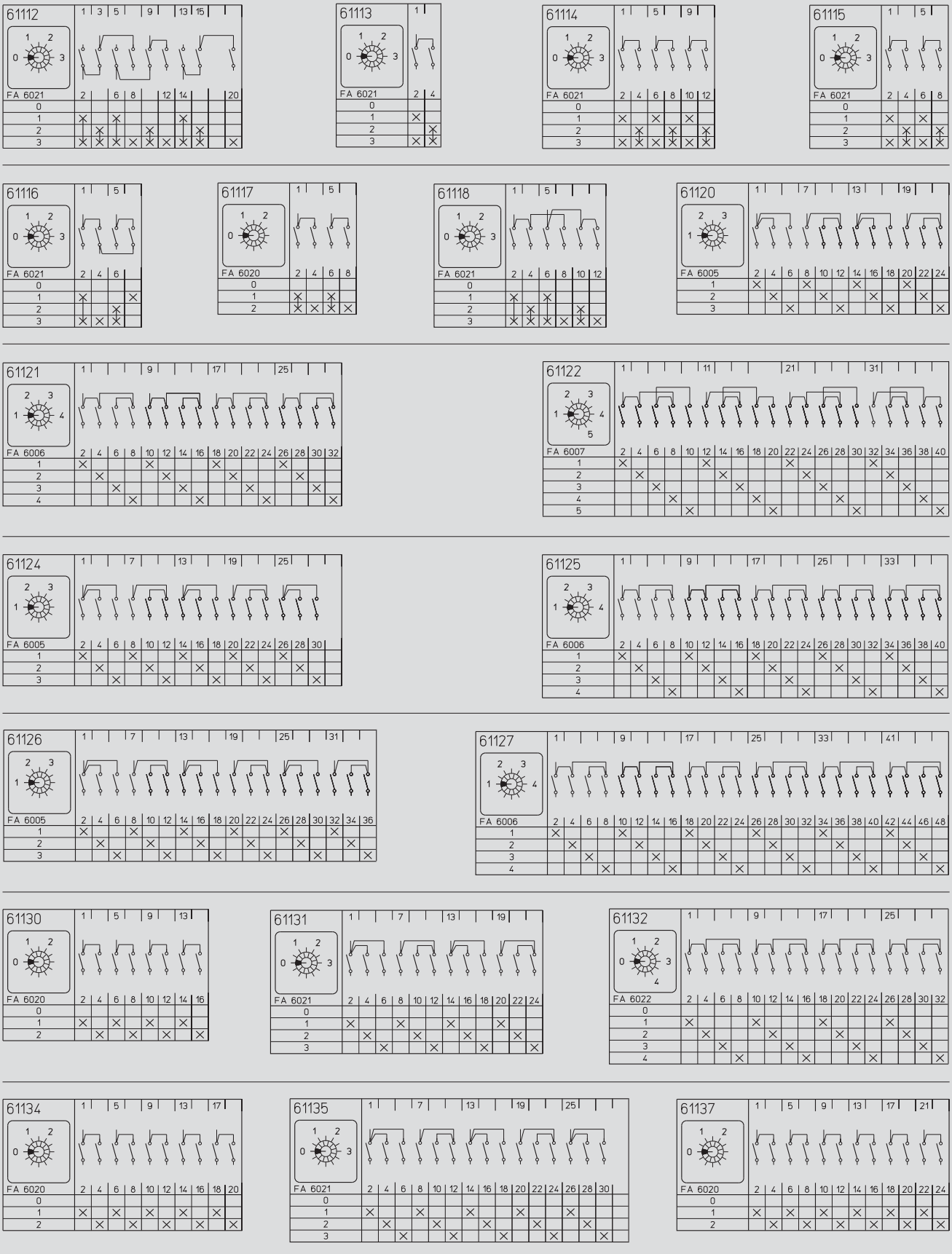
FA 6021	2	4	6
0			
1	×		
2		×	
3	×	×	×

61111



FA 6020	2	4	6	8	10	12
0						
1	×		×		×	
2	×	×	×	×	×	×

Switching diagrams 61112–61137



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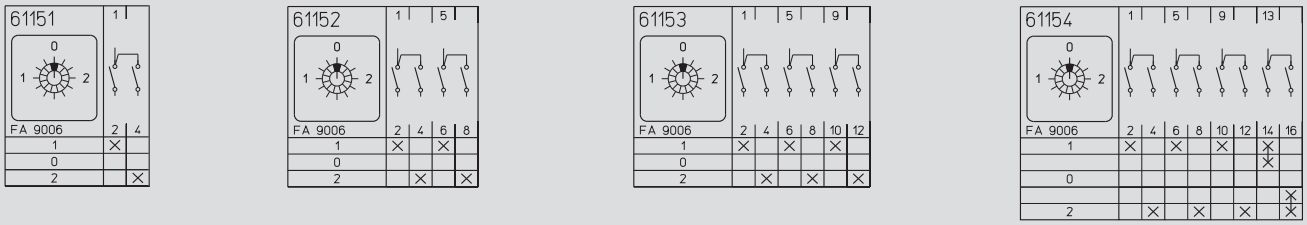
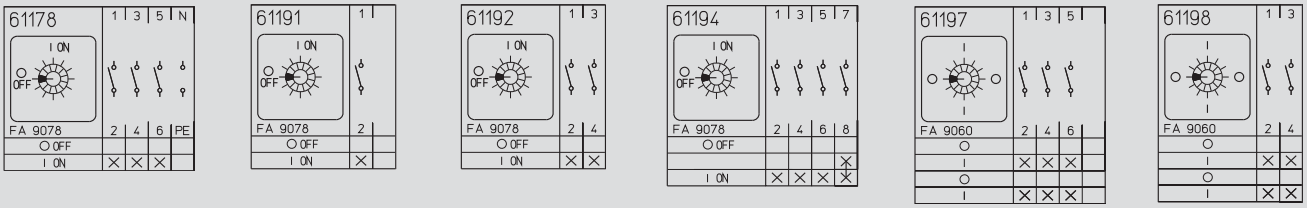
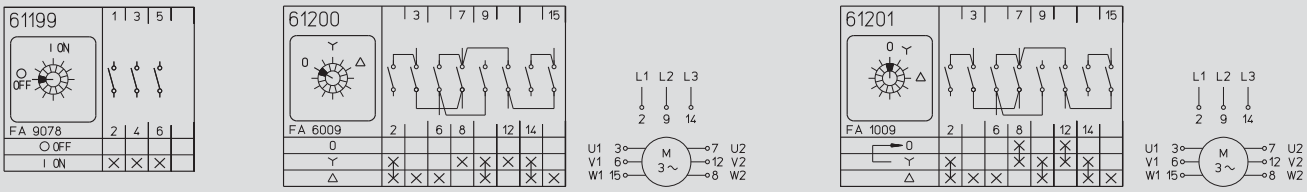
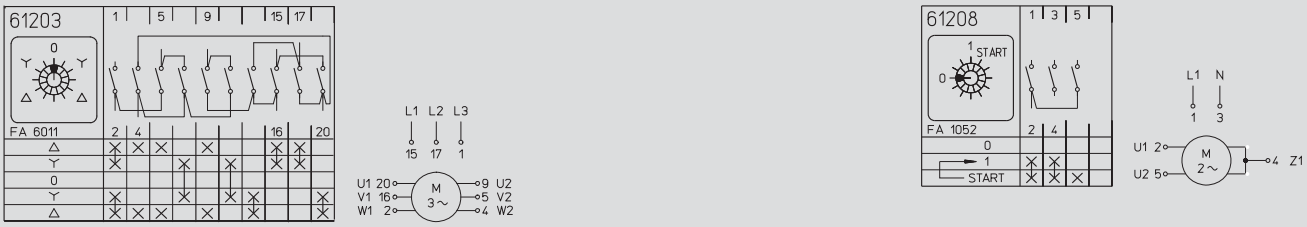
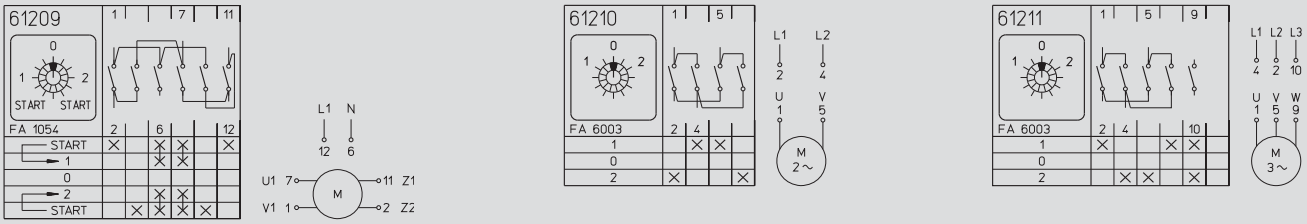
Switching diagrams 61151 – 61215

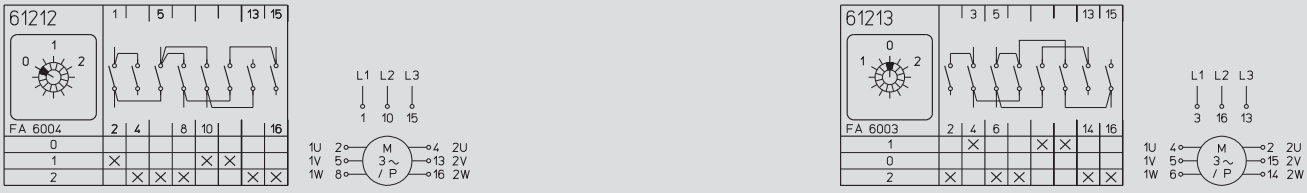


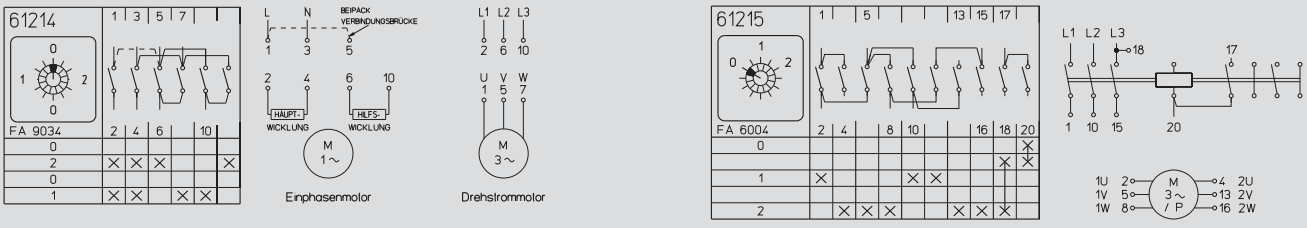




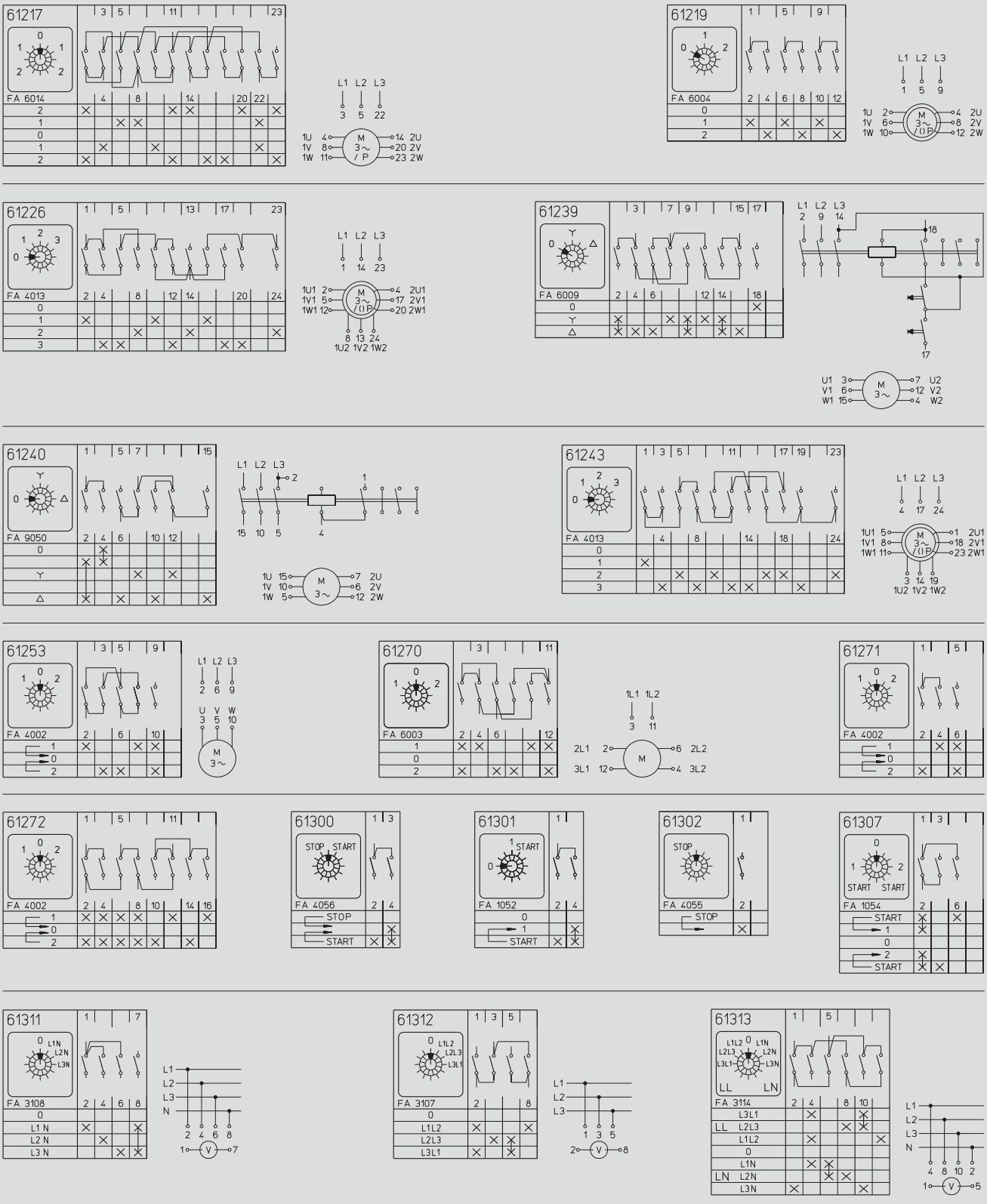








Switching diagrams 61217–61313



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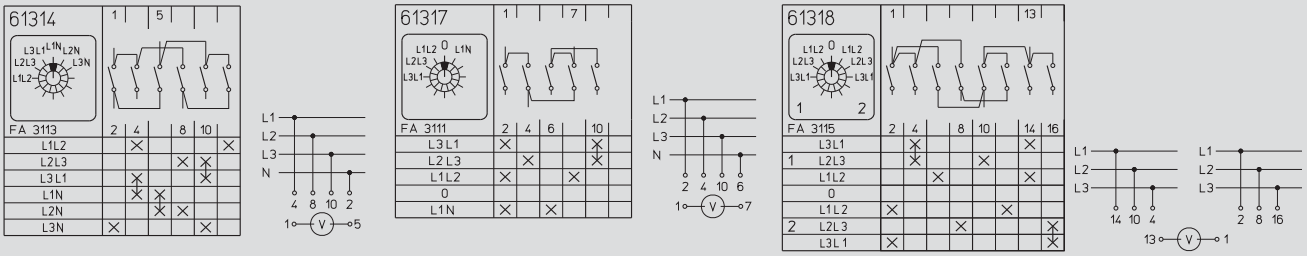
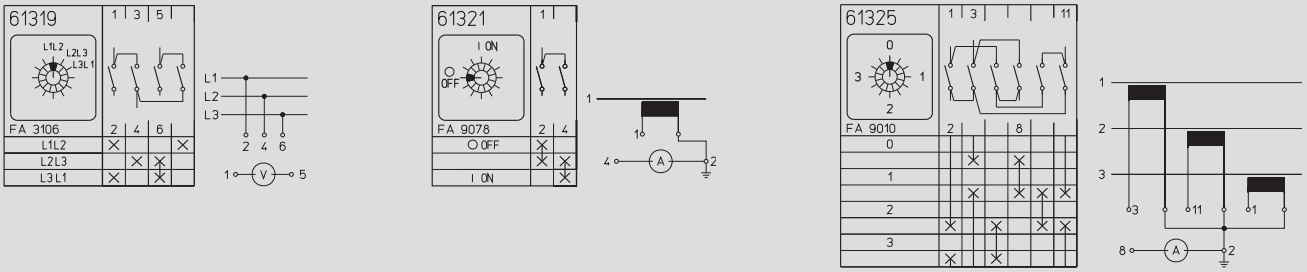
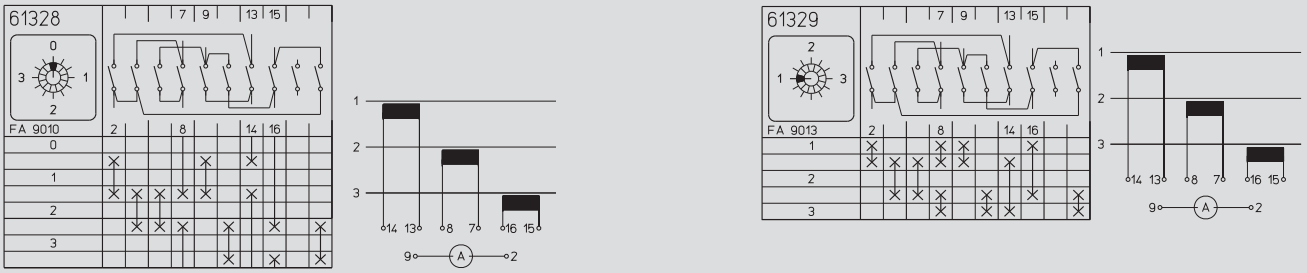
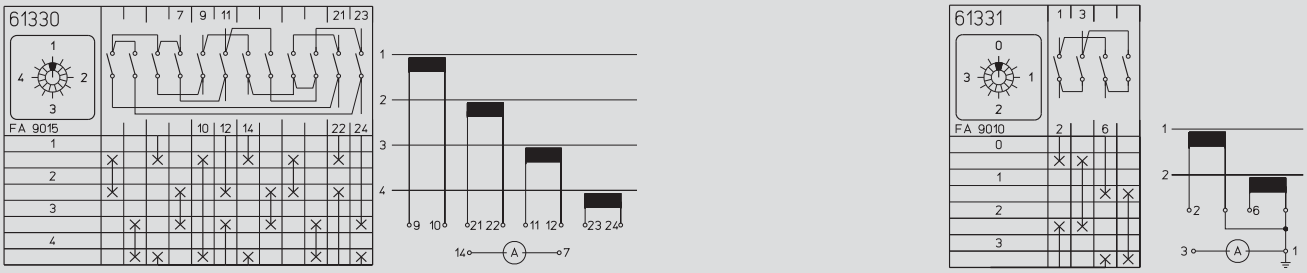
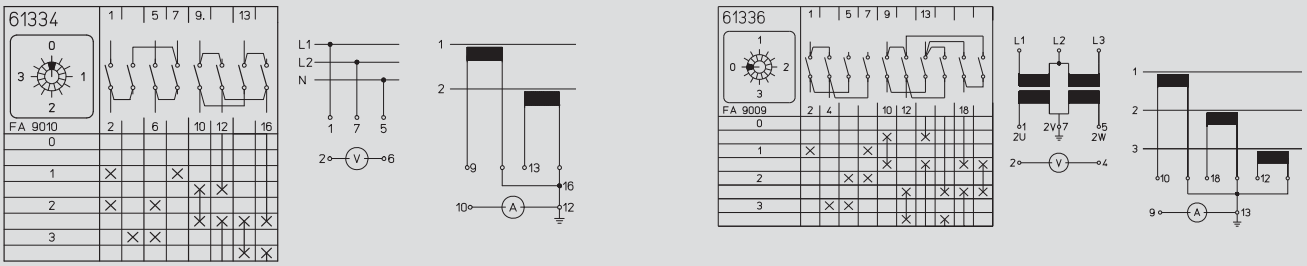
Switching diagrams 61314 – 61336











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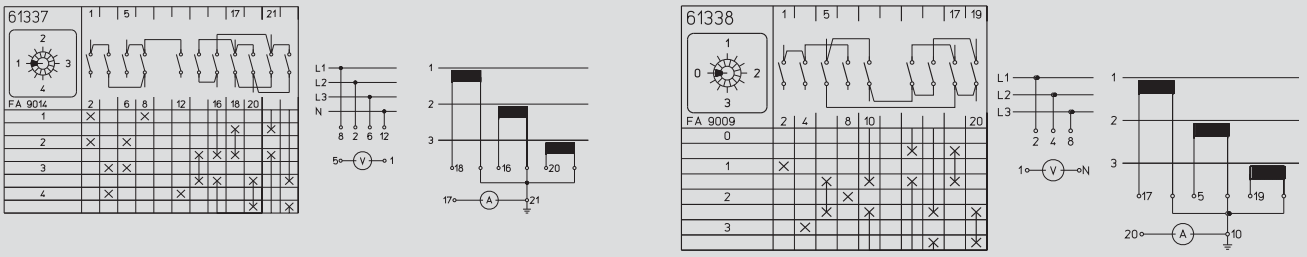
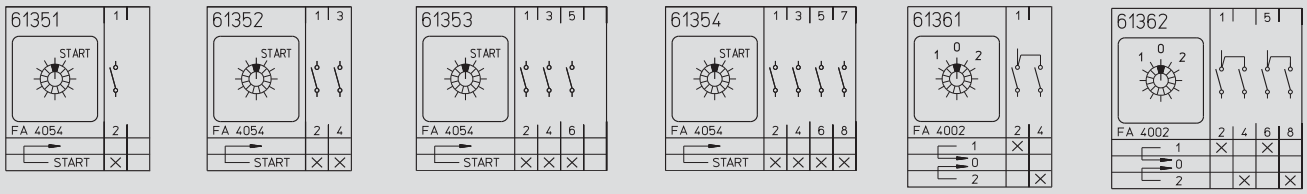
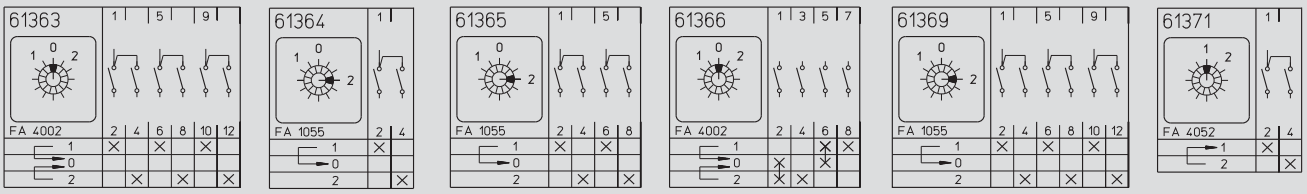
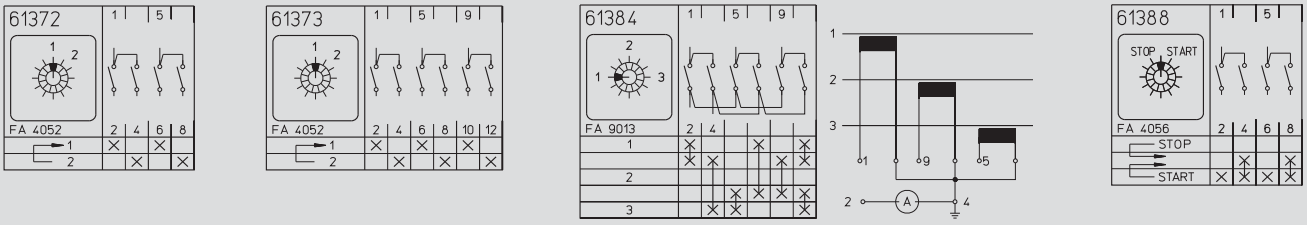
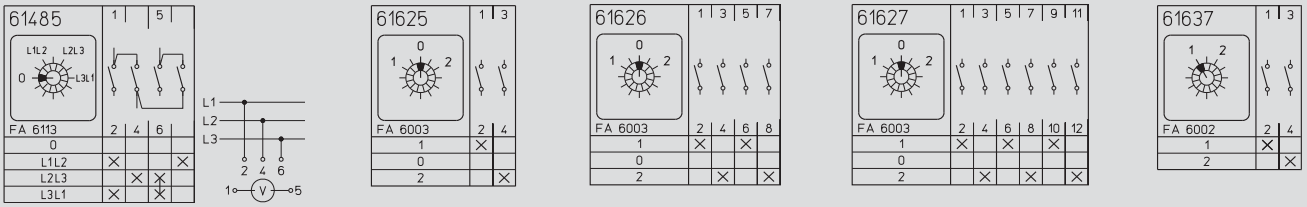
Switching diagrams 61337–61707

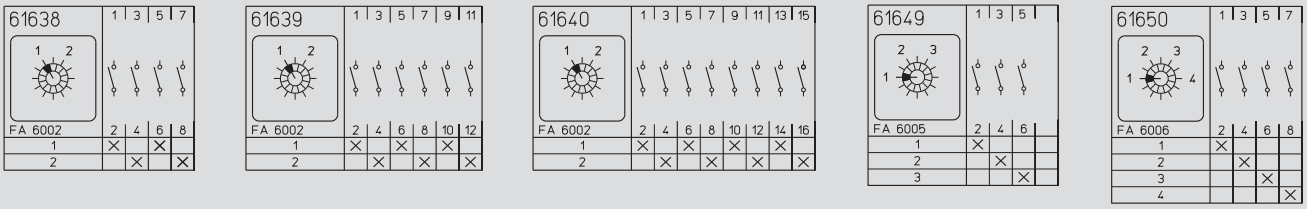


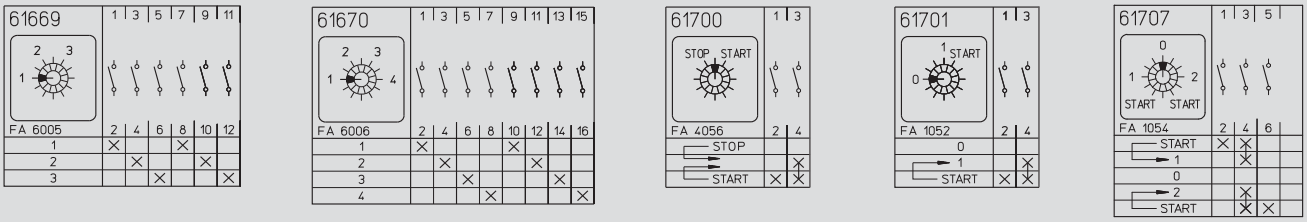












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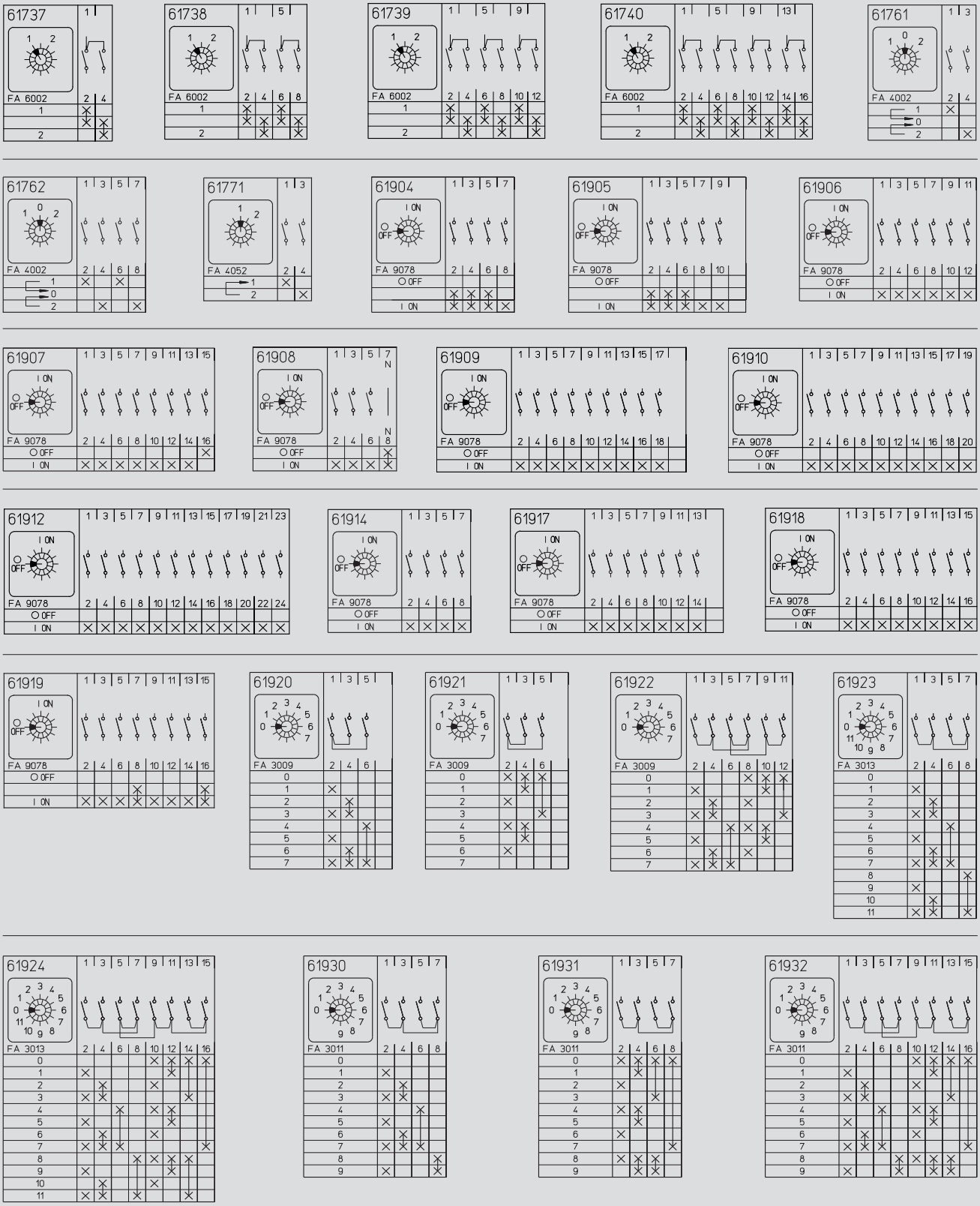
Switching diagrams 61737 – 61932



Order form for rotary cam switches with special switching programmes page 188.

Legend plates

2 switch positions

45° switching angle

FA 4018

FA 4020

FA 4022

FA 4047

FA 4048

FA 4052

FA 4054

FA 4055

FA 4056

FA 4066

FA 4073

FA 4077

FA 4078

FA 4080

60° switching angle

FA 6001

FA 6002

FA 6018

FA 6025

FA 6026

FA 6027

FA 6028

FA 6029

FA 6030

FA 6033

FA 6051

FA 6053

FA 6055

FA 6056

FA 6057

FA 6058

FA 6129

FA 6134

FA 6135

FA 6140

FA 6149

90° switching angle

FA 9011

FA 9016

FA 9017

FA 9018

FA 9021

FA 9026

FA 9031

FA 9032

FA 9033

FA 9057

FA 9058

FA 9078

FA 9079

FA 9080

3 switch positions

30° switching angle

FA 3028

FA 3030

FA 3046

FA 3103

FA 3104

FA 3105

FA 3106

FA 3116

FA 3117

FA 3118

FA 3119

FA 3120

FA 3121

Legend plates

3 switch positions

45° switching angle

FA 4001

FA 4002

FA 4006

FA 4012

FA 4024

FA 4025

FA 4026

FA 4027

FA 4028

FA 4029

FA4030

FA 4031

FA 4032

FA 4033

FA 4034

FA 4035

FA 4036

FA 4037

FA 4038

FA 4045

FA 4067

FA 4068

FA 4069

FA 4070

FA 4071

FA 4072

FA 4074

FA 4076

FA 4079

FA 4081

FA 4082

60° switching angle

FA 6003

FA 6004

FA 6005

FA 6009

FA 6010

FA 6017

FA 6019

FA 6020

FA 6034

FA 6035

FA 6036

FA 6038

FA 6039

FA 6044

FA 6045

FA 6060

FA 6061

FA 6062

FA 6063

FA 6064

FA 6065

FA 6067

FA 6068

FA 6069

FA 6070

FA 6071

FA 6072

FA 6073

FA 6074

FA 6075

FA 6076

FA 6077

FA 6091

FA 6103

FA 6105

FA 6116

FA 6117

FA 6126

FA 6131

FA 6132

FA 6133

FA 6136

FA 6141

FA 6142

FA 6143

FA 6144

FA 6146

FA 6147

FA 6148

FA 6150

FA 6151

FA 6152

90° switching angle

FA 9006

FA 9008

FA 9013

FA 9023

FA 9024

FA 9027

FA 9037

FA 9038

FA 9050

FA 9081

FA 9083

Miscellaneous switching angles

FA 1009

FA 1015

FA 1020

FA 1052

FA 1053

FA 1055

FA 1059

FA 1061

FA 1063

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Legend plates

4 switch positions

30° switching angle


FA 3014


FA 3021


FA 3022


FA 3029


FA 3047


FA 3056


FA 3058


FA 3087


FA 3088


FA 3089


FA 3090


FA 3107


FA 3108


FA 3109


FA 3110

45° switching angle


FA 4007


FA 4013


FA 4075


FA 4083


FA 4084


FA 4085

60° switching angle


FA 6006


FA 6013


FA 6021


FA 6041


FA 6049


FA 6104


FA 6113


FA 6114


FA 6119


FA 6127


FA 6137


FA 6138


FA 6145


FA 6153

90° switching angle


FA 9004


FA 9005


FA 9007


FA 9009


FA 9010

FA 9014

FA 9015

FA 9019

FA 9020

FA 9025

FA9028

FA 9029

FA 9034

FA 9035

FA 9039

FA 9046

FA 9047

FA 9048

FA 9049

FA 9052

FA 9060

FA 9082

FA 9084

Miscellaneous switching angles

FA 1017

FA 1022

FA 1056

FA 1057

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Legend plates

5 switch positions

30° switching angle

FA 3006

FA 3031

FA 3033

FA 3034

FA 3048

FA 3063

FA 3064

FA 3092

FA 3093

FA 3111

FA 3112

45° switching angle

FA 4003

FA 4008

FA 4014

FA 4039

FA 4040

FA 4041

FA 4059

FA 4060

60° switching angle

FA 6007

FA 6011

FA 6014

FA 6022

FA 6037

FA 6042

FA 6046

FA 6078

FA 6139

Miscellaneous switching angles

FA 1007

FA 1008

FA 1011

FA 1014

FA 1018

FA 1019

FA 1054

FA 1058

FA 1060

FA 1062

6 switch positions

30° switching angle

FA 3007

FA 3032

FA 3049

FA 3100

FA 3113

FA 3122

45° switching angle

FA 4009

FA 4015

FA 4091

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Legend plates

6 switch positions

60° switching angle

FA 6008

FA 6012

FA 6015

FA 6023

FA 6024

FA 6040

FA 6043

FA 6047

FA 6081

FA 6083

FA 6085

FA 6098

FA 6118

7 switch positions

30° switching angle

FA 3004

FA 3008

FA 3015

FA 3023

FA 3035

FA 3043

FA 3050

FA 3060

FA 3062

FA 3065

FA 3067

FA 3082

FA 3083

FA 3084

FA 3114

FA 3115

45° switching angle

FA 4004

FA 4010

FA 4016

FA 4086

FA 4087

FA 4088

FA 4089

FA 4090

8 switch positions

30° switching angle

FA 3009

FA 3016

FA 3051

45° switching angle

FA 4011

FA 4017

FA 4046

FA 4058

FA 4061

FA 4092

Legend plates

9 switch positions

30° switching angle


FA 3010


FA 3017


FA 3025


FA 3044


FA 3052

10 switch positions

30° switching angle


FA 3011


FA 3018


FA 3053

11 switch positions

30° switching angle


FA 3012


FA 3019


FA 3054

12 switch positions

30° switching angle


FA 3013


FA 3020


FA 3055


FA 3123

Other


FA 1001

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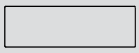
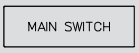
Legend plates

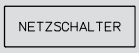
Additional top escutcheon plates


FA 8000

FA 8001



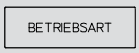
FA 8002



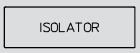
FA 8003

FA 8004

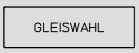
FA 8005



FA 8006



FA 8007



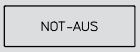
FA 8008

FA 8009

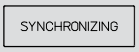
FA 8010

FA 8011

FA 8012



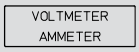
FA 8013



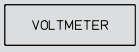
FA 8014

FA 8015

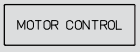
FA 8016



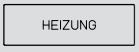
FA 8017



FA 8018

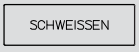


FA 8019

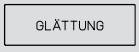


FA 8021

FA 8023



FA 8024



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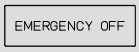
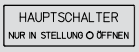
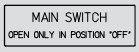


FA 8026

FA 8027



FA 8028



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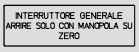


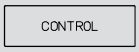
FA 8030

FA 8031

FA 8032

FA 8033

FA 8034



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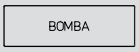
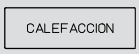


FA 8036

FA 8037



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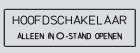
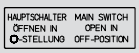


FA 8039

FA 8040



FA 8041

FA 8042

FA 8044

FA 8045

FA 8046

FA8047

How to order legend plates

Standard escutcheon 30 × 30 mm	Order code number
Legend plate silver, inscription black	FAS1-…. (+FA number)
Legend plate yellow, inscription black	FBS1-…. (+FA number)
Legend plate black, inscription silver	FCS1-…. (+FA number)
Legend plate white, inscription black	FDS1-…. (+FA number)
Legend plate black, inscription white	FES1-…. (+FA number)

Standard escutcheon 48 × 48 mm	Order code number
Legend plate silver, inscription black	FAS2-…. (+FA number)
Legend plate yellow, inscription black	FBS2-…. (+FA number)
Legend plate black, inscription silver	FCS2-…. (+FA number)
Legend plate white, inscription black	FDS2-…. (+FA number)
Legend plate black, inscription white	FES2-…. (+FA number)

Standard escutcheon 64 × 64 mm	Order code number
Legend plate silver, inscription black	FAS4-…. (+FA number)
Legend plate yellow, inscription black	FBS4-…. (+FA number)
Legend plate black, inscription silver	FCS4-…. (+FA number)
Legend plate white, inscription black	FDS4-…. (+FA number)
Legend plate black, inscription white	FES4-…. (+FA number)

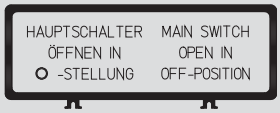
Standard escutcheon 88 × 88 mm	Order code number
Legend plate silver, inscription black	FAS6-…. (+FA number)
Legend plate yellow, inscription black	FBS6-…. (+FA number)
Legend plate black, inscription silver	FCS6-…. (+FA number)
Legend plate white, inscription black	FDS6-…. (+FA number)
Legend plate black, inscription white	FES6-…. (+FA number)

Standard escutcheon 130 × 130 mm	Order code number
Legend plate silver, inscription black	FAS8-…. (+FA number)
Legend plate yellow, inscription black	FBS8-…. (+FA number)
Legend plate black, inscription silver	FCS8-…. (+FA number)
Legend plate white, inscription black	FDS8-…. (+FA number)
Legend plate black, inscription white	FES8-…. (+FA number)

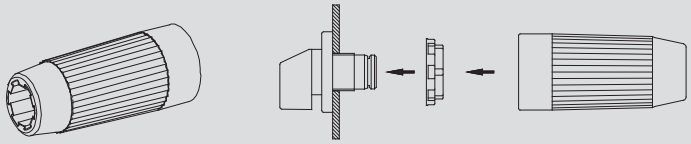
Additional top escutcheon plates	Order code number
Legend plate silver, inscription black	FAS2-8… (+FA number)
Legend plate yellow, inscription black	FBS2-8… (+FA number)
Legend plate black, inscription silver	FCS2-8… (+FA number)
Legend plate white, inscription black	FDS2-8… (+FA number)
Legend plate black, inscription white	FES2-8… (+FA number)

Order form for rotary cam switches with special inscriptions page 190.

Accessories



FAZ2-8041



218098

Additional top escutcheon plates
with additional inscription to be clipped on the escutcheons and padlock devices

	Order code number
Escutcheon frame plate black, legend plate silver, without inscription (can be engraved)	**FAZ2 - 8000**
Escutcheon frame plate black, legend plate silver, inscription black, inscription FA 8… (see page 182)	**FAZ2 - 8…**
Escutcheon frame plate black, legend plate silver, inscription black, special engraving	**FAZ2 -** (special no.)
Escutcheon frame plate black, legend plate yellow, without inscription (can be engraved)	**FBZ2 - 8000**
Escutcheon frame plate black, legend plate yellow, inscription black, inscription FA 8… (see page 182)	**FBZ2 - 8**
Escutcheon frame plate black, legend plate yellow, inscription black, special engraving	**FBZ2 -** (special no.)
Escutcheon frame plate black, legend plate black, without inscription (can be engraved)	**FCZ2 - 8000**
Escutcheon frame plate black, legend plate black, inscription silver, inscription FA 8… (see page 182)	**FCZ2 - 8…**
Escutcheon frame plate black, legend plate black, inscription silver, special engraving	**FCZ2 -** (special no.)
Escutcheon frame plate black, legend plate white, without inscription (can be engraved)	**FDZ2 - 8000**
Escutcheon frame plate black, legend plate white, inscription black, inscription FA 8… (see page 182)	**FDZ2 - 8…**
Escutcheon frame plate black, legend plate white, inscription black, special engraving	**FDZ2 -** (special no.)
Escutcheon frame plate black, legend plate black, without inscription (can be engraved)	**FEZ2 - 8000**
Escutcheon frame plate black, legend plate black, inscription white, inscription FA 8… (see page 182)	**FEZ2 - 8…**
Escutcheon frame plate black, legend plate black, inscription white, special engraving	**FEZ2 -** (special no.)
Escutcheon frame plate black (without legend plate)	**FAZ2**

Legend plates for additional top escutcheon plates

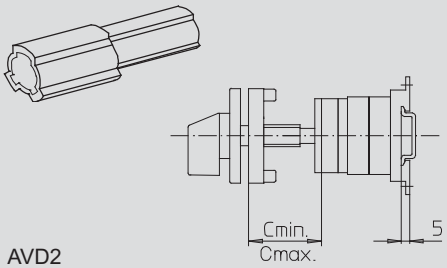
Legend plate silver, without inscription (can be engraved)	**FAS2 - 8000**
Legend plate silver, inscription black, inscription FA 8… (see page 182)	**FAS2 - 8…**
Legend plate silver, inscription black, special engraving	**FAS2 -** (special no.)
Legend plate yellow, without inscription (can be engraved)	**FBS2 - 8000**
Legend plate yellow, inscription black, inscription FA 8… (see page 182)	**FBS2 - 8…**
Legend plate yellow, inscription black, special engraving	**FBS2 -** (special no.)
Legend plate black, without inscription (can be engraved)	**FCS2 - 8000**
Legend plate black, inscription silver, inscription FA 8… (see page 182)	**FCS2 - 8…**
Legend plate black, inscription silver, special engraving	**FCS2 -** (special no.)
Legend plate white, without inscription (can be engraved)	**FDS2 - 8000**
Legend plate white, inscription black, inscription FA 8… (see page 182)	**FDS2 - 8…**
Legend plate white, inscription black, special engraving	**FDS2 -** (special no.)
Legend plate black, inscription white, inscription FA 8… (see page 182)	**FES2 - 8…**
Legend plate black, inscription white, special engraving	**FES2 -** (special no.)

Assembly tool for single hole mounting

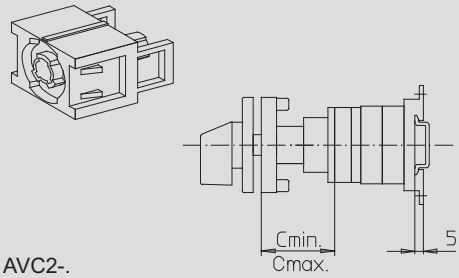
suitable for the fast assembly of escutcheons and padlock devices

Types	Order code number
P110 / P220 / P225 / M220 / M225 / T225	**218098**

Accessories



AVD2



AVC2-.

Modular shaft extension for mounting forms with door clutch or door interlock

C_{min}	C_{max}	Number	Order code number	
Door clutch				
42 mm	59 mm	–	–	
60 mm	84 mm	1	**AVD2**	
85 mm	109 mm	2	**AVD2**	
110 mm	134 mm	3	**AVD2**	
135 mm	159 mm	4	**AVD2**	
160 mm	184 mm	5	**AVD2**	
185 mm	209 mm	6	**AVD2**	
Door interlock				
42 mm	57 mm	–	–	
64 mm	82 mm	1	**AVC2 - 1**	
89 mm	107 mm	1	**AVC2 - 2**	Please note: AVC2-2 to AVC2-6 have additional parts to aid the stability of the extended shaft modules
114 mm	132 mm	1	**AVC2 - 3**	
139 mm	157 mm	1	**AVC2 - 4**	
164 mm	182 mm	1	**AVC2 - 5**	
189 mm	207 mm	1	**AVC2 - 6**	

Key removable positions

The dot in the order code number must be replaced by the classification letter which identifies the key removable positions.
Due to the construction of the locking cylinder the key can also be removed at 180 degrees of the designated position.

Type P110

Standard cylinder lock L001. Other lock types on request.

key removable at
09 h / 03 h

key removable at
12 h / 06 h

key removable at
09 h / 12 h / 03 h / 06 h

key removable at
09 h / 11 h / 01 h / 03 h / 05 h / 07 h

key removable at
10 h / 04 h

key removable at
02 h / 08 h

key removable at
11 h / 05 h

key removable at
01 h / 07 h

key removable at
10 h / 12 h / 02 h / 04 h / 06 h / 08 h

key removable at
11 h / 01 h / 05 h / 07 h

key removable at
10 h / 12 h / 04 h / 06 h

key removable at
12 h / 02 h / 06 h / 08 h

key removable at
10 h / 02 h / 04 h / 08 h

Types P220 / P225 / M220 / M225 / T225

Standard cylinder lock C001. Other lock types on request.

key removable at
09 h / 03 h

key removable at
12 h / 06 h

key removable at
09 h / 12 h / 03 h / 06 h

key removable at
09 h / 11 h / 01 h / 03 h / 05 h / 07 h

key removable at
10 h / 04 h

key removable at
02 h / 08 h

key removable at
09 h / 10.30 h / 12 h / 01.30 h /
03 h / 04.30 h / 06 h / 07.30 h

key removable at
10.30 h / 04.30 h

key removable at
01.30 h / 07.30 h

key removable at
09 h / 10 h / 11 h / 12 h / 01 h / 02 h /
03 h / 04 h / 05 h / 06 h / 07 h / 08 h

key removable at
11 h / 05 h

key removable at
01 h / 07 h

key removable at
10 h / 12 h / 02 h / 04 h / 06 h / 08 h

key removable at
11 h / 01 h / 05 h / 07 h

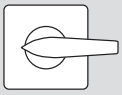
key removable at
10 h / 12 h / 04 h / 06 h

key removable at
12 h / 02 h / 06 h / 08 h

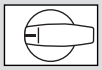
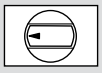
key removable at
10 h / 02 h / 04 h / 08 h

key removable at
09 h / 10.30 h / 03 h / 04.30 h

Operator variants for mounting forms with escutcheon and handle

Operator		Colour escutcheon	Colour legend plate	Colour operator	Change of order code number
M-handle Suitable for product lines P100, M200, P200, T200, S400 and S600		black	silver	black	.... - ..... - ...**M1**
		grey	silver	grey	.... - ..... - ...**M2**
		white	silver	white	.... - ..... - ...**M3**
		black	yellow	red	.... - ..... - ...**M4**
		black	silver	red	.... - ..... - ...**M5**
		black	black	black	.... - ..... - ...**M8**
F-handle Suitable for product lines M200, P200 and T200		black	silver	black	.... - ..... - ...**F1**
		grey	silver	grey	.... - ..... - ...**F2**
		white	silver	white	.... - ..... - ...**F3**
		black	yellow	red	.... - ..... - ...**F4**
		black	silver	red	.... - ..... - ...**F5**
		black	black	black	.... - ..... - ...**F8**
B-handle Suitable for product lines M200, P200, T200, S400, S600 and S800		black	silver	black	.... - ..... - ...**B1**
		grey	silver	grey	.... - ..... - ...**B2**
		white	silver	white	.... - ..... - ...**B3**
		black	yellow	red	.... - ..... - ...**B4**
		black	silver	red	.... - ..... - ...**B5**
		black	black	black	.... - ..... - ...**B8**
N-handle Suitable for product lines M200, P200, T200 and S400		black	silver	black	.... - ..... - ...**N1**
		grey	silver	grey	.... - ..... - ...**N2**
		white	silver	white	.... - ..... - ...**N3**
		black	yellow	red	.... - ..... - ...**N4**
		black	silver	red	.... - ..... - ...**N5**
		black	black	black	.... - ..... - ...**N8**
G-handle Suitable for product lines S400, S600 and S800		black	silver	black	.... - ..... - ...**G1**
		black	yellow	red	.... - ..... - ...**G4**
		black	silver	red	.... - ..... - ...**G5**
		black	black	black	.... - ..... - ...**G8**
R-handle Suitable for product lines M200, P200, T200 and S400		black	silver	black	.... - ..... - ...**R1**
		grey	silver	grey	.... - ..... - ...**R2**
		white	silver	white	.... - ..... - ...**R3**
		black	yellow	red	.... - ..... - ...**R4**
		black	silver	red	.... - ..... - ...**R5**

Installation mounting for 45 mm aperture in Panel/Distribution boards:

M-handle Suitable for product lines M200, P200 and T200		grey	silver	black	.... - ..... - ...**M1**
		grey	silver	grey	.... - ..... - ...**M2**
		grey	yellow	red	.... - ..... - ...**M4**
N-handle Suitable for product lines M200, P200 and T200		grey	silver	black	.... - ..... - ...**N1**
		grey	silver	grey	.... - ..... - ...**N2**
		grey	yellow	red	.... - ..... - ...**N4**

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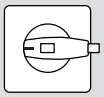
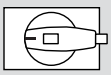
Operator variants for mounting forms with padlock device

Operator		Colour escutcheon	Colour legend plate	Colour operator	Change of order code number
N-padlock device Suitable for product lines M200, P200, T200, S400 and S600		black grey yellow grey yellow	white white white white white	black grey red black black	.... - ..... - ...N1 .... - ..... - ...N2 .... - ..... - ...N4 .... - ..... - ...N6 .... - ..... - ...N7
M-padlock device Suitable for product lines P100, M200, P200, T200, S400 and S600		black grey yellow grey yellow	white white white white white	black grey red black black	.... - ..... - ...M1 .... - ..... - ...M2 .... - ..... - ...M4 .... - ..... - ...M6 .... - ..... - ...M7
B-padlock device Suitable for product lines S400, S600 and S800		black black black	silver yellow black	black red black	.... - ..... - ...B1 .... - ..... - ...B4 .... - ..... - ...B8
H-padlock device Suitable for product lines S400, S600 and S800		black black black	silver yellow black	black red black	.... - ..... - ...H1 .... - ..... - ...H4 .... - ..... - ...H8
Padlockable with V-handle Suitable for product lines P100, M200, P200, T200 and S400		black black	silver yellow	black red	.... - ..... - ...V1 .... - ..... - ...V4

Installation mounting for 45 mm aperture in Panel/Distribution boards:

Padlockable with V-handle Suitable for product lines M200, P200 and T200		grey grey	silver yellow	black red	.... - ..... - ...V1 .... - ..... - ...V4

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How to order special switches

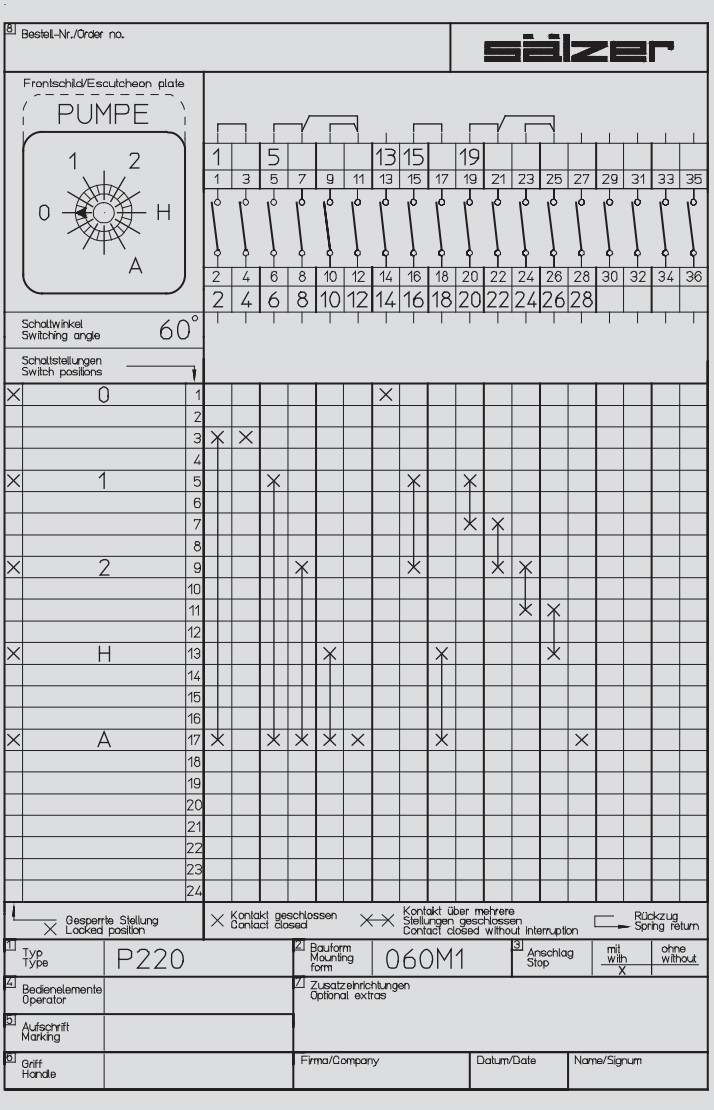
Special switching programmes can be produced by means of prefabricated modules either by us or by our authorized workshops all over the world.

For description of the desired course of switching please use our form on page 189. In case of more than 18 contacts an additional form can be used as page 2.

When determining the desired switch the following has to be considered:

- Indicate terminal designations at connection points only and use figures, if possible.
- Mark initial position and/or “OFF” position on the handle with an arrow.
- Mark escutcheon engraving on the escutcheon and indicate it in the column “Switch positions”. In the case of special engraving if the space is not sufficient, use the form for special legend plates (refer to page 191) or enclose a sketch.
- Determine the desired switching angle. If necessary due to technical reasons we may suggest a different switching angle.
- The column “locked positions” is to be filled in only in case of interlockings (e.g. key removable position) and locking mechanisms.
- At the bottom of the order form 6 areas are identified (1 to 6). Areas 1 to 3 must always be specified. Areas 4 to 6 have to be completed in case of deviations from the standard equipment of the design and/or upon demand. Area 7 “Order code no.” is specified on your first order. For all subsequent orders the indication of this order code number is sufficient.

Ordering example

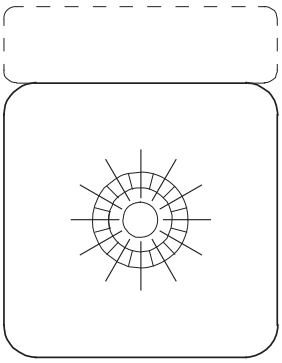


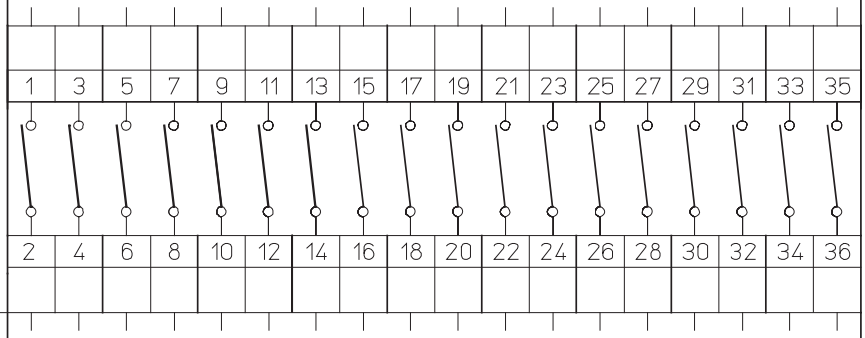
Copy form for special switches

7 Bestell-Nr./Order no.

sälzer

Frontschild/Escutcheon plate





Schaltwinkel / Switching angle °

Schaltstellungen / Switch positions →

	0°
	15°
	30°
	45°
	60°
	75°
	90°
	105°
	120°
	135°
	150°
	165°
	180°
	195°
	210°
	225°
	240°
	255°
	270°
	285°
	300°
	315°
	330°
	345°

Gesperrte Stellung / Locked position

Kontakt geschlossen / Contact closed

Kontakt über mehrere Stellungen geschlossen / Contact closed without interruption

Rückzug / Spring return

1 Typ / Type		2 Bauform / Mounting form		3 Anschlag / Stop		mit / with	ohne / without
4 Bedienelemente / Operator		6 Zusatzeinrichtungen / Optional extras					
5 Aufschrift / Marking							
		Firma/Company		Datum/Date		Name/Name	

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How to order special engravings

For descriptions of the desired special engraving please use our order forms. On page 191 you will find order forms for switches with switching angle 30°/60° and 45°/90°.

When determining the desired engraving the following has to be considered:

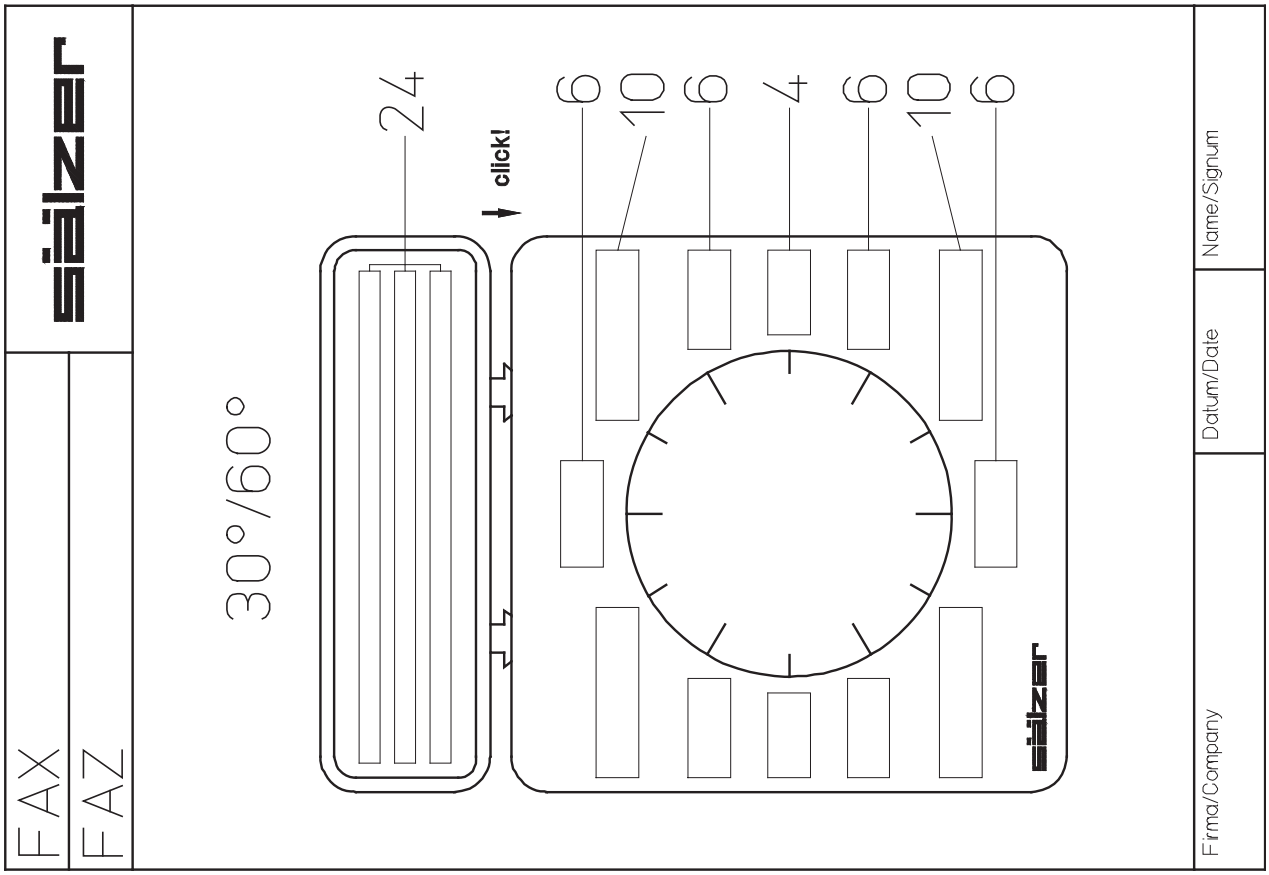
- For standard engraving capital letters or figures type Helvetica in black are used.
- Engravings deviating from the standard design like small size text, symbols or graphical symbols please enclose a drawing or a file.
- The max. quantity of letters (symbols) is specified in the order form.
- The max. letter height is for

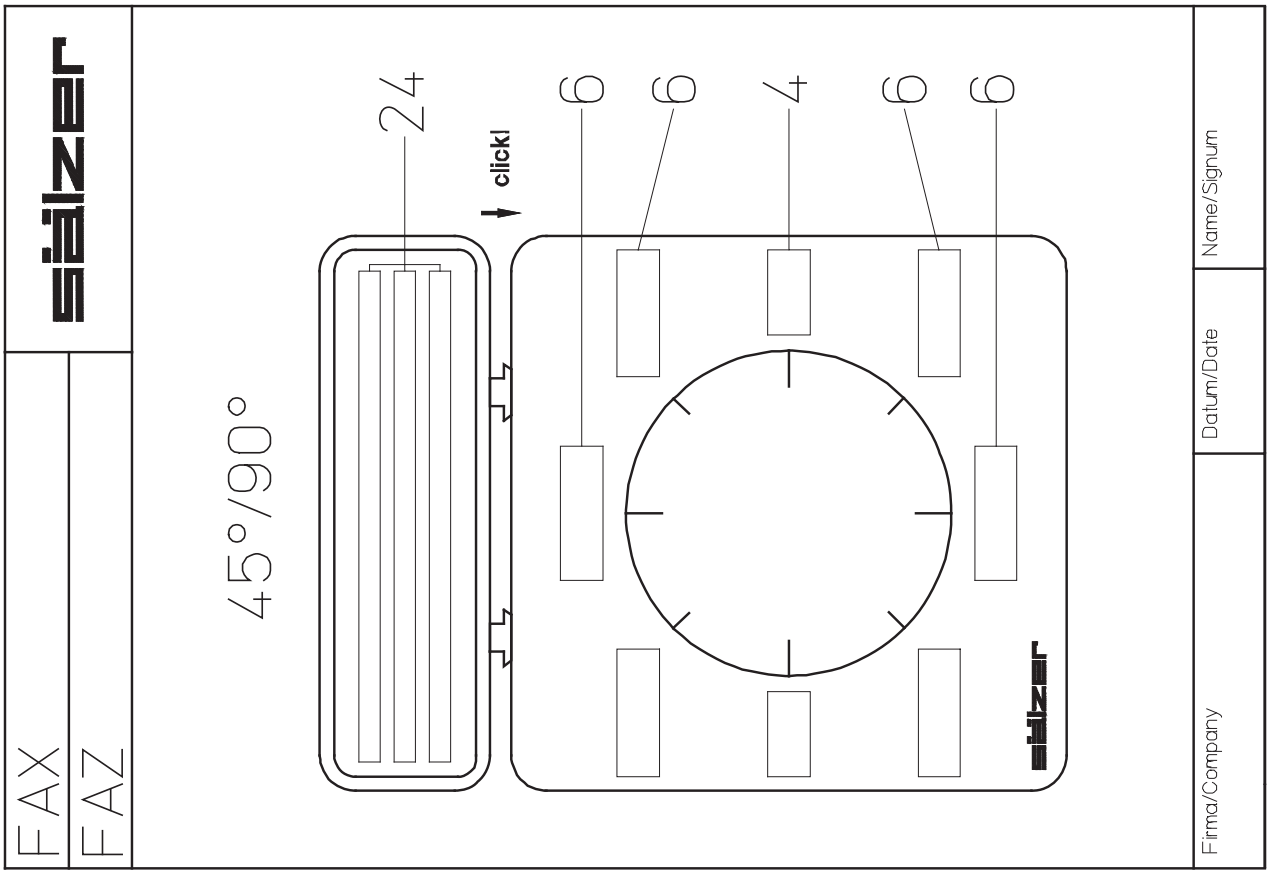
escutcheon	□	30 mm	=	3.5 mm
escutcheon	□	48 mm	=	4.0 mm
escutcheon	□	64 mm	=	4.5 mm
escutcheon	□	88 mm	=	6.5 mm
escutcheon	□	130 mm	=	8.0 mm

  When utilizing the max. letter (symbol) quantity the letter height might be reduced.

- With the first order a **FAX** no. for the legend plate and a **FAZ** no. for the additional legend plate is fixed for every special engraving that will remain valid for all subsequent orders.

Copy form for special engravings





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Technical data

General			P110	M220 P220	M221 * P221 *	P225	M225 P226 *	T225	S432	S440	S606	S608	S612	S825
Standards			IEC 60947, EN 60947, IEC 60204, EN 60204, UL 508, CSA 22.2, No. 14											
Mechanical lifespan			$>10^6$	$>10^6$	$>10^6$	$>10^6$	$>10^6$	$>10^6$	$>10^6$	$>10^6$	$>10^6$	$>10^6$	$>10^6$	$>10^6$
Max. operating frequency / h			50	50	50	50	50	50	50	50	50	50	50	50
Climatic resistance			damp heat, constant, to DIN IEC 60068-2-3 damp heat, cyclic, to DIN IEC 60068-2-30											
Ambient temperature														
open	min / max	°C	–25 / +50											
enclosed	min / max	°C	–25 / +40											
Mounting position			as required											
Mechanical shock resistance (shock duration 20 ms)		g	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10	>10
Rated frequency		Hz	50 to 60 (other frequencies on request)											
Rated data														
Operational voltage U_e		V AC	440	690	690	690	690	690	690	690	690	690	690	690
Impulse withstand voltage U_{imp}		kV	4	6	6	6	6	6	6	6	6	6	6	6
Overvoltage category			III	III	III	III	III	III	III	III	III	III	III	III
Pollution degree			3	3	3	3	3	3	3	3	3	3	3	3
Uninterrupted current I_u / I_{th} / I_{the}		A	10	20	20	25	25	32	50	63	80	100	160	315
Load carrying capacity in intermittent operation, class 12		AB	60% / 40% / 25% DF = 1.3 / 1.6 / 2 × I_e											
Breaking capacity														
220 – 240 V		A	90	180	180	255	255	370	520	550	600	700	900	1800
380 – 440 V		A	70	150	150	230	230	300	430	500	550	600	850	1650
500 – 690 V		A	—	90	90	270	270	210	280	380	420	450	340	350
Short-circuit rating Max. fuse		gL	10	20	20	25	25	32	50	63	80	100	160	315
Conditional short-circuit current		kA_{eff}	3	10	10	10	10	15	20	20	25	25	25	25
Isolating characteristics to EN 60947	up to ...	V AC	440	690	690	690	690	690	690	690	690	690	690	690
Switching angle			30° / 45° / 60° / 90°											
Contacts (current paths)		max	16	24	24	24	24	24	24	24	24	24	24	24
Current heat loss per contact at I_u		W	0.3	0.65	0.65	0.75	0.75	1.0	3.0	3.5	4.0	5.0	11	28.5
Terminal capacity														
solid or	min	mm^2	0.75	1.0	1.0	1.5	1.5	2.5	2.5	4	6	10	10	185 [1]
stranded	max	mm^2	1.5	2.5	2.5	4.0	4.0	6.0	10	16	25	35	70	185 [1]
flexible or multiwire	min	mm^2	0.75	1.0	1.0	1.5	1.5	1.5	2.5	2.5	6	10	10	185 [1]
including ferrule	max	mm^2	1.5	2.5	2.5	2.5	2.5	4.0	6.0	10	16	25	50	185 [1]
American Wire Gauge		AWG	16	12	12	10	10	10	6	4	4	1/0	2/0	350MCM
Thread dimensions for terminal screw			M2.5	M3	M3	M3.5	M3.5	M4	M5	M5	2 × M4	2 × M5	2 × M6	M12
Terminal tightening torque	min	Nm	0.4	0.5	0.5	0.8	0.8	1.2	2.0	2.0	1.2	2.0	2.5	14
	max	Nm	0.6	1.0	1.0	1.5	1.5	2.5	4.0	4.0	2.5	4.0	6.0	25

* use this version for 600V AC (UL/CSA) applicatons

[1] with terminal extensions for cable lug connection

Technical data

Rated data			P110	M220 P220	M221 * P221 *	P225	M225 P226 *	T225	S432	S440	S606	S608	S612	S825
Operational current I_e														
AC-21A		A	10	20	20	25	25	32	50	63	80	100	160	315
AC-22A	220 – 500 V	A	10	20	20	25	25	32	50	63	80	100	160	315
	660 – 690 V	A	—	20	20	25	25	32	50	63	80	80	125	125
AC-23A (cos ϕ=0.65)	400 V	A	6	16	16	22	22	30	44	50	65	80	120	285
UL / CSA	300V AC	A	10	20	20	25	25	35	55 [1]	70 [1]	95 [1]	110 [1]	175 [1]	240
General Use	600V AC	A	—	—	20	—	25	35	55 [1]	70 [1]	95 [1]	110 [1]	175 [1]	240
Operational power 50 – 60 Hz, 3 phase														
AC-23A	220 – 240 V	kW	1.8	4	4	5.5	5.5	7.5	11	15	30	30	37	75
	380 – 440 V	kW	3	7.5	7.5	11	11	15	22	30	45	55	75	132
	500 V	kW	—	7.5	7.5	11	11	15	30	45	55	55	90	132
	660 – 690 V	kW	—	7.5	7.5	11	11	15	30	37	45	45	55	55
AC-3	220 – 240 V	kW	1.5	3	3	4	4	5.5	11	15	15	22	22	37
	380 – 440 V	kW	2.2	5.5	5.5	7.5	7.5	11	22	30	30	37	45	55
	500 V	kW	—	5.5	5.5	7.5	7.5	11	22	30	30	37	45	55
	660 – 690 V	kW	—	5.5	5.5	7.5	7.5	11	22	30	30	37	45	55
UL / CSA	110 – 120 V AC	HP	0.5	1	1	1.5	1.5	3	5	7.5	10	10	15	25
	208 V AC	HP	0.5	2	2	5	5	7.5	7.5	7.5	10	15	15	30
	220 – 240 V AC	HP	0.5	2	2	5	5	7.5	10	15	15	15	15	30
	440 – 480 V AC	HP	—	—	5	—	10	10	20	30	30	30	40	50
	550 – 600 V AC	HP	—	—	5	—	10	10	25	40	50	50	50	50
Rated data (auxiliary contacts)														
Operational voltage U_e		V AC	440	500	500	500	500	500	500	500	500	500	500	500
Uninterrupted current I_u / I_{th} / I_{the}		A	10	20	20	25	25	32	50	63	80	100	160	315
Operational current I_e AC-21A		A	10	20	20	25	25	32	50	63	80	100	160	315
AC-15	110 – 240 V	A	2.5	6	6	6	6	14	16	16	16	16	16	16
	380 – 440 V	A	1.5	4	4	5	5	6	7	7	7	7	7	7
	500 V	A	0.8	2	2	2.5	2.5	3	3.5	3.5	3.5	3.5	3.5	3.5
UL / CSA General Use	600 V AC	A	—	—	20	—	25	35	55	70	70	110	175	240
Heavy Pilot Duty			B300	A300	A600	A300	A600	A600	A600	A600	A600	A600	A600	A600
Short-circuit rating Max. fuse		gL	10	20	20	25	25	32	50	63	80	100	160	315
Conditional short-circuit current		kA_{eff}	3	10	10	10	10	15	20	20	25	25	25	25
Terminal capacity														
flexible or multiwire	min	mm^2	0.75	1	1	1.5	1.5	1.5	2.5	2.5	6	10	10	185 [1]
including ferrule	max	mm^2	1.5	2.5	2.5	2.5	2.5	4.0	6.0	10	16	25	50	185 [1]
American Wire Gauge		AWG	16	12	12	10	10	10	6	4	4	1/0	2/0	350MCM

Conformity

The Rotary Cam Switches conform to the regulations of the EC guideline 73/23 EEC 'Electrical equipment for application within certain voltage limits' – specified as directive for low voltage devices.

The conformity is proved by the complete compliance of the harmonized European standards

- EN 60947-1
- EN 60947-3
- EN 60947-5-1
- EN 60204-1.

Salzer Electric products are developed, manufactured and tested according to these standards.

The CE marking on all our products prove the conformity to the directives.

CE

The Rotary Cam Switches are approved according to UL 508 and CSA 22.2, No. 14.

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* use this version for 600V AC (UL/CSA) applicatons

[1] with terminal extensions for cable lug connection

Utilization categories for Switches, Disconnectors, Switch-Disconnectors and Fuse-Combination Units

Type of Current	Utilization Category Frequent operation	Occasional operation	Typical applications
AC	AC-20A *	AC-20B *	Making and breaking without load
	AC-21A	AC-21B	Switching resistive loads including low overloads
	AC-22A	AC-22B	Switching mixed resistive and inductive loads, including low overloads
	AC-23A	AC-23B	Switching motors and other highly inductive loads
DC	DC-20A	DC-20B	Making and breaking without load
	DC-21A	DC-21B	Switching resistive loads including low overloads
	DC-22A	DC-22B	Switching mixed resistive and inductive loads, including low overloads (e. g. shunt motors)
	DC-23A	DC-23B	Switching highly inductive loads (e. g. series motors)

* The application of these utilization categories isn't permitted in the USA.

Category AC-23 includes occasional switching of individual motors. The utilization categories in the above table do not apply to an equipment normally used to start, accelerate and/or stop individual motors. The utilization categories for such an equipment are dealt with the following table:

Type of Current	Utilization Category	Typical applications
AC	AC-2	Slip-ring motors: starting, plugging[1)], switching off
	AC-3	Squirrel-cage motors: starting, switching off running motors
	AC-4	Squirrel-cage motors: starting, plugging[1)], inching[2)]
DC	DC-3	Shunt motors: starting, plugging[1)], inching[2)], dynamic breaking of d.c. motors
	DC-4	Series motors: starting, plugging[1)], inching[2)], dynamic breaking of d.c. motors

[1)] Plugging is understood to mean stopping or reversing the motor rapidly by reversing motor primary connections while the motor is running.

[2)] Inching (jogging) is understood to mean energizing a motor once or repeatedly for short periods to obtain small movements of the driven mechanism.

Note: The switching of rotor circuits, capacitors or tungsten filament lamps shall be subject to special agreements between manufacturer and user.

Rated currents of three-phase motors (approximate figures for squirrel-cage motors)

Motor rating			Motor full-load current	Fuse starting D.O.L.	Fuse starting Y/Δ	Motor full-load current	Fuse starting D.O.L.	Fuse starting Y/Δ
		Percent efficiency η						
kW	cos ϕ	%	A	A	A	A	A	A
			230 V			**400 V**		
0.06	0.7	58	0.37	2	–	0.21	2	–
0.09	0.7	60	0.54	2	–	0.31	2	–
0.12	0.7	60	0.72	4	2	0.41	2	–
0.18	0.7	62	1.04	4	2	0.6	2	–
0.25	0.7	62	1.4	4	2	0.8	4	2
0.37	0.72	66	2	6	4	1.1	4	2
0.55	0.75	69	2.7	10	4	1.5	4	2
0.75	0.79	74	3.2	10	4	1.9	6	4
1.1	0.81	74	4.6	10	6	2.6	6	4
1.5	0.81	74	6.3	16	10	3.6	6	4
2.2	0.81	78	8.7	20	10	5	10	6
3	0.82	80	11.5	25	16	6.6	16	10
4	0.82	83	14.8	32	16	8.5	20	10
5.5	0.82	86	19.6	32	25	11.3	25	16
7.5	0.82	87	26.4	50	32	15.2	32	16
11	0.84	87	38	80	40	21.7	40	25
15	0.84	88	51	100	63	29.3	63	32
18.5	0.84	88	63	125	80	36	63	40
22	0.84	92	71	125	80	41	80	50
30	0.85	92	96	200	100	55	100	63
37	0.86	92	117	200	125	68	125	80
45	0.86	93	141	250	160	81	160	100
55	0.86	93	173	250	200	99	200	125
75	0.86	94	233	315	250	134	200	160
90	0.86	94	279	400	315	161	250	200
110	0.86	94	342	500	400	196	315	200
132	0.87	95	401	630	500	231	400	250
160	0.87	95	486	630	630	279	400	315
200	0.87	95	607	800	630	349	500	400
250	0.87	95	–	–	–	437	630	500
315	0.87	96	–	–	–	544	800	630
400	0.88	96	–	–	–	683	1000	800
			500 V			**690 V**		
0.06	0.7	58	0.17	2	–	0.12	2	–
0.09	0.7	60	0.25	2	–	0.18	2	–
0.12	0.7	60	0.33	2	–	0.24	2	–
0.18	0.7	62	0.48	2	–	0.35	2	–
0.25	0.7	62	0.7	2	–	0.5	2	–
0.37	0.72	66	0.9	2	2	0.7	2	–
0.55	0.75	69	1.2	4	2	0.9	4	2
0.75	0.79	74	1.5	4	2	1.1	4	2
1.1	0.81	74	2.1	6	4	1.5	4	2
1.5	0.81	74	2.9	6	4	2.1	6	4
2.2	0.81	78	4	10	4	2.9	10	4
3	0.82	80	5.3	16	6	3.8	10	4
4	0.82	83	6.8	16	10	4.9	16	6
5.5	0.82	86	9	20	16	6.5	16	10
7.5	0.82	87	12.1	25	16	8.8	25	10
11	0.84	87	17.4	32	20	12.6	25	16
15	0.84	88	23.4	50	25	17	32	20
18.5	0.84	88	28.9	50	32	20.9	32	25
22	0.84	92	33	63	32	23.8	50	25
30	0.85	92	44	80	50	32	63	32
37	0.86	92	54	100	63	39	80	50
45	0.86	93	65	125	80	47	80	63
55	0.86	93	79	160	80	58	100	63
75	0.86	94	107	200	125	78	160	100
90	0.86	94	129	200	160	93	160	100
110	0.86	94	157	250	160	114	200	125
132	0.87	95	184	250	200	134	250	160
160	0.87	95	224	315	250	162	250	200
200	0.87	95	279	400	315	202	315	250
250	0.87	95	349	500	400	253	400	315
315	0.87	96	436	630	500	316	500	400
400	0.88	96	547	800	630	396	630	400

The rated motor currents are for standard 1500 r.p.m. motors with normal inner and outer surface cooling
Fuse: This table applies to “slow” or “gL”
D.O.L. starting: Maximum starting current: 6 × rated current. Maximum starting time: 5 sec.
Y/Δ starting: Maximum starting current: 2 × rated current. Maximum starting time: 15 sec.

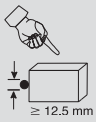
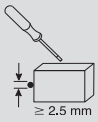
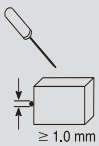
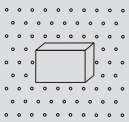
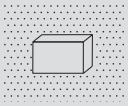
Degree of Protection / IP Codes

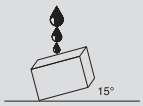
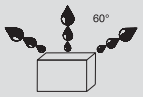
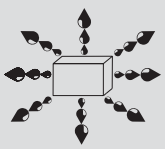
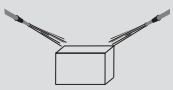
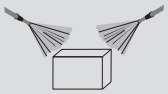
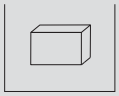
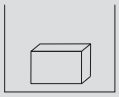
A coding system is definded by IEC 529 / EN60529 for the classification of degrees of protection provided by enclosures of electrical equipment against solid objects and water. This coding comprises the letters 'IP' followed by a two digit code as follows:

IP 6 6

Defines protection against solid objects and access to hazardous parts. — **Defines protection against water.**

Degrees of protection indicated by a number up to and including "6" implies compliance with the requirements for all lower numbers. For a code with a second digit of 7 or 8, a second code must be stated to specify protection against water jets or spray, e. g. IP66/ IP67/ IP68.

1st digit	Protection against solid objects and access to hazardous parts
0	No protection.
1 	No ingress by solid objects ≥ 50 mm dia nor access to hazardous parts with the back of the hand.
2 	No ingress by solid objects ≥12.5 mm dia nor access to hazardous parts with a finger.
3 	No ingress by solid objects ≥ 2.5 mm dia nor access to hazardous parts with a tool.
4 	No ingress by solid objects ≥1.0 mm dia nor access to hazardous parts with a wire.
5 	Dust protected. Ingress of dust is not completely prevented, but there should be no harmful deposits. No access to hazardous parts with a wire.
6 	Dust tight. No ingress of dust. No access to hazardous parts with a wire.
1B 	Test finger penetration to a maximum of 80 mm must not contact hazardous parts.

2nd digit	Protection against water
0	No protection.
1 	Veritcally falling drops of water shall have no harmful effect.
2 	Vertically falling drops of water shall have no harmful effect when the enclosure is tilted at any angle up to 15° from vertical.
3 	Water sprayed at up to 60° from the vertical shall have no harmful effect.
4 	Water splashed from any direction shall have no harmful effect.
5 	Jets of water projected from any direction shall have no harmful effect.
6 	Strong jets of water projected from any direction shall have no harmful effect.
7 	Temporary immersion in water shall not result in ingress of harmful quantities of water.
8 	Continuous immersion in water shall not result in ingress of harmful quantities of water.

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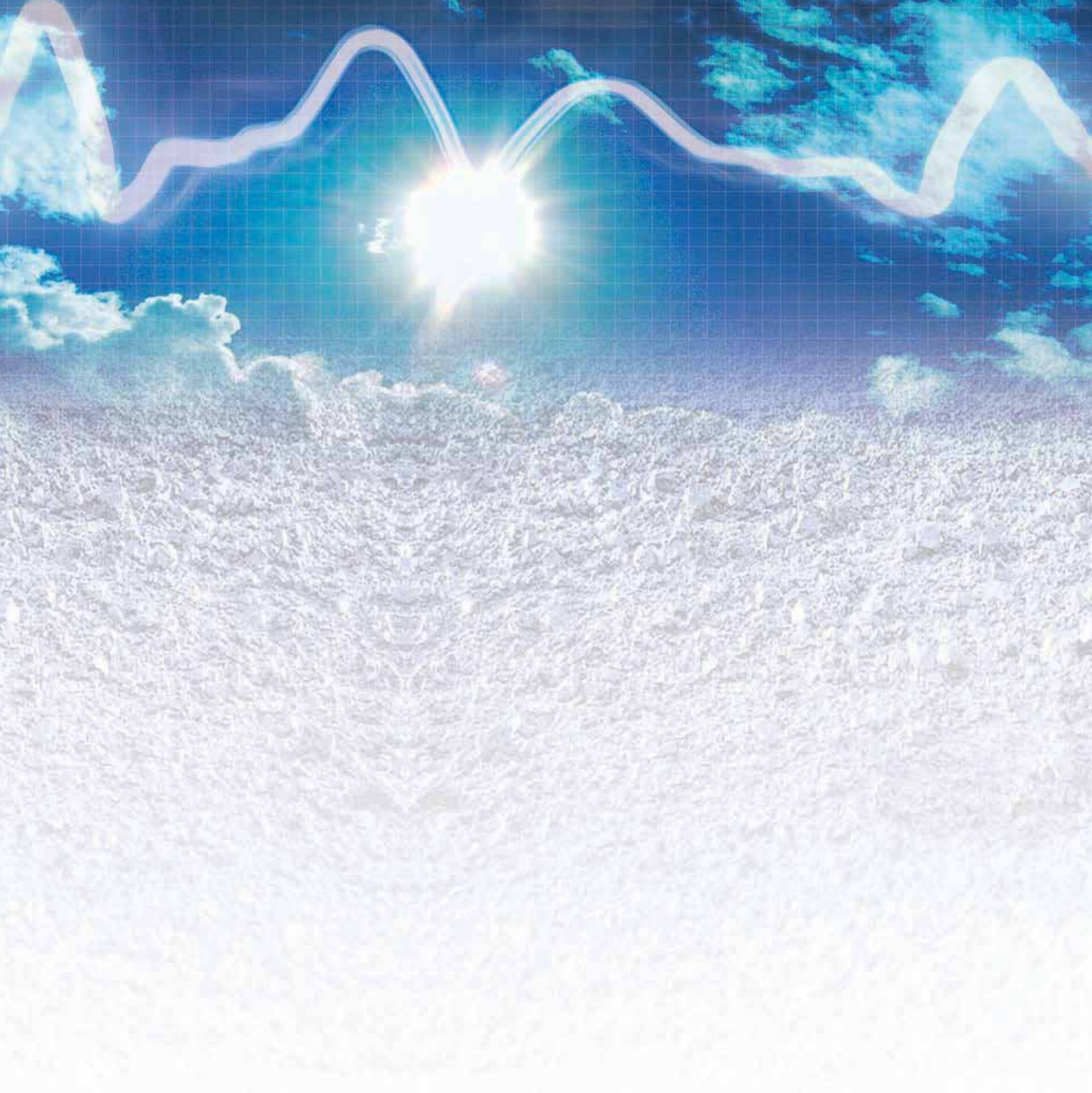

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